

Welcome to SpreadPro

Introducing SpreadPro, in our opinion the most advanced shareware spreadsheet currently available.

SpreadPros features include:

- True 32bit application
- Over 130 functions.
- Auto selections.
- Auto summing.
- Auto formatting.
- Autofill lists.
- Function picker.
- Format painter.
- Drawing tools.
- Data input objects.
- Reads and writes Excel files.
- Save as HTML.
- 2D and 3D charts with photo-realistic rendering engine.
- Spell checker.

Please note that SpreadPro is not free software, it is shareware. You can try it out for free, but if you wish to keep on using it you need to register it. The evaluation period is 30 days from the first time you run SpreadPro. Once the evaluation period has expired you will be unable to open, save or print spreadsheets.

Copyright © 1998 Techmarc

Formula One, First Impression and Visual Speller Copyright © Visual Components

Technical Support



On the World Wide Web

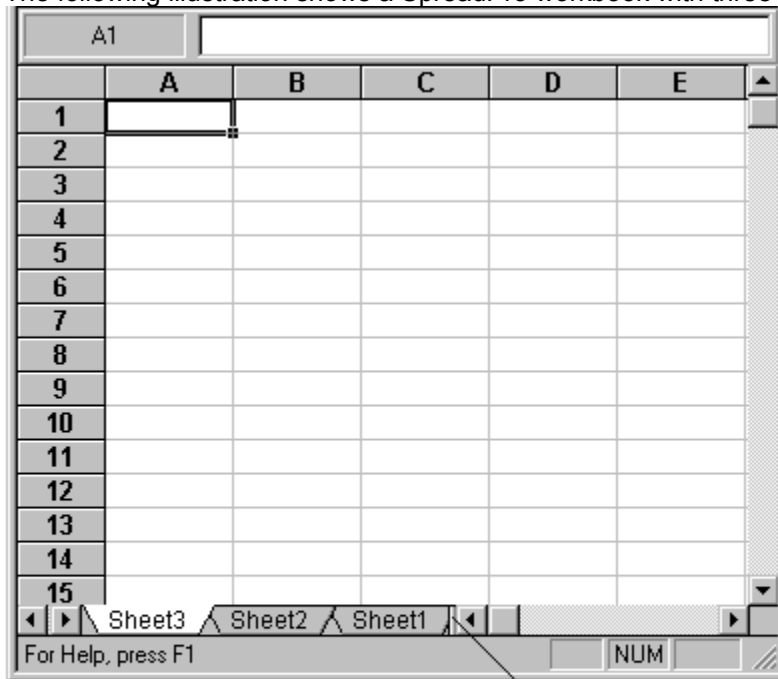
Visit our website at www.techmarc.ndirect.co.uk

E-Mail us at support@techmarc.ndirect.co.uk

The SpreadPro Workbook

When you open or create a file in SpreadPro, you are creating or opening a workbook. The workbook is where all your data is stored. A workbook can consist of one or more individual worksheets. Worksheets are useful for organizing information into separate groups. For example, you might have the year-end sales figures for each sales region on a different worksheet within the same workbook. Having all the information in one worksheet would be cumbersome; splitting it into separate files would be too inconvenient to work with.

The following illustration shows a SpreadPro workbook with three worksheets:



Sheet tab space

Drag this splitter bar to shrink or enlarge the sheet tab space.

Each of the three sheets is identified by a name displayed on a sheet tab.

[Inserting Worksheets](#)

[Selecting Worksheets](#)

[Deleting Worksheets](#)

[Renaming Worksheets](#)

[Navigating Through Worksheets](#)

[Selecting Cells](#)

[Selecting Rows and Columns](#)

Inserting Worksheets

By default, a workbook contains only one worksheet. However, you can easily insert additional worksheets.

To add worksheets:

1. Select Insert Worksheet from the Insert menu.

A new worksheet is added as the last worksheet.

[Selecting Worksheets](#)

[Deleting Worksheets](#)

[Renaming Worksheets](#)

Selecting Worksheets

Usually, you do most of your work in one worksheet at a time. This is called the active worksheet. When you have multiple worksheets in a workbook, you can use the mouse to click on a worksheet's tab to make it the active sheet. The tab is highlighted and moves on top of the other tabs.

You can save time and effort by performing some tasks on several sheets at once. For example, if you want all three worksheets in your workbook to have the same title information, you can select all three worksheets and enter the titles on the active worksheet. The titles are automatically entered in the corresponding cells in the other selected worksheets as well.

To select multiple worksheets:

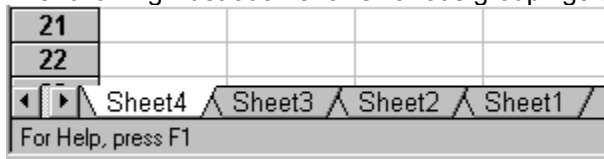
Use one of the following key/mouse combinations, depending on whether you want to select adjacent or non-adjacent worksheets:

Action Result

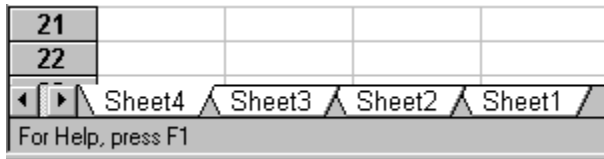
CTRL-Click on sheet tab Selects or deselects non-adjacent sheets. Any other selected worksheets remain selected.

SHIFT-Click on sheet tab Selects all adjacent worksheets between the active worksheet and the worksheet you clicked on. All other worksheets are deselected.

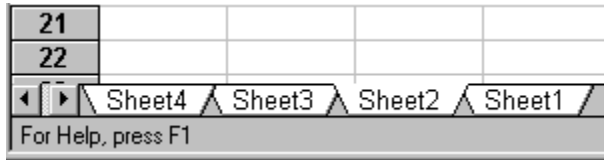
The following illustration shows various groupings of selected worksheets:



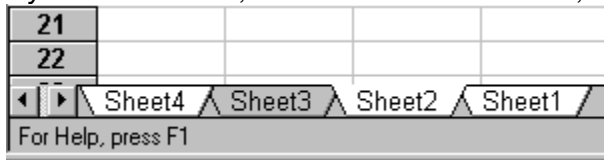
Sheet4 is the active sheet. All other sheets are deselected.



If you hold down the Shift key and select Sheet1, all sheets between the active sheet (Sheet4) and Sheet1 are selected.



If you select Sheet2, it becomes the active sheet, but all sheets remain selected.



If you hold down the Control key and select Sheet3, it is deselected, but the other sheets remain selected.

[Inserting Worksheets](#)

[Working with a Group of Worksheets](#)

[Inserting Multiple Worksheets](#)

[Deleting Worksheets](#)

[Renaming Worksheets](#)

Working with a Group of Worksheets

When you have multiple worksheets selected, you can think of them as a group of worksheets. When you perform some actions they affect all worksheets in the group. Other actions affect only the active worksheet, regardless of how many worksheets are selected.

The following actions work on all selected worksheets:

- Changing cell selection
- Entering values via the formula bar
- Inserting rows, columns, or ranges of cells
- Deleting rows, columns, or ranges of cells
- Clearing rows, columns, or ranges of cells
- Setting TopLeft/Row/Column header text
- Setting column width
- Setting row height
- Moving and copying with the mouse

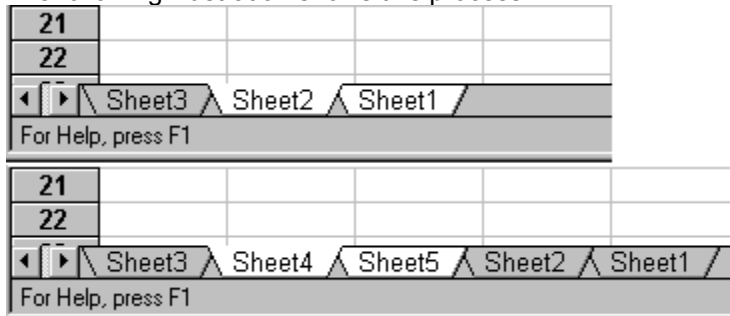
Inserting Multiple Worksheets

You can insert more than one sheet at a time and at any point in the sheet tab index. The number and position of the inserted sheets depends on number and position of the selected sheets in the workbook.

To insert worksheets:

1. Select the worksheet immediately to the right of where you want to insert the new worksheets.
2. Select as many worksheets to the right of that worksheet as the number of worksheets you want to insert.
For example, if you want to insert two worksheets, a total of two worksheets must be selected.
3. Select Insert Sheet from the Sheet menu.

The following illustration shows this process:



Since Sheet2 and Sheet1 are selected, two additional worksheets are inserted to the left of Sheet2. Notice that the newly inserted worksheets are given the next available sheet names, regardless of their position in the sheet index list.

[Inserting Worksheets](#)

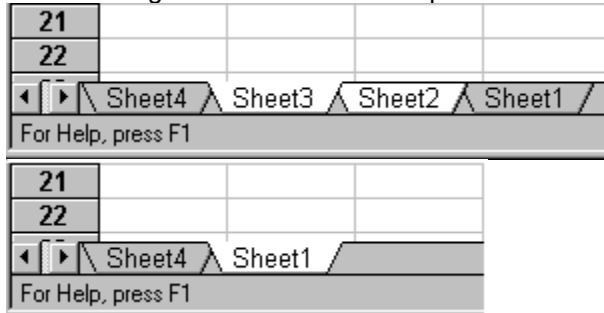
[Renaming Worksheets](#)

Deleting Worksheets

To delete worksheets:

1. Select the worksheets you want to delete.
2. Select Delete Sheets from the Sheet menu.

The following illustration shows this process:



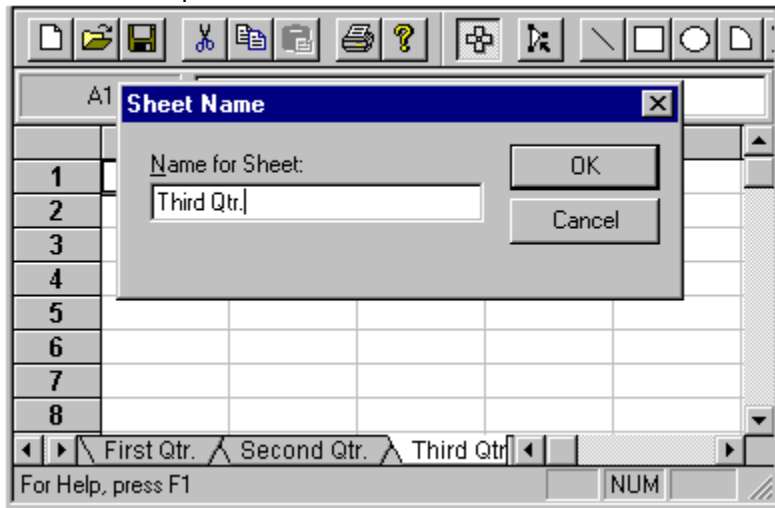
[Inserting Worksheets](#)

[Selecting Worksheets](#)

[Renaming Worksheets](#)

Renaming Worksheets

SpreadPro provides each worksheet with a default name. You can change those names to more meaningfully describe the sheet's contents. For example, the sheet names in the following illustration are far more descriptive than the worksheet's default names.



To rename a sheet name:

1. Select Rename from the Sheet sub-menu in the Edit menu.
2. Enter the new name and click OK.

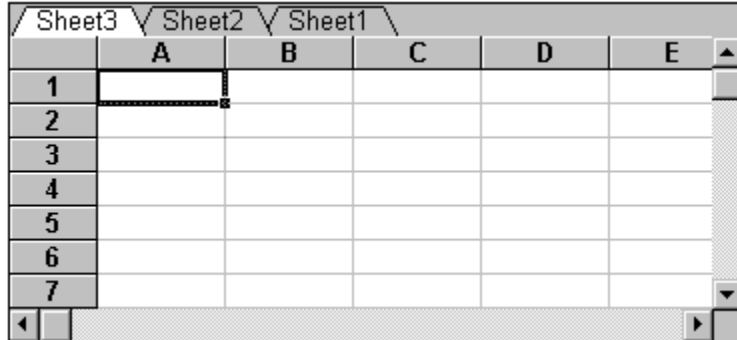
[Inserting Worksheets](#)

[Selecting Worksheets](#)

Positioning Worksheet Tabs

You may place the workbook tabs at the bottom, top, left or right of the workbook. You may also hide them. Use the Options dialog in the Tools menu to change the appearance of the tabs.

The following illustration shows sheet tabs displayed at the top of the workbook.



Navigating Through Worksheets

You can navigate within individual worksheets using keyboard commands or mouse actions. In addition to navigating through worksheets, keyboard commands allow you to perform a variety of other tasks.

Keyboard commands allow you to:

- position the active cell in the worksheet
- page through a worksheet
- enter data typed in a cell
- move the active cell within a selected range
- enter and exit edit mode
- recalculate a workbook
- delete data from a selected cell or range

[Using Keyboard Commands](#)

[Performing Mouse Actions](#)

[Selecting Cells](#)

[Selecting Rows and Columns](#)

Using Keyboard Commands

The tables below list the keyboard commands you can use when working in SpreadPro. The following table lists action keys that allow you to enter and edit data, move the active cell within a selected range, and recalculate the workbook.

Key	Description
ENTER	When in edit mode, accepts the current entry. When a range is selected, if Enter Moves Down is set to True, accepts the current entry and moves active cell vertically to next cell in selection.
SHIFT + ENTER	When in edit mode, accepts the current entry. When a range is selected, with the Enter Moves Down checked in the options dialog, accepts the current entry and moves active cell vertically to previous cell in selection.
TAB	When in edit mode, accepts the current entry and moves the active cell horizontally to right.
SHIFT +TAB	When in edit mode, accepts the current entry and moves the active cell horizontally to left.
F2	Enters edit mode. While in editing mode, F2 displays the Cell Text dialog box, in which you can enter multi-line data entries.
F9	Recalculates the workbook.
DEL	May clear current selection depending on the setting of Allow Delete.
Escape	Cancels current data entry or editing operation.

The following table lists the movement keys that allow you to move the active cell within a worksheet and display different sections of the worksheet.

Key	Description
Up Arrow	Moves active cell up one row.
Down Arrow	Moves active cell down one row.
Left Arrow	Moves active cell left one column.
Right Arrow	Moves active cell right one column.
CTRL Up/Down/Left/Right	Moves to the next range of cells containing data. If there is no additional data in the direction in which you are moving, moves to the edge of the worksheet.
Page Up	Moves up one screen.
Page Down	Moves down one screen.
CTRL Page Up	Moves left one screen.
CTRL Page Down	Moves right one screen.
Home	Goes to first column of current row.
End	Goes to last column of current row that contains data.
CTRL Home	Goes to row 1 column 1.
CTRL End	Goes to last row and column that contain data.

The following table lists the keys that modify the action of the movement keys.

Key	Description
Scroll lock	Causes the view window to scroll without changing current selection with all movement keys except Home, End, CTRL Home, and CTRL End.
SHIFT plus any movement key	Extends the current selection.

[Performing Mouse Actions](#)

[Selecting Cells](#)

[Selecting Rows and Columns](#)

Performing Mouse Actions

Primarily the mouse is used to select items in a worksheet at run time. The following table lists the mouse actions you can perform in a worksheet.

Action	Description
Left-Click	Moves the active cell to the pointer position.
Right-Click	In the container's design mode, brings up the shortcut menu.
Left-Click in Row or Column Headings	Selects entire row or column.
Left-Click in Top Left Corner	Selects entire sheet.
Left Double-Click in Top Left Corner, Row Headings, Column Headings, or Worksheet tabs	Displays a dialog box that allows you to enter a label for the top left corner or the column or row heading, or a new name for the worksheet that was double-clicked.
Left Double-Click	, invokes in-cell editing.
Left-Click and Drag	Selects a range. If other ranges are selected, the previously selected ranges are unselected.
CTRL + Left-Click and Drag	Selects a range. If other ranges are selected they remain selected.
SHIFT + Left-Click and Drag	Extends the current selection.
CTRL + SHIFT Click on Row Headings, Column Headings, or Top Left Corner	Selects the row headings, column headings, or top left corner of the sheet.
Drag a Selection's Copy Handle	Copies the selection into the newly selected area.
Drag a Selection's Border	Moves the selection to a new location.
ALT + Click and Drag an Object or Object's Selection Handles	Repositions or resizes an object and aligns object sides with the cell grid.

[Using Keyboard Commands](#)

[Selecting Cells](#)

[Selecting Rows and Columns](#)

Selecting Cells

Many operations require one or more cells to be selected. There are three kinds of selections: a single cell, a range of cells, and multiple ranges of cells (non-adjacent). The following illustrations show the three types of selections.

	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					

A single cell is selected.

	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					

A single range is selected.

	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					

Multiple ranges are selected.

[Selecting Cells with the Mouse](#)

[Selecting Rows and Columns](#)

Selecting Cells with the Mouse

The worksheet cursor is always located on a cell. The cell on which the worksheet cursor is located is called the active cell. The active cell is also a selection or part of a selection. Any data the user enters is always placed in the active cell.

- To select a range of cells, click and hold the left mouse button and drag through the range you want to select. When a range is selected, it becomes highlighted.
- To select multiple ranges, press the CTRL key while selecting a range with the mouse. Any previously selected ranges remain selected.

Once a range is selected, you can move the active cell within the range using the ENTER, SHIFT + ENTER, TAB, and SHIFT + TAB keys. When you use these keys to move the active cell, the range remains selected.

[Selecting Cells](#)

[Selecting Rows and Columns](#)

Selecting Rows and Columns

Entire rows and columns can be selected in the worksheet using the mouse. To select a row or column, position the pointer on the header of the row or column you want to select. When you click the header, the row or column is selected.

You can also select all rows and columns in the worksheet. To do this, position the pointer on the top left header and click.

[Selecting Cells](#)

Worksheet Data Entry

One of the basic tasks encountered when working with a workbook is data entry. SpreadPro provides several methods for entering data.

- **Direct entry.** This is the most direct method of data entry. Data can be entered directly in a
- **Copying data.** Two methods allow you to copy data to or from variant arrays into or from a range of cells in a SpreadPro worksheet.

[Adding the formula bar](#)

[Using AutoFill Lists](#)

[Validating Data](#)

[Worksheet Data Types](#)

[Cell References](#)

[Worksheet Errors](#)

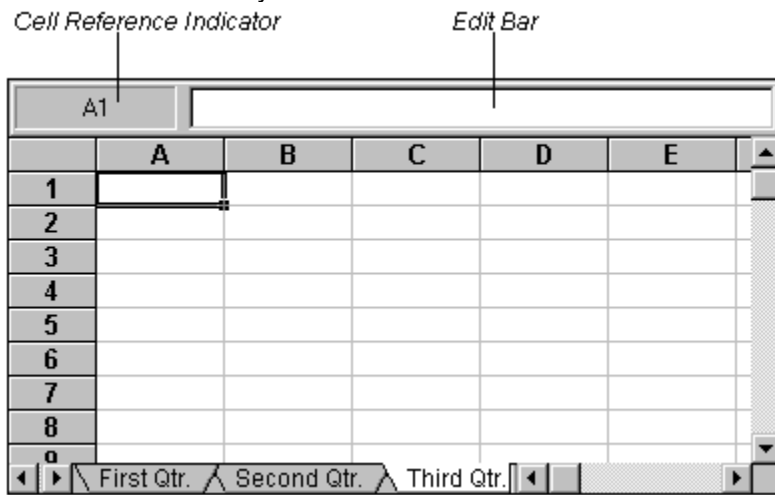
[Understanding Functions](#)

[Using Names](#)

[Calculating Worksheets](#)

Adding The Formula Bar

You can enter data into a worksheet by typing directly into a cell, or by typing into the formula bar. The formula bar appears by default, and you can turn on or off the display of the formula bar and cell reference indicator in your workbook control.



To control the display of the formula bar:

- Select Formula Bar from the View menu to toggle the display of the formula bar.

Entering Multi-Line Data

A single cell can contain as many as nine lines or 256 characters of data. When entering the data, new lines of data are specified within the cell by entering carriage return/line feeds.

- When entering data in a worksheet at run time, press F2 when editing a cell. The Cell Text dialog box is displayed in which you can enter the cell data. To enter a line feed, press RETURN. Click the OK button to accept the entry and return to normal worksheet editing.

After entering multi-line data, you may need to resize the row and column in which the entry is placed in order to view all the data.

You can also enter multi-line row and column headers.

[Formatting Row and Column Headings](#)

Limiting Data Entry

Some applications may require that the user not be allowed to enter or edit data. To prevent data entry, set the Allow In Cell Editing to false in the options dialog, and hide the formula bar. Data and formula entry and editing is thus prevented.

[Adding the formula bar](#)

[Limiting Formula Entry](#)

[Locking Cells](#)

[Validating Data](#)

Limiting Formula Entry

If you only want to prevent the entering and editing of formulas, uncheck Allow Formulas in the options dialog. Unchecking it does not affect the entry and editing of constant values.

[Limiting Data Entry](#)

[Locking Cells](#)

[Displaying Formulas](#)

[Entering Formulas](#)

[Formula Operators](#)

Locking Cells

To set editing permissions on a per cell basis:

1. Select the cells you want to lock.
2. Select Cell Protection from the Tools menu.
3. Uncheck the Locked check box and click OK.
4. Select Enable Protection from the Sheet menu to enable protection for the entire worksheet.
5. This final step actually prevents the cells from being modified.

Note Worksheet cells are locked by default. If you want to lock only selected cells, you must first turn cell protection off for the rest of the worksheet cells.

When a worksheet contains locked cells, ENTER, SHIFT-ENTER, TAB, and SHIFT-TAB advance the selection to the next unlocked cell.

[Limiting Data Entry](#)

[Limiting Formula Entry](#)

Displaying Formulas

It is often convenient to display formula text instead of the values they produce. Checking Display Formulas in the Options dialog from the Tools menu causes the worksheet to display formula text instead of formula results. Displaying formula text can help you debug formula-related problems.

[Entering Formulas](#)

[Formula Operators](#)

Using AutoFill Lists

If you frequently use lists of names, months, or days of the week in your worksheet, you can let SpreadPro do some of the work for you by using the autofill feature.

SpreadPro's default autofill lists contain frequently used series of text, such as months and days of the week. When you enter one of the elements in these lists and drag the autofill handle, SpreadPro enters the rest of the data from the list as needed to fill the range you mark.

	A	B	C
1	Jan		
2			
3			
4			
5			

When Formula One recognizes this text as part of an autofill list and...

	A	B	C
1	Jan	Feb	Mar
2			
3			
4			
5			

you drag the fill handle to this position, the cells in the marked range are automatically filled with items from the list.

Once SpreadPro has recognized the text as an item from an autofill list, pressing TAB puts the next list item in the next cell to the right, or ENTER puts the next list item in the next cell below.

[Using AutoFill Lists](#)

[Adding AutoFill Lists](#)

[Deleting AutoFill Lists](#)

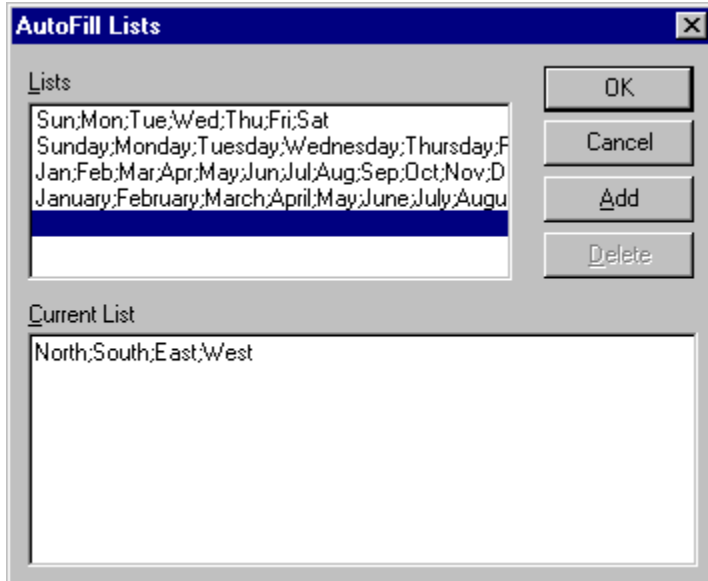
[Worksheet Data Types](#)

[Entering Constant Values](#)

Adding AutoFill Lists

To add a new autofill list:

1. Select AutoFill List... from the Data menu to display the AutoFill Lists dialog box.
By default, a new, empty line is selected in the Lists list box.
2. Type your new autofill list in the Current List list box, separating each item with a semi-colon.
3. Click Add.



Select the empty row at the end of the list and then type your new list in the Current List list box.

Note Values recognized as data cannot be used as autofill list items, such as 1973;1974, 1a;1b, 1%;2%.

[Using AutoFill Lists](#)

[Deleting AutoFill Lists](#)

Deleting AutoFill Lists

To delete an autofill list:

1. Select AutoFill List... from the Data menu to display the AutoFill Lists dialog box.
2. Select the list you want to edit or delete from the Lists list box.
3. Click Delete.

[Using AutoFill Lists](#)

[Adding AutoFill Lists](#)

Validating Data

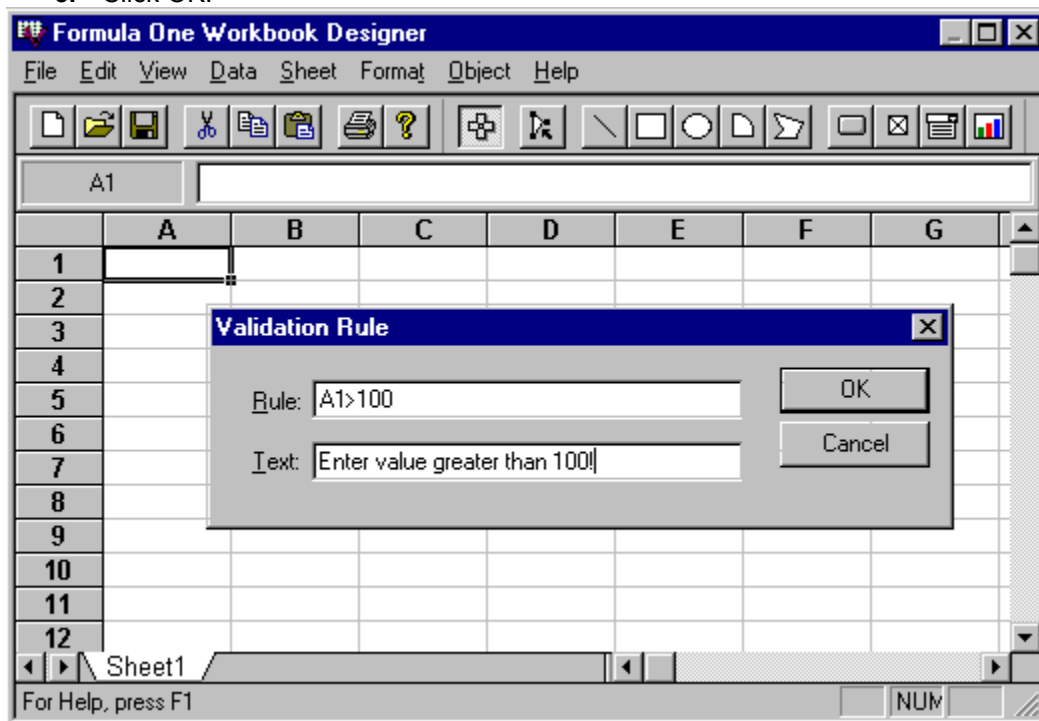
Another means of limiting data entry is to specify a validation rule for a cell. A validation rule consists of a formula to test and text to display if the validation fails. If the formula returns True, the value is entered. If the formula returns a text string, the string is displayed and the value is not entered. If the formula returns False, the value is not entered and the validation text is displayed in an error dialog box.

For example, you can limit the range of values a user can enter in a cell by creating a rule that fails if the user enters a number under 100 and displays the message "Enter a value greater than 100."

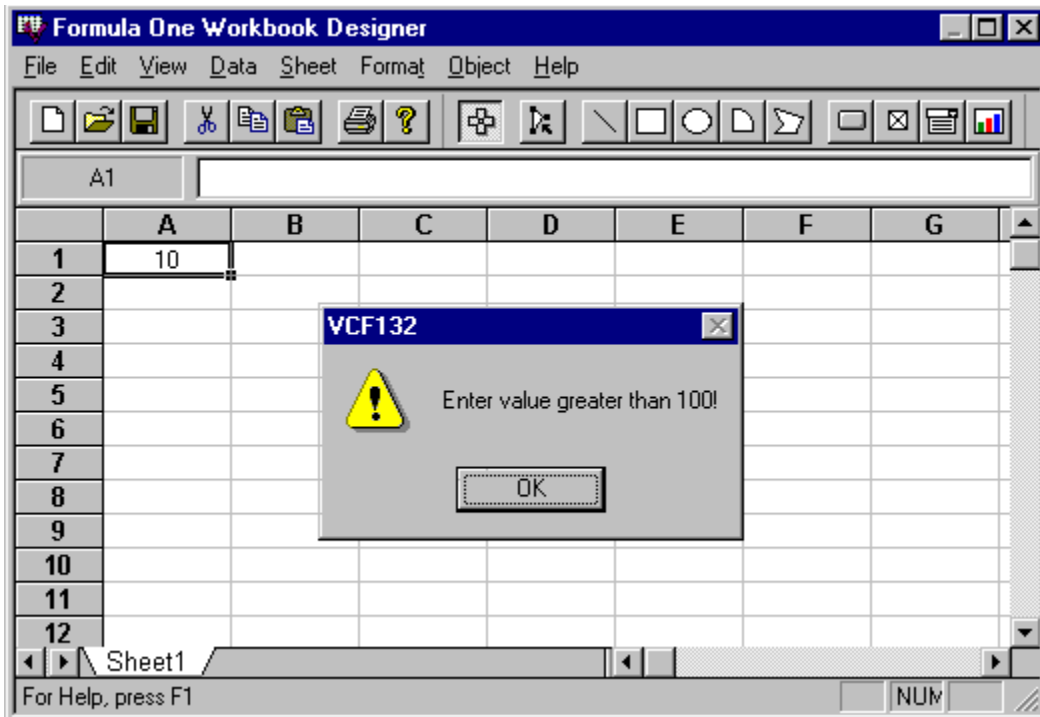
You can use relative references in validation rules. These references are considered to be relative to the active cell. This allows a validation rule to be properly applied to an entire range.

To create a validation rule:

1. Select the cell for which you want to create a validation rule.
2. Select Validation Rule from the Format menu to display the Validation Rule dialog box.
3. Enter a validation formula in the Rule text box.
4. Enter text to be displayed if the data fails the validation test in the Text box.
5. Click OK.



This illustration shows the validation rule created for cell A1.



This illustration shows the message displayed when the data entered in cell A1 fails the validation rule.

[Limiting Data Entry](#)

[The Validation Formula](#)

[Worksheet Data Types](#)

The Validation Formula

The validation formula follows basically the same rules as those for defined names. It must also be a worksheet formula that evaluates to True or False. Following are a number of examples of validation formulas.

```
SUM(A6:A7) > A5  
AND(A6>1, A6 <100)  
IF (A7>1,A7<100,A7>0)  
OR(ISLOGICAL (A7), A7=1,A7=0)
```

Validating Data

Worksheet Data Types

Cells can contain two types of information: constant values and formulas.

- Constant values are numbers, including dates and times, logical values, error values, and text.
- Formulas are groups of constant values, cell references, names, functions, and operators that result in a new value when calculated or evaluated.

[Entering Constant Values](#)

[Entering Formulas](#)

[Entering Functions](#)

Entering Constant Values

Numbers. Numeric entries can contain numeric characters (e.g., 1, 2, 3, 4, 5, 6, 7, 8, 9, and 0) and the special characters (e.g., +, -, (,), /, \$, %, ., E, and e).

- Negative numbers can be preceded by a minus sign or enclosed in parentheses.
- Commas can be included in numeric entries as thousands separators.
- Numeric entries containing leading dollar signs are formatted as currency.
- Numeric entries containing trailing percent signs are formatted as percentages.

SpreadPro accepts numeric entries as fractions. If the fraction contains a leading integer (e.g., 1 1/3) it can be entered directly. If there is no leading integer, the fraction should be preceded by a zero (e.g., 0 2/3).

Numbers larger than the cell in which they are entered are converted to scientific notation unless a specific format is applied.

Dates and Times. Dates and times are automatically recognized by SpreadPro. They are entered in the cell as values and automatically formatted. The following date and time formats are automatically recognized.

Entered Format Assigned

3/15/94 m/d/yy

15-Mar-94 d-mmm-yy

15-Mar d-mmm

Mar-94 mmm-yy

9:55 PM h:mm AM/PM

9:55:33 PM h:mm:ss AM/PM

21:55 h:mm

21:55:33 h:mm:ss

3/15/94 21:55 m/d/yy h:mm

Text. Text is any set of characters that SpreadPro does not recognize as a number, date, or time.

Text that is wider than a cell ordinarily spills over into the cell immediately to the right. You can specify that text should wrap within the cell by enabling word wrap in your alignment format settings.

Logical and Error Values. Logical and error values are not normally entered directly in cells; they are usually the result of a formula. However, entering these values can be useful for testing formulas.

The logical values that can be entered are TRUE and FALSE. The error values that can be entered are #N/A, #VALUE!, #REF!, #NULL!, #DIV/0!, #NUM!, and #NAME?.

[Worksheet Data Types](#)

[Entering Formulas](#)

[Cell References](#)

Entering Formulas

Formulas are the basic building blocks for analyzing and calculating worksheet data. A formula is a string containing numbers, operators, worksheet functions, cell references, and names. A formula can contain as many as 1024 characters.

- When you manually enter a formula in a worksheet, you must begin the entry with an equal sign (=). SpreadPro recognizes this entry as a formula.

Numbers in formulas can be followed by a percent sign (%). Numbers with trailing percent signs are treated as percentages (e.g., 100% is evaluated as 1).

If text is encountered when a number is expected, the text is converted to a number. For example, the formula $1 + "3"$ returns 4, because "3" is converted to a number. If the text cannot be converted to a valid number (e.g., $1 + "Text"$), #VALUE! is returned.

Likewise, if a number is encountered when text is expected, the number is converted to text. The formula "The number is "&3 converts to the text string "The number is 3".

The value TRUE always converts to 1; while FALSE converts to 0. If a number is encountered when a logical value is expected, a zero is converted to FALSE. All other numbers are converted to TRUE. If text is encountered when a logical value is expected, "TRUE" is converted to TRUE; "FALSE" is converted to FALSE. All other text returns #VALUE!.

Dates and times are recognized and converted to their serial values. For example, "10/10/94" - "10/1/94" equals 9.

[Limiting Formula Entry](#)

[Displaying Formulas](#)

[Entering Constant Values](#)

[Formula Operators](#)

[Cell References](#)

[Worksheet Errors](#)

[Built-In Worksheet Functions](#)

[Using Names](#)

[Calculating Worksheets](#)

Formula Operators

When creating formulas, SpreadPro provides a set of operators for specifying the type of calculation or evaluation to be performed on the formula data. The following table lists the formula operators.

Operator Type	Operator	Description
Arithmetic	+	Addition
	-	Subtraction
	/	Division
	*	Multiplication
	%	Percentage
	^	Exponentiation
Text	&	Concatenation
Comparison	=	Equal to
	>	Greater than
	<	Less than
	>=	Greater than or equal to
	<=	Less than or equal to
	<>	Not equal to

Reference ;, .., . Range - produces a reference that includes all the cells between the two references (e.g., A1:A5 includes cells A1 and A5 and all cells in between).

, Union - produces one reference that includes the two references (e.g., A1:A10,C1:C10).

[Entering Formulas](#)

[Operator Precedence](#)

Operator Precedence

When combining operators in a formula, SpreadPro uses a specific order of precedence to calculate the formula. The following table lists the order of precedence for formula operators.

Operator	Description
()	Parentheses
:, ...	Range
,	Union
-	Negation (single operand)
%	Percentage
^	Exponentiation
* and /	Multiplication and Division
+ and -	Addition and Subtraction
&	Text concatenation
= < > <= >= <>	Comparison

Operators of like precedence are evaluated left to right. Parentheses should be used when it is necessary to change the order of evaluation. The following example illustrates how the result of a formula can be altered by adding parentheses to change the order of precedence.

FormulaResult

1+2*37 75

(1+2)*37 111

As illustrated in the previous table, the multiplication operator (*) has higher precedence than the addition operator (+). It is evaluated first unless parentheses are used to force the addition to take place first.

[Entering Formulas](#)

[Formula Operators](#)

Cell References

A reference identifies a cell by referring to the row and column coordinates of the cell. References are based on the row and column headings. For example, A1 refers to the cell at the intersection of row 1 and column A. References can be used in formulas to access data from a worksheet.

A range of cells is specified by placing a colon (:) between two cell references. For example, the reference A1:C3 refers to the range anchored by cells A1 and C3. The range includes all cells in columns A, B, and C of rows 1, 2, and 3.

[Entering Formulas](#)

[Absolute and Relative References](#)

[References to Other Worksheets](#)

[References to Multiple Worksheets](#)

[External References](#)

[Automatically Entering Cell References](#)

[Using Names](#)

Absolute and Relative References

There are two types of cell references: relative and absolute.

- Relative references point to a cell based on its relative position to the current cell. When the cell containing the reference is copied, the reference is adjusted to point to a new cell with the same relative offset as the originally referenced cell.
 - Absolute references point to a cell at an exact location. When the cell containing the formula is copied, the reference does not change. Absolute references are designated by placing a dollar sign (\$) in front of the row and column that is to be absolute.
- References can be part absolute and part relative. These are called mixed references. The following table lists the reference types.

Reference	Type
A1	Relative reference pointing to cell A1.
\$A\$1	Absolute reference pointing to cell A1.
\$A1	Absolute column reference, relative row reference pointing to cell A1.
A\$1	Relative column reference, absolute row reference pointing to cell A1.

The reference operators can be used to specify multiple ranges in the same reference. For example, A1:C1,A10:C10 specifies the three cells A1, B1, and C1 and the three cells A10, B10, and C10. The formula =SUM(A1:C1,A10:C10) adds the values in all six cells.

[Cell References](#)

[References to Other Worksheets](#)

[References to Multiple Worksheets](#)

[External References](#)

[Automatically Entering Cell References](#)

References to Other Worksheets

You can reference cells in other worksheets.

To reference a worksheet in the same workbook, use the following syntax:

Sheet3!A1

[Cell References](#)

[Absolute and Relative References](#)

[References to Multiple Worksheets](#)

[External References](#)

[Automatically Entering Cell References](#)

References to Multiple Worksheets

You can also refer to multiple worksheets, or ranges in multiple worksheets. The following example references cell A1 in Sheet1 and cell A1 in Sheet2.

```
Sheet1C:Sheet2!A1
```

Important Worksheets must be referenced in index order. For example, the reference to the sheet indexed 1 must come before the reference to the sheet indexed 2. Remember that the worksheet index is usually different than the sheet name that appears on the sheet tab. Worksheets are indexed from left to right, beginning with 1.

The following syntax references the range A1 to B2 in Sheet1 and the range A1 to B2 in Sheet2.

```
Sheet1:Sheet2!A1:B2
```

You can also reference multiple worksheet ranges in a different workbooks by referencing the workbook name at the beginning of the syntax.

```
[F1Book1]Sheet1:Sheet2!A1
```

```
[F1Book2]Sheet1:Sheet2!A1:B2
```

[Cell References](#)

[Absolute and Relative References](#)

[References to Other Worksheets](#)

[External References](#)

[Automatically Entering Cell References](#)

[Solving Circular References](#)

External References

References can point to cells in other workbooks. This type of reference is called an external reference. An external reference is created by placing a workbook name in brackets, followed by the worksheet name and an exclamation point, and finally a cell reference. The following table shows examples of external references.

Reference	Type
-----------	------

[Sales]Sheet1!A1	Relative reference pointing to cell A1 in the first worksheet of a workbook titled Sales.
[FY91]Sheet2!\$A\$1	Absolute reference pointing to cell A1 in the second worksheet of a workbook titled FY91.
[Q1]Sheet1:Sheet2!\$A1	Absolute column reference, relative row reference pointing to cell A1 in the first and second worksheets in a workbook titled Q1.
[Store1]Sheet1:Sheet4!A1:F1	Relative row and column reference, pointing to the range A1 to F1 in a workbook titled Store1.

[Cell References](#)

[Absolute and Relative References](#)

[References to Other Worksheets](#)

[References to Multiple Worksheets](#)

[Automatically Entering Cell References](#)

[Solving Circular References](#)

Automatically Entering Cell References

Cell references can be automatically entered as you enter a formula.

To automatically enter a cell reference:

1. Enter the formula to the point of the range reference.
2. With the mouse, select the cell or range you want to reference.

The reference of the range you select is automatically placed in the formula.

When you enter a cell reference in this manner, SpreadPro assumes it is a relative reference.

[Cell References](#)

[Absolute and Relative References](#)

[References to Other Worksheets](#)

[References to Multiple Worksheets](#)

[External References](#)

[Solving Circular References](#)

Worksheet Errors

When a formula cannot be properly calculated, an error is returned in the cell. The following table lists the errors that can be generated.

Error Cause

#ARRAY_FORMULA! SpreadPro read in a file that contained an array formula. Since this feature is not supported in SpreadPro, this error value is placed in the cell which used to contain the array formula.

#DIV/0! Divide by zero. May be caused by a reference to a blank cell or a cell containing zero.

#N/A No value is available. May be caused by inappropriate values in the formula or a reference to a cell containing the #N/A value.

#NAME? Name is not recognized. May be caused by a user-defined name that is not defined.

#NULL! Null intersection. An intersection of two ranges was defined that does not intersect.

#NUM! Number problem. May be caused by inappropriate numbers in functions, an iteration that cannot solve for a value, or a formula that results in a number too large or too small to represent.

#REF! Reference error. May be caused by referring to a cell that was deleted.

#VALUE! Wrong argument type. May be caused by entering text where a number was expected, or supplying a range to an operator or function that was expecting a single value.

[Entering Formulas](#)

[Built-In Worksheet Functions](#)

[Understanding Functions](#)

Built-In Worksheet Functions

SpreadPro contains a set of built-in worksheet functions that provide the ability to perform complex calculations with very little work.

Worksheet functions:

- calculate and evaluate data
- can be used alone or in a formula
- are entered directly in the worksheet

Like formulas, worksheet functions return data to the cell in which they are entered.

Each function performs a specific calculation. The [SQRT](#) function is an example of a built-in function. With this function, you can easily calculate the square root of a number. The following example calculates the square root of 118:

`=SQRT(118)`

For further information on each of the worksheet functions built-in to SpreadPro, see [Worksheet Functions](#).

[Understanding Functions](#)

[Entering Functions](#)

[Nesting Functions](#)

[Entering Arguments](#)

[Syntax Errors](#)

[Calculating Worksheets](#)

Understanding Functions

Most worksheet functions are composed of keywords and arguments. Every worksheet function contains a keyword, but not all functions require arguments.

- The keyword identifies the function and tells the worksheet what type of calculation or evaluation is performed. Each function keyword is unique.
- Arguments provide the data for the function to calculate or evaluate. The arguments for a function immediately follow the function keyword and are enclosed in parentheses.

[Built-In Worksheet Functions](#)

[Entering Functions](#)

[Nesting Functions](#)

[Entering Arguments](#)

[Syntax Errors](#)

[Using Names](#)

[Calculating Worksheets](#)

Entering Functions

When entering functions in a worksheet, all functions are preceded by an equal sign (=). The leading equal sign tells the worksheet that the following information is to be evaluated or calculated.

The function keyword follows the equal sign. It can be entered in lowercase or uppercase characters. After the function is entered, the worksheet records the function keyword in uppercase characters, regardless of how it was entered.

If a function requires multiple arguments, the arguments are separated by commas. Some functions contain optional arguments. If you omit an optional argument, a default value is assumed for the argument.

Functions that do not require arguments still require a set of parentheses following the function keyword.

[Built-In Worksheet Functions](#)

[Understanding Functions](#)

[Nesting Functions](#)

[Entering Arguments](#)

[Syntax Errors](#)

Nesting Functions

A function can be used as an argument for another function. When a function is used in this manner, you are nesting functions. The nested function must return the appropriate type of data for the function in which it is nested. You must also provide the necessary arguments for the nested function.

In the following example, the [AVERAGE](#) function is used as an argument for the [SUM](#) function. In this case, AVERAGE is nested in SUM.

```
=SUM(5.23, 6.82, AVERAGE(2.45, 5.62, 7.74), 8.95, 9.01)
```

[Built-In Worksheet Functions](#)

[Understanding Functions](#)

[Entering Functions](#)

[Entering Arguments](#)

[Syntax Errors](#)

Entering Arguments

The arguments for a function can be:

- Numerical values
- Logical values
- Text strings
- Error values
- References to cells or ranges

For most arguments, you can substitute a cell or range reference for the data required by an argument. For example, if an argument requires a number, you can substitute a reference to a cell that contains a number. The number in the referenced cell is used in the calculation of the function. The data in the referenced cell must be appropriate for the argument for which it is used.

[Built-In Worksheet Functions](#)

[Understanding Functions](#)

[Entering Functions](#)

[Nesting Functions](#)

[Syntax Errors](#)

Syntax Errors

If the worksheet function you enter contains syntax errors, SpreadPro does not allow the function to be entered. You must correct the errors before proceeding with other tasks.

[Built-In Worksheet Functions](#)

[Understanding Functions](#)

[Entering Functions](#)

[Nesting Functions](#)

[Entering Arguments](#)

Using Names

User-defined names are an easy way to identify a cell, a group of cells, a value, or a formula. For example, the formula "`= Sales - Expenses`" is much clearer than "`=A10 - A6`".

You can also use names to identify constants and formula expressions. For example, you might define the name `LightSpeed` as `186000`. You could then use the name `LightSpeed` in all your formulas. Or, you could define the name `SqRtTwo` as the formula `SQRT(2)`.

To define names:

1. If you are naming a range, select it.
2. Choose `Defined Name` from the `Insert` menu.
3. Enter the name you want to define.
4. Enter the formula that describes the name.
If this is a range, enter a range reference. If this is a formula, enter the formula.
5. Click `Add` to add the new name to the list.

You can delete any name from the list by selecting it in the list and clicking `Delete`.

SpreadPro has a set of built-in names. These names are used by the print functions. The built-in names are listed in the following table.

Built in Name Purpose

`Print_Area` Defines the print area used during printing. This name can contain one or more ranges (e.g., `A1:C3,A11:C13`).

`Print_Titles` Defines the row and column titles that are printed on each new page. Entire rows and columns must be selected when you define this name.

[Cell References](#)

Calculating Worksheets

SpreadPro calculates cells in natural order. In natural order calculation, formulas are calculated in such a way that all dependencies are calculated before their dependents. This ensures that the formula results are always correct.

When a worksheet is edited, formula references are adjusted so they point to the correct cells. Then, SpreadPro determines the natural order of the formulas.

When a change is made to a cell, the formulas are recalculated to keep all worksheets in the workbook current, ensuring that data is always valid.

[Setting Automatic Recalculation](#)

[Solving Circular References](#)

Setting Automatic Recalculation

Normally, automatic recalculation is enabled. In this mode, the worksheet is recalculated each time a cell is changed and system processing is idle.

For moderately sized worksheets, recalculation operations happen in a fraction of a second. But for large worksheets or situations where many cells are changed by code, this reorganization and recalculation process can slow system processing.

In these situations, it is sometimes desirable to disable automatic recalculation while your code operates on the worksheet. Automatic recalculation can be disabled in the recalc options dialog. After the completion of an operation, automatic recalculation can be enabled and the worksheet updated.

[Calculating Worksheets](#)

[Solving Circular References](#)

Solving Circular References

There are some circumstances where a formula refers to its own cell, either directly or indirectly. This is called a circular reference. To solve a formula that contains a circular reference, iteration must be used. Iteration is the process of repeatedly calculating a worksheet until a specific condition is met.

The following example includes a circular reference.

Suppose your small business has 10,000 shares of stock owned by four shareholders. You decide to let a fifth shareholder enter your partnership. In return for his investment, you give him 10 percent of the company. How many more shares will the company have to issue to give the new investor 10% of the company?

The following illustration shows the results of this example as it is entered in a worksheet.

	A	B	C	D
1	Old Shares	10,000		
2	Total Shares	= Old Shares + New Shares		
3	New Shares	= Total Shares * 10%		
4				
	A	B	C	D
1	Old Shares	10,000		
2	Total Shares	11,111		
3	New Shares	1,111		
4				

The formulas in B2 and B3 create a circular reference in this example worksheet.

The first worksheet shows the formula text, the second worksheet shows the results of the formulas.

[Calculating Worksheets](#)

[Setting Automatic Recalculation](#)

Cut, Copy, and Paste Methods

Ranges of data can be edited using one of several editing methods. SpreadPro automatically adjusts cell references when cells are moved. Thus, the integrity of worksheet formulas remains intact.

SpreadPro maintains its own internal clipboard and also supports text on the Windows clipboard. The internal clipboard is more flexible than the Windows clipboard. The internal clipboard retains formulas and allows cell references to be adjusted when cells are pasted. The Windows clipboard only holds text and formatting; cell references are not maintained by the Windows clipboard.

[Copying Data](#)

[Copying Ranges](#)

[Inserting Cells, Rows, and Columns](#)

[Clearing and Deleting Cells, Rows, and Columns](#)

Copying Data

You can copy data by dragging the copy handle of a selection. The copy handle is the small knob in the lower right corner of a selection. When you copy data using the copy handle, the pointer changes to a small crosshair.

	A	B
1	500	
2		
3		
4		
5		
6		
7		

The copy handle

	A	B
1	500	
2	500	
3	500	
4	500	
5	500	
6	500	
7		

The cursor changes to a crosshair when positioned on the copy handle.

The above illustration demonstrates how you can copy the number in A1 to the cells below when the copy handle is dragged downward.

[Copying Ranges](#)

Copying Ranges

To Copy a Range of Data:

1. Position the pointer on the border of the selection you want to copy.
When placed on the selection border, the pointer changes to an arrow.
2. Press the CTRL key.
3. With the pointer on the selection border, click and drag the range.
An outline of the selected range moves as you drag the pointer.
4. Release the mouse button at the location where you want to place the copied range.
The original range is not moved. The following illustration shows the steps required to copy a range.

	A	B	C	D	E	F
1		Q1	Q2	Q3	Q4	
2	America	7,026.05	5,482.56	5,517.19	4,412.46	
3	Asia	7,899.55	7,733.54	9,452.51	9,367.54	
4	Europe	4,734.25	4,975.25	6,587.21	5,571.25	
5		19,659.85	18,191.35	21,556.91	19,351.25	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

The pointer appears an arrow when positioned on a selection border.

	A	B	C	D	E	F
1		Q1	Q2	Q3	Q4	
2	America	7,026.05	5,482.56	5,517.19	4,412.46	
3	Asia	7,899.55	7,733.54	9,452.51	9,367.54	
4	Europe	4,734.25	4,975.25	6,587.21	5,571.25	
5		19,659.85	18,191.35	21,556.91	19,351.25	
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						

When you click and drag a selection border while pressing CTRL, the highlighted area moves to indicate the placement of the copied range.

	A	B	C	D	E	F
1		Q1	Q2	Q3	Q4	
2	America	7,026.05	5,482.56	5,517.19	4,412.46	
3	Asia	7,899.55	7,733.54	9,452.51	9,367.54	
4	Europe	4,734.25	4,975.25	6,587.21	5,571.25	
5		19,659.85	18,191.35	21,556.91	19,351.25	
6						
7						
8						
9						
10						
11		Q1	Q2	Q3	Q4	
12	America	7,026.05	5,482.56	5,517.19	4,412.46	
13	Asia	7,899.55	7,733.54	9,452.51	9,367.54	
14	Europe	4,734.25	4,975.25	6,587.21	5,571.25	
15		19,659.85	18,191.35	21,556.91	19,351.25	
16						
17						

The data in the range is copied to its new location when you release the mouse button.

[Copying Data](#)

Select from the list whether you want to search by row order or by column order.

Select from the list whether you want to search for the string in cell formulas or values. Although you can locate formula and value data, you are not allowed to replace it. You are only allowed to replace data that actually appears within a cell.

[Click here if you want the search to match case.](#)

[Click here if you want the search to match bytes. \(DBCS versions of SpreadPro only.\)](#)

[Click here if you want to search for a cell that contains the entire search string.](#)

[Click here to find the next occurrence of the search string in the worksheet.](#)

[Click here to cancel the search and exit the dialog.](#)

[Click here to invoke the Replace dialog.](#)

[Click here to replace this instance and search for the next instance of the string.](#)

[Click here to replace all instances of the search string.](#)

Enter the replacement string here.

Using Drag-and-Drop Functionality to Move or Copy Data

You can use SpreadPro's drag-and-drop functionality to move or copy data internally (within SpreadPro applications) and externally.

Using Drag and Drop within SpreadPro


You can use SpreadPro's drag-and-drop functionality to easily copy or move data, objects, and charts to other locations within the active worksheet.

To use drag and drop within SpreadPro:

1. Select the cells that contain the data, object, or chart you want to move or copy.
2. To move the selection, point to it, and then hold down the mouse button. When the pointer appears, drag the pointer to the new location. In order to place the selection on an area of the sheet that is not visible, move the cursor to the edge of sheet and scroll to the appropriate location. Once the pointer is at the appropriate location, release the mouse button.
To copy the selection, hold down the CTRL key, point to the selected information, and then hold down the mouse button. When the pointer appears, drag the pointer to the new location, and then release both the mouse button and the CTRL key.

Using Drag and Drop with Other Applications

You can easily drag text and Windows metafile pictures onto a SpreadPro worksheet from other Windows applications, such as Excel.


Note The drag-and-drop functionality will only work with applications that support Windows CF_TEXT and CF_METAFILEPICT data. The mouse pointer will change to  to indicate that the data cannot be placed in the selected location.

To drag information from another application and drop it into SpreadPro:

1. Arrange the application windows so that the source and destination documents are open and visible. You must be able to see the information you want to drag and the SpreadPro worksheet you want to place it on.
2. Select the information you want to move or copy.
3. To move the information, point to the selected information, and then hold down the mouse button. Drag the pointer to the new location, and then release the mouse button. The pointer will change


to  to indicate a move.

To copy the information, point to the selected information, and then hold down the mouse button. When the pointer appears, drag the pointer to the new location, hold down the CTRL key and


then release the mouse button. .

To drag data from SpreadPro to another application:

1. Arrange the application windows so that the source and destination documents are open and visible. You must be able to see the data on the SpreadPro worksheet.
2. Select the information you want to move or copy. You can only move or copy CF_TEXT format from SpreadPro.
3. To move the information, point to the selected information, and then hold down the mouse button. When the pointer appears, drag the pointer to the new location, and then release the mouse

button. The pointer will change to  to indicate a move.

To copy the information, hold down the CTRL key, point to the selected information, and then hold down the mouse button. When the pointer appears, drag the pointer to the new location, and then

release both the mouse button and the CTRL key. The pointer will change to  to indicate a copy.

NOTE When dragging information out of SpreadPro, be careful when approaching the margin area, as the margins will scroll as you drag.

Inserting Cells, Rows, and Columns

To insert new cells:

1. Select one of the following, depending on what you want to insert.
 - Range.** Select a range of cells in the size and position you want to insert new cells.
 - Row.** Select the row where you want the new row inserted by clicking on the row heading. Select as many rows as you want to insert. To select additional row headings, hold down SHIFT when you click on the heading. For example, to insert 3 rows, select three rows.
 - Column.** Select the column where you want the new column inserted by clicking on the column heading. Select as many columns as you want to insert. To select additional column headings, hold down SHIFT when you click on the heading. For example, to insert 3 columns, select three columns.
2. Select Insert from the Edit menu.

If you insert a range or columns, any existing data is shifted right. If you insert columns, any existing data is shifted down.

Clearing and Deleting Cells, Rows, and Columns

You can delete or clear cells, rows, or columns. Deleting cells removes the cells and shifts the surrounding data to fill the space. Clearing cells leaves the cells, but deletes the data.

To delete cells:

1. Select the cells, rows, or columns you want to delete.
2. Select Delete from the Edit menu.
If you delete a range or columns, any data to the right of the deleted cells is shifted left. If you delete rows, any existing data below the deleted rows is shifted up.

To clear cells:

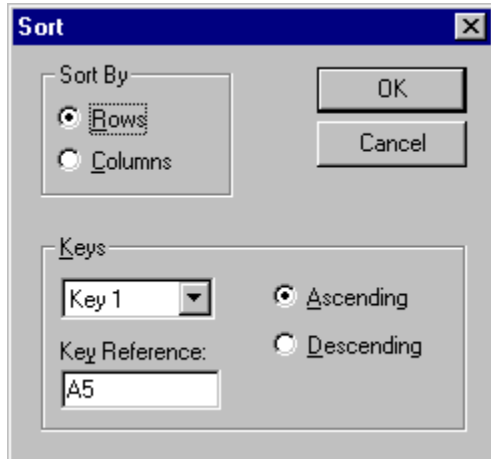
1. Select the cells, rows, or columns you want to clear.
2. Select Clear from the Edit menu to display the Clear dialog box.
3. Select All, Formats, or Values, depending on what you want to clear from the cell. All clears the value and its formatting. Formats leaves the value, but clears any formatting. Values clears only the value.
4. Click OK.

[Inserting Cells, Rows, and Columns](#)

Sorting Data in Worksheets

Select Sort... from the Data menu to display the sort dialog.

The Sort dialog box allows you to sort the data in the currently selected range. The dialog box allows you to specify sort keys, whether those sort keys are ascending or descending, and whether data is sorted by rows or columns.



Formatting Worksheets

SpreadPro supports a rich set of data formatting capabilities. When a worksheet is first created, all cells use the General format. As you enter data in the worksheet, SpreadPro determines the type of data and applies the appropriate format (e.g., if you enter a date, a date format is applied).

[Built-in Number Formats](#)

[Custom Formatting](#)

[Aligning Data](#)

[Changing Row Heights and Column Widths](#)

[Fixing Rows and Columns](#)

[Setting Cell Borders and Colors](#)

[Formatting Row and Column Headings](#)

[Setting Row and Column Text](#)

Built-in Number Formats

You can apply a number of built-in number formats by highlighting a range of cells and selecting the format from the Format menu.

The following table lists the built-in number formats and the result after the format is applied to a positive, negative, and decimal number.

Category	Format	3	-3	.3
All	General	3	-3	.3
Currency	\$#,##0_);(\$#,##0)	\$3	(\$3)	\$0
	\$#,##0_);[RED](\$#,##0)	\$3	(\$3)	\$0
	\$#,##0.00_);(\$#,##0.00)	\$3.00	(\$3.00)	\$0.30
	\$#,##0.00_);[RED](\$#,##0.00)	\$3.00	(\$3.00)	\$0.30
Fixed	0	3	-3	0
	0.00	3.00	-3.00	0.30
	#,##0	3	-3	0
	#,##0.00	3.00	-3.00	0.30
	#,##0_);(##0)	3	(3)	0
	#,##0_);[RED](##0)	3	(3)	0
	#,##0.00_);(##0.00)	3.00	(3.00)	0.30
	#,##0.00_);[RED](##0.00)	3.00	(3.00)	0.30
Percent	0%	300%	-300%	30%
	0.00%	300.00%	-300.00%	30.00%
Fraction	# ?/?	3	-3	2/7
	# ??/??	3	-3	3/10
Scientific	0.00E+00	3.00E+00	-3.00E+00	3.00E-01

Custom Formatting

Custom Formatting

In addition to the built-in formats, you can define custom formats. Each custom format can have as many as four sections: one for positive numbers, one for negative numbers, one for zeros, and one for text. Each section is optional; the sections are separated by semicolons. The following example shows a custom format:

```
#,###;(#,###);0;"Error: Entry must be numeric"
```

To define a custom number format:

1. Select a range of cells to be formatted.
2. Choose Custom Number from the Format menu to display the Custom Format dialog box.
3. Enter a format built from the custom format characters described in the table below.

The following table lists the format symbols that can be used in a custom format string.

Format Symbol	Description
General	Displays the number in General format.
0	Digit placeholder. If the number contains fewer digits than the format contains placeholders, the number is padded with 0's. If there are more digits to the right of the decimal than there are placeholders, the decimal portion is rounded to the number of places specified by the placeholders. If there are more digits to the left of the decimal than there are placeholders, the extra digits are retained.
#	Digit placeholder. This placeholder functions the same as the 0 placeholder except the number is not padded with 0's if the number contains fewer digits than the format contains placeholders.
?	Digit placeholder. This placeholder functions the same as the 0 placeholder except that spaces are used to pad the digits.
. (period)	Decimal point. Determines how many digits (0's or #'s) are displayed on either side of the decimal point. If the format contains only #'s left of the decimal point, numbers less than 1 begin with a decimal point. If the format contains 0's left of the decimal point, numbers less than 1 begin with a 0 left of the decimal point.
%	Displays the number as a percentage. The number is multiplied by 100 and the % character is appended.
, (comma)	Thousands separator. If the format contains commas separated by #'s or 0's, the number is displayed with commas separating thousands. A comma following a placeholder scales the number by a thousand. For example, the format 0, scales the number by 1000 (e.g., 10,000 would be displayed as 10).
E- E+ e- e+	Displays the number as scientific notation. If the format contains a scientific notation symbol to the left of a 0 or # placeholder, the number is displayed in scientific notation and an E or an e is added. The number of 0 and # placeholders to the right of the decimal determines the number of digits in the exponent. E- and e- place a minus sign by negative exponents. E+ and e+ place a minus sign by negative exponents and a plus sign by positive exponents.
\$ - + / () : space	Displays that character. To display a character other than those listed, precede the character with a backslash (\) or enclose the character in double quotation marks (" "). You can also use the slash (/) for fraction formats.
\	Displays the next character. The backslash is not displayed. You can also display a character or string of characters by surrounding the characters with double quotation marks (" "). The backslash is inserted automatically for the following characters: ! ^ & ` (left quote) ' (right quote) ~ { } = < >
* (asterisk)	Repeats the next character until the width of the column is filled. You cannot have more than one asterisk in each format section.
_ (underline)	Skips the width of the next character. For example, to make negative numbers surrounded by parentheses align with positive numbers, you can include the format _) for positive numbers to skip the width of a parenthesis.
"text"	Displays the text inside the quotation marks.
@	Text placeholder. If there is text in the cell, the text replaces the @ format character.
m	Month number. Displays the month as digits without leading zeros (e.g., 1-12). Can also represent minutes when used with h or hh formats.
mm	Month number. Displays the month as digits with leading zeros (e.g., 01-12). Can also represent minutes when used with the h or hh formats.

mmm	Month abbreviation. Displays the month as an abbreviation (e.g., Jan-Dec).
mmmm	Month name. Displays the month as a full name (e.g., January-December).
d	Day number. Displays the day as digits with no leading zero (e.g., 1-2).
dd	Day number. Displays the day as digits with leading zeros (e.g., 01-02).
ddd	Day abbreviation. Displays the day as an abbreviation (e.g., Sun-Sat).
dddd	Day name. Displays the day as a full name (e.g., Sunday-Saturday).
yy	Year number. Displays the year as a two-digit number (e.g., 00-99).
yyyy	Year number. Displays the year as a four-digit number (e.g., 1900-2078).
h	Hour number. Displays the hour as a number without leading zeros (e.g., 1-23). If the format contains one of the AM or PM formats, the hour is based on a 12-hour clock. Otherwise, it is based on a 24-hour clock.
hh	Hour number. Displays the hour as a number with leading zeros (e.g., 01-23). If the format contains one of the AM or PM formats, the hour is based on a 12-hour clock. Otherwise, it is based on a 24-hour clock.
m	Minute number. Displays the minute as a number without leading zeros (e.g., 0-59). The m format must appear immediately after the h or hh symbol. Otherwise, it is interpreted as a month number.
mm	Minute number. Displays the minute as a number with leading zeros (e.g., 00-59). The mm format must appear immediately after the h or hh symbol. Otherwise, it is interpreted as a month number.
s	Second number. Displays the second as a number without leading zeros (e.g., 0-59).
ss	Second number. Displays the second as a number with leading zeros (e.g., 00-59).
AM/PM am/pm A/P a/p	12-hour time. Displays time using a 12-hour clock. Displays AM, am, A, or a for times between midnight and noon; displays PM, pm, P, or p for times from noon until midnight.

[h]	Outputs total number of hours.
[m]	Outputs total number of minutes.
[s]	Outputs total number of seconds.
s.0, s.00, s.000, ss.0, ss.00, ss.000	Outputs fractional part of second.
[BLACK]	Displays cell text in black.
[BLUE]	Displays cell text in blue.
[CYAN]	Displays cell text in cyan.
[GREEN]	Displays cell text in green.
[MAGENTA]	Displays cell text in magenta.
[RED]	Displays cell text in red.
[WHITE]	Displays cell text in white.
[YELLOW]	Displays cell text in yellow.
[COLOR n]	Displays cell text using the corresponding color in the color palette. n is a color in the color palette.
[conditional value]	Each format can have as many as four sections: one each for positive numbers, negative numbers, zeros, and text. Using the conditional value brackets ([]), you can designate a different condition for each section. For example, you might want positive numbers displayed in black, negative numbers in red, and zeros in blue. The following string formats a number for these conditions: [>0] [BLACK]General; [<0] [RED]General; [BLUE]General

The following table shows some examples of custom number formats and numbers displayed using the custom formats.

Format	Cell Data	Display
###	123.456	123.46
	0.2	.2
#.0#	123.456	123.46
	123	123.0
###0"CR";###0"DR";0	1234.567	1,235CR
	0	0
	-123.45	123DR
#,	10000	10
"Sales="0.0	123.45	Sales=123.5
	-123.45	-Sales=123.5
"X="0.0;"x"=-0.0	-12.34	x=-12.3
\$* ###0.00;\$* -###0.00	1234.567	\$ 1,234.57
	-12.34	\$ -12.34

000-00-0000
"Cust. No." 0000
:::
"The End"

123456789
1234
Anything
123.45
-123.45

123-45-6789
Cust. No. 1234
(Not Displayed)
The End
-The End

m-d-yy
mm dd yy
mmm d, yy
m d mmmm yyyy
hh" h" mm" m"
h.mm AM/PM
hhmm "hours"

text
2/3/94
2/3/94
2/3/94
2/3/94
2/3/94
1:32 AM
14:56
3:15

text
2-3-94
02 03 94
Feb 3, 94
February 3, 1994
3 February 1994
01h 32m
2.56 PM
0315 hours

Aligning Data

SpreadPro allows you to specify how data is aligned within a cell. The standard alignment places text along the left edge of the cell and numbers along the right edge of the cell. Logical and error values are centered.

To align text:

1. Select the cells whose contents you want to align.
2. Choose Alignment from the Format menu to display the Alignment dialog box.
In this dialog box, you can specify the horizontal and vertical alignment of data in the selected cells. In addition, you can specify whether long strings of data can wrap to multiple lines within the cell.

Changing Row Heights and Column Widths

The width of columns and the height of rows can be changed.

[Sizing Rows and Columns](#)

[Fixing Rows and Columns](#)

[Formatting Row and Column Headings](#)

Sizing Rows and Columns

When you position the pointer on the right edge of a column heading or the bottom edge of a row heading, the pointer changes to a double arrow to indicate that the row or column can be resized. Simply click and drag to resize the column or row.

If multiple rows are selected when you resize a row, all selected rows are resized as you drag a row border. Multiple columns can be resized in the same manner.

Double-click on the bottom border of a row heading to automatically adjust the height of all cells in the row to accommodate the largest font size in the row. Double-click on the right side of a column heading to automatically adjust the width of all cells in the column to accommodate the largest entry.

You can also set the size of a selected group of columns or rows to match the size of an existing row or column. First, select the group of rows or columns you want to resize, including the row or column whose size you want to match. Then, click the right border of the column header or the bottom border of the row whose size you want to match. The selected rows are resized to match the size of the row or column you clicked.

[Changing Row Heights and Column Widths](#)

Fixing Rows and Columns

Rows and columns in a worksheet can be fixed so that they do not scroll when you perform worksheet scrolling. Fixed rows remain stationary when you perform vertical scrolling; fixed columns remain stationary when you perform horizontal scrolling. Fixing rows and columns allows you to place titles in your worksheet that are always displayed, as shown in the following illustration.

	A	B	C	D	E	F	
1			1994				
2			Q1	Q2	Q3	Q4	
3	Eastern	New England	4,085.19	9,956.62	4,949.14	6,232.05	
4		Mid Atlantic	8,049.24	3,573.06	2,596.09	7,505.63	
5		Southeast	2,553.15	2,482.89	1,029.15	6,607.76	
6	Central	Great Lakes	4,480.14	2,073.95	4,884.52	4,141.76	
7		Midwest	5,937.66	3,671.86	7,470.59	2,623.64	
8		Texas	8,227.45	4,167.80	8,104.55	6,783.30	
9	Western		A	B	G	H	I
10		1			1995		
11		2			Q1	Q2	Q3
12		3	Eastern	New England	4,953.14	3,671.86	8,227.45
13		4		Mid Atlantic	2,596.09	4,167.80	5,647.47
14		5		Southeast	1,029.15	4,190.54	1,898.54
15		6	Central	Great Lakes	5,236.56	3,919.69	2,258.25
		7		Midwest	7,470.59	8,321.59	3,573.06
		8		Texas	8,104.55	5364.23	2,482.89
		9	Western	Rockies	6,431.23	9512.64	2,073.95
		10		Southwest	7,348.04	1365.28	3,671.86
		11		Pacific NW	1,205.87	6543.54	5634.68
		12			44,375.22	47,057.17	35,468.15
		13					
		14					
		15					

Columns A and B in the are fixed in this worksheet. When horizontal scrolling is performed, columns A and B do not scroll.

When fixing rows and columns, you specify the starting row or column to fix and the number of rows or columns to fix. Rows and columns preceding the fixed area are not displayed in the worksheet. For example, if you fix rows 4 through 6, rows 1, 2, and 3 are not displayed.

To fix rows or columns:

1. Select the rows or columns you want to fix by clicking on the column or row header. To select multiple rows or columns, hold down SHIFT while you click.
2. Choose Fix Rows (or Columns) from the Sheet menu, depending on what you have selected.

Note Data contained in fixed rows and columns cannot be edited. You must perform any data editing in these rows and columns prior to fixing. If you attempt to select a cell in a fixed row or column, the entire row or column is selected, as shown in the following illustration.

	A	B	G	H	I	J
1			1995			
2			Q1	Q2	Q3	Q4
3	Eastern	New England	4,953.14	3,671.86	8,227.45	4,884.52
4		Mid Atlantic	2,596.09	4,167.80	5,647.47	7,470.59
5		Southeast	1,029.15	4,190.54	1,898.54	8,104.55
6	Central	Great Lakes	5,236.56	3,919.69	2,258.25	5,779.47
7		Midwest	7,470.59	8,321.59	3,573.06	4,141.76
8		Texas	8,104.55	5364.23	2,482.89	2,623.64
9	Western	Rockies	6,431.23	9512.64	2,073.95	6,783.30
10		Southwest	7,348.04	1365.28	3,671.86	9835.16
11		Pacific NW	1,205.87	6543.54	5634.68	5438.54
12			44,375.22	47,057.17	35,468.15	55,061.53
13						
14						
15						

Setting Cell Borders and Colors

Cells and ranges can be formatted with borders, colors, and patterns.

Borders can be applied to the top, bottom, left, and right sides of a cell. You can select the type and color of line used for the border. When adding a border to a range, you can place a border around the outside of the range.

When applying colors and patterns to a cell or range, you specify the pattern and foreground and background colors used to fill the cells.

To format cells:

1. Select the cells you want to format.
2. To change cell borders, choose Border from the Format menu to display the Borders dialog box. To change cell colors and patterns, choose Pattern from the Format menu to display the Pattern dialog box.

Formatting Row and Column Headings

In addition to formatting worksheet cells, many aspects of row and column headings can be formatted. Worksheet headings contain three areas: the row headings, column headings, and the box in the top left corner of the worksheet where the row and column headings intersect. The following illustration highlights these three areas.

The diagram shows a grid with 8 rows and 5 columns. The top row (row 1) is shaded and contains column headings 'A', 'B', 'C', 'D', and 'E'. The first column (column 1) is shaded and contains row numbers '1', '2', '3', '4', '5', '6', '7', and '8'. A diagonal line runs from the top-left corner of the grid to the bottom-right corner. Three areas are highlighted with curved lines: the top-left corner (the intersection of row 1 and column 1), the row headings (the shaded top row), and the column headings (the shaded first column). Labels with arrows point to these areas: 'Top left corner' points to the intersection, 'Row headings' points to the first column, and 'Column headings' points to the top row.

	A	B	C	D	E
1					
2					
3					
4					
5					
6					
7					
8					

Row headings

Top left corner

Column headings

[Selecting Row and Column Heading Areas](#)

[Sizing Row and Column Headings](#)

[Setting Row and Column Text](#)

Selecting Row and Column Heading Areas

To select headings, press CTRL+SHIFT and click the heading area.

[Formatting Row and Column Headings](#)

[Selecting Row and Column Heading Areas](#)

[Sizing Row and Column Headings](#)

Sizing Row and Column Headings

To change the size of column headings, click and drag the bottom edge of the top left corner.

To change the size of row headings, click and drag the right edge of the top left corner.

The following illustration shows interactive resizing of the column headings. Click on the pointer, guide, and resized worksheet for more information.

	A	B	C	D
1				
2				
3				
4				
5				
6				
7				
8				

[Formatting Row and Column Headings](#)

[Selecting Row and Column Heading Areas](#)

When the pointer is placed on an edge of the top left corner, it appears as a double arrow.

A guide follows the pointer as you click and drag the header border. The guide indicates the placement of the header border when you release the mouse.

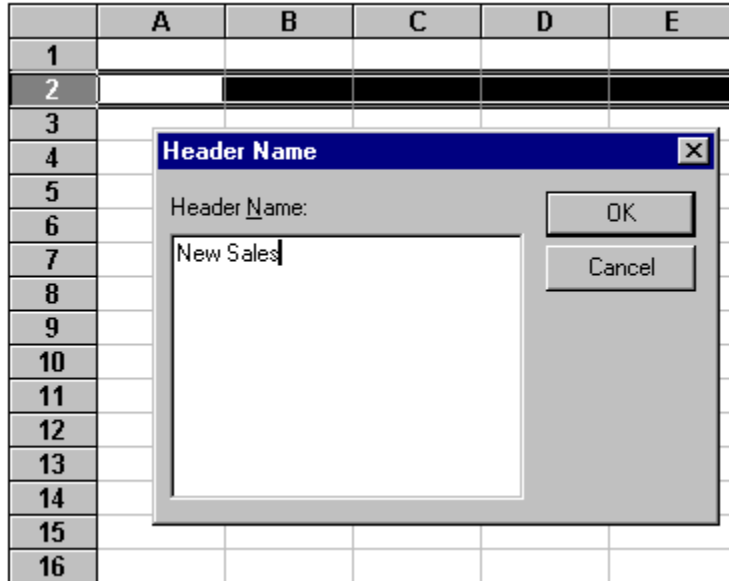
When you resize column headings, you also set the height of the top left corner. Likewise, when you resize row headings, you set the width of the top left corner.

Setting Row and Column Text

Like other column and row header attributes, the text displayed in header cells can be changed.

To change the text for a row or column header:

1. Double-click on the header for which you want to enter text to display the Header Name dialog box.
2. Enter one or more lines of text to serve as the header name, as shown in the following illustration.



3. Click on the OK button.

The header text is displayed, as shown in the following illustration.

	A	B	C	D	E
1					
New Sales					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

The row header area has been resized to display the new header text.

[Formatting Row and Column Headings](#)

Reading and Writing Files

SpreadPro can read and write a number of file formats. The following table lists the formats and the associated file name extensions.

Format	Extension	Description
Formula One 3	.VTS	SpreadPro's native format.
Excel 5 or 7	.XLS	Excel 5.0 or 7.0 format.
Excel 4.0	.XLS	Excel 4.0 format.
Tabbed Text	.TXT	Tab-delimited text file including number formatting information.
Tabbed Text (Values Only)	.TXT	Tab-delimited text without formatting information.
HTML	.HTM	HTML format including text formatting. (Write-only format.)
HTML (Data Only)	.HTM	HTML format without graphics. (Write-only format.)

Since SpreadPro has some features not supported by Excel, files saved in the VTS file format cannot be read by Excel. The XLS format is based on records where each record represents a unique feature or property of the workbook.

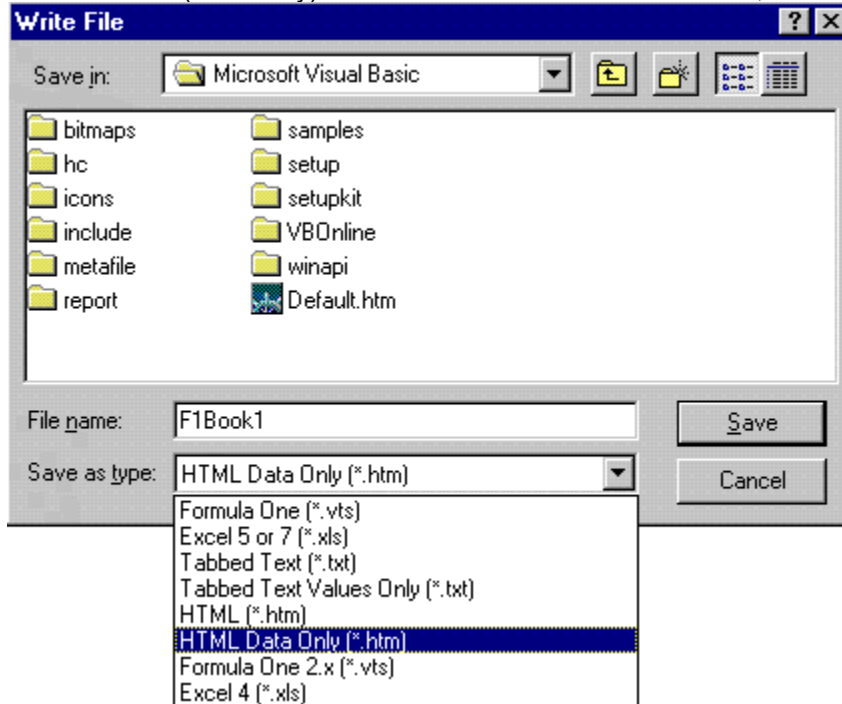
If the file you save contains features not supported by Excel, they are removed when the workbook is saved as an XLS file. Likewise, Excel contains features not supported by SpreadPro. Unsupported features are ignored when SpreadPro loads an Excel worksheet or workbook.

Important If you load an Excel file that contains features not supported by SpreadPro, such as charts or function arrays, those features are ignored. If the imported file is then written from SpreadPro as an Excel file and subsequently read by Excel, those features are omitted and irretrievable. SpreadPro cannot read password protected Excel files. If you intend to read files from Excel, they should not be password protected.

Writing out a Worksheet File in HTML Format

SpreadPro users can save a worksheet in HTML format by selecting the Write item from the File Menu. The Save File dialog then gives you the option of saving in two HTML formats:

- HTML - HTML format including data formatting, font and color information.
- HTML (Data Only) - HTML format includes data formats, but excludes font and color information.



Working With Objects

SpreadPro provides the ability to create objects in a worksheet. Among the objects you can create are charts, lines, rectangles, ovals, arcs, polygons, push buttons, check boxes, and drop down list boxes. As with other worksheet elements, SpreadPro provides a wide range of options for formatting and manipulating the appearance of objects you create.

[Creating Objects](#)

[Naming Objects](#)

[Moving, Sizing, and Arranging Objects](#)

[Formatting Objects](#)

Creating Objects

SpreadPro provides several methods for creating objects in worksheets.

- Objects to be created.
- You can set the mode of the mouse to allow object drawing at any time.

[Drawing Objects](#)

[Naming Objects](#)

[Formatting Objects](#)

Drawing Objects

The Drawing toolbar contains buttons that allow you to create and edit objects. The following table describes the buttons on the toolbar.

Button	Name	Description
--------	------	-------------



	Worksheet tool	Performs standard worksheet editing. Also selects objects for editing. Press CTRL when selecting buttons, check boxes, and drop down list boxes.
--	----------------	--



	Polygon editing mode	Toggles between normal polygon editing and polygon point editing. When polygon point editing is enabled, the points of a polygon can be moved.
--	----------------------	--



	Line tool	Draws lines.
--	-----------	--------------



	Rectangle tool	Draws rectangles and squares.
--	----------------	-------------------------------



	Oval tool	Draws ovals and circles.
--	-----------	--------------------------



	Arc tool	Draws arcs.
--	----------	-------------



	Polygon tool	Draws polygons.
--	--------------	-----------------



	Button tool	Draws push buttons.
--	-------------	---------------------



	Check box tool	Draws check box objects.
--	----------------	--------------------------



	List box tool	Draws drop down list box objects.
--	---------------	-----------------------------------



	Chart tool	Charts the selected range of data.
--	------------	------------------------------------

Drawing objects is as simple as point, click, and drag.

To draw an object:

1. Select the tool for the object you want to draw.
The pointer appears as a small cross when positioned in the worksheet.
2. Position the pointer at the point where you want to begin drawing.
3. Click and drag to draw the object.
An outline of the object you are drawing appears and moves as you drag the mouse.
4. Release the mouse button to set the object.

Note When drawing an object, press ALT to align the object to the cell grid.

[Creating Objects](#)

Naming Objects

Objects can be named after they are created. Object names do not take the place of object identification numbers. Rather, object names are used as a supplement to identification numbers, making it easier to track and manipulate objects.

To name an object:

1. Select the object you want to name.
2. Choose Name from the Object menu to display the Object Name dialog box.
3. In the entry field, enter the name to assign to the object.

Note After an object is named, you must press CTRL to select it at run time.

[Creating Objects](#)

[Moving, Sizing, and Arranging Objects](#)

[Formatting Objects](#)

Selecting Objects

To select an object:

1. Position the pointer on the object you want to select.
The pointer appears as an arrow when positioned on an object.
2. Click the object.
When the object is selected, selection handles appear at the edges of the bounding box that surrounds the object.

Note For check boxes, list boxes, and buttons that have been named you must press CTRL when selecting the object. In addition, in a worksheet at run time, you must press CTRL to select arcs, lines, ovals, polygons, and rectangles that have been named.

To select multiple objects, press SHIFT as you select the objects. For objects that have been named, you must press CTRL+SHIFT to select multiple objects.

You can choose Select All from the Objects menu to select all the objects in a worksheet.

[Selecting Check Box and List Box Items](#)

Moving, Sizing, and Arranging Objects

After an object is created, you can change both the position and size of the object.

[Positioning Objects](#)

[Arranging Overlapping Objects](#)

[Arranging Objects and Object Order](#)

Positioning Objects

To resize and reposition an object:

1. Select the object to be moved or sized.
Note To select a named button, check box, or list box, you must press CTRL when selecting the object.
When you select an object, selection handles appear along the bounding box that surrounds the object.
2. If moving the object, position the pointer anywhere in the area occupied by the object. If resizing the object, position the pointer on one of the selection handles.
When positioned in the object area, the pointer appears as an arrow. When positioned on a selection handle, the pointer appears as a two-headed arrow, indicating the direction in which the object can be resized.
3. Click and drag to move or resize the object.
An outline of the object moves with the pointer as you drag the mouse.
Note When moving or resizing an object, you can align the object to the worksheet grid by pressing ALT as you click and drag.
4. Release the mouse to set the object at its new position or at its new size.

[Moving, Sizing, and Arranging Objects](#)

[Arranging Overlapping Objects](#)

[Arranging Objects and Object Order](#)

Arranging Overlapping Objects

When you have multiple objects on a worksheet, they appear to be drawn on the same plane. However, when two objects overlap, the previously drawn object is covered by the latter-drawn object. You can change the order of object layering in a worksheet by sending an object behind other objects or bringing an object to the front of other objects.

To arrange objects:

1. Select the object you want to move.
2. Choose Bring to Front or Send to Back from the Object menu. The object is moved in the direction you specify.

[Moving, Sizing, and Arranging Objects](#)

[Positioning Objects](#)

[Arranging Objects and Object Order](#)

Arranging Objects and Object Order

When you use Bring To Front and Send To Back commands from the Object menu, you alter the order of the object list maintained by the worksheet.

[Moving, Sizing, and Arranging Objects](#)

[Positioning Objects](#)

[Arranging Overlapping Objects](#)

Formatting Objects

Many elements of objects can be formatted including:

- fill patterns and colors; line colors; and widths and styles for arcs, lines, ovals, polygons, and rectangles
- the lists of items contained by drop down list boxes
- the text displayed by check boxes or push buttons

[Creating Objects](#)

[Formatting Colors and Patterns](#)

[Formatting List Boxes](#)

[Formatting Check Boxes](#)

[Formatting Buttons](#)

[Selecting Check Box and List Box Items](#)

[Setting Values](#)

[Setting Values by Cell Reference](#)

[Editing Polygons](#)

Formatting Colors and Patterns

To set the fill colors and patterns for graphical objects – arcs, ovals, polygons, and rectangles – use the following methods:

To set fill colors and patterns for selected objects:

- Choose Pattern from the Object menu. The Pattern dialog box is displayed from which you can make your pattern and color choices.

To format lines for selected objects:

- Choose Line Style from the Object menu. The Line Style dialog box is displayed from which you can choose line attributes for the selected objects.

The following table shows the line styles that can be applied to line objects and the borders of arcs, ovals, polygons, and rectangles:

Line styles

Solid	—————
Dashed	- - - - -
Ditted
Dash-ditted	- - - - -
Dash-dit-ditted	- - - - -
None	

Solid lines can be 1/2 point, 1 point, 2 points, or 3 points in weight. Styled lines can only be 1/2 point in weight.

[Formatting Objects](#)

[Formatting List Boxes](#)

[Formatting Check Boxes](#)

[Formatting Buttons](#)

[Editing Polygons](#)

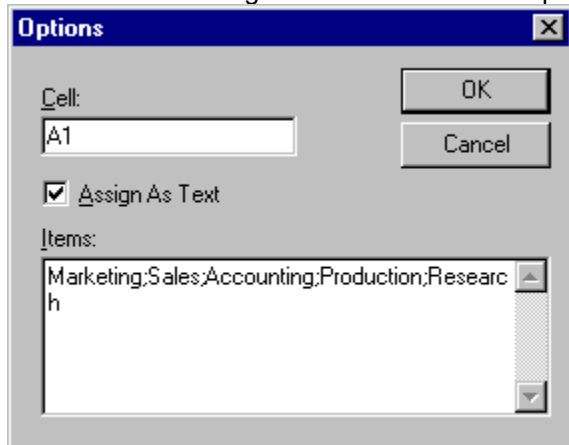
Formatting List Boxes

List boxes can be formatted by setting or changing the cell they reference (whether a selection appears in the referenced cell as a value or text) and specifying the list of selections in the list box.

To set or edit list box items:

1. Select a list box
2. Choose Options from the Object menu to display the Options dialog box.
3. Enter or edit the list of items contained by the list box. The items must be entered as a semicolon-delimited list.

The following illustration shows the Options dialog box. Click on the items for more information.



The following illustration shows a list box in a worksheet.

	A	B	C	D	E
1	Marketing				
2					
3			Marketing		
4					
5					
6					
7					
8					
9					

[Formatting Objects](#)

[Formatting Check Boxes](#)

[Formatting Buttons](#)

[Selecting Check Box and List Box Items](#)

[Setting Values](#)

[Setting Values by Cell Reference](#)

Indicates the cell referenced by the list box.

Check this box to if you want numeric items in the list box to be text.

The items that appear in the list box are displayed as a semicolon-delimited list in the Options dialog box.

Formatting Check Boxes

The text displayed by a check box can be set either through the Workbook Designer or programmatically.

To edit check box text:

1. Select a check box.
2. Choose Options from the Object menu to display the Options dialog box. In this dialog box, you can enter and edit the text displayed by the check box.

[Formatting List Boxes](#)

[Formatting Buttons](#)

[Selecting Check Box and List Box Items](#)

[Setting Values](#)

[Setting Values by Cell Reference](#)

Formatting Buttons

To edit button text:

1. Select a button.
2. Choose Options from the Object menu to display the Options dialog box. In this dialog box, you can enter and edit the text displayed on the button.

[Formatting List Boxes](#)

[Formatting Check Boxes](#)

Selecting Check Box and List Box Items

SpreadPro provides a variety of methods for checking or unchecking check box objects and selecting items from drop down list box objects.

- At run time, items can be checked or selected using the mouse.
- By assigning a cell to an object, you can set the value in the cell by making a selection from the object. Likewise, if you enter a value that is in the list associated with a list box, you can change the value displayed in the list box. The cell reflects the value to which the object is set, regardless of the method used to set the value.

When you check or uncheck a check box, or select an item from list box, you set the value in the assigned cell.

- For a check box, the value of the assigned cell is True if the object is checked or False if unchecked.
- In a list box, you can choose to have the value of the assigned cell set to the number or the text of the selected item. Items in a list box are numbered consecutively, starting with 0 (e.g., the first item is item 0, the second item is item 1, and so on). -1 means that no item is selected in the list box.

[Creating Objects](#)

[Formatting List Boxes](#)

[Formatting Check Boxes](#)

[Setting Values](#)

[Setting Values by Cell Reference](#)

Setting Values

To set the value of a check box or list box, the object itself cannot be selected and the pointer must be in normal worksheet editing mode.

- To set the value of a check box, position the pointer anywhere in the check box area and click. The check box toggles between checked and unchecked states.
- To set the value of a list box, position the pointer anywhere in the list box area and click. The list of items contained by the list box is displayed. If the list area is not large enough to display all the items, you may have to click the scroll areas to view the entire list. Then, click the item you want to select.

[Formatting List Boxes](#)

[Formatting Check Boxes](#)

Setting Values by Cell Reference

For both check boxes and list boxes, you can specify a cell that references the object. The referenced cell works in two ways:

- If you select an item from the object, the value or text of that selection is displayed in the referenced cell. For example, if you uncheck a check box, FALSE is placed in the cell the check box references.
- If you enter a valid value in the referenced cell, the current selection of the object reflects the cell value. For example, if you enter 0 in the cell, a list box that references the cell displays its first item as the current selection.

If multiple objects reference the same cell, making a selection in one object makes the same selection in all objects that reference the cell.

The cell reference for an object can be set in the Options dialog box, displayed by choosing Options from the Object menu when the object is selected.

For list boxes only, you can specify whether the value or text of the selection is displayed in the cell.

[Formatting List Boxes](#)

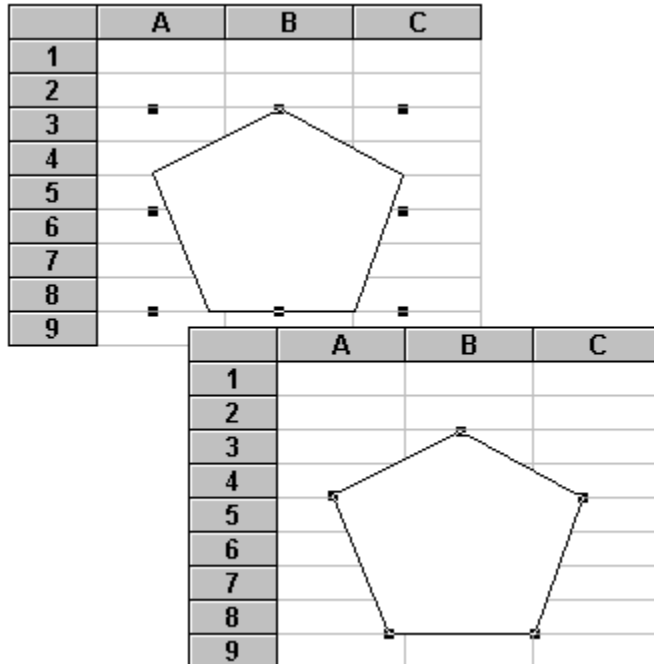
[Formatting Check Boxes](#)

Editing Polygons

When editing polygons, there are two editing modes:

Normal Polygon Editing. This mode allows you to resize and move polygons. Editing of polygon points is not allowed in this mode.

Polygon Point Editing. This mode allows you to reposition polygon points, thus changing the shape of the polygon. Use the polygon editing mode button in the toolbar to toggle between the polygon editing modes. The following illustration shows a selected polygon when normal polygon editing and polygon point editing modes are enabled. Click on the selection handles for more information.



To reshape a polygon:

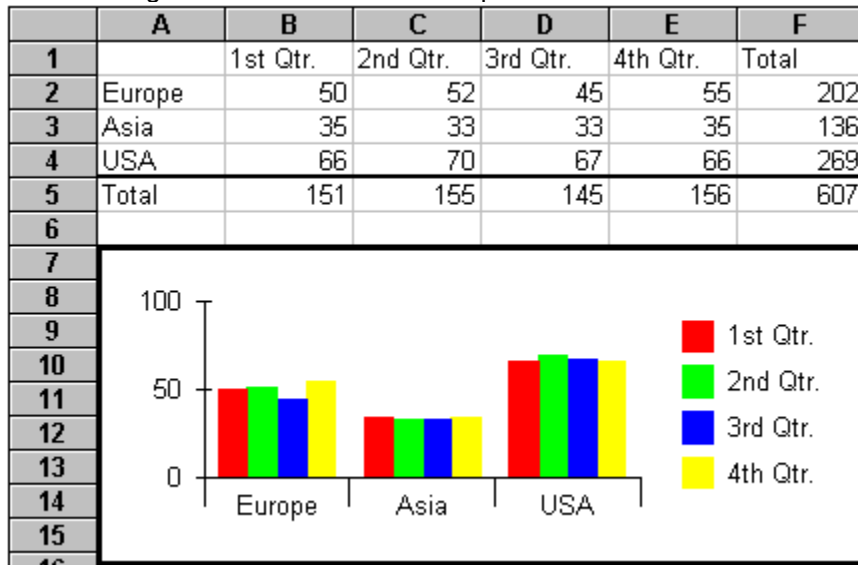
1. Select the polygon to be reshaped.
2. Make certain that polygon editing mode is enabled.
When polygon editing mode is enabled, selection handles appear at each point along the border of the selected polygon.
3. Position the pointer on the polygon point that you want to move.
4. Click the point and drag the mouse.
An outline of the lines adjoining the point move as you drag the polygon point.
5. Release the mouse button to place the point at its new location.

When normal polygon editing mode is enabled, the selection handles appear at the edges of the bounding box that surrounds the polygon. In this mode, the polygon can be resized and moved.

When polygon point editing mode is enabled, a selection handle appears at each point along the border of the polygon.
In this mode, the polygon points can be repositioned and the polygon can be moved.

Working with Chart Objects

The following illustration shows an example of a chart on a worksheet.



To chart data:

1. Select a range of data to be charted.
2. Click the chart button in the Tool bar.
3. Draw a rectangle where you want to place the chart.
The Chart Wizard appears to assist you in designing the chart appearance.
4. Make any necessary selections from the Chart Wizard and click Finished.

[Using the Chart Wizard](#)

[Chart Options](#)

[Referencing Data on Another Worksheet](#)

Using the Chart Wizard

The tabs within the Chart Wizard guide you through most common design decisions required when you create or modify a chart. The Chart Wizard is displayed automatically when you draw a new chart on a worksheet. You can also display the Chart Wizard at any time to assist you in formatting an existing chart.

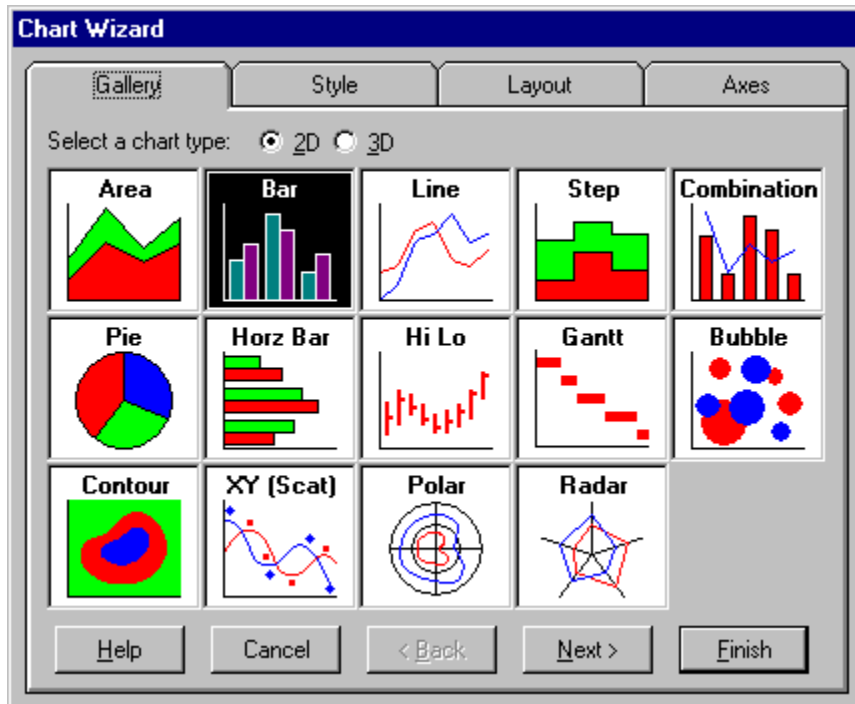
Important Each chart type has individual requirements as to how the data must be laid out. Separate formatting options are also available for different chart types. You should read your First Impression User's Guide to familiarize yourself with the requirements of various chart types.

To access the Chart Wizard:

1. Double-click on the chart to activate it.
2. Right-click the chart to display the shortcut menu.
3. Choose Wizard from the menu.

The Chart Wizard provides four tabs that control various design aspects such as choosing a chart type, setting chart options, controlling chart layout, and specifying chart and axis titles. You can navigate through these tabs by clicking on the tab at the top of the dialog box, or by using the navigation buttons at the bottom of the dialog box.

Click on the following illustration to display additional information about the Chart Wizard.



[Working with Chart Objects](#)

Using the Chart Wizard

The tabs within the Chart Wizard guide you through most common design decisions required when you create or modify a chart. The Chart Wizard is displayed automatically when you draw a new chart on a worksheet. You can also display the Chart Wizard at any time to assist you in formatting an existing chart.

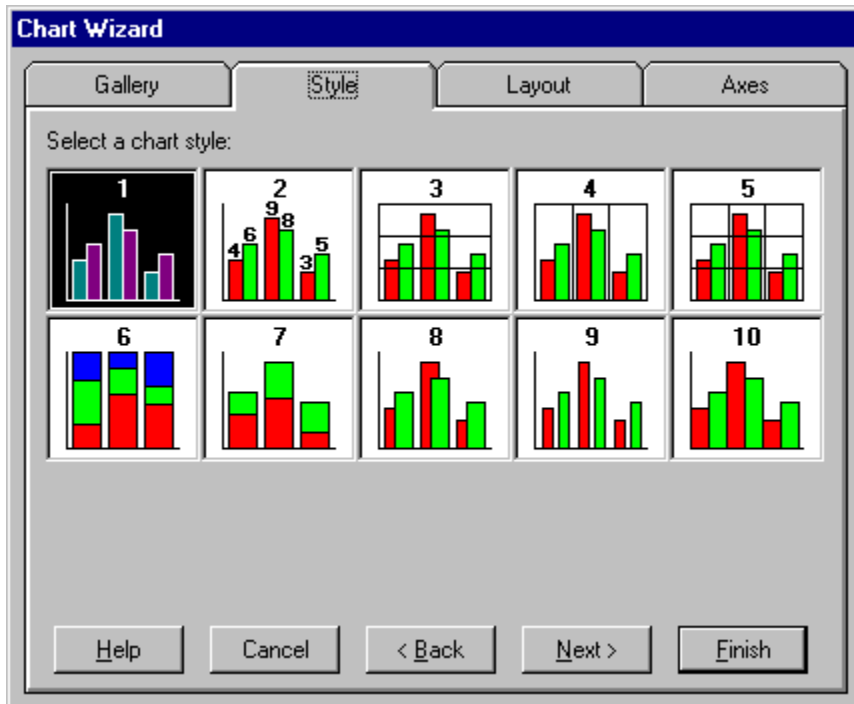
Important Each chart type has individual requirements as to how the data must be laid out. Separate formatting options are also available for different chart types. You should read your First Impression User's Guide to familiarize yourself with the requirements of various chart types.

To access the Chart Wizard:

1. Double-click on the chart to activate it.
2. Right-click the chart to display the shortcut menu.
3. Choose Wizard from the menu.

The Chart Wizard provides four tabs that control various design aspects such as choosing a chart type, setting chart options, controlling chart layout, and specifying chart and axis titles. You can navigate through these tabs by clicking on the tab at the top of the dialog box, or by using the navigation buttons at the bottom of the dialog box.

Click on the following illustration to display additional information about the Chart Wizard.



[Working with Chart Objects](#)

Using the Chart Wizard

The tabs within the Chart Wizard guide you through most common design decisions required when you create or modify a chart. The Chart Wizard is displayed automatically when you draw a new chart on a worksheet. You can also display the Chart Wizard at any time to assist you in formatting an existing chart.

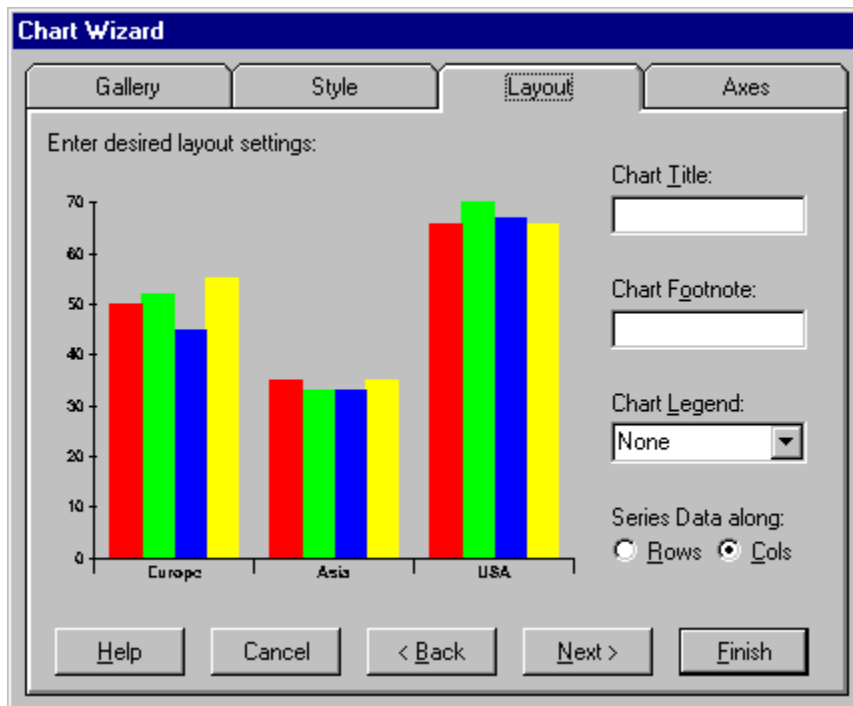
Important Each chart type has individual requirements as to how the data must be laid out. Separate formatting options are also available for different chart types. You should read your First Impression User's Guide to familiarize yourself with the requirements of various chart types.

To access the Chart Wizard:

1. Double-click on the chart to activate it.
2. Right-click the chart to display the shortcut menu.
3. Choose Wizard from the menu.

The Chart Wizard provides four tabs that control various design aspects such as choosing a chart type, setting chart options, controlling chart layout, and specifying chart and axis titles. You can navigate through these tabs by clicking on the tab at the top of the dialog box, or by using the navigation buttons at the bottom of the dialog box.

Click on the following illustration to display additional information about the Chart Wizard.



[Working with Chart Objects](#)

Using the Chart Wizard

The tabs within the Chart Wizard guide you through most common design decisions required when you create or modify a chart. The Chart Wizard is displayed automatically when you draw a new chart on a worksheet. You can also display the Chart Wizard at any time to assist you in formatting an existing chart.

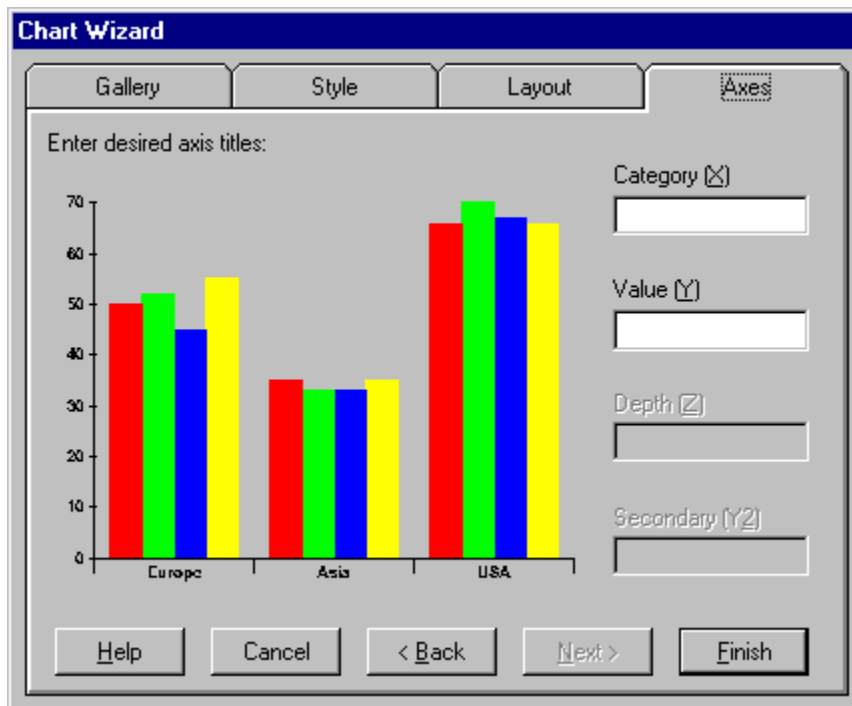
Important Each chart type has individual requirements as to how the data must be laid out. Separate formatting options are also available for different chart types. You should read your First Impression User's Guide to familiarize yourself with the requirements of various chart types.

To access the Chart Wizard:

1. Double-click on the chart to activate it.
2. Right-click the chart to display the shortcut menu.
3. Choose Wizard from the menu.

The Chart Wizard provides four tabs that control various design aspects such as choosing a chart type, setting chart options, controlling chart layout, and specifying chart and axis titles. You can navigate through these tabs by clicking on the tab at the top of the dialog box, or by using the navigation buttons at the bottom of the dialog box.

Click on the following illustration to display additional information about the Chart Wizard.



[Working with Chart Objects](#)

In the Gallery Tab, select the type of chart you wish to design. Two radio buttons control whether 2D chart or 3D chart types are displayed.

In the Style Tab, select a style for the chart type you have selected. Each style is a predefined set of display options such as series labels, stacking, and bar gap.

In the Layout Tab, specify an optional chart title, footnote, chart legend position, and whether the series data in the charted range should be charted along rows or columns. The chart preview image on this tab shows you how the chart will look with these modifications.

In the Axes Tab, enter optional axis titles for any or all axes on your chart. The chart preview image on this tab shows you how the chart will look with the addition of the axis title.

Displays Wizard Help.

Aborts changes.

Displays previous tab.

Displays next tab.

Applies modifications.

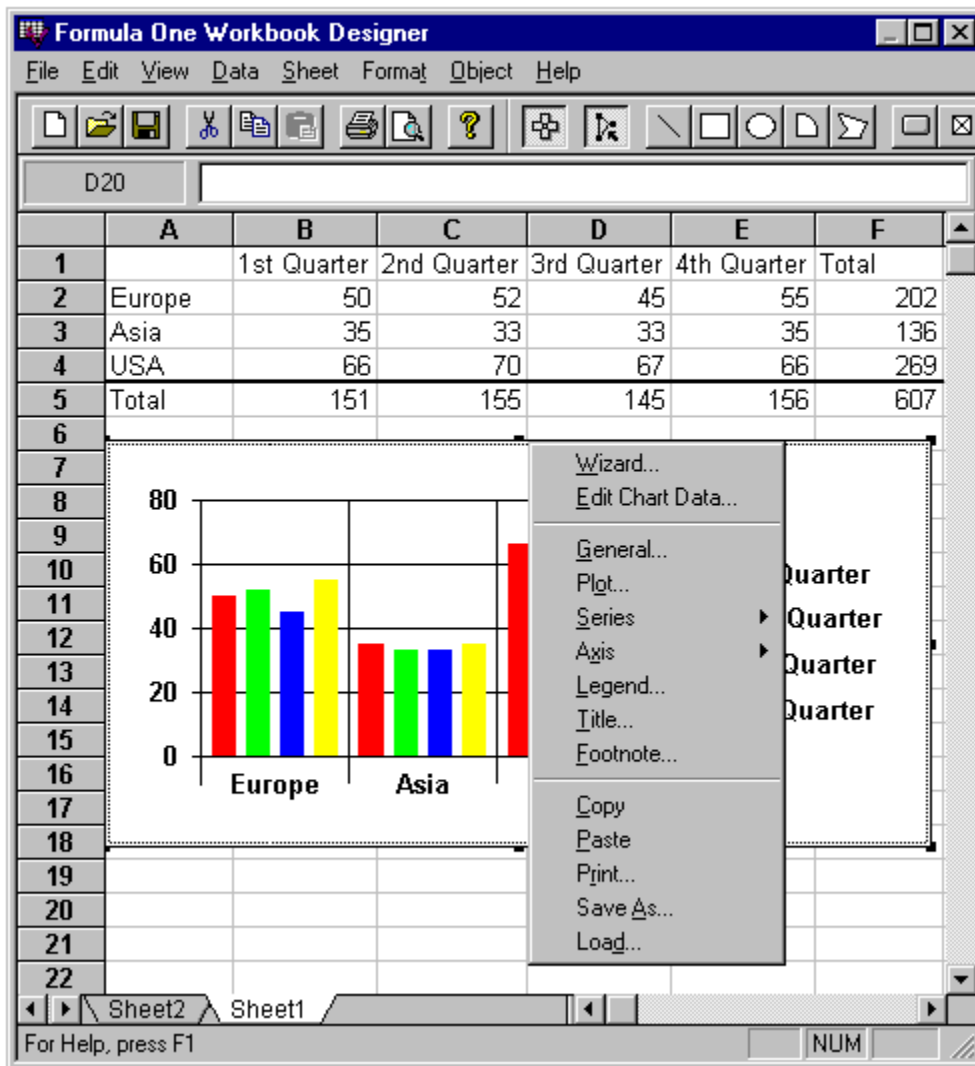
Additional Chart Formatting

The Chart Wizard provides a quick and easy method for applying some of the most common formatting options to your chart. Additional formatting options are available by using the First Impression dialog boxes. These dialog boxes are displayed by double-clicking on chart elements in an activated chart object, or by selecting items from the First Impression shortcut menu. Consult your First Impression documentation for more information.

To access First Impression dialog boxes:

1. Double-click on the chart object to activate it.
2. Right-click on the chart to display the shortcut menu.
3. Make a selection from the menu.

Important One of the options on the First Impression shortcut menu is Edit Chart Data. This displays First Impression's Data Grid View tool. In this tool you can modify the size and content of the chart's data source. Any changes you make in the Data Grid View tool are reflected in the chart, but are NOT reflected in the worksheet. Also, if you use the Data Grid View tool to edit the chart data and then recalculate the workbook in SpreadPro while the chart still references a range in the worksheet, the worksheet data overwrites your changes. To prevent this, set the chart's formula to an empty string (" ") before using the Data Grid View tool to edit the data.



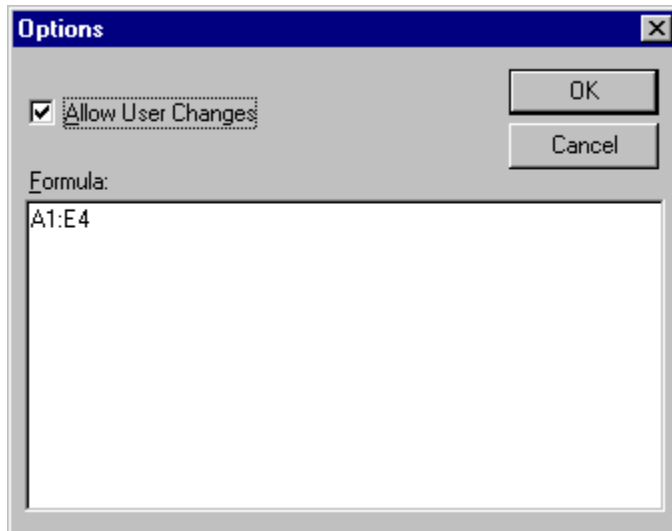
[Using the Chart Wizard](#)

Chart Options

Within SpreadPro, you can control whether or not users can edit the chart and change the source data range for a chart using the Object Options dialog box.

To edit chart options:

1. Select the chart.
2. Choose Options from the Object menu to display the Object Options dialog box.



Uncheck the AllowUserChanges check box to prevent users from formatting the chart. The Formula box lists the formula identifying the source data range for the chart.

[Referencing Data on Another Worksheet](#)

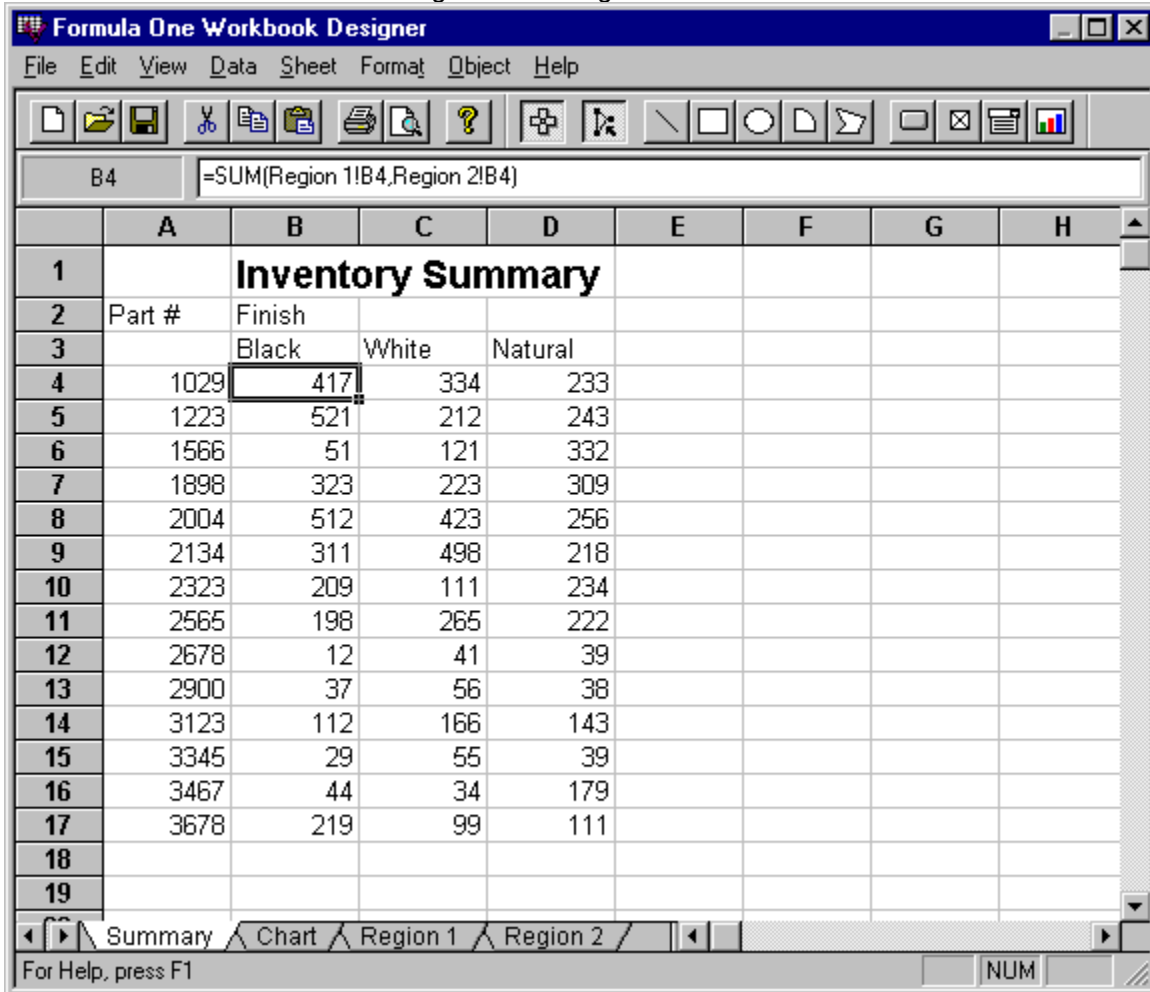
Referencing Data on Another Worksheet

You can also display a chart on one worksheet that references data on a separate worksheet.

To create a chart on a separate worksheet:

1. Select the chart tool.
2. Draw the chart on a worksheet.
3. Choose Options from the Object menu to display the Object Options dialog box.
4. Enter the formula referencing the data source on the other spreadsheet.

The worksheet shown in the following illustration provides summary information about inventory data stored on the worksheets named Region 1 and Region 2.



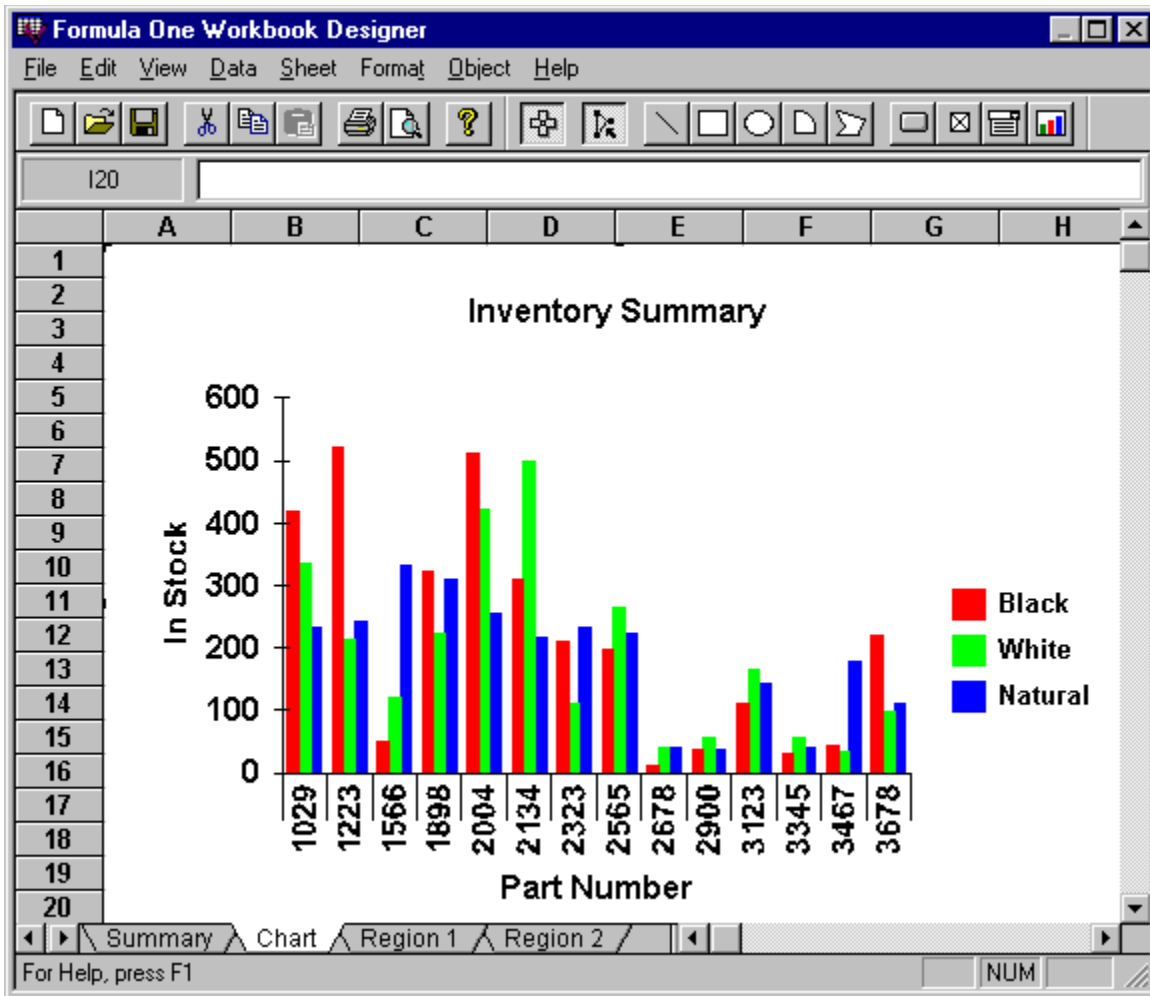
The screenshot shows a spreadsheet application window titled "Formula One Workbook Designer". The menu bar includes File, Edit, View, Data, Sheet, Format, Object, and Help. The toolbar contains various icons for file operations and editing. The active cell is B4, containing the formula `=SUM(Region 1!B4,Region 2!B4)`. The spreadsheet displays an "Inventory Summary" table with columns for Part #, Finish (Black, White, Natural), and inventory counts. The data is as follows:

	A	B	C	D	E	F	G	H
1		Inventory Summary						
2	Part #	Finish						
3		Black	White	Natural				
4	1029	417	334	233				
5	1223	521	212	243				
6	1566	51	121	332				
7	1898	323	223	309				
8	2004	512	423	256				
9	2134	311	498	218				
10	2323	209	111	234				
11	2565	198	265	222				
12	2678	12	41	39				
13	2900	37	56	38				
14	3123	112	166	143				
15	3345	29	55	39				
16	3467	44	34	179				
17	3678	219	99	111				
18								
19								

The bottom of the window shows a sheet tab bar with "Summary", "Chart", "Region 1", and "Region 2". The "Summary" sheet is active. A status bar at the bottom indicates "For Help, press F1" and a "NUM" indicator.

The cells B4 through D17 contain formulas that sum information from the worksheets Region 1 and Region 2.

The following worksheet displays the chart for the inventory data.



The data source formula for this chart object is Summary!A3:D17.

[Chart Options](#)

Printing Worksheets

To print the active sheet:

1. Choose Print from the File menu to display the Print dialog box.
2. Make any necessary adjustments to the settings and click OK.

[Specifying Print Areas](#)

[Specifying Row and Column Print Titles](#)

[Specifying Headers and Footers](#)

[Specifying Page Breaks](#)

[Setting Printing Orientation](#)

Specifying Print Areas

SpreadPro prints the entire active worksheet unless you specify the ranges you want to print. To specify the areas you want to print, you must set the Print_Area name to reflect the worksheet area to be printed.

To set the print area:

1. Select the ranges to print.
2. Choose Set Print Area on the Sheet menu.

[Specifying Row and Column Print Titles](#)

[Specifying Headers and Footers](#)

[Specifying Page Breaks](#)

Specifying Row and Column Print Titles

You can specify row or column titles that you want printed on each page of your worksheet. If you select a row, it is printed at the top of each page. If you select a column, it is printed at the left edge of each page. You can select multiple rows or columns, but they must be adjacent.

Important When setting print titles, you must select entire rows and columns.

The Print_Titles name holds the row and column titles specification.

To set print titles:

1. Select the rows or columns to use as print titles.
2. Choose Print Titles on the Sheet menu.

[Specifying Print Areas](#)

[Specifying Headers and Footers](#)

[Specifying Page Breaks](#)

Specifying Headers and Footers

Headers and footers are printed at the top and bottom of each page. The header and footer definition is accessible in the Page Setup dialog box.

Headers and footers can contain text and special formatting codes. The following table lists the special formatting codes. Header and footer codes can be entered in upper or lower case.

Format Code	Description
--------------------	--------------------

&L	Left-aligns the characters that follow.
&C	Centers the characters that follow.
&R	Right-aligns the characters that follow.
&D	Prints the current date.
&T	Prints the current time.
&F	Prints the workbook name.
&A	Prints the worksheet name.
&P	Prints the page number.
&P+number	Prints the page number plus number.
&P-number	Prints the page number minus number.
&&	Prints an ampersand.
&N	Prints the total number of pages in the document.

Codes and text are, by default, centered unless &L or &R is specified.

The following font codes must appear before other codes and text or they are ignored. The alignment codes (e.g., &L, &C, and &R) restart each section; new font codes can be specified after an alignment code.

Format Code	Description
--------------------	--------------------

&B	Use a bold font.
&I	Use an italic font.
&U	Underline the header.
&S	Strikeout the header.
&O	Ignored.
&H	Ignored.
&"fontname"	Use the specified font.
&nn	Use the specified font size - must be a two digit number.

[Specifying Print Areas](#)

[Specifying Row and Column Print Titles](#)

[Specifying Page Breaks](#)

Specifying Page Breaks

Both horizontal and vertical page breaks can be specified on a worksheet.

Page breaks are always placed adjacent to the active cell. When using methods, page breaks can be placed adjacent to the active cell or a cell that you specify.

- Horizontal (row) page breaks are placed adjacent to the top edge of the active or specified cell.
- Vertical (column) page breaks are placed adjacent to the left edge of the active or specified cell.

To set page breaks:

1. Select the cell adjacent to which you want to place page breaks.
2. Choose Set Page Breaks from the Sheet menu.

Setting Printing Orientation

Worksheet pages can be printed with a portrait or landscape orientation.

To set printing orientation:

- Choose Print Setup from the File menu and set the printing orientation in the Print Setup dialog box.

Previewing Worksheets Before Printing

Select Print Preview from the File menu, a preview of the printed pages will then be displayed.

Specifications

The following table lists the technical specifications for SpreadPro.

Specifications

Maximum worksheet size		16,384 Rows by 256 Columns
Column width		0 to 255 characters
Row height		0 to 409 points
Text length		255 characters
Formula length		1024 characters
Number precision	15 digits	
Largest positive number		9.999999999999999E307
Largest negative number		-9.999999999999999E307
Smallest positive number		1E-307
Smallest negative number	-1E-307	
Maximum number of iterations		32,767
Maximum number of colors		56
Maximum number of available colors		Limited by display card and monitor
Maximum number of fonts per sheet		256
Maximum number of selected ranges		2048
Maximum number of names per sheet		16384
Maximum length of name		255
Maximum number of function arguments		30
Maximum length of format string		255
Maximum number of tables		Limited by system resources (Windows and memory)
Excel file format version		Excel 4.0, 5.0, and 7.0

Main Toolbar

The buttons on the Main Toolbar provide easy access to some of the most common SpreadPro menu items. Click on a button for more information.



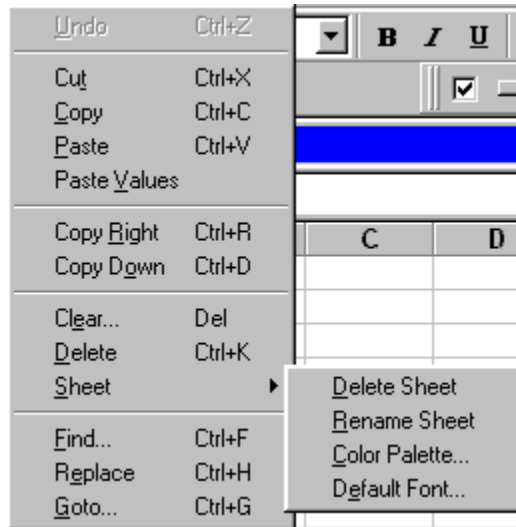
File Menu

Items on the File menu allow you to create new files, open existing files, save files, preview and print files, and modify your page and print setup settings. Click on a menu item for more information.

<u>N</u> ew...	Ctrl+N
<u>C</u> lose	
<u>O</u> pen...	Ctrl+O
<u>S</u> ave...	Ctrl+S
Save <u>A</u> s...	
Page Setup...	
Set Print <u>A</u> rea	
Set Print <u>T</u> itles	
Print Setup...	
Print <u>P</u> review...	
<u>P</u> rint...	Ctrl+P
Exit	
1 D:\Techmarc\XCell\Demo.vts	
2 D:\F1Book1.xls	
3 D:\Techmarc\XCell\downloads.vts	

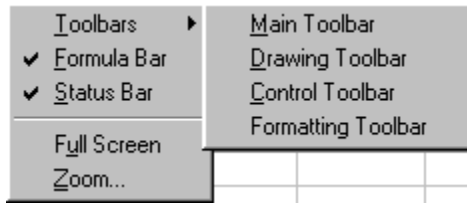
Edit Menu

The items on the Edit menu allow you to cut, copy, paste, and clear data; insert and delete cells; and go to a specific location in the worksheet. Click on a menu item for more information.



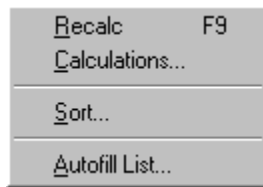
View Menu

Items on the View menu allow you to toggle the display of various tool bars and control basic formatting information for the workbook. Click on a menu item for more information.



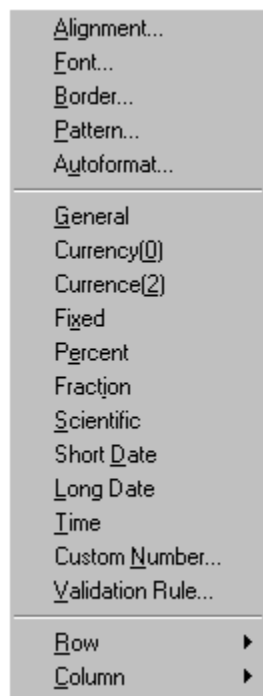
Data Menu

The items on the Data menu allow you to control worksheet calculation, create defined names, sort data, and create autofill lists. Click on a menu item for more information.



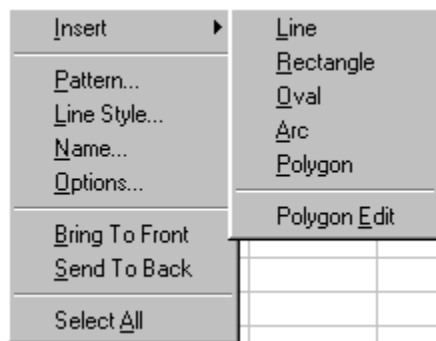
Format Menu

Items on the Format menu allow you to format worksheet elements. Click on a menu item for more information.



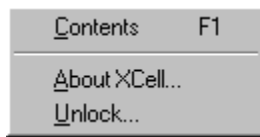
Object Menu

The items on the Object menu allow you to format and manipulate objects on a worksheet. Click on an item for more information.



Help Menu

The items on the Help menu provide information about SpreadPro.



Select Using Help to display general Windows help information.

ABS

Description

Returns the absolute value of a number.

Syntax

ABS (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any number.
---------------	-------------

Remarks

An absolute value does not display a positive or negative sign.

Examples

These functions both return 1:

ABS (-1)

ABS (1)

ACOS

Description

Returns the arc cosine of a number.

Syntax

ACOS (*number*)

Parameter Description

number The cosine of the angle. The cosine can range from 1 to -1.

Remarks

The resulting angle is returned in radians (from 0 to π). To convert the resulting radians to degrees, multiply the radians by $180/\pi$ ().

Examples

This function returns 1.05:

```
ACOS (.5)
```

This function returns 1.77:

```
ACOS (-.2)
```

See Also

[COS](#)

ACOSH

Description

Returns the inverse hyperbolic cosine of a number.

Syntax

ACOSH (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any number equal to or greater than 1.
---------------	--

Examples

This function returns .62:

```
ACOSH (1.2)
```

This function returns 1.76:

```
ACOSH (3)
```

See Also

[ASINH](#)

[ATANH](#)

[COSH](#)

ASC

Description

Returns a copy of *text* in which the double-byte characters (if any) have been converted to single-byte. Any double-byte characters that do not have single-byte equivalents are left in their original form.

Syntax

ASC (text)

Parameter	Description
-----------	-------------

text	The text containing double-byte characters which is converted to single-byte.
------	---

See Also

[DBCS](#)

ADDRESS

Description

Creates a cell address as text.

Syntax

ADDRESS (*row*, *column*, *ref_type* [, *a1*] [, *sheet*])

Parameter Description

row The row number for the cell address.

column The column number for the cell address.

ref_type The cell reference type. Following are the valid values for this argument.

Value	Description
1	Absolute
2	Absolute row, relative column
3	Relative row, absolute column
4	Relative

a1 The reference format. This argument must be TRUE() to represent an A1 reference format; SpreadPro does not support the R1C1 reference format.

sheet The name of an external worksheet view control. Omitting this argument assumes that the reference exists in the current spreadsheet.

Examples

This function returns **\$F\$5**:

```
ADDRESS(5, 6, 1)
```

This function returns **SALES!F5**:

```
ADDRESS(5, 6, 4, TRUE(), "SALES.")
```

See Also

[COLUMN](#)

[OFFSET](#)

[ROW](#)

AND

Description

Returns True if all arguments are true; returns False if at least one argument is false.

Syntax

AND (*logical_list*)

Parameter	Description
-----------	-------------

<i>logical_list</i>	A list of conditions separated by commas. You can include as many as 30 conditions in the list. The list can contain logical values or a reference to a range containing logical values. Text and empty cells are ignored. If there are no logical values in the list, the error #VALUE! is returned.
---------------------	---

Examples

This function returns True because both arguments are true:

```
AND(1+1=2, 5+5=10)
```

This function returns False:

```
AND(TRUE(), FALSE())
```

See Also

[NOT](#)

[OR](#)

[ROW](#)

ASIN

Description

Returns the arcsine of a number.

Syntax

ASIN (*number*)

Parameter Description

number The sine of the resulting angle, ranging from -1 to 1.

Remarks

The resulting angle is returned in radians (ranging from $-\pi/2$ to $\pi/2$). To convert the resulting radians to degrees, multiply the radians by $180/\pi$.

Examples

This function returns -1.57 :

```
ASIN (-1)
```

This function returns $.41$:

```
ASIN (.4)
```

See Also

[ASINH](#)

[PI](#)

[SIN](#)

ASINH

Description

Returns the inverse hyperbolic sine of a number.

Syntax

ASINH (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any number.
---------------	-------------

Examples

This function returns 2.37:

```
ASINH (5.3)
```

This function returns -2.09:

```
ASINH (-4)
```

See Also

[ACOSH](#)

[ASIN](#)

[ATANH](#)

[SINH](#)

ATAN

Description

Returns the arctangent of a number.

Syntax

ATAN (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	The tangent of the angle.
---------------	---------------------------

Remarks

The resulting angle is returned in radians, ranging from $-\pi/2$ to $\pi/2$. To convert the resulting radians to degrees, multiply the radians by $180/\pi$ ().

Examples

This function returns 1.29:

```
ATAN (3.5)
```

This function returns -1.33:

```
ATAN (-4)
```

See Also

[ATAN2](#)

[ATANH](#)

[PI](#)

[TAN](#)

ATAN2

Description

Returns the arctangent of the specified coordinates.

Syntax

ATAN2 (*x*, *y*)

Parameter Description

x The x coordinate.

y The y coordinate.

Remarks

The arctangent is the angle from the x axis to a line with end points at the origin (0, 0) and a point with the given coordinates (x, y). The angle is returned in radians, ranging from -pi to pi, excluding -pi.

Examples

This function returns 1.11:

```
ATAN2 (3, 6)
```

This function returns 3.04:

```
ATAN2 (-1, .1)
```

See Also

[ATAN](#)

[ATANH](#)

[PI](#)

[TAN](#)

ATANH

Description

Returns the inverse hyperbolic tangent of a number.

Syntax

ATANH (*number*)

Parameter Description

number A number between -1 and 1, excluding -1 and 1.

Examples

This function returns .55:

```
ATANH (.5)
```

This function returns -.26:

```
ATANH (-.25)
```

See Also

[ACOS](#)

[ASINH](#)

[TANH](#)

AVERAGE

Description

Returns the average of the supplied numbers. The result of **AVERAGE** is also known as the arithmetic mean.

Syntax

AVERAGE (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of numbers separated by commas. As many as 30 numbers can be included in the list, and the list can contain numbers or a reference to a range that contains numbers. Text, logical expressions, or empty cells in a referenced range are ignored. All numeric values (including 0) are used.
--------------------	---

Examples

This function returns 8.25:

```
AVERAGE(5, 6, 8, 14)
```

This function returns 134, the average of the values in the range C15:C17:

```
AVERAGE(C15:C17)
```

See Also

[MAX](#)

[MIN](#)

CALL

Description

Calls a procedure in a dynamic link library. There are two syntax forms of this function. When **CALL** is used with **REGISTER.ID**, as shown in syntax 1, the DLL is loaded and remains loaded until the program is dismissed. When **CALL** is used alone, as shown in syntax 2, the DLL is loaded, the function is called, and then the DLL is unloaded.

Important This function is provided for advanced users only. If you use the **CALL** function incorrectly, you could cause errors that will require you to restart your computer.

Syntax 1

Used with **REGISTER.ID**

```
CALL(register_id, argument1, ...)
```

Syntax 2

Used alone

```
CALL(module_text, procedure, type_text, argument1, ...)
```

Parameter

Description

register_id The value returned by a previously executed **REGISTER.ID** function.
argument1 The arguments to be passed to the procedure.
module_text Quoted text or reference specifying the name of the dynamic link library (DLL) that contains the procedure.
procedure Text specifying the name of the function in the DLL in SpreadPro. The function name is case dependent in 32-bit SpreadPro.
type_text Text specifying the data type of the return value and the data types of all arguments to the DLL or code resource. The first letter of *type_text* specifies the return value. The data types you use for *type_text* are described in the following table.

Data Type	Description	Pass by	C Declaration
A	Logical (False = 0, True = 1)	Value	short int
B	IEEE 8-byte floating point number	Value	double
C	Null-terminated string (255 characters maximum)	Reference	char *
D	Byte-counted string (first byte contains string length; 255 characters maximum)	Reference	unsigned char *
E	IEEE 8-byte floating point number	Reference	double *
F	Null-terminated string (255 characters maximum)	Reference	char *
G	Byte-counted string (first byte contains string length; 255 characters maximum)	Reference	unsigned char *
H	Unsigned 2-byte integer	Value	unsigned short int
I	Signed 2-byte integer	Value	short int
J	Signed 4-byte integer	Value	long int
L	Logical (False = 0, True = 1)	Reference	short int *
M	Signed 2-byte integer	Reference	short int *
N	Signed 4-byte integer	Reference	long int *

Remarks

For declarations made in C, it is assumed that your compiler defaults to 8-byte doubles, 2-byte short integers, and 4-byte long integers. In the Windows programming environment, all pointers should be far pointers.

Pascal calling conventions are used for all functions called from DLLs. For most C compilers, you must add the **-Pascal** keyword to the function declaration.

If the return value for your custom function uses a pass-by-reference data type, a null pointer can be passed as the return value. The null pointer is interpreted as the #NUM! error value.

For the F and G data types, a custom function can modify an allocated string buffer. If the return value type code is F or G, the value returned by the function is ignored. The list of function arguments is searched for the first data type that corresponds to the return value type. The current contents of the allocated string buffer is taken for the return value. 256 bytes is allocated for the argument; therefore, a function can return a larger string than it receives.

You can use a single digit (*n*), with a value from 1 to 9, as the code for *data_type*. The variable in the location pointed to by the *n*th argument is modified instead of the return value; this process is referred to as modifying in place. The *n*th argument must be a pass-by-reference data type. In addition, you must declare the function void. For most C compilers, you can add the **Void** keyword to the function declaration.

Examples

Syntax 1 (32-bit SpreadPro)

In 32-bit SpreadPro, the following macro formula registers the GetTickCount function from 32-bit Microsoft Windows. GetTickCount returns the number of milliseconds that have elapsed since Microsoft Windows was started.

```
REGISTER.ID("Kernel32","GetTickCount","J")
```

Assuming that this **REGISTER.ID** function is in cell A5, after your macro registers GetTickCount, you can use the **CALL** function to return the number of milliseconds that have elapsed since Windows was started:

```
CALL(A5)
```

Syntax 1 (16-bit SpreadPro)

In 16-bit SpreadPro, the following macro formula registers the GetTickCount function from 16-bit Microsoft Windows. GetTickCount returns the number of milliseconds that have elapsed since Microsoft Windows was started.

```
REGISTER.ID("User","GetTickCount","J")
```

Assuming that this **REGISTER.ID** function is in cell A5, after your macro registers GetTickCount, you can use the **CALL** function to return the number of milliseconds that have elapsed:

```
CALL(A5)
```

Syntax 2 (32-bit SpreadPro)

On a worksheet, you can use the following **CALL** formula (syntax 2) to call the GetTickCount function:

```
CALL("Kernel32","GetTickCount","J!")
```

or

Syntax 2 (16-bit SpreadPro)

On a worksheet, you can use the following **CALL** formula (syntax 2) to call the GetTickCount function:

```
CALL("User","GetTickCount","J!")
```

The ! in the *type_text* argument forces SpreadPro to recalculate the **CALL** function every time the worksheet recalculates. This updates the elapsed time whenever the worksheet recalculates.

CEILING

Description

Rounds a number up to the nearest multiple of a specified significance.

Syntax

CEILING (*number*, *significance*)

Parameter	Description
-----------	-------------

<i>number</i>	The value to round.
---------------	---------------------

<i>significance</i>	The multiple to which to round.
---------------------	---------------------------------

Remarks

Regardless of the sign of the number, the value is rounded up, away from zero. If number is an exact multiple of significance, no rounding occurs.

If the number or significance is non-numeric, the error #VALUE! is returned. When the arguments have opposite signs, the error #NUM! is returned.

Examples

This function returns 1.25:

```
CEILING(1.23459, .05)
```

This function returns -150:

```
CEILING(-148.24, -2)
```

See Also

[EVEN](#)

[FLOOR](#)

[INT](#)

[ODD](#)

[ROUND](#)

[TRUNC](#)

CHAR

Description

Returns a character that corresponds to the supplied ASCII code.

Syntax

CHAR (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	A value between 1 and 255 that specifies an ASCII character.
---------------	--

Remarks

The character and associated numeric code are defined by Windows in the ASCII character set.

Examples

This function returns F:

```
CHAR(70)
```

This function returns #:

```
CHAR(35)
```

See Also

[CODE](#)

CHOOSE

Description

Returns a value from a list of numbers based on the index number supplied.

Syntax

CHOOSE (*index*, *item_list*)

Parameter	Description
-----------	-------------

<i>index</i>	A number that refers to an item in <i>item_list</i> .
--------------	---

<i>item_list</i>	A list of numbers, formulas, or text separated by commas. This argument can also be a range reference. You can specify as many as 29 items in the list.
------------------	---

Remarks

index can be a cell reference; *index* can also be a formula that returns any value from 1 to 29. If *index* is less than 1 or greater than the number of items in *item_list*, #VALUE! is returned. If *index* is a fractional number, it is truncated to an integer.

Examples

This function returns Q2:

```
CHOOSE(2,"Q1","Q2","Q3","Q4")
```

This function returns the average of the contents of range A1:A10:

```
AVERAGE(CHOOSE(1,A1:A10,B1:B10,C1:C10))
```

See Also

[INDEX](#)

CLEAN

Description

Removes all nonprintable characters from the supplied text.

Syntax

CLEAN (*text*)

Parameter	Description
-----------	-------------

<i>text</i>	Any worksheet information.
-------------	----------------------------

Remarks

Text that is imported from another environment may require this function.

Examples

This function returns Payments Due because the character returned by CHAR (8) is nonprintable:

```
CLEAN("Payments " & CHAR(8) & "Due")
```

See Also

[CHAR](#)

[TRIM](#)

CODE

Description

Returns a numeric code representing the first character of the supplied string.

Syntax

CODE (*text*)

Parameter	Description
-----------	-------------

<i>text</i>	Any string.
-------------	-------------

Remarks

The numeric code and associated string are defined in your computer's character set. The character set used by Windows is the ANSI character set.

Examples

This function returns 65:

```
CODE ("A")
```

This function returns 98:

```
CODE ("b")
```

See Also

[CHAR](#)

COLUMN

Description

Returns the column number of the supplied reference.

Syntax

COLUMN (*reference*)

Parameter	Description
-----------	-------------

<i>reference</i>	A reference to a cell or range. Omitting the argument returns the number of the column in which COLUMN is placed.
------------------	---

Examples

This function returns 2:

`COLUMN (B3)`

This function returns 4 if the function is entered in cell D2:

`COLUMN ()`

See Also

[COLUMNS](#)

[ROW](#)

COLUMNS

Description

Returns the number of columns in a range reference.

Syntax

COLUMNS (*range*)

Parameter	Description
-----------	-------------

<i>range</i>	A reference to a range of cells.
--------------	----------------------------------

Example

This function returns 4:

`COLUMNS (A1 : D5)`

See Also

[COLUMN](#)

[ROWS](#)

CONCATENATE

Description

Joins several text strings into one string.

Syntax

CONCATENATE (*text1*, *text2*,)

Parameter	Description
-----------	-------------

<i>text1</i> , <i>text2</i> , ...	Up to 30 text items to be joined into a single text item. The text items can be strings, numbers, or single-cell references.
-----------------------------------	--

Remarks

The "&" operator can be used instead of CONCATENATE to join text items.

Examples

The following example returns "Sale Price" it is the same as typing "Sale"&" "&"Price":

```
CONCATENATE ("Sale ", "Price")
```

Suppose in an inventory worksheet, C2 contains "extruder1", C5 contains " gaskets", and C8 contains the number 15. The following example returns "Inventory currently holds 15 gaskets for extruder1":

```
CONCATENATE ("Inventory currently holds ", C8, " ", C5," for ", C2)
```

See Also

[COLUMN](#)

[ROWS](#)

COS

Description

Returns the cosine of an angle.

Syntax

COS (*number*)

Parameter Description

number The angle in radians. If the angle is in degrees, convert the angle to radians by multiplying the angle by PI()/180.

Examples

This function returns .126:

```
COS (1.444)
```

This function returns .28:

```
COS (5)
```

See Also

[ACOS](#)

[ASINH](#)

[ATANH](#)

[COSH](#)

[PI](#)

COSH

Description

Returns the hyperbolic cosine of a number.

Syntax

COSH (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any number.
---------------	-------------

Examples

This function returns 4.14:

```
COSH (2.10)
```

This function returns 1.03:

```
COSH (.24)
```

See Also

[ASINH](#)

[ATANH](#)

[COS](#)

COUNT

Description

Returns the number of values in the supplied list.

Syntax

COUNT (*value_list*)

Parameter	Description
-----------	-------------

<i>value_list</i>	A list of values. The list can contain as many as 30 values.
-------------------	--

Remarks

COUNT only numerates numbers or numerical values such as logical values, dates, or text representations of dates. If you supply a range, only numbers and numerical values in the range are counted. Empty cells, logical values, text, and error values in the range are ignored.

Examples

This function returns 2:

```
COUNT (5, 6, "Q2")
```

This function returns 3:

```
COUNT ("03/06/94", "06/21/94", "10/19/94")
```

See Also

[AVERAGE](#)

[COUNTA](#)

[SUM](#)

COUNTIF

Description

Returns the number of cells within a range which meet the given criteria.

Syntax

COUNTIF (*range*, *criteria*)

Parameter Description

range Range of cells you want to count.

criteria Number, expression, or text that defines which cells are counted.

See Also

[AVERAGE](#)

[COUNTA](#)

[SUM](#)

[SUMIF](#)

COUNTA

Description

Returns the number of nonblank values in the supplied list.

Syntax

COUNTA (expression_list)

Parameter	Description
-----------	-------------

<i>expression_list</i>	A list of expressions. As many as 30 expressions can be included in the list.
------------------------	---

Remarks

COUNTA returns the number of cells that contain data in a range. Null values (" ") are counted, but references to empty cells are ignored.

Examples

This function returns 4:

```
COUNTA(32, 45, "Earnings", "")
```

This function returns 0 when the specified range contains empty cells:

```
COUNTA(C38:C40)
```

See Also

[AVERAGE](#)

[COUNT](#)

[PRODUCT](#)

[SUM](#)

DATE

Description

Returns the serial number of the supplied date.

Syntax

DATE (*year, month, day*)

Parameter	Description
-----------	-------------

<i>year</i>	A number from 1900 to 2078. If year is between 1920 to 2019, you can specify two digits to represent the year; otherwise specify all four digits.
-------------	---

<i>month</i>	A number representing the month (for example, 12 represents December). If a number greater than 12 is supplied, the number is added to the first month of the specified year.
--------------	---

<i>day</i>	A number representing the day of the month. If the number you specify for day exceeds the number of days in that month, the number is added to the first day of the specified month.
------------	--

Examples

This function returns 34506:

```
DATE(94, 6, 21)
```

This function returns 36225:

```
DATE(99, 3, 6)
```

See Also

[DATEVALUE](#)

[DAY](#)

[MONTH](#)

[NOW](#)

[TIMEVALUE](#)

[TODAY](#)

[YEAR](#)

DATEVALUE

Description

Returns the serial number of a date supplied as a text string.

Syntax

DATEVALUE (*text*)

Parameter Description

text A date in text format between January 1, 1900, and December 31, 2078. If you omit the year, the current year is used.

Examples

This function returns 34399:

`DATEVALUE("3/6/94")`

This function returns 35058:

`DATEVALUE("12/25/95")`

See Also

[NOW](#)

[TIMEVALUE](#)

[TODAY](#)

DAY

Description

Returns the day of the month that corresponds to the date represented by the supplied number.

Syntax

DAY (*serial_number*)

Parameter	Description
-----------	-------------

<i>serial_number</i>	A date represented as a serial number or as text (for example, 06-21-94 or 21-Jun-94).
----------------------	--

Examples

This function returns 6:

```
DAY(34399)
```

This function returns 21:

```
DAY("06-21-94")
```

See Also

[HOURL](#)

[MINUTE](#)

[MONTH](#)

[NOW](#)

[SECOND](#)

[TODAY](#)

[WEEKDAY](#)

[YEAR](#)

DAYS360

Description

Returns the number of days between two dates based on a 360-day year (twelve 30-day months). Use this function to help compute payments if your accounting system is based on twelve 30-day months.

Syntax

DAYS360 (*start_date*, *end_date*, [])

Parameter	Description
-----------	-------------

<i>start_date</i> , <i>end_date</i>	The two dates between which you want to know the number of days.
-------------------------------------	--

<i>method</i>	A logical value that specifies whether the European or US method should be used in the calculation. If False (or omitted), the US (NASD) method is used. If True, the European method is used. The default is based on the local translation. It should be correct for your location.
---------------	---

Remarks

start_date and *end_date* can be text strings using numbers to represent the month, day, and year (for example, "1/30/93" or "1-30-93"), or they can be serial numbers representing the dates.

If *start_date* occurs after *end_date*, **DAYS360** returns a negative number.

If *method* is set to False and *start_date* is the 31st of a month, it becomes equal to the 30th of the same month. If *end_date* is the 31st of a month and *start_date* is less than the 30th of a month, the ending date becomes equal to the 1st of the next month, otherwise the ending date becomes equal to the 30th of the same month.

If *method* is set to True, *start_dates* or *end_dates* which occur on the 31st of a month become equal to the 30th of the same month.

Note To determine the number of days between two dates in a normal year, you can use normal subtraction--for example, "12/31/93"- "1/1/93" equals 364.

Example

```
DAYS360 ("1/30/93", "2/1/93") equals 1
```

DB

Description

Returns the real depreciation of an asset for a specific period of time using the fixed-declining balance method.

Syntax

DB (*cost*, *salvage*, *life*, *period* [, *months*])

Parameter	Description
-----------	-------------

<i>cost</i>	The initial cost of the asset.
-------------	--------------------------------

<i>salvage</i>	The salvage value of the asset.
----------------	---------------------------------

<i>life</i>	The number of periods in the useful life of the asset.
-------------	--

<i>period</i>	The period for which to calculate the depreciation. The time units used to determine period and life must match.
---------------	--

<i>months</i>	The number of months in the first year of the item's life. Omitting this argument assumes there are 12 months in the first year.
---------------	--

Example

This function returns 1451.52:

```
DB(10000, 1000, 7, 3)
```

See Also

[DDB](#)

[SLN](#)

[SYD](#)

[VDB](#)

DBCS

Description

Returns a copy of *text* in which the single-byte characters (if any) have been converted to double-byte characters. Any single-byte characters that do not have double-byte equivalents are left in their original (single-byte) form.

Syntax

DBCS

Parameter	Description
-----------	-------------

text	The text containing single-byte characters which is converted to double-byte characters.
------	--

See Also

[ASC](#)

DDB

Description

Returns the depreciation of an asset for a specific period of time using the double-declining balance method or a declining balance factor you supply.

Syntax

DDB (*cost*, *salvage*, *life*, *period* [, *factor*])

Parameter	Description
-----------	-------------

<i>cost</i>	The initial cost of the asset.
-------------	--------------------------------

<i>salvage</i>	The salvage value of the asset.
----------------	---------------------------------

<i>life</i>	The number of periods in the useful life of the asset.
-------------	--

<i>period</i>	The period for which to calculate the depreciation. The time units used to determine period and life must match.
---------------	--

<i>factor</i>	The rate at which the balance declines. Omitting this argument assumes a default factor of 2, the double-declining balance factor.
---------------	--

Remarks

The double-declining balance method uses an accelerated rate where the highest depreciation occurs in the first period, decreasing in successive periods.

All arguments for this function must be positive numbers.

Example

This function returns 1457.73:

```
DDB(10000,1000, 7, 3)
```

See Also

[DB](#)

[SLN](#)

[SYD](#)

[VDB](#)

DOLLAR

Description

Returns the specified number as text, using currency format and the supplied precision.

Syntax

DOLLAR (*number* [, *precision*])

Parameter	Description
-----------	-------------

<i>number</i>	A number, a formula that evaluates to a number, or a reference to a cell that contains a number.
---------------	--

<i>precision</i>	A value representing the number of decimal places to the right of the decimal point. Omitting this argument assumes the standard number of decimal places for the local currency.
------------------	---

Note

"Local" currency refers to the currency format for the current system, i.e., the one specified in Regional Settings in Control Panel

Remarks

Dollar will return the specified number format as text using currency format for the current system. If you wish to always convert to the USDollar format, regardless of the language of your system, then use the [USDOLLAR](#) worksheet function.

Examples

This function returns \$1023.79:

```
DOLLAR(1023.789)
```

This function returns \$500:

```
DOLLAR(495.301, -2)
```

See Also

[FIXED](#)

[TEXT](#)

[VALUE](#)

ERROR.TYPE

Description

Returns a number corresponding to an error.

Syntax

ERROR.TYPE (*error_ref*)

Parameter	Description
-----------	-------------

<i>error_ref</i>	A cell reference.
------------------	-------------------

Remarks

The following error text or numbers can be returned by this function.

Number	Description
--------	-------------

1	#NULL!
2	#DIV/0!
3	#VALUE!
4	#REF!
5	#NAME?
6	#NUM!
7	#N/A
#N/A	Other

Example

This function returns 2 if the formula in cell A1 attempts to divide by zero:

`ERROR.TYPE (A1)`

See Also

[ISERR](#)

[ISERROR](#)

EVEN

Description

Rounds the specified number up to the nearest even integer.

Syntax

EVEN (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any number, a formula that evaluates to a number, or a reference to a cell that contains a number.
---------------	--

Examples

This function returns 4:

`EVEN(2.5)`

This function returns 2032:

`EVEN(2030.45)`

See Also

[CEILING](#)

[FLOOR](#)

[INT](#)

[ODD](#)

[ROUND](#)

[TRUNC](#)

EXACT

Description

Compares two expressions for identical, case-sensitive matches. True is returned if the expressions are identical; False is returned if they are not.

Syntax

EXACT (*expression1*, *expression2*)

Parameter	Description
<i>expression1</i>	Any text.
<i>expression2</i>	Any text.

Examples

This function returns True:

```
EXACT("Match", "Match")
```

This function returns False:

```
EXACT("Match", "match")
```

See Also

[LEN](#)

[SEARCH](#)

EXP

Description

Returns e raised to the specified power. The constant e is 2.71828182845904 (the base of the natural logarithm).

Syntax

EXP (*number*)

Parameter	Description
<i>number</i>	Any number as the exponent.

Examples

This function returns 12.18:

`EXP (2.5)`

This function returns 20.09:

`EXP (3)`

See Also

[LN](#)

[LOG](#)

FACT

Description

Returns the factorial of a specified number.

Syntax

FACT (*number*)

Parameter Description

number Any non-negative integer. If you supply a real number, **FACT** truncates the number to an integer before calculation.

Examples

This function returns 2:

```
FACT (2.5)
```

This function returns 720:

```
FACT (6)
```

See Also

[PRODUCT](#)

FALSE

Description

Returns the logical value False. This function always requires the trailing parentheses.

Syntax

FALSE ()

See Also

[TRUE](#)

FIND

Description

Searches for a string of text within another text string and returns the character position at which the search string first occurs.

Syntax

FIND (*search_text*, *text* [, *start_position*])

Parameter	Description
-----------	-------------

<i>search_text</i>	The text to find. If you specify an empty string (" "), FIND matches the first character in text.
--------------------	--

<i>text</i>	The text to be searched.
-------------	--------------------------

<i>start_position</i>	The character position in text where the search begins. The first character in text is character number 1. When you omit this argument, the default starting position is character number 1.
-----------------------	--

Remarks

FIND is case-sensitive. You cannot use wildcard characters in the *search_text*.

Examples

This function returns 12:

```
FIND("time", "There's no time like the present")
```

This function returns 19:

```
FIND("4", "Aisle 4, Part 123-4-11", 9)
```

See Also

[EXACT](#)

[LEN](#)

[MID](#)

[SEARCH](#)

FINDB

Description

Searches for a string of text within another text string and returns the byte position at which the search string first occurs.

Syntax

FINDB (*search_text*, *text* [, *start_position*])

Parameter	Description
-----------	-------------

<i>search_text</i>	The text to find. If you specify an empty string (" "), FINDB matches the first byte in text.
--------------------	--

<i>text</i>	The text to be searched.
-------------	--------------------------

<i>start_position</i>	The byte position in text where the search begins. The first byte in text is byte number 1. When you omit this argument, the default starting position is byte number 1.
-----------------------	--

Remarks

FINDB is case-sensitive. You cannot use wildcard characters in the *search_text*.

Examples

This function returns 12:

```
FINDB("time", "There's no time like the present")
```

This function returns 19:

```
FINDB("4", "Aisle 4, Part 123-4-11", 9)
```

FIXED

Description

Rounds a number to the supplied precision, formats the number in decimal format, and returns the result as text.

Syntax

FIXED (*number* [, *precision*][, *no_commas*])

Parameter	Description
-----------	-------------

<i>number</i>	Any number.
---------------	-------------

<i>precision</i>	The number of digits that appear to the right of the decimal place. When this argument is omitted, a default <i>precision</i> of 2 is used. If you specify negative <i>precision</i> , number is rounded to the left of the decimal point. You can specify a <i>precision</i> as great as 127 digits.
------------------	---

<i>no_commas</i>	Determines if thousands separators (commas) are used in the result. Use 1 to exclude commas in the result. If <i>no_commas</i> is 0 or the argument is omitted, thousands separators are included (for example, 1,000.00).
------------------	--

Examples

This function returns 2,000.500:

```
FIXED(2000.5, 3)
```

This function returns 2010:

```
FIXED(2009.5, -1, 1)
```

See Also

[DOLLAR](#)

[ROUND](#)

[TEXT](#)

[VALUE](#)

FLOOR

Description

Rounds a number down to the nearest multiple of a specified significance.

Syntax

FLOOR (*number*, *significance*)

Parameter	Description
-----------	-------------

<i>number</i>	The value to round.
---------------	---------------------

<i>significance</i>	The multiple to which to round.
---------------------	---------------------------------

Remarks

Regardless of the sign of the *number*, the value is rounded down, toward zero. If *number* is an exact multiple of *significance*, no rounding occurs.

If *number* or *significance* is non-numeric, #NAME? is returned. When the arguments have opposite signs, #NUM! is returned.

Examples

This function returns 1.2:

```
FLOOR(1.23459, .05)
```

This function returns -148:

```
FLOOR(-148.24, -2)
```

See Also

[CEILING](#)

[EVEN](#)

[INT](#)

[ODD](#)

[ROUND](#)

[TRUNC](#)

FV

Description

Returns the future value of an annuity based on regular payments and a fixed interest rate.

Syntax

FV (*interest*, *nper*, *payment* [, *pv*] [, *type*])

Parameter	Description
-----------	-------------

<i>interest</i>	The fixed interest rate.
-----------------	--------------------------

<i>nper</i>	The number of payments in an annuity.
-------------	---------------------------------------

<i>payment</i>	The fixed payment made each period.
----------------	-------------------------------------

<i>pv</i>	The present value, or the lump sum amount, the annuity is currently worth. When you omit this argument, a present value of 0 is assumed.
-----------	--

<i>type</i>	Indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.
-------------	---

Remarks

The units used for *interest* must match those used for *nper*. For example, if the annuity has an 8 percent annual interest rate over a period of 5 years, specify 8 percent/12 for *interest* and 5*12 for *nper*.

Cash paid out, such as a payment, is shown as a negative number. Cash received, such as a dividend check, is shown as a positive number.

Examples

This function returns 4,774.55:

```
FV(5%, 8, -500)
```

This function returns 531,550.86:

```
FV(10%/12, 240, -700, 1)
```

See Also

[IPMT](#)

[NPER](#)

[PMT](#)

[PPMT](#)

[PV](#)

[RATE](#)

HLOOKUP

Description

Searches the top row of a table for a value and returns the contents of a cell in that table that corresponds to the location of the search value.

Syntax

HLOOKUP (*search_item*, *search_range*, *row_index*)

Parameter Description

search_item A value, text string, or reference to a cell containing a value that is matched against data in the top row of *search_range*.

search_range A reference to the range (table) to be searched. The cells in the first row of *search_range* can contain numbers, text, or logical values. The contents of the first row must be in ascending order (for example, -2, -1, 0, 2..., A through Z, False, True). Text searches are not case-sensitive.

row_index The row in *search_range* from which the matching value is returned. *row_index* can be a number from 1 to the number of rows in *search_range*. If *row_index* is less than 1, the error #VALUE! is returned. When *row_index* is greater than the number of rows in the table, the error #REF! is returned.

Remarks

HLOOKUP compares the information in the top row of *search_range* to the supplied *search_item*. When a match is found, information located in the same column and supplied row (*row_index*) is returned.

If *search_item* cannot be found in the top row of *search_range*, the largest value that is less than *search_item* is used. When *search_item* is less than the smallest value in the first row of the *search_range*, the error #REF! is returned.

Examples

The following examples use this worksheet.

	A	B	C	D	E
1		Midwest	Northeast	Pacific	South
2	Q1	48.23	278.21	61.97	164.80
3	Q2	163.83	22.63	161.73	183.96
4	Q3	43.96	233.56	278.16	171.98
5	Q4	245.69	167.09	245.23	163.00

This function returns 22.63:

```
HLOOKUP("Northeast", B1:E5, 3)
```

This function returns #REF!:

```
HLOOKUP("Pacific", B1:E5, 7)
```

See Also

[INDEX](#)

[LOOKUP](#)

[MATCH](#)

[VLOOKUP](#)

HOUR

Description

Returns the hour component of the specified time in 24-hour format.

Syntax

HOUR (*serial_number*)

Parameter	Description
-----------	-------------

<i>serial_number</i>	The time as a serial number. The decimal portion of the number represents time as a fraction of the day.
----------------------	--

Remarks

The result is an integer ranging from 0 (12:00 AM) to 23 (11:00 PM).

Examples

This function returns 9:

```
HOUR(34259.4)
```

This function returns 23:

```
HOUR(34619.976)
```

See Also

[DAY](#)

[MINUTE](#)

[MONTH](#)

[NOW](#)

[SECOND](#)

[WEEKDAY](#)

[YEAR](#)

IF

Description

Tests the condition and returns the specified value.

Syntax

IF (*condition*, *true_value*, *false_value*)

Parameter

Description

condition

Any logical expression.

true_value

The value to be returned if condition evaluates to True.

false_value

The value to be returned if condition evaluates to False.

Example

This function returns Greater if the contents of A1 is greater than 10 and Less if the contents of A1 is less than 10:

```
IF(A1>10, "Greater", "Less")
```

See Also

[AND](#)

[FALSE](#)

[NOT](#)

[OR](#)

[TRUE](#)

INDEX

Description

Returns the contents of a cell from a specified range.

Syntax

INDEX (*reference* [, *row*] [, *column*] [, *range_number*])

Parameter Description

reference A reference to one or more ranges. If *reference* specifies more than one range, separate each *reference* with a comma and enclose *reference* in parentheses. For example, (A1:C6, B7:E14, F4). If each range in *reference* contains only one row or column, you can omit the row or column argument. For example, if *reference* is A1:A15, you can omit the column argument INDEX(A1:A15, 3,, 1).

row The row number in *reference* from which to return data.

column Column number in *reference* from which to return data.

range_number Specifies the range from which data is returned if *reference* contains more than one range. For example, if *reference* is (A1:A10, B1:B5, D14:E23), A1:A10 is *range_number* 1, B1:B5 is *range_number* 2, and D14:E23 is *range_number* 3.

Remarks

If *row*, *column*, and *range_number* do not point to a cell within *reference*, #REF! is returned. If *row* and *column* are omitted, **INDEX** returns the range in *reference* specified by *range_number*.

Examples

The following examples use this worksheet.

	A	B	C	D	E
1	Sales Group 1			Sales Group 2	
2	Adams	\$1,225.14		Cash	\$1,819.47
3	Baker	\$1,415.35		Johnson	\$1,733.67
4	Martinez	\$1,573.57		Nelson	\$1,138.23
5	Smith	\$1,469.78		Randall	\$1,634.58
6	White	\$1,390.89		Schultz	\$1,093.82

This function returns \$1415.35:

INDEX(A2:B6, 2, 2)

This function returns \$1634.58:

INDEX((A2:B6, D2:E6), 4, 2, 2)

See Also

[CHOOSE](#)
[HLOOKUP](#)
[LOOKUP](#)
[MATCH](#)
[VLOOKUP](#)

INDIRECT

Description

Returns the contents of the cell referenced by the specified cell.

Syntax

INDIRECT (*ref_text* [, *a1*])

Parameter Description

ref_text A reference to a cell that references a third cell. If *ref_text* is not a valid reference, the error #REF! is returned.

a1 The reference format. This argument must be TRUE() to represent an A1 reference format; SpreadPro does not support the R1C1 reference format.

Example

This function returns the contents of the cell that C1 references. If C1 contains "D1," then the contents of D1 is returned:

INDIRECT (C1)

See Also

[OFFSET](#)

INT

Description

Rounds the supplied number down to the nearest integer.

Syntax

INT (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any real number.
---------------	------------------

Examples

This function returns 10:

```
INT (10.99)
```

This function returns -11:

```
INT (-10.99)
```

See Also

[CEILING](#)

[FLOOR](#)

[MOD](#)

[ROUND](#)

[TRUNC](#)

IPMT

Description

Returns the interest payment of an annuity for a given period, based on regular payments and a fixed periodic interest rate.

Syntax

IPMT (*interest*, *per*, *nper*, *pv*, [*fv*], [*type*])

Parameter	Description
-----------	-------------

<i>interest</i>	The fixed periodic interest rate.
-----------------	-----------------------------------

<i>per</i>	The period for which to return the interest payment. This number must be between 1 and <i>nper</i> .
------------	--

<i>nper</i>	The number of payments.
-------------	-------------------------

<i>pv</i>	The present value, or the lump sum amount the annuity is currently worth.
-----------	---

<i>fv</i>	The future value, or the value after all payments are made. If this argument is omitted, the future value is assumed to be 0.
-----------	---

<i>type</i>	Indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.
-------------	---

Remarks

The units used for interest must match those used for *nper*. For example, if the annuity has an 8 percent annual interest rate over a period of 5 years, specify 8 percent/12 for *interest* and 5*12 for *nper*.

Cash paid out, such as a payment, is shown as a negative number. Cash received, such as a dividend check, is shown as a positive number.

Examples

This function returns -117.87:

```
IPMT(8%/12, 2, 48, 18000)
```

This function returns -117.09:

```
IPMT(8%/12, 2, 48, 18000, 0, 1)
```

See Also

[FV](#)

[PMT](#)

[PPMT](#)

[RATE](#)

IRR

Description

Returns internal rate of return for a series of periodic cash flows.

Syntax

IRR (*cash_flow* [, *guess*])

Parameter Description

cash_flow A reference to a range that contains values for which to calculate the internal rate of return. The values must contain at least one positive and one negative value. During calculation, **IRR** uses the order in which the values appear to determine the order of the cash flow. Text, logical values, and empty cells in the range are ignored.

guess The estimate of the internal rate of return. If no argument is supplied, a rate of return of 10 percent is assumed.

Remarks

The internal rate of return is the interest rate received for an investment consisting of payments (specified by negative numbers) and investments (specified by positive numbers).

IRR is calculated iteratively, cycling through the calculation until the result is accurate to .00001 percent. If the result cannot be found after 20 iterations, #NUM! is returned. When this occurs, supply a different value for *guess*.

Examples

The following examples use this worksheet.

	A	B
1	Investment	(\$60,000.00)
2	1989 income	\$9,590.00
3	1990 income	\$10,580.00
4	1991 income	\$12,790.00
5	1992 income	\$15,830.00
6	1993 income	\$18,930.00

This function returns 3.72 percent:

`IRR(B1:B6)`

This function returns -49.26 percent:

`IRR(B1:B3, -20%)`

See Also

[MIRR](#)

[NPV](#)

[RATE](#)

ISBLANK

Description

Determines if the specified cell is blank.

Syntax

ISBLANK (*reference*)

Parameter	Description
<i>reference</i>	A reference to any cell.

Remarks

If the referenced cell is blank, True is returned. False is returned if the cell is not blank.

Example

This function returns True if A1 is a blank cell:

```
ISBLANK (A1)
```

See Also

[ISERR](#)

[ISERROR](#)

[ISLOGICAL](#)

[ISNA](#)

[ISNONTEXT](#)

[ISNUMBER](#)

[ISREF](#)

[ISTEXT](#)

ISERR

Description

Determines if the specified expression returns an error value.

Syntax

ISERR (*expression*)

Parameter	Description
<i>expression</i>	Any expression.

Remarks

If the expression returns any error except #N/A!, True is returned. Otherwise, False is returned.

Example

This function returns True if A1 contains a formula that returns an error such as #NUM!:

`ISERR(A1)`

See Also

[ISBLANK](#)

[ISERROR](#)

[ISLOGICAL](#)

[ISNA](#)

[ISNONTEXT](#)

[ISNUMBER](#)

[ISREF](#)

[ISTEXT](#)

ISERROR

Description

Determines if the specified expression returns an error value.

Syntax

ISERROR (*expression*)

Parameter	Description
<i>expression</i>	Any expression.

Remarks

If the *expression* returns any error value, such as #N/A, #VALUE!, #REF!, #DIV/0!, #NUM!, #NAME?, or #NULL!, True is returned. Otherwise, False is returned.

Examples

This function returns True:

`ISERROR (4/0)`

This function returns False if A1 contains a formula that does not return an error.

`ISERROR (A1)`

See Also

[ISBLANK](#)

[ISERR](#)

[ISLOGICAL](#)

[ISNA](#)

[ISNONTEXT](#)

[ISNUMBER](#)

[ISREF](#)

[ISTEXT](#)

ISLOGICAL

Description

Determines if the specified expression returns a logical value.

Syntax

ISLOGICAL (*expression*)

Parameter	Description
<i>expression</i>	Any expression.

Remarks

If the *expression* returns a logical value, True is returned. Otherwise, False is returned.

Example

This function returns True because **ISBLANK** returns a logical value:

```
ISLOGICAL ( ISBLANK (A1) )
```

See Also

[ISBLANK](#)

[ISERR](#)

[ISERROR](#)

[ISNA](#)

[ISNONTEXT](#)

[ISNUMBER](#)

[ISREF](#)

[ISTEXT](#)

ISNA

Description

Determines if the specified expression returns the value not available error.

Syntax

ISNA (*expression*)

Parameter	Description
<i>expression</i>	Any expression.

Remarks

If the *expression* returns the #N/A! error, True is returned. Otherwise, False is returned.

Example

This function returns True if cell A1 contains the **NA ()** function or returns the error value #N/A!:

`ISNA(A1)`

See Also

[ISBLANK](#)

[ISERR](#)

[ISERROR](#)

[ISLOGICAL](#)

[ISNONTEXT](#)

[ISNUMBER](#)

[ISREF](#)

[ISTEXT](#)

ISNONTEXT

Description

Determines if the specified expression is not text.

Syntax

ISNONTEXT (*expression*)

Parameter	Description
<i>expression</i>	Any expression.

Remarks

If the *expression* returns any value that is not text, True is returned. Otherwise, False is returned.

Examples

This function returns True if cell F3 contains a number or is a blank cell:

`ISNONTEXT(F3)`

This function returns False:

`ISNONTEXT("text")`

See Also

[ISBLANK](#)

[ISERR](#)

[ISERROR](#)

[ISLOGICAL](#)

[ISNA](#)

[ISNUMBER](#)

[ISREF](#)

[ISTEXT](#)

ISNUMBER

Description

Determines if the specified expression is a number.

Syntax

ISNUMBER (*expression*)

Parameter	Description
<i>expression</i>	Any expression.

Remarks

If the *expression* returns a number, True is returned. Otherwise, False is returned. If *expression* returns a number represented as text (for example, "12"), False is returned.

Examples

This function returns True:

```
ISNUMBER(123.45)
```

This function returns False:

```
ISNUMBER("123")
```

See Also

[ISBLANK](#)

[ISERR](#)

[ISERROR](#)

[ISLOGICAL](#)

[ISNA](#)

[ISNONTEXT](#)

[ISREF](#)

[ISTEXT](#)

ISREF

Description

Determines if the specified expression is a range reference.

Syntax

ISREF (*expression*)

Parameter	Description
<i>expression</i>	Any expression.

Remarks

If the expression returns a range reference, True is returned. Otherwise, False is returned.

Example

This function returns True:

ISREF (A3)

See Also

[ISBLANK](#)

[ISERR](#)

[ISERROR](#)

[ISLOGICAL](#)

[ISNA](#)

[ISNONTEXT](#)

[ISNUMBER](#)

[ISTEXT](#)

ISTEXT

Description

Determines if the specified expression is text.

Syntax

ISTEXT (*expression*)

Parameter	Description
<i>expression</i>	Any expression.

Remarks

If the *expression* returns text, True is returned. Otherwise, False is returned.

Example

This function returns True:

```
ISTEXT("2nd Quarter")
```

See Also

[ISBLANK](#)

[ISERR](#)

[ISERROR](#)

[ISLOGICAL](#)

[ISNA](#)

[ISNONTEXT](#)

[ISNUMBER](#)

[ISREF](#)

LEFT

Description

Returns the leftmost characters from the specified text string.

Syntax

LEFT (*text* [, *num_chars*])

Parameter	Description
-----------	-------------

<i>text</i>	Any text string.
-------------	------------------

<i>num_chars</i>	The number of characters to return. This value must be greater than or equal to zero. If <i>num_chars</i> is greater than the number of characters in <i>text</i> , the entire string is returned. Omitting this argument assumes a value of 1.
------------------	---

Examples

This function returns 2:

```
LEFT("2nd Quarter")
```

This function returns 2nd:

```
LEFT("2nd Quarter", 3)
```

See Also

[MID](#)

[RIGHT](#)

LEFTB

Description

Returns the leftmost byte from the specified text string.

Syntax

LEFTB (*text* [, *num_chars*])

Parameter	Description
-----------	-------------

<i>text</i>	Any text string.
-------------	------------------

<i>Num_chars</i>	The number of bytes to return. This value must be greater than or equal to zero. If <i>num_chars</i> is greater than the number of bytes in <i>text</i> , the entire string is returned. Omitting this argument assumes a value of 1.
------------------	---

Examples

This function returns 2:

```
LEFTB("2nd Quarter")
```

This function returns 2nd:

```
LEFTB("2nd Quarter", 3)
```

LEN

Description

Returns the number of characters in the supplied text string.

Syntax

LEN (*text*)

Parameter Description

text Any text string. Spaces in the string are counted as characters.

Examples

This function returns 11:

```
LEN("3rd Quarter")
```

This function returns 3:

```
LEN("1-3")
```

See Also

[EXACT](#)

[SEARCH](#)

LENB

Description

Returns the number of bytes in the supplied text string.

Syntax

LENB (*text*)

Parameter	Description
-----------	-------------

text	Any text string. Spaces in the string are counted as bytes.
------	---

Examples

This function returns 11:

```
LENB("3rd Quarter")
```

This function returns 3:

```
LENB("1-3")
```

LN

Description

Returns the natural logarithm (based on the constant e) of a number.

Syntax

LN (*number*)

Parameter	Description
<i>number</i>	Any positive real number.

Remarks

LN is the inverse of the **EXP** function.

Examples

This function returns 2.50:

`LN(12.18)`

This function returns 3.00:

`LN(20.09)`

See Also

[EXP](#)

[LOG](#)

[LOG10](#)

LOG

Description

Returns the logarithm of a number to the specified base.

Syntax

LOG (*number* [, *base*])

Parameter Description

number Any positive real number.

base The base of the logarithm. Omitting this argument assumes a base of 10.

Examples

This function returns 0:

`LOG(1)`

This function returns 1:

`LOG(10)`

See Also

[EXP](#)

[LN](#)

[LOG10](#)

LOG10

Description

Returns the base-10 logarithm of a number.

Syntax

LOG10 (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any positive real number.
---------------	---------------------------

Examples

This function returns 2.41:

`LOG10(260)`

This function returns 2:

`LOG10(100)`

See Also

[EXP](#)

[LN](#)

[LOG](#)

LOOKUP

Description

Searches for a value in one range and returns the contents of the corresponding position in a second range.

Syntax

LOOKUP (*lookup_value*, *lookup_range*, *result_range*)

Parameter Description

lookup_value The value for which to search in the first range.

lookup_range The first range to search and contains only one row or one column. The range can contain numbers, text, or logical values. To search *lookup_range* correctly, the expressions in the range must be placed in ascending order (for example, -2, -1, 0, 1, 2..., A through Z, False, True). The search is not case-sensitive.

result_range A range of one row or one column that is the same size as *lookup_range*.

Remarks

If *lookup_value* does not have an exact match in *lookup_range*, the largest value that is less than or equal to *lookup_value* is found and the corresponding position in *result_range* is returned. When *lookup_value* is smaller than the data in *lookup_range*, #N/A is returned.

Examples

The following examples use this worksheet.

	A	B
1	Region	Headquarters
2	Midwest	Kansas City
3	North	Detroit
4	Northeast	Philadelphia
5	Pacific	Portland
6	South	Atlanta
7	Southwest	Phoenix

This function returns Detroit:

```
LOOKUP("North", A2:A7, B2:B7)
```

This function returns #N/A:

```
LOOKUP("Alabama", A2:A7, B2:B7)
```

See Also

[HLOOKUP](#)

[INDEX](#)

[VLOOKUP](#)

LOWER

Description

Changes the characters in the specified string to lowercase characters. Numeric characters in the string are not changed.

Syntax

LOWER (*text*)

Parameter	Description
-----------	-------------

<i>text</i>	Any string.
-------------	-------------

Examples

This function returns 3rd quarter:

```
LOWER("3rd Quarter")
```

This function returns john doe:

```
LOWER("JOHN DOE")
```

See Also

[PROPER](#)

[UPPER](#)

MATCH

Description

A specified value is compared against values in a range. The position of the matching value in the search range is returned.

Syntax

MATCH (*lookup_value*, *lookup_range*, *comparison*)

Parameter Description

lookup_value The value against which to compare. It can be a number, text, or logical value or a reference to a cell that contains one of those values.

lookup_range The range to search; it contains only one row or one column. The range can contain numbers, text, or logical values.

comparison A number that represents the type of comparison to be made between *lookup_value* and the values in *lookup_range*. When you omit this argument, comparison method 1 is assumed. When comparison is 0, the first value that is equal to *lookup_value* is matched. When using this comparison method, the values in *lookup_range* can be in any order. When *comparison* is 1, the largest value that is less than or equal to *lookup_value* is matched. When using this comparison method, the values in *lookup_range* must be in ascending order (for example, ...-2, -1, 0, 1, 2..., A through Z, False, True). When *comparison* is -1, the smallest value that is greater than or equal to *lookup_value* is matched. When using this comparison method, the values in *lookup_range* must be in descending order (for example, True, False, Z through A, ...2, 1, 0, -1, -2...).

Remarks

When using comparison method 0 and *lookup_value* is text, *lookup_value* can contain wildcard characters. The wildcard characters are * (asterisk), which matches any sequence of characters, and ? (question mark), which matches any single character.

When no match is found for *lookup_value*, #N/A is returned.

Examples

The following examples use this worksheet.

	A	B
1	Mfr. Code	Stock No.
2	BAJ	0677
3	DOD	0753
4	FMH	0816
5	JMP	0913
6	PLY	7534
7	TJL	7763

This function returns 5:

`MATCH(7600, B2:B7,1)`

This function returns 2:

`MATCH("D*", A2:A7,0)`

See Also

[HLOOKUP](#)

[INDEX](#)

[LOOKUP](#)

[VLOOKUP](#)

MAX

Description

Returns the largest value in the specified list of numbers.

Syntax

MAX (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of as many as 30 numbers, separated by commas.
--------------------	---

The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values. Error values or text that cannot be translated into numbers return errors.

If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored. If there are no numbers in the list, 0 is returned.

Examples

This function returns 500:

```
MAX(50, 100, 150, 500, 200)
```

This function returns the largest value in the range:

```
MAX(A1:F12)
```

See Also

[AVERAGE](#)

[MIN](#)

MID

Description

Returns the specified number of characters from a text string, beginning with the specified starting position.

Syntax

MID (*text*, *start_position*, *num_chars*)

Parameter	Description
-----------	-------------

<i>text</i>	The string from which to return characters.
-------------	---

<i>start_position</i>	The position of the first character to return from text.
-----------------------	--

If *start_position* is 1, the first character in text is returned. If *start_position* is greater than the number of characters in text, an empty string (" ") is returned. If *start_position* is less than 1, #VALUE! is returned.

<i>num_chars</i>	The number of characters to return. If <i>num_chars</i> is negative, #VALUE! is returned.
------------------	---

Remarks

If *start_position* plus the number of characters in *num_chars* exceeds the length of text, the characters from *start_position* to the end of text are returned.

Examples

This function returns Expenses:

```
MID("Travel Expenses", 8, 8)
```

This function returns 45:

```
MID("Part #45-7234", 7, 2)
```

See Also

[CODE](#)

[FIND](#)

[LEFT](#)

[RIGHT](#)

[SEARCH](#)

MIDB

Description

Returns the specified number of bytes from a text string, beginning with the specified starting position.

Syntax

MIDB (*text*, *start_position*, *num_chars*)

Parameter	Description
-----------	-------------

<i>text</i>	The string from which to return bytes.
-------------	--

<i>start_position</i>	The position of the first byte to return from text.
-----------------------	---

If *start_position* is 1, the first byte in *text* is returned. If *start_position* is greater than the number of bytes in *text*, an empty string (" ") is returned. If *start_position* is less than 1, #VALUE! is returned.

<i>num_chars</i>	The number of bytes to return. If <i>num_chars</i> is negative, #VALUE! is returned.
------------------	--

Remarks

If *start_position* plus the number of bytes in *num_chars* exceeds the length of *text*, the bytes from *start_position* to the end of *text* are returned.

Examples

This function returns Expenses:

```
MIDB("Travel Expenses", 8, 8)
```

This function returns 45:

```
MIDB("Part #45-7234", 7, 2)
```


MIN

Description

Returns the smallest value in the specified list of numbers.

Syntax

MIN (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of as many as 30 numbers, separated by commas. The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values.
--------------------	---

Error values or text that cannot be translated into numbers return errors. If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored. If there are no numbers in the list, 0 is returned

Examples

This function returns 50:

```
MIN(50, 100, 150, 500, 200)
```

This function returns the smallest value in the range:

```
MIN(A1:F12)
```

See Also

[AVERAGE](#)

[MAX](#)

MINUTE

Description

Returns the minute that corresponds to the supplied date.

Syntax

MINUTE (*serial_number*)

Parameter	Description
-----------	-------------

<i>serial_number</i>	The time as a serial number. The decimal portion of the number represents time as a fraction of the day.
----------------------	--

Remarks

The result is an integer ranging from 0 to 59.

Examples

This function returns 36:

```
MINUTE (34506.4)
```

This function returns 48:

```
MINUTE (34399.825)
```

See Also

[DAY](#)

[HOUR](#)

[MONTH](#)

[NOW](#)

[SECOND](#)

[WEEKDAY](#)

[YEAR](#)

MIRR

Description

Returns the modified internal rate of return for a series of periodic cash flows.

Syntax

MIRR (*cash_flows*, *finance_rate*, *reinvest_rate*)

Parameter	Description
-----------	-------------

<i>cash_flow</i>	A reference to a range that contains values for which to calculate the modified internal rate of return. The values must contain at least one positive and one negative value.
------------------	--

Values that represent cash received should be positive; negative values represent cash paid. During calculation, **MIRR** uses the order in which the values appear to determine the order of cash flow. Text, logical values, and empty cells in the range are ignored.

<i>finance_rate</i>	The interest rate paid on money used in the cash flow.
---------------------	--

<i>reinvest_rate</i>	The interest rate received on money reinvested from the cash flow.
----------------------	--

Remarks

The modified internal rate of return considers the cost of the investment and the interest received on the reinvestment of cash.

Examples

The following examples use this worksheet.

This function returns 5.20 percent:

`MIRR(B1:B6, 12%, 8%)`

This function returns -40.93 percent:

`MIRR(B1:B3, 12%, 8%)`

See Also

[IRR](#)

[NPV](#)

[RATE](#)

MOD

Description

Returns the remainder after dividing a number by a specified divisor.

Syntax

MOD (number, divisor)

Parameter	Description
-----------	-------------

<i>number</i>	Any number.
---------------	-------------

<i>divisor</i>	Any nonzero number. If <i>divisor</i> is 0, #DIV/0! is returned.
----------------	--

Examples

This function returns 1:

`MOD (-23, 3)`

This function returns -2:

`MOD (-23, -3)`

See Also

[INT](#)

[ROUND](#)

[TRUNC](#)

MONTH

Description

Returns the month that corresponds to the supplied date.

Syntax

MONTH (*serial_number*)

Parameter Description

serial_number The date as a serial number or as text (for example, 06-21-94 or 21-Jun-94).

Remarks

MONTH returns a number ranging from 1 (January) to 12 (December).

Examples

This function returns 6:

```
MONTH("06-21-94")
```

This function returns 10:

```
MONTH(34626)
```

See Also

[DAY](#)

[HOUR](#)

[MINUTE](#)

[NOW](#)

[SECOND](#)

[TODAY](#)

[WEEKDAY](#)

[YEAR](#)

NA

Description

Returns the error value #N/A, which represents "not available."

Syntax

NA ()

Remarks

Use **NA** to mark cells that lack data without leaving them empty. Empty cells may not be correctly represented in some calculations.

Although **NA** does not use arguments, you must supply the empty parentheses to correctly reference the function.

See Also

[ISNA](#)

NOT

Description

Returns a logical value that is the opposite of its value.

Syntax

NOT (*logical*)

Parameter	Description
-----------	-------------

<i>logical</i>	An expression that returns a logical value such as True or False.
----------------	---

Remarks

If *logical* is false, **NOT** returns True. Conversely, if *logical* is true, **NOT** returns False.

Examples

This function returns False:

```
NOT(TRUE())
```

This function returns False:

```
NOT(MONTH("12/25/94") = 12)
```

See Also

[AND](#)

[IF](#)

[OR](#)

NOW

Description

Returns the current date and time as a serial number.

Syntax

NOW ()

Remarks

In a serial number, numbers to the left of the decimal point represent the date; numbers to the right of the decimal point represent the time. The result of this function changes only when a recalculation of the worksheet occurs.

See Also

[DATE](#)

[DAY](#)

[HOUR](#)

[MINUTE](#)

[MONTH](#)

[SECOND](#)

[TODAY](#)

[WEEKDAY](#)

[YEAR](#)

NPER

Description

Returns the number of periods of an investment based on regular periodic payments and a fixed interest rate.

Syntax

NPER (*interest*, *pmt*, *pf* [, *fv*] [, *type*])

Parameter	Description
-----------	-------------

<i>interest</i>	The fixed interest rate.
-----------------	--------------------------

<i>pmt</i>	The fixed payment made each period. Generally, <i>pmt</i> includes the principle and interest, not taxes or other fees.
------------	---

<i>pf</i>	The present value, the lump-sum amount that a series of future payments is currently worth.
-----------	---

<i>fv</i>	The future value, the balance to attain after the final payment. Omitting this argument assumes a future balance of 0.
-----------	--

<i>type</i>	Indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.
-------------	---

Examples

This function returns 36.67:

```
NPER(12%/12, -350, -300, 16000, 1)
```

This function returns 36.98:

```
NPER(1%, -350, -300, 16000)
```

See Also

[FV](#)

[IPMT](#)

[PMT](#)

[PPMT](#)

[PV](#)

[RATE](#)

NPV

Description

Returns the net present value of an investment based on a series of periodic payments and a discount rate.

Syntax

NPV (*discount_rate*, *value_list*)

Parameter	Description
-----------	-------------

<i>discount_rate</i>	The rate of discount for one period.
----------------------	--------------------------------------

<i>value_list</i>	A list of as many as 29 arguments or a reference to a range that contains values that represent payments and income. During calculation, NPV uses the order in which the values appear to determine the order of cash flow. Numbers, empty cells, and text representations of numbers are included in the calculation. Errors and text that cannot be translated into numbers are ignored. If <i>value_list</i> is a range reference, only numeric data in the range is included in the calculation. Other types of data in the range, such as empty cells, logical values, text, and error values are ignored.
-------------------	--

Remarks

The time span **NPV** uses for calculation begins one period before the first cash flow date and ends when the last cash flow payment is made. This function is based on future cash flows. When your first cash flow occurs at the beginning of the first period, the first value must be added to the **NPV** result, not supplied as a value in *value_list*.

Example

This function returns 811.57:

`NPV(8%, -12000, 3000, 3000, 3000, 7000)`

See Also

[FV](#)

[IRR](#)

[PV](#)

ODD

Description

Rounds the specified number up to the nearest odd integer.

Syntax

ODD (*number*)

Parameter Description

number Any number, a formula that evaluates to a number, or a reference to a cell that contains a number.

Examples

This function returns 5:

ODD (3.5)

This function returns 7:

ODD (6)

See Also

[CEILING](#)

[EVEN](#)

[FLOOR](#)

[INT](#)

[ROUND](#)

[TRUNC](#)

OFFSET

Description

Returns the contents of a range that is offset from a starting point in the spreadsheet.

Syntax

OFFSET (*reference*, *rows*, *columns* [, *height*] [, *width*])

Parameter	Description
-----------	-------------

<i>reference</i>	A reference to a cell from which the offset reference is based. If you specify a range reference, #VALUE! is returned.
------------------	--

<i>rows</i>	The number of rows from reference that represents the upper-left cell of the offset range. A positive number represents rows below the starting cell; a negative number represents rows above the starting cell. If <i>rows</i> places the upper-left cell of the offset range outside the spreadsheet boundary, #REF! is returned.
-------------	---

<i>columns</i>	The number of columns from reference that represents the upper-left cell of the offset range. A positive number represents columns right of the starting cell; a negative number represents columns left of the starting cell. If <i>columns</i> places the upper-left cell of the offset range outside the spreadsheet boundary, #REF! is returned.
----------------	--

<i>height</i>	A positive number representing the number of rows to include in the offset range. Omitting this argument assumes a single row.
---------------	--

<i>width</i>	A positive number representing the number of columns to include in the offset range. Omitting this argument assumes a single column.
--------------	--

Remarks

OFFSET does not change the current selection in the worksheet. Because it returns a reference, **OFFSET** can be used in any function that requires or uses a cell or range reference as an argument.

Examples

This function returns the contents of cell D4:

```
OFFSET(B1, 3, 2, 1, 1)
```

This function returns the sum of the values in the range E3:F5:

```
SUM(OFFSET(A1, 2, 4, 3, 2))
```

OR

Description

Returns True if at least one of a series of logical arguments is true.

Syntax

OR (*logical_list*)

Parameter	Description
-----------	-------------

<i>logical_list</i>	A list of conditions separated by commas. You can include as many as 30 conditions in the list. The list can contain logical values or a reference to a range containing logical values. Text and empty cells are ignored. If there are no logical values in the list, the error value #VALUE! is returned.
---------------------	---

Example

This function returns True because one of the arguments is true:

`OR(1 + 1 = 1, 5 + 5 = 10)`

See Also

[AND](#)

[IF](#)

[NOT](#)

PI

Description

Returns the value of pi (p), which is approximately 3.14159265358979 when calculated to 15 significant digits.

Syntax

PI ()

Remarks

Although **PI** does not use arguments, you must supply the empty parentheses to correctly reference the function.

See Also

[COS](#)

[SIN](#)

[TAN](#)

PMT

Description

Returns the periodic payment of an annuity, based on regular payments and a fixed periodic interest rate.

Syntax

PMT (*interest*, *nper*, *pv* [, *fv*] [, *type*])

Parameter	Description
-----------	-------------

<i>interest</i>	The fixed periodic interest rate.
-----------------	-----------------------------------

<i>nper</i>	The number of periods in the annuity.
-------------	---------------------------------------

<i>pv</i>	The present value, or the amount the annuity is currently worth.
-----------	--

<i>fv</i>	The future value, or the amount the annuity will be worth. When you omit this argument, a future value of 0 is assumed.
-----------	---

<i>type</i>	Indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.
-------------	---

Remarks

PMT returns only the principal and interest payment, it does not include taxes or other fees.

The units used for *interest* must match those used for *nper*. For example, if the annuity has an 8 percent annual interest rate over a period of 5 years, specify 8 percent/12 for *interest* and 5*12 for *nper*.

Cash paid out, such as a payment, is shown as a negative number. Cash received, such as a dividend check, is shown as a positive number.

Examples

This function returns -439.43:

```
PMT(8%/12, 48, 18000)
```

This function returns -436.52:

```
PMT(8%/12, 48, 18000, 0, 1)
```

See Also

[IPMT](#)

[FV](#)

[NPER](#)

[PPMT](#)

[PV](#)

[RATE](#)

PPMT

Description

Returns the principle paid on an annuity for a given period.

Syntax

PPMT (*interest*, *per*, *nper*, *pv*, [*fv*], [*type*])

Parameter	Description
-----------	-------------

<i>interest</i>	The fixed periodic interest rate.
-----------------	-----------------------------------

<i>per</i>	The period for which to return the principle.
------------	---

<i>nper</i>	The number of periods in the annuity.
-------------	---------------------------------------

<i>pv</i>	The present value, or the amount the annuity is currently worth.
-----------	--

<i>fv</i>	The future value, or the amount the annuity will be worth. When you omit this argument, a future value of 0 is assumed.
-----------	---

<i>type</i>	Indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.
-------------	---

Remarks

The units used for *interest* must match those used for *nper*. For example, if the annuity has an 8 percent annual interest rate over a period of 5 years, specify 8 percent/12 for *interest* and 5*12 for *nper*.

Examples

This function returns -321.56:

```
PPMT(8%/12, 2, 48, 18000)
```

This function returns -319.43:

```
PPMT(8%/12, 2, 48, 18000, 0, 1)
```

See Also

[FV](#)

[IPMT](#)

[NPER](#)

[PMT](#)

[PV](#)

[RATE](#)

PRODUCT

Description

Multiplies a list of numbers and returns the result.

Syntax

PRODUCT (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of as many as 30 numbers, separated by commas. The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values. Error values or text that cannot be translated into numbers return errors. If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored. All numeric values, including 0, are used in the calculation.
--------------------	---

Example

This function returns 24:

```
PRODUCT(1, 2, 3, 4)
```

See Also

[FACT](#)

[SUM](#)

PROPER

Description

Returns the specified string in proper-case format.

Syntax

PROPER (*text*)

Parameter	Description
-----------	-------------

<i>text</i>	Any string.
-------------	-------------

Remarks

In proper-case format, the first alphabetic character in a word is capitalized. If an alphabetic character follows a number, punctuation mark, or space, it is capitalized. All other alphabetic characters are lowercase. Numbers are not changed by **PROPER**.

Examples

This function returns 3Rd Quarter:

```
=PROPER("3rd Quarter")
```

This function returns John Doe:

```
=PROPER("JOHN DOE")
```

See Also

[LOWER](#)

[UPPER](#)

PV

Description

Returns the present value of an annuity, considering a series of constant payments made over a regular payment period.

Syntax

PV (*interest*, *nper*, *pmt* [, *fv*] [, *type*])

Parameter	Description
-----------	-------------

<i>interest</i>	The fixed periodic interest rate.
-----------------	-----------------------------------

<i>nper</i>	The number of payment periods in the investment.
-------------	--

<i>pmt</i>	The fixed payment made each period.
------------	-------------------------------------

<i>fv</i>	The future value, or the amount the annuity will be worth. When you omit this argument, a future value of 0 is assumed.
-----------	---

<i>type</i>	Indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.
-------------	---

Remarks

The units used for *interest* must match those used for *nper*. For example, if the annuity has an 8 percent annual interest rate over a period of 5 years, specify 8 percent/12 for *interest* and 5*12 for *nper*.

Cash paid out, such as a payment, is shown as a negative number. Cash received, such as a dividend check, is shown as a positive number.

Examples

This function returns -17999.89:

PV(8%/12, 48, 439.43)

This function returns 17999.89:

PV(8%/12, 48, -439.43)

See Also

[FV](#)

[IPMT](#)

[NPER](#)

[PMT](#)

[PPMT](#)

[RATE](#)

RAND

Description

Returns a number selected randomly from a uniform distribution greater than or equal to 0 and less than 1.

Syntax

RAND ()

Remarks

Although **RAND** does not use arguments, you must supply the empty parentheses to correctly reference the function.

Example

This function returns a random number greater than or equal to 0 and less than 10:.

```
RAND () *10
```

RATE

Description

Returns the interest rate per period of an annuity, given a series of constant cash payments made over a regular payment period.

Syntax

RATE (*nper*, *pmt*, *pv* [, *fV*] [, *type*] [, *guess*])

Parameter	Description
-----------	-------------

<i>nper</i>	The number of periods in the annuity.
-------------	---------------------------------------

<i>pmt</i>	The fixed payment made each period. Generally, <i>pmt</i> includes only principle and interest, not taxes or other fees.
------------	--

<i>pV</i>	The present value of the annuity.
-----------	-----------------------------------

<i>fV</i>	The future value, or the amount the annuity will be worth. When you omit this argument, a future value of 0 is assumed.
-----------	---

<i>type</i>	Indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.
-------------	---

<i>guess</i>	Your estimate of the interest rate. If no argument is supplied, a value of 0.1 (10 percent) is assumed.
--------------	---

Remarks

RATE is calculated iteratively, cycling through the calculation until the result is accurate to .00001 percent. If the result cannot be found after 20 iterations, #NUM! is returned. When this occurs, supply a different value for *guess*.

Example

The following example returns the monthly interest rate of .0067; the annual interest rate (.0067 multiplied by 12) is 8 percent:

```
RATE(48, -439.43, 18000)
```

See Also

[FV](#)

[IPMT](#)

[NPER](#)

[PMT](#)

[PPMT](#)

[PV](#)

REGISTER.ID

Description

Returns the register ID of the specified dynamic link library (DLL) that has been previously registered. If the DLL has not been registered, this function registers the DLL, and then returns the register ID.

Syntax

REGISTER.ID(*module_text*, *procedure*, *type_text*)

Parameter	Description
<i>module_text</i>	The text specifying the name of the DLL that contains the function in SpreadPro.
<i>procedure</i>	The text specifying the name of the function in the DLL in SpreadPro. The function name is case dependent in 32-bit SpreadPro.
<i>type_text</i>	The text specifying the data type of the return value and the data types of all arguments to the DLL. The first letter of <i>type_text</i> specifies the return value. If the function or code resource is already registered, you can omit this argument. For a complete list of the data types available, see the <i>type_text</i> parameter of the CALL worksheet function.

Remarks

For declarations made in C, it is assumed that your compiler defaults to 8-byte doubles, 2-byte short integers, and 4-byte long integers. In the Windows programming environment, all pointers should be far pointers.

Pascal calling conventions are used for all functions called from DLLs. For most C compilers, you must add the **-Pascal** keyword to the function declaration.

If the return value for your custom function uses a pass-by-reference data type, a null pointer can be passed as the return value. The null pointer is interpreted as the #NUM! error value.

For the F and G data types, a custom function can modify an allocated string buffer. If the return value type code is F or G, the value returned by the function is ignored. The list of function arguments is searched for the first data type that corresponds to the return value type. The current contents of the allocated string buffer is taken for the return value. 256 bytes is allocated for the argument; therefore, a function can return a larger string than it receives.

You can use a single digit (*n*), with a value from 1 to 9, as the code for *data_type*. The variable in the location pointed to by the *n*th argument is modified instead of the return value; this process is referred to as modifying in place. The *n*th argument must be a pass-by-reference data type. In addition, you must declare the function void. For most C compilers, you can add the **Void** keyword to the function declaration.

Examples

(32-bit SpreadPro)

The following formula registers the GetTickCount function from 32-bit SpreadPro and returns the register ID:

```
REGISTER.ID("Kernel32", "GetTickCount", "J!")
```

Assuming that GetTickCount was already registered on another sheet using the preceding formula, the following formula returns the register ID for GetTickCount:

```
REGISTER.ID("Kernel32", "GetTickCount")
```

(16-bit SpreadPro)

The following formula registers the GetTickCount function from 16-bit SpreadPro and returns the register ID:

```
REGISTER.ID("User", "GetTickCount", "J!")
```

Assuming that GetTickCount was already registered on another sheet using the preceding formula, the following formula returns the register ID for GetTickCount:

```
REGISTER.ID("User", "GetTickCount")
```

REPLACE

Description

Replaces part of a text string with another text string.

Syntax

REPLACE (*orig_text*, *start_position*, *num_chars*, *repl_text*)

Parameter	Description
-----------	-------------

<i>orig_text</i>	The original text string.
------------------	---------------------------

<i>start_position</i>	The character position where the replacement begins. If <i>start_position</i> is greater than the number of characters in <i>orig_text</i> , <i>repl_text</i> is appended to the end of <i>orig_text</i> . If <i>start_position</i> is less than 1, #VALUE! is returned.
-----------------------	--

<i>num_chars</i>	The number of characters to replace. If this argument is negative, #VALUE! is returned.
------------------	---

<i>repl_text</i>	The replacement text string.
------------------	------------------------------

Examples

This function returns "For the year: 1994":

```
REPLACE("For the year: 1993", 18, 1, "4")
```

See Also

[MID](#)

[SEARCH](#)

[TRIM](#)

REPLACEB

Description

Replaces part of a text string with another text string.

Syntax

REPLACEB (*orig_text*, *start_position*, *num_chars*, *repl_text*)

Parameter Description

orig_text The original text string.

start_position The byte position where the replacement begins. If *start_position* is greater than the number of bytes in *orig_text*, *repl_text* is appended to the end of *orig_text*. If *start_position* is less than 1, #VALUE! is returned.

num_chars The number of bytes to replace. If this argument is negative, #VALUE! Is returned.

repl_text The replacement text string.

Examples

This function returns "For the year: 1994":

```
REPLACEB("For the year: 1993", 18, 1, "4")
```


REPT

Description

Repeats a text string the specified number of times.

Syntax

REPT (*text*, *number*)

Parameter Description

text Any text string.

number The number of times you want text to repeat. If number is 0, empty text (" ") is returned.

Remarks

The result of **REPT** cannot exceed 255 characters.

Example

This function returns error-error-error-:

```
REPT("error-", 3)
```

RIGHT

Description

Returns the rightmost characters from the given text string.

Syntax

RIGHT (*text* [, *num_chars*])

Parameter	Description
-----------	-------------

<i>text</i>	Any text string.
-------------	------------------

<i>num_chars</i>	The number of characters to return. The value must be greater than or equal to zero. If <i>num_chars</i> is greater than the number of characters in <i>text</i> , the entire string is returned. Omitting this argument assumes a value of 1.
------------------	--

Examples

This function returns r:

```
RIGHT("2nd Quarter")
```

This function returns Quarter:

```
RIGHT("2nd Quarter", 7)
```

See Also

[LEFT](#)

[MID](#)

RIGHTB

Description

Returns the rightmost bytes from the given text string.

Syntax

RIGHTB (*text* [, *num_chars*])

Parameter Description

text Any text string.

num_chars The number of bytes to return. The value must be greater than or equal to zero. If *num_chars* is greater than the number of bytes in *text*, the entire string is returned. Omitting this argument assumes a value of 1.

Examples

This function returns r:

```
RIGHTB("2nd Quarter")
```

This function returns Quarter:

```
RIGHTB("2nd Quarter", 7)
```

ROUND

Description

Rounds the given number to the supplied number of decimal places.

Syntax

ROUND (*number*, *precision*)

Parameter	Description
-----------	-------------

<i>number</i>	Any value.
---------------	------------

<i>precision</i>	The number of decimal places to which number is rounded. When a negative <i>precision</i> is used, the digits to the right of the decimal point are dropped and the absolute number of significant digits specified by <i>precision</i> are replaced with zeros. If <i>precision</i> is 0, number is rounded to the nearest integer.
------------------	--

Example

This function returns 123.46:

```
ROUND (123.456, 2)
```

This function returns 9900:

```
ROUND (9899.435, -2)
```

See Also

[CEILING](#)

[FLOOR](#)

[INT](#)

[MOD](#)

[ROUNDDOWN](#)

[ROUNDUP](#)

[TRUNC](#)

ROUNDDOWN

Description

Rounds a number down.

Syntax

ROUNDDOWN (*number*, *numberOfDigits*)

Parameter	Description
-----------	-------------

<i>number</i>	Any real number you want to round.
---------------	------------------------------------

<i>numberOfDigits</i>	The number of decimal places to which <i>number</i> is rounded. When a negative precision is used, the digits to the right of the decimal point are dropped and the absolute number of significant digits specified by precision are replaced with zeros. If precision is 0, <i>number</i> is rounded down to the nearest integer.
-----------------------	--

Example

This function returns 3.141:

```
ROUNDDOWN(3.14159, 3)
```

This function returns 31400:

```
ROUNDDOWN(31415.92654, -2)
```

See Also

[CEILING](#)

[FLOOR](#)

[INT](#)

[MOD](#)

[ROUNDDOWN](#)

[ROUNDUP](#)

[TRUNC](#)

ROUNDUP

Description

Rounds the given number up to the supplied number of decimal places.

Syntax

ROUNDUP (*number*, *numberOfDigits*)

Parameter	Description
-----------	-------------

<i>number</i>	Any value you want to round up.
---------------	---------------------------------

<i>numberOfDigits</i>	The number of decimal places to which <i>number</i> is rounded. When a negative precision is used, the digits to the right of the decimal point are dropped and the absolute number of significant digits specified by precision are replaced with zeros. If precision is 0, number is rounded up to the nearest integer.
-----------------------	---

Example

This function returns 77:

```
ROUNDUP (76.9, 0)
```

This function returns 31500:

```
ROUNDUP (31415.92654, -2)
```

See Also

[CEILING](#)

[FLOOR](#)

[INT](#)

[MOD](#)

[ROUND-](#)

[ROUNDDOWN](#)

[TRUNC](#)

ROW

Description

Returns the row number of the supplied reference.

Syntax

ROW (*reference*)

Parameter

Description

reference

is entered.

A cell or range reference. Omitting this argument returns the row number of the cell in which **ROW**

Examples

This function returns 3:

ROW (B3)

See Also

[COLUMN](#)

[ROWS](#)

ROWS

Description

Returns the number of rows in a range reference.

Syntax

ROWS (*range*)

Parameter	Description
-----------	-------------

<i>range</i>	A reference to a range of cells.
--------------	----------------------------------

Examples

This function returns 5:

ROWS (A1 : D5)

This function returns 6:

ROWS (C30 : F35)

See Also

[COLUMNS](#)

[ROW](#)

SEARCH

Description

Locates the position of the first character of a specified text string within another text string.

Syntax

SEARCH (*search_text*, *text* [, *start_position*])

Parameter	Description
-----------	-------------

<i>search_text</i>	The text to find. To search for an asterisk or question mark, include a tilde (~) before the character. The search string can contain wildcard characters. The available wildcard characters are * (asterisk), which matches any sequence of characters, and ? (question mark), which matches any single character.
--------------------	---

<i>text</i>	The text to be searched.
-------------	--------------------------

<i>start_position</i>	The character position where the search begins. If the number you specify is less than 0 or greater than the number of characters in text, #VALUE! is returned. Omitting this argument assumes a starting position of 1.
-----------------------	--

Remarks

Text is searched from left to right, starting at the position specified. The search is not case-sensitive. If

text does not contain the search string, #VALUE! is returned.

Examples

This function returns 6:

```
SEARCH("?5", "Bin b45")
```

This function returns 5:

```
SEARCH("b", "Bin b45", 4)
```

See Also

[FIND](#)

[MID](#)

[REPLACE](#)

[SUBSTITUTE](#)

SEARCHB

Description

Locates the position of the first byte of a specified text string within another text string.

Syntax

SEARCHB (*search_text*, *text* [, *start_position*])

Parameter	Description
-----------	-------------

<i>search_text</i>	The text to find. To search for an asterisk or question mark, include a tilde (~) before the character. The search string can contain wildcards. The available wildcard characters are * (asterisk), which matches any sequence of characters, and ? (question mark), which matches any single character.
--------------------	---

<i>Text</i>	The text to be searched.
-------------	--------------------------

<i>start_position</i>	The byte position where the search begins. If the number you specify is less than 0 or greater than the number of bytes in text, #VALUE! is returned. Omitting this argument assumes a starting position of 1.
-----------------------	--

Remarks

Text is searched from left to right, starting at the position specified. The search is not case-sensitive. If *text* does not contain the search string, #VALUE! is returned.

Examples

This function returns 6:

```
SEARCHB("?5", "Bin b45")
```

This function returns 5:

```
SEARCHB("b", "Bin b45", 4)
```

SECOND

Description

Returns the second that corresponds to the supplied date.

Syntax

SECOND (*serial_number*)

Parameter	Description
-----------	-------------

<i>serial_number</i>	The time as a serial number. The decimal portion of the number represents time as a fraction of the day.
----------------------	--

Examples

This function returns 58:

```
SECOND (.259)
```

This function returns 46:

```
SECOND (34657.904)
```

See Also

[DAY](#)

[HOUR](#)

[MINUTE](#)

[MONTH](#)

[NOW](#)

[WEEKDAY](#)

SIGN

Description

Determines the sign of the specified number.

Syntax

SIGN (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any number.
---------------	-------------

Remarks

SIGN returns 1 if the specified number is positive, -1 if it is negative, and 0 if it is 0.

Examples

This function returns -1:

```
SIGN(-123)
```

This function returns 1:

```
SIGN(123)
```

See Also

[ABS](#)

SIN

Description

Returns the sine of the supplied angle.

Syntax

SIN (*number*)

Parameter Description

number The angle in radians. If the angle is in degrees, convert the angle to radians by multiplying the angle by $\text{PI}() / 180$.

Examples

This function returns .85:

```
SIN(45)
```

This function returns .89:

```
SIN(90)
```

See Also

[ASIN](#)

[PI](#)

SINH

Description

Returns the hyperbolic sine of the specified number.

Syntax

SINH (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any number.
---------------	-------------

Examples

This function returns 1.18:

SINH (1)

This function returns 10.02:

SINH (3)

See Also

[ASINH](#)

[PI](#)

SLN

Description

Returns the depreciation of an asset for a specific period of time using the straight-line balance method.

Syntax

SLN (*cost*, *salvage*, *life*)

Parameter Description

cost The initial cost of the asset.

salvage The salvage value of the asset.

life The number of periods of the useful life of the asset.

Example

This function returns 1285.71:

```
SLN(10000, 1000, 7)
```

See Also

[DDB](#)

[SYD](#)

[VDB](#)

SQRT

Description

Returns the square root of the specified number.

Syntax

SQRT (*number*)

Parameter Description

number Any positive number. If you specify a negative number, the error #NUM! is returned.

Examples

This function returns 3:

SQRT (9)

This function returns 1.58:

SQRT (2.5)

See Also

[SUMSQ](#)

STDEV

Description

Returns the standard deviation of a population based on a sample of supplied values. The standard deviation of a population represents an average of deviations from the population mean within a list of values.

Syntax

STDEV (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of as many as 30 numbers, separated by commas. The list can contain numbers or a reference to a range that contains numbers.
--------------------	---

Example

This function returns .56:

```
STDEV(4.0, 3.0, 3.0, 3.5, 2.5, 4.0, 3.5)
```

See Also

[STDEVP](#)

[VAR](#)

[VARP](#)

STDEVP

Description

Returns the standard deviation of a population based on an entire population of values. The standard deviation of a population represents an average of deviations from the population mean within a list of values.

Syntax

STDEVP (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of as many as 30 numbers, separated by commas. The list can contain numbers or a reference to a range that contains numbers.
--------------------	---

Example

This function returns .52:

```
STDEVP(4.0, 3.0, 3.0, 3.5, 2.5, 4.0, 3.5)
```

See Also

[STDEV](#)

[VAR](#)

[VARP](#)

SUBSTITUTE

Description

Replaces a specified part of a text string with another text string.

Syntax

SUBSTITUTE (*text*, *old_text*, *new_text* [, *instance*])

Parameter Description

text A text string that contains the text to replace. You can also specify a reference to a cell that contains text.

old_text The text string to be replaced.

new_text The replacement text.

instance Specifies the occurrence of *old_text* to replace. If this argument is omitted, every instance of *old_text* is replaced.

Examples

This function returns "Second Quarter Results":

```
SUBSTITUTE("First Quarter Results", "First", "Second")
```

This function returns "Shipment 45, Bin 52":

```
SUBSTITUTE("Shipment 45, Bin 45", "45", "52", 2)
```

See Also

[REPLACE](#)

[TRIM](#)

SUM

Description

Returns the sum of the supplied numbers.

Syntax

SUM (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of as many as 30 numbers, separated by commas. The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values. Error values or text that cannot be translated into numbers return errors. If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored.
--------------------	---

Examples

This function returns 6000:

```
SUM(1000, 2000, 3000)
```

This function returns 4000 when each cell in the range contains 1000:

```
SUM(A10:D10)
```

See Also

[AVERAGE](#)

[COUNT](#)

[COUNTA](#)

[PRODUCT](#)

[SUMSQ](#)

SUMIF

Description

Returns the sum of the specified cells based on the given criteria.

Syntax

SUMIF (*range*, *criteria*, *sum_range*)

Parameter	Description
-----------	-------------

<i>range</i>	The range of cells you want evaluated.
--------------	--

<i>criteria</i>	A number, expression, or text that defines which cells are added. For example, <i>criteria</i> can be expressed as 15, "15", ">15", "cars".
-----------------	---

<i>sum_range</i>	The actual cells to sum. These cells are only summed if their corresponding cells in range match the criteria. If this argument is omitted, the cells in range are summed.
------------------	--

See Also

[AVERAGE](#)

[COUNT](#)

[COUNTA](#)

[COUNTIF](#)

[PRODUCT](#)

[SUM](#)

SUMSQ

Description

Squares each of the supplied numbers and returns the sum of the squares.

Syntax

SUMSQ (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of as many as 30 numbers, separated by commas. The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values. Error values or text that cannot be translated into numbers return errors. If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored.
--------------------	---

Example

This function returns 302:

`SUMSQ(9, 10, 11)`

See Also

[SUM](#)

SYD

Description

Returns the depreciation of an asset for a specified period using the sum-of-years method. This depreciation method uses an accelerated rate, where the greatest depreciation occurs early in the useful life of the asset.

Syntax

SYD (*cost*, *salvage*, *life*, *period*)

Parameter	Description
-----------	-------------

<i>cost</i>	The initial cost of the asset.
-------------	--------------------------------

<i>salvage</i>	The salvage value of the asset.
----------------	---------------------------------

<i>life</i>	The number of periods in the useful life of the asset.
-------------	--

<i>period</i>	The period for which to calculate the depreciation. The time units used to determine <i>per</i> and <i>life</i> must match.
---------------	---

Example

This function returns 1607.14:

```
SYD(10000, 1000, 7, 3)
```

See Also

[DDB](#)

[SLN](#)

[VDB](#)

TAN

Description

Returns the tangent of the specified angle.

Syntax

TAN (*number*)

Parameter Description

number The angle in radians. To convert a number expressed as degrees to radians, multiply the degrees by PI()/180.

Example

This function returns 0.752:

```
TAN(0.645)
```

This function returns 1:

```
TAN(45*PI()/180)
```

See Also

[ATAN](#)

[ATAN2](#)

[PI](#)

[TANH](#)

TANH

Description

Returns the hyperbolic tangent of a number.

Syntax

TANH (*number*)

Parameter	Description
-----------	-------------

<i>number</i>	Any number.
---------------	-------------

Examples

This function returns -.96:

`TANH (-2)`

This function returns .83:

`TANH (1.2)`

See Also

[ATANH](#)

[COSH](#)

[SINH](#)

[TAN](#)

TEXT

Description

Returns the given number as text, using the specified formatting.

Syntax

TEXT (*number*, *format*)

Parameter Description

number Any value, a formula that evaluates to a number, or a reference to a cell that contains a value.

format A string representing a number format. The string can be any valid format string including "General," "M/DD/YY," or "H:MM AM/PM." The *format* must be surrounded by a set of double quotation marks. Asterisks cannot be included in *format*.

Examples

This function returns 123.620:

```
TEXT(123.62, "0.000")
```

This function returns 10/19/94:

```
TEXT(34626.2, "MM/DD/YY")
```

See Also

[DOLLAR](#)

[FIXED](#)

[I](#)

[VALUE](#)

TIME

Description

Returns a serial number for the supplied time.

Syntax

TIME (*hour, minute, second*)

Parameter	Description
<i>hour</i>	A number from 0 to 23.
<i>minute</i>	A number from 0 to 59.
<i>second</i>	A number from 0 to 59.

Examples

This function returns .52:

```
TIME(12, 26, 24)
```

This function returns .07:

```
TIME(1, 43, 34)
```

See Also

[HOURL](#)

[MINUTE](#)

[NOW](#)

[SECOND](#)

[TIMEVALUE](#)

TIMEVALUE

Description

Returns a serial number for the supplied text representation of time.

Syntax

TIMEVALUE (*text*)

Parameter	Description
-----------	-------------

<i>text</i>	A time in text format.
-------------	------------------------

Examples

This function returns .07:

```
TIMEVALUE("1:43:43 am")
```

This function returns .59:

```
TIMEVALUE("14:10:07")
```

See Also

[HOURL](#)

[MINUTE](#)

[NOW](#)

[SECOND](#)

[TIME](#)

TODAY

Description

Returns the current date as a serial number.

Syntax

TODAY ()

Remarks

This function is updated only when the worksheet is recalculated.

See Also

[DATE](#)

[DAY](#)

[NOW](#)

TRIM

Description

Removes all spaces from text except single spaces between words.

Syntax

TRIM (*text*)

Parameter Description

text Any text string or a reference to a cell that contains a text string.

Remarks

Text that is imported from another environment may require this function.

Example

This function returns Level 3, Gate 45:

```
TRIM(" Level 3, Gate 45 ")
```

See Also

[CLEAN](#)

[MID](#)

[REPLACE](#)

[SUBSTITUTE](#)

TRUE

Description

Returns the logical value True. This function always requires the trailing parentheses.

Syntax

TRUE ()

See Also

[FALSE](#)

TRUNC

Description

Truncates the given number to an integer.

Syntax

TRUNC (*number* [, *precision*])

Parameter	Description
-----------	-------------

<i>number</i>	Any value.
---------------	------------

<i>precision</i>	The number of decimal places allowed in the truncated number. Omitting this argument assumes a precision of 0.
------------------	--

Remarks

TRUNC removes the fractional part of a number to the specified precision without rounding the number.

Example

This function returns 123.45:

```
TRUNC (123.456, 2)
```

This function returns 9800:

```
TRUNC (9899.435, -2)
```

See Also

[CEILING](#)

[FLOOR](#)

[INT](#)

[MOD](#)

[ROUND](#)

TYPE

Description

Returns the argument type of the given expression.

Syntax

TYPE (*expression*)

Parameter	Description
<i>expression</i>	Any expression.

Remarks

The valid values returned by this argument are:

Number Description

1	Number
2	Text string
4	Logical value
16	Error value

Examples

This function returns 1 if cell A1 contains a number:

`TYPE (A1)`

This function returns 2:

`TYPE ("Customer")`

See Also

[ISBLANK](#)

[ISERR](#)

[ISERROR](#)

[ISLOGICAL](#)

[ISNA](#)

[ISNONTEXT](#)

[ISNUMBER](#)

[ISREF](#)

[ISTEXT](#)

UPPER

Description

Changes the characters in the specified string to uppercase characters.

Syntax

UPPER (*text*)

Parameter	Description
-----------	-------------

<i>text</i>	Any string.
-------------	-------------

Remarks

Numeric characters in the string are not changed.

Examples

This function returns 3RD QUARTER:

```
UPPER("3rd Quarter")
```

This function returns JOHN DOE:

```
UPPER("JOHN DOE")
```

See Also

[LOWER](#)

[PROPER](#)

USDOLLAR

Description

Returns the specified number as text using the US Dollar format and the supplied precision. Omitting the precision argument assumes two decimal places.

Syntax

USDOLLAR (*number* [,*precision*])

Parameter	Description
-----------	-------------

<i>number</i>	A number, a formula that evaluates to a number, or a reference to a cell that contains a number.
---------------	--

<i>precision</i>	A value representing the number of decimal places to the right of the decimal point. Omitting this argument assumes two decimal places.
------------------	---

See Also

[DOLLAR](#)

VALUE

Description

Returns the specified text as a number.

Syntax

VALUE (*text*)

Parameter	Description
-----------	-------------

<i>text</i>	Any text string, a formula that evaluates to a text string, or a cell reference that contains a text string. You can also specify a date or time in a recognizable format (for example, M/DD/YY for dates or H:MM AM/PM for time). If the format is not recognized, #VALUE! is returned.
-------------	--

Examples

This function returns 9800:

```
VALUE(9800)
```

This function returns 123:

```
VALUE("123")
```

See Also

[DOLLAR](#)

[FIXED](#)

[TEXT](#)

VAR

Description

Returns the variance of a population based on a sample of values.

Syntax

VAR (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of as many as 30 numbers, separated by commas. The list can contain numbers or a reference to a range that contains numbers.
--------------------	---

Example

This function returns .31:

```
VAR(4.0, 3.0, 3.0, 3.5, 2.5, 4.0, 3.5)
```

See Also

[STDEV](#)

[STDEVP](#)

[VARP](#)

VARP

Description

Returns the variance of a population based on an entire population of values.

Syntax

VARP (*number_list*)

Parameter	Description
-----------	-------------

<i>number_list</i>	A list of as many as 30 numbers, separated by commas. The list can contain numbers or a reference to a range that contains numbers.
--------------------	---

Example

This function returns .27:

```
VARP(4.0, 3.0, 3.0, 3.5, 2.5, 4.0, 3.5)
```

See Also

[STDEV](#)

[STDEVP](#)

[VAR](#)

VDB

Description

Returns the depreciation of an asset for a specified period using a variable method of depreciation.

Syntax

VDB (*cost*, *salvage*, *life*, *start_period*, *end_period* [, *factor*] [, *method*])

Parameter	Description
-----------	-------------

<i>cost</i>	The initial cost of the asset.
-------------	--------------------------------

<i>salvage</i>	The salvage value of the asset.
----------------	---------------------------------

<i>life</i>	The number of periods in the useful life of the asset.
-------------	--

<i>start_period</i>	The beginning period for which to calculate the depreciation. The time units used to determine <i>start_period</i> and <i>life</i> must match.
---------------------	--

<i>end_period</i>	The ending period for which to calculate the depreciation. The time units used to determine <i>end_period</i> and <i>life</i> must match.
-------------------	---

<i>factor</i>	The rate at which the balance declines. Omitting this argument assumes a default of 2, which is the double-declining balance factor.
---------------	--

<i>method</i>	A logical value that determines if you want to switch to straight-line depreciation when depreciation is greater than the declining balance calculation. Use True to maintain declining balance calculation; use False or omit the argument to switch to straight-line depreciation calculation.
---------------	--

Example

This function returns 1041.23:

```
VDB(10000, 1000, 7, 3, 4)
```

See Also

[DDB](#)

[SLN](#)

[SYD](#)

VLOOKUP

Description

Searches the first column of a table for a value and returns the contents of a cell in that table that corresponds to the location of the search value.

Syntax

VLOOKUP (*search_item*, *search_range*, *column_index*)

Parameter Description

search_item A value, text string, or reference to a cell containing a value that is matched against data in the top row of *search_range*.

search_range The reference of the range (table) to be searched. The cells in the first column of *search_range* can contain numbers, text, or logical values. The contents of the first column must be in ascending order (for example, -2, -1, 0, 2..., A through Z, False, True). Text searches are not case-sensitive.

column_index The column in the search range from which the matching value is returned. *column_index* can be a number from 1 to the number of rows in the search range. If *column_index* is less than 1, #VALUE! is returned. When *column_index* is greater than the number of rows in the table, #REF! is returned.

Remarks

VLOOKUP compares the information in the first column of *search_range* to the supplied *search_item*. When a match is found, information located in the same row and supplied column (*column_index*) is returned.

If *search_item* cannot be found in the first column of *search_range*, the largest value that is less than *search_item* is used. When *search_item* is less than the smallest value in the first column of the *search_range*, #REF! is returned.

Examples

The following examples use this worksheet.

	A	B	C	D	E
1	Employee	Start Date	Emp. No.	Salary	Exempt
2	Anderson	10/15/84	2348	\$37,800	Y
3	Clark	2/6/90	4891	\$28,700	N
4	Davis	6/21/80	2480	\$46,950	Y
5	Franklin	4/20/88	3793	\$30,275	Y
6	Lee	8/30/89	3961	\$25,000	N
7	Olson	11/1/81	2578	\$45,780	Y
8	Turner	2/15/93	5129	\$26,100	N
9	Wilson	9/1/89	3965	\$31,650	Y

This function returns \$28,700:

VLOOKUP("Clark", A2:E9, 4)

This function returns 3961:

VLOOKUP("Lee", A2:E9, 3)

See Also

[HLOOKUP](#)

[INDEX](#)

[LOOKUP](#)

[MATCH](#)

WEEKDAY

Description

Returns the day of the week that corresponds to the supplied date.

Syntax

WEEKDAY (*serial_number*)

Parameter	Description
-----------	-------------

<i>serial_number</i>	The date as a serial number or as text (for example, 06-21-94 or 21-Jun-94).
----------------------	--

Remarks

WEEKDAY returns a number ranging from 1 (Sunday) to 7 (Saturday).

Examples

This function returns 1, indicating Sunday:

```
WEEKDAY (34399.92)
```

This function returns 3, indicating Tuesday:

```
WEEKDAY ("06/21/94")
```

See Also

[DAY](#)

[NOW](#)

[TEXT](#)

[TODAY](#)

YEAR

Description

Returns the year that corresponds to the supplied date.

Syntax

YEAR (*serial_number*)

Parameter	Description
-----------	-------------

<i>serial_number</i>	The date as a serial number or as text (for example, 06-21-94 or 21-Jun-94).
----------------------	--

Examples

This function returns 1993:

```
YEAR(34328)
```

This function returns 1994:

```
YEAR("06/21/94")
```

See Also

[DAY](#)

[HOUR](#)

[MINUTE](#)

[MONTH](#)

[NOW](#)

[SECOND](#)

[TODAY](#)

[WEEKDAY](#)

Check this box to automatically set the width of each column to be wide enough to display the widest data in the column.

Check this box to display field names instead of the standard alphabetic column headings. Even though field names are displayed as the column headings, formulas must still use the standard cell referencing conventions (e.g., A1).

Check this box to have formats for date, time, and currency fields set automatically when data is placed in the worksheet. If you do not check this box, you must set the formats for these columns manually.

Check this box to have the maximum number of worksheet rows and columns set to the number of records and fields returned by the query.

This control displays a set of cell references identifying the current selection on the current worksheet.
Enter a cell reference here to select a new range and move the active cell to the top left cell in the range.

This control shows the current display scale for the workbook. Enter a number between 10 and 400 to change the display scale.

Check this box to immediately recalculate the worksheet if recalculation is necessary. Thereafter, any change to the workbook causes all formulas to be recalculated. Uncheck this box to recalculate the worksheet only if you specifically request a recalculation.

Check this box to select an entire row when you click on a cell. Uncheck this box to select only a cell when you click on a cell.

Check this box to enable protection for all selected sheets. Uncheck this box to disable protection.
Enabling protection means that any cells marked as hidden or locked, are actually hidden and locked.

Check this box to cause pressing the enter key to move the active cell down to the next cell. Uncheck this box to prevent the enter key from moving to the next cell.

The controls in this section specify whether you can use certain mouse actions to perform certain tasks.

- Check the Resize Rows/Cols box to allow rows and columns to be resized by dragging row or column heading borders.
- Check the Fill Range box to fill a worksheet range by dragging a selection's copy handle.
- Check the Move Range box to move ranges by dragging a cell.

The controls in this section specify whether you can perform certain editing activities.

- Check the Formulas box to allow formulas to be entered.
- Check In Cell Editing to allow data to be entered directly into a cell, bypassing the formula bar.
- Check the Selections box to allow ranges and objects to be selected with the keyboard or by clicking and dragging the mouse.

The controls in this section specify the behavior of certain keyboard actions.

- Check Use Arrows to allow use of the arrow keys to reposition the active cell.
- Check Use Tabs to allow use the TAB key to reposition the active cell in a selected range.
- Check Use Delete to allow use of the DELETE key to delete records and clear selections. The DELETE key deletes a record if an entire row is selected. The current selection is cleared if less than a row is selected or if data browsing mode is disabled.

Enter the column number of the first column you want to fix in the active worksheet. Fixed columns do not scroll when the worksheet is scrolled horizontally. Data in fixed columns cannot be edited.

Enter the number of columns (from FixedCol) you want to fix. Fixed columns do not scroll when the worksheet is scrolled horizontally. Data in fixed columns cannot be edited.

Enter the row number of the first row you want to fix in the active worksheet. Fixed rows do not scroll when the worksheet is scrolled vertically. Data in fixed rows cannot be edited.

Enter the number of rows (from FixedRow) you want to fix. Fixed rows do not scroll when the worksheet is scrolled vertically. Data in fixed rows cannot be edited.

Enter the number of the first row that can be displayed in the active worksheet. Rows before the first row are not displayed but can be used to hold data and formulas.

Enter the number of the first column that can be displayed in the active worksheet. Columns before the first row are not displayed but can be used to hold data and formulas.

Enter the number of the last displayable row in the active worksheet. Rows beyond the last row are not displayed but can be used to hold data and formulas.

Enter the number of the last displayable column in the active worksheet. Columns beyond the last column are not displayed but can be used to hold data and formulas.

Check this box to display formula text in cells instead of the values formulas produce. Uncheck the box to display formula results.

Check this box to display grid lines on the active worksheet. Uncheck this box to hide the gridlines.

Check this box to display row headings on the active worksheet. Uncheck this box to hide the row headings.

Check this box to display column headings on the active worksheet. Uncheck this box to hide the column headings.

Check this box to display zeros in cells with zero values. Uncheck this box to display zero value cells as blanks.

Controls the appearance of the vertical scroll bar. Select On to turn the scroll bar on, Off to turn scroll bar off, and Automatic to display scroll bar when the workbook is too tall to display in the control.

Controls the appearance of the horizontal scroll bar. Select On to turn the scroll bar on, Off to turn scroll bar off, and Automatic to display scroll bar when the workbook is too tall to display in the control.

Controls how selections are displayed on the active worksheet. Select On to display selections, Off to hide selections, or Automatic to display selections only when the control has focus.

Controls the appearance and position of sheet name tabs. Select Top to display the tabs at the top of the workbook, Bottom to display the tabs at the bottom of the workbook, or Off to hide the sheet tabs.

File Menu

Items on the File menu allow you to create new files, open existing files, save files, preview and print files, modify your print and page setup settings, and exit the application. Click on a menu item for more information.

<u>N</u> ew...	Ctrl+N
<u>C</u> lose	
<u>O</u> pen...	Ctrl+O
<u>S</u> ave...	Ctrl+S
Save <u>A</u> s...	
Page Setup...	
Set Print <u>A</u> rea	
Set Print <u>T</u> itles	
Print Setup...	
Print <u>P</u> review...	
<u>P</u> rint...	Ctrl+P
Exit	
1 D:\Techmarc\XCell\Demo.vts	
2 D:\F1Book1.xls	
3 D:\Techmarc\XCell\downloads.vts	

Creates a new workbook file and displays it in the SpreadPro workspace.

Opens a workbook file from disk. Files saved in SpreadPro format (.VTS files), Excel 4.0, 5.0, and 7.0 format (.XLS files), and tabbed text format (.TXT) can be opened.

Closes the active workbook.

Saves the current workbook. Files can be saved in SpreadPro format (.VTS files), Excel 4.0, 5.0, or 7.0 format (.XLS files), HTML format (.HTM), or tabbed text format (.TXT).

Saves the current workbook under a new name or as a new type.

Displays how the worksheet will print.

Prints the selected worksheets or the entire workbook as a single document.

Displays the Page Setup dialog box. This dialog box allows you to define header and footer text, page margins, page print order, page centering, worksheet-related print options, and scale.

Displays the standard Windows Print Setup dialog box. This dialog box allows you to select the printer to which the worksheet is sent, the page orientation, and paper size.

List of recently opened workbook files. This eliminates the need for you to search for a file you have recently used.

Closes the SpreadPro application.

Edit Menu

The items on the Edit menu allow you to cut, copy, paste, and clear data; insert and delete cells; and go to a specific location in the worksheet. Click on a menu item for more information.



Cuts the current worksheet selection to the clipboard.

Copies the current worksheet selection to the clipboard.

Pastes the contents of the clipboard to the current worksheet selection.

Pastes values from the clipboard to the current worksheet selection. Any formatting applied to the values is ignored. In addition, only formula results are pasted; formulas are ignored.

Displays a dialog box that allows you to clear data or objects from the current selection. You can clear only formats, only values (including formulas), or both formats and values.

Inserts cells at the location of the current selection. Cells adjacent to the insertion are shifted to make room for the new cells.

If you use the keyboard shortcut CTRL + I, the selected cells are shifted right to make room for the inserted cells. If you use SHIFT + CTRL + I, the selected cells are shifted down.

Deletes the current selection. Cells adjacent to the deleted cells are shifted to fill the space left by the vacated cells.

If you use the keyboard shortcut CTRL + K, cells to the right of the selected cells are shifted left to fill the space left by the vacated cells. If you use SHIFT + CTRL + K, cells below the selected cells are shifted up.

Data in the leftmost cell of the selected range is copied right to fill the range.

Data in the top cell of the selected range is copied down to fill the range.

Displays the Goto dialog box. This dialog box allows you to specify a cell to display in the worksheet window. The specified cell is made the active cell.

View Menu

Items on the View menu allow you to toggle the display of various tool bars and control basic formatting information for the workbook. Click on a menu item for more information.



Toggles the display of the main toolbar.

Toggles the display of the drawing toolbar.

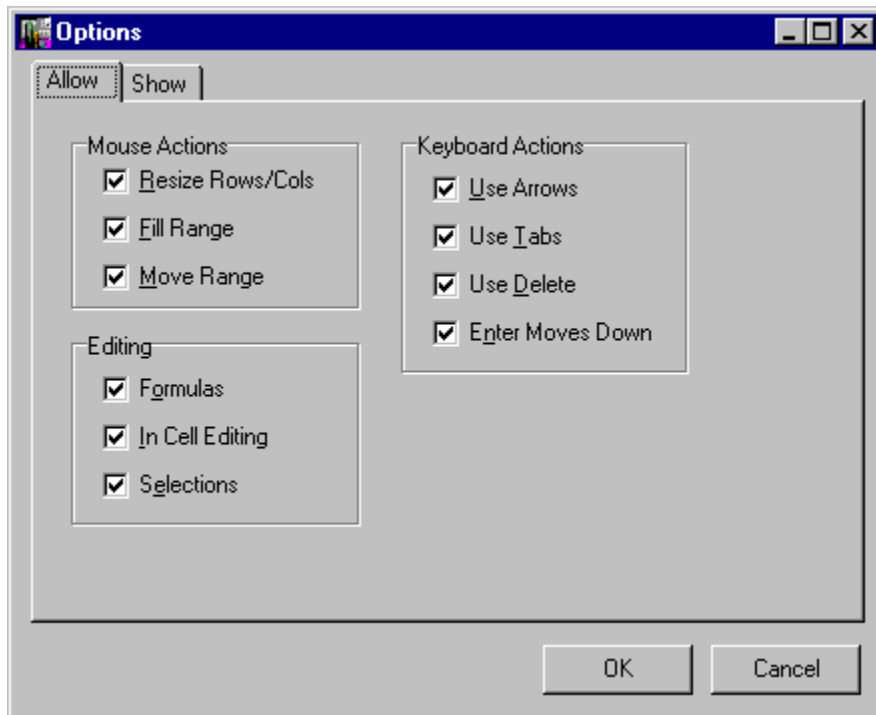
Toggles the display of the formula bar.

Toggles the display of the format bar.

Toggles the display of the status bar.

Options

Displays the Options dialog box as shown in the following illustration. Click on any tab or control for more information.



The controls in this section specify whether you can use certain mouse actions to perform certain tasks.

- Check the Resize Rows/Cols box to allow rows and columns to be resized by dragging row or column heading borders.
- Check the Fill Range box to fill a worksheet range by dragging a selection's copy handle.
- Check the Move Range box to move ranges by dragging a cell.

The controls in this section specify whether you can perform certain editing activities.

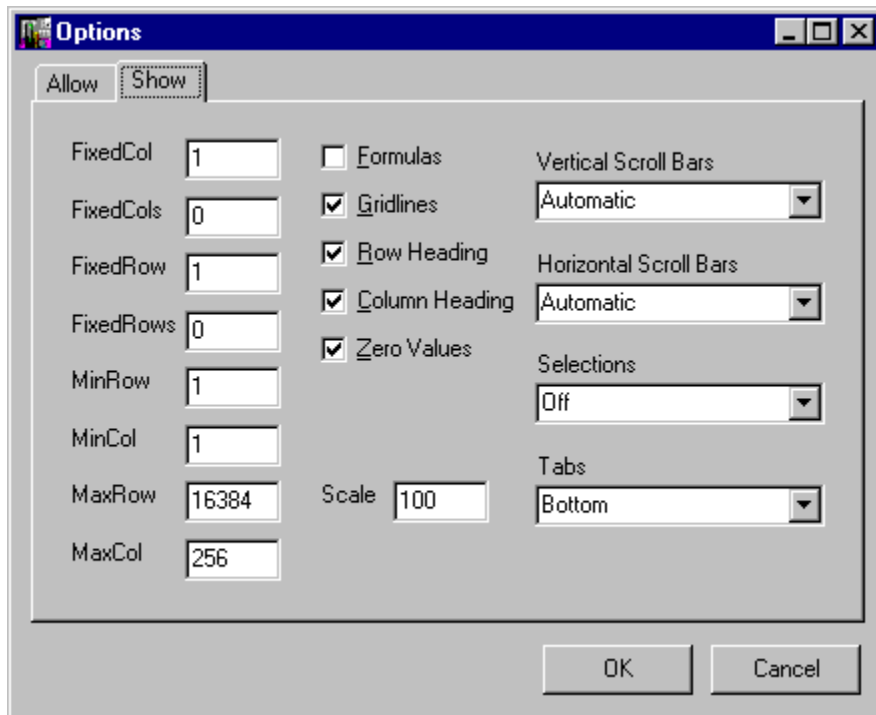
- Check the Formulas box to allow formulas to be entered.
- Check In Cell Editing to allow data to be entered directly into a cell, bypassing the formula bar.
- Check the Selections box to allow ranges and objects to be selected with the keyboard or by clicking and dragging the mouse.

The controls in this section specify the behavior of certain keyboard actions.

- Check Use Arrows to allow use of the ARROW keys to reposition the active cell.
- Check Use Tabs to allow use of the TAB key to reposition the active cell in a selected range.
- Check Use Delete to allow use of the DELETE key to delete records and clear selections. The DELETE key deletes a record if an entire row is selected. The current selection is cleared if less than a row is selected or if data browsing mode is disabled.
- Check Enter Moves Down to cause pressing the ENTER key to move the active cell down to the next cell.

Options

Displays the Options dialog box as shown in the following illustration. Click on any tab or control for more information.



Check this box to display formula text in cells instead of the values formulas produce. Uncheck the box to display formula results.

Check this box to display gridlines on the active worksheet. Uncheck this box to hide the gridlines.

Check this box to display row headings on the active worksheet. Uncheck this box to hide the row headings.

Check this box to display column headings on the active worksheet. Uncheck this box to hide the column headings.

Check this box to display zeros in cells with zero values. Uncheck this box to display zero value cells as blanks.

Controls the appearance of the vertical scroll bar. Select On to turn the scroll bar on, Off to turn scroll bar off, and Automatic to display scroll bar when the workbook is too tall to display in the control.

Controls the appearance of the horizontal scroll bar. Select On to turn the scroll bar on, Off to turn scroll bar off, and Automatic to display scroll bar when the workbook is too wide to display in the control.

Controls how selections are displayed on the active worksheet. Select On to display selections, Off to hide selections, or Automatic to display selections only when the control has focus.

Controls the appearance and position of sheet name tabs. Select Top to display the tabs at the top of the workbook, Bottom to display the tabs at the bottom of the workbook, or Off to hide the sheet tabs.

Enter the number of the first row that can be displayed in the active worksheet. Rows before the first row are not displayed but can be used to hold data and formulas.

Enter the number of the first column that can be displayed in the active worksheet. Columns before the first row are not displayed but can be used to hold data and formulas.

Enter the number of the last displayable row in the active worksheet. Rows beyond the last row are not displayed but can be used to hold data and formulas.

Enter the number of the last displayable column in the active worksheet. Columns beyond the last column are not displayed but can be used to hold data and formulas.

This control shows the current display scale for the workbook. Enter a number between 10 and 400 to change the display scale.

Enter the column number of the first column you want to fix in the active worksheet. Fixed columns do not scroll when the worksheet is scrolled horizontally. Data in fixed columns cannot be edited.

Enter the number of columns (from FixedCol) you want to fix. Fixed columns do not scroll when the worksheet is scrolled horizontally. Data in fixed columns cannot be edited.

Enter the row number of the first row you want to fix in the active worksheet. Fixed rows do not scroll when the worksheet is scrolled vertically. Data in fixed rows cannot be edited.

Enter the number of rows (from FixedRow) you want to fix. Fixed rows do not scroll when the worksheet is scrolled vertically. Data in fixed rows cannot be edited.

Check this box to prevent users from scrolling past the last filled row or column on the worksheet.

Data Menu

The items on the Data menu allow you to control worksheet calculation, create defined names, sort data, and create autofill lists. Click on a menu item for more information.



Recalculates the workbook.

Displays the Calculation dialog box. This dialog box allows you to enable and disable automatic recalculation and specify iteration values for calculating circular references.

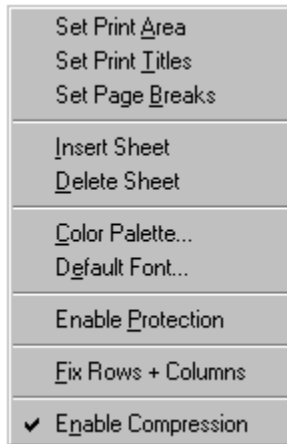
Displays the Define Name dialog box. This dialog box allows you to add and delete user-defined names.

Displays the Sort dialog box. This dialog box allows you to set the sorting method and sort keys for data sorting.

Displays the AutoFill List dialog box. This dialog box allows you to add, delete, or edit autofill lists.

Sheet Menu

Items on the Sheet menu allow you to set print area, titles, and page breaks; insert and delete worksheets; modify the color palette used by the worksheet; set the worksheet's default font; enable protection; fix rows and columns; and enable or disable compression. Click on a menu item for more information.



Defines the currently selected range in the active worksheet as the Print_Area user-defined name.

Defines the currently selected range in the active worksheet as the Print_Titles user-defined name.

Places a horizontal page break adjacent to the top edge of the active cell and a vertical page break adjacent to the left edge of the active cell. If a row or column is selected, a page break is placed adjacent to the selected row or column.

This command replaces Set Page Breaks if page breaks are adjacent to the active cell. Removes page breaks adjacent to the top edge and left edge of the active cell.

Inserts one or more worksheets. The number and position of inserted worksheets is determined by the number of selected worksheets. This command fails if non-contiguous sheets are selected.

Deletes the selected worksheets.

Displays the Color Palette dialog box. This dialog box allows you to edit colors in the color palette, specify a default color, and use the default color palette.

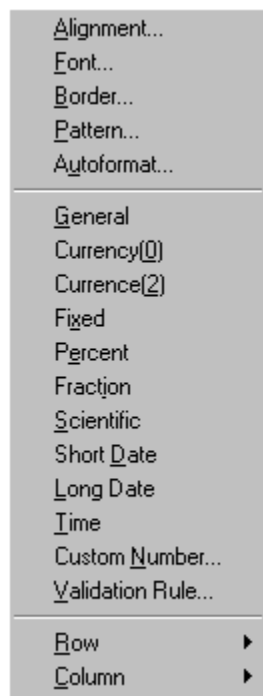
Displays the Default Font dialog box. This dialog box allows you to set the default font used to display data in worksheets. In addition to setting the font and font size used to display data in a worksheet, the default font affects the widths of worksheet columns. Column widths can be set in units equal to 1/256th of the character 0 (zero) in the default font.

Enables protection for protected cells in the worksheet. A check next to this command means that protection is enabled. Select the command again to disable protection.

Fixes the selected columns or rows. Fixed columns and rows do not scroll and cannot be edited. If you select fixed rows or columns, this command is replaced by the Unfix Rows + Columns command.

Format Menu

Items on the Format menu allow you to format worksheet elements. Click on a menu item for more information.



Displays the Alignment dialog box. This dialog box allows you to specify the horizontal and vertical alignment of data in the selected range. In addition, you can enable and disable word wrapping.

Displays the Font dialog box. This dialog box allows you to specify the font, point size, font style, and color of data in the selected range.

Displays the Border dialog box. This dialog box allows you to specify the placement of borders in the selected range. In addition, you can specify the border line style and color. The check boxes in the Border dialog box are three-state check boxes, allowing "as is" selections to be made.

Displays the Pattern dialog box. This dialog box allows you to specify the fill pattern and foreground and background colors for the selected fill pattern.

Displays the Cell Protection dialog box. This dialog box allows you to specify whether the cells in the selected range are locked and/or hidden.

Formats data in the selected range with the general format.

Formats data in the selected range with the currency format and a decimal precision of 0.

Formats data in the selected range with the currency format and a decimal precision of 2.

Formats data in the selected range with the fixed format.

Formats data in the selected range with the percent format. Numbers with this format are displayed as percentages with a trailing percent sign (%).

Formats data in the selected range with the fraction format. Numbers with this format are displayed as fractions.

Formats data in the selected range with the scientific format.

Formats data in the selected range with the short date format. Numbers with this format are displayed as dates.

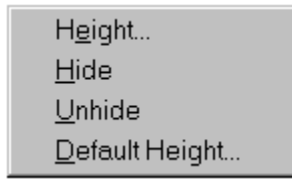
Formats data in the selected range with the H:MM AM/PM time format. Numbers with this format are displayed as times.

Displays the Custom Number dialog box. This dialog box allows you to define custom number formats for data in the selected range.

Displays the Validation Rule dialog box. This dialog box allows you to create or edit the validation rule for the current selection.

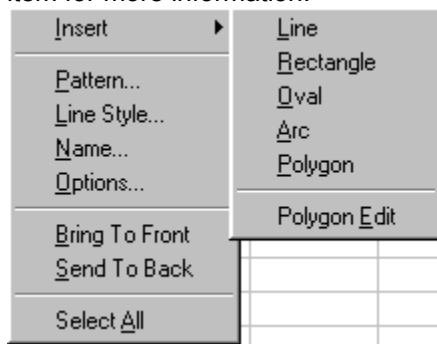
Displays the Column Width dialog box. This dialog box allows you to set the width of the selected columns, specify default column widths, and use the default width.

Displays the Row submenu.



Object Menu

The items on the Object menu allow you to format and manipulate objects on a worksheet. Click on an item for more information.



Displays the Pattern dialog box. This dialog box allows you to set the fill pattern and colors for the selected objects.

Displays the Line Style dialog box. This dialog box allows you to set the line style, width, and colors for the selected line object or the border surrounding the selected arcs, ovals, polygons, and rectangles.

Displays the Object Name dialog box. This dialog box allows you to set a name for the selected object.

Displays the Object Option dialog box. This dialog box allows you to set the input value cell for selected check boxes and list boxes, the text displayed by check boxes and buttons, and the list of items contained by list boxes.

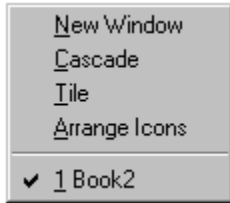
Places the selected objects in front of other objects in the worksheet.

Places the selected objects behind other objects in the worksheet.

Selects all the objects in the worksheet.

Window Menu

The items on the Window menu allow you to create new views of a workbook and manipulate workbook windows. Click on an item for more information.



Creates a new view of the active workbook. The view is identified by *workbook name:view number*. For example Sales:2 indicates the second view of a workbook named sales.

Arranges all open windows in a cascading pattern, one on top of the other.

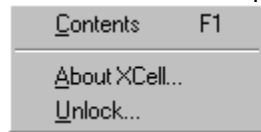
Arranges all open window side by side so that they share a portion of the SpreadPro workspace.

Arranges the icons representing minimized workbooks neatly beginning at the bottom of the SpreadPro workspace.

Lists all open windows within the SpreadPro workspace. Select a window from the list to make it the active window.

Help Menu

The items on the Help menu provide information about SpreadPro.



Displays the SpreadPro help file.

Displays the About SpreadProSpreadProbox with information about this version of SpreadPro.

Main Toolbar

The buttons on the Main Toolbar provide easy access to some of the most common SpreadPro menu items. Click on a button for more information.

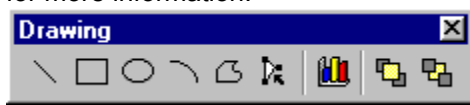


The Format Painter allows you to quickly and easily copy formatting from one selection to another.

1. Select the range of cells containing the formatting you want to copy.
2. Click on the Format Painter button.
3. Select the range to which you want to apply the format.

Drawing Toolbar

Use the buttons on the Drawing Toolbar to draw or manipulate objects on a worksheet. Click on a button for more information.



The worksheet tool performs standard worksheet editing. It also selects objects for editing. Press CTRL when selecting buttons, check boxes, and drop down list boxes.

The polygon editing mode tool toggles between normal polygon editing and polygon point editing mode. When polygon point editing is enabled, the points of a polygon can be moved.

The line tool draws lines.

The rectangle tool draws rectangles and squares.

The oval tool draws ovals and circles.

The arc tool draws arcs.

The polygon tool draws polygons.

The button tool draws push buttons.

The check box tool draws check box objects.

The list box tool draws drop-down list box objects.

The chart tool charts the selected range of data.

Format Bar

Use the buttons on the Format bar to quickly and easily format select worksheet data. Click on a button for more information.



Select a font for the currently selected range of data.

Select a font size for the currently selected range of data.

Controls the bold attribute for the currently selected range of data.

Controls the italic attribute for the currently selected range of data.

Controls the underline attribute for the currently selected range of data.

Select a color for the currently selected range of data.

Applies general alignment to the selected range of data.

Left aligns the selected range of data.

Centers the selected range of data.

Right aligns the selected range of data.

Centers the selected data across the number of selected cells. This is useful for straddling heading information across rows or columns.

Displays a list of common fixed and general formats. Select a format to apply it to the selected range of data.

Formats data in the selected range with the currency format and a decimal precision of 2.

Displays a list of common percent formats. Select a format to apply it to the selected range of data.

Displays a list of common fraction formats. Select a format to apply it to the selected range of data.

Displays a list of common date and time formats. Select a format to apply it to the selected range of data.

Displays a dialog box that allows you to find data.

Displays a dialog box that allows you to replace data.

Automatically resizes the column width to display the widest cell.

Hides the selected row(s) or column(s) from view.

Displays the selected row(s) or column(s).

Displays the Column Width dialog box. This dialog box allows you to set the default column width.

Displays the Row Height dialog box. This dialog box allows you to set the height of the selected rows, specify default row heights, and use the default row height.

Displays the Row Height dialog box. This dialog box allows you to set the default row height.

Enter your registration unlock code here.

Allows you to zoom in and out by the specified percentage.

Displays the function picker window.

Undoes your last action.

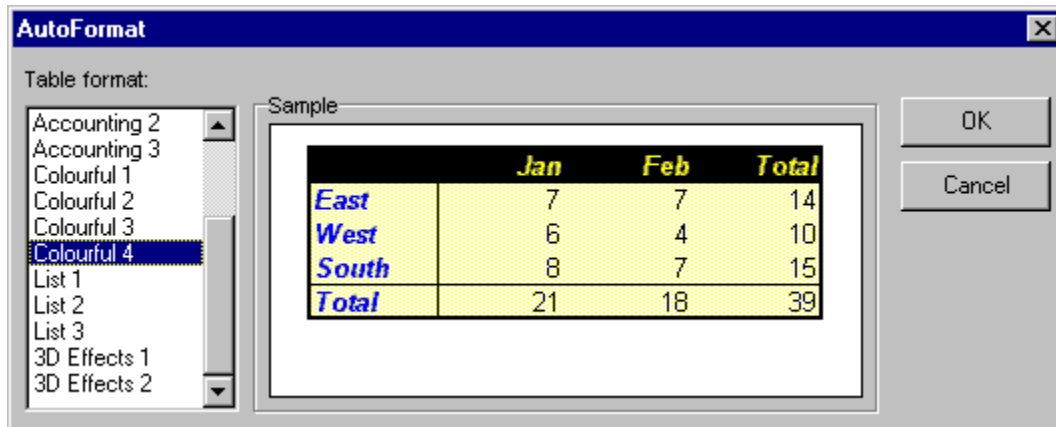
Displays the rename dialog, allowing you to rename the current worksheet.

Autoformat

To format an entire list or other large range that has distinct elements, for example, column and row labels, summary totals, and detail data, you can apply a built-in table design, called an autoformat. The design uses distinctive formats for the various elements of the table.

To autoformat a selection:

1. Select the cells you want to format.
2. Select Autoformat from the Format menu.
3. Select the format you would like to apply.
4. Click on the OK button.



Evaluation Version

The unregistered version of SpreadPro allows you to evaluate the product for 30 days. After this time if you wish to continue using the product you must register.

[Registering SpreadPro](#)

[Unlocking SpreadPro](#)

Registering SpreadPro

Registration details can be found in the document REGISTER.DOC, and can be accessed from the SpreadPro under the Start menu.

Alternatively details can be obtained from the SpreadPro web site at:

———www.techmarc.ndirect.co.uk

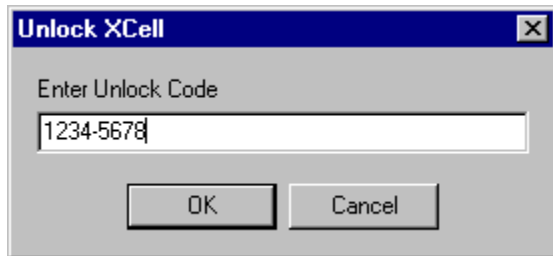
Registration may be performed on-line via the internet or by post or fax. On registration you will receive an unlock code to remove the 30 day evaluation period. You will now also be eligible for free unlimited e-mail technical support and free maintenance releases.

[Unlocking SpreadPro](#)

Unlocking SpreadPro

To unlock SpreadPro:

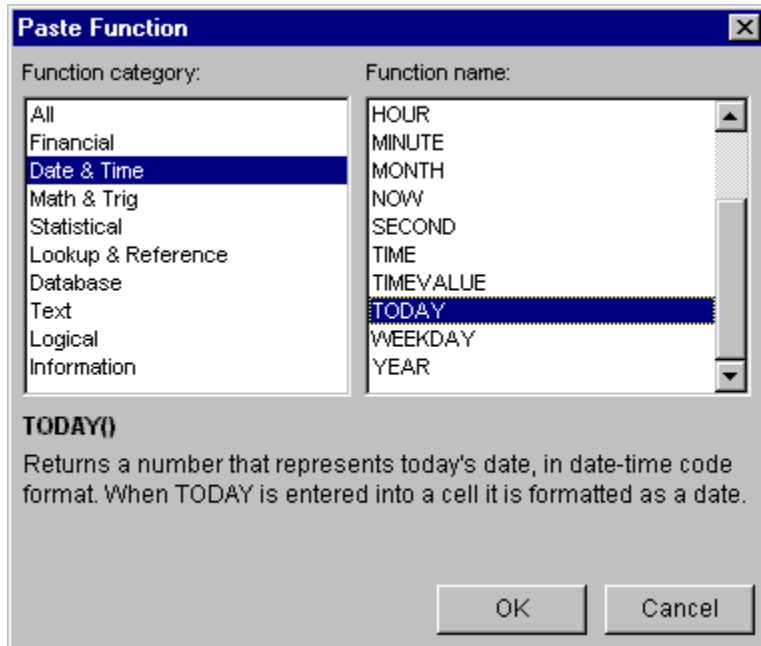
1. Select Unlock from the Help menu.
2. Enter your unlock code and click on OK.



If you have entered the unlock code correctly then the message "SpreadPro Unlocked" will be displayed. If you have mistyped the unlock code the message "Invalid Unlock Code" will be displayed and you then need to re-enter the code.

Function Picker

The function picker allows you to easily find and insert a function into a worksheet.



Down the left hand side is displayed the function categories. When a category is selected the corresponding functions are displayed on the right. When a function is highlighted, its syntax and description are displayed at the bottom of the screen.

To insert the selected function, click the OK button.

Formatting Toolbar

The buttons on the formatting Toolbar provide easy access to some of the most common SpreadPro menu items. Click on a button for more information.



Controls Toolbar

The buttons on the formatting Toolbar provide easy access to some of the most common SpreadPro menu items. Click on a button for more information.



Set the background color for the selected cells.

Sets the font color for the selected cells.

Displays SpreadPro full screen providing the largest work area.

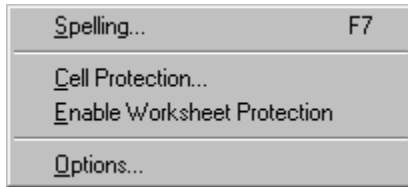
Toggles the selected toolbar on and off.

Allows the selected object to be inserted into the worksheet.

Starts the spell checker.

Tools Menu

Items on the Tools menu allow you to format worksheet elements. Click on a menu item for more information.



Displays the autoformat dialog.

Insert Menu

Items on the Insert menu allow you to format worksheet elements. Click on a menu item for more information.



Auto sums the currently selected columns.

Sort the data in ascending order.

Sort the data in descending order.

Formats data in the selected range with the long date format. Numbers with this format are displayed as dates.

Format Painter

If you've already formatted some cells on a worksheet the way you want, you can copy the formatting to other cells using the Format Painter.

- 1 Select a cell or range that has the formatting you want to copy.
- 2 Click on the Format Painter button.
- 3 Select the cell or range you want to copy the formatting to.

Formats data in the selected range with the time format. Numbers with this format are displayed as times.

Creating a New Workbook

To create a new workbook select New from the File menu.

