For Windows and Mac

FileMaker
Pro 5

Trial Version Tutorial

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Preface:
New features in FileMaker Pro

FileMaker Pro 5 brings a wide range of new features and improvements to the application. Responding to feedback from users and developers, much attention has been paid to the ways that users interact with the software. Menus, dialog boxes, and toolbars have all received attention in an effort to make the experience of using FileMaker Pro more productive and enjoyable, while FileMaker Pro software's ODBC and Microsoft Office compatibility have also been enhanced. Some of these changes will make using FileMaker Pro easier for people who are new to the application, while others will please longtime users and developers.

Note Some of these features may not be available in the Trial version.

The user interface's new look

The user interface of FileMaker Pro 5 has been redesigned with Microsoft Office users in mind. FileMaker Pro menus now follow the Microsoft Office standard, enabling new users who are familiar with Microsoft Office-compatible products to quickly locate many common menu choices.

Access to menu commands

There are two new ways to access menu commands:

- selecting buttons on a toolbar
- displaying context menus

Toolbars provide quick access to many FileMaker Pro menu commands. Show or hide toolbars by choosing View menu > Toolbars, then the name of the toolbar to display.

The standard toolbar in Browse mode

Drag a toolbar by the handle to reposition it

You can also quickly edit an object or data by choosing editing commands directly from a *context menu*. To display a context menu in Windows, hold down the right mouse button while the pointer is over an object or data. In the Mac OS, hold down the Control key, then click the mouse button over an object or data. The type of object you click on and the mode you're in will determine which menu commands you can access.

Important Some menu commands and key equivalents have changed from their previous location.

Resizable dialog boxes, multiple item list selections

Longtime users will appreciate subtle but much-anticipated improvements, such as resizable Define Fields, Script Definition, Define Relationships, and Define Value Lists dialog boxes. Multiple items in each of these dialog boxes can now be selected and modified at one time. Additionally, the contents of Define Fields, Define Relationships, and Define Value Lists can be easily sorted with a single click of a column heading.

Printing script definitions

Script definitions now print in a style that is more consistent with their appearance in the Define Scripts dialog box. When a script is printed, the steps appear in bold, and data associated with a step appears in square brackets following the step name. Selected script step options are displayed in plain text under the step. The overall effect is that printed scripts are now easier to read and follow.

New Layout/Report assistant

FileMaker Pro 5 now has an assistant to help you with the creation of layouts. (You use layouts to display and print the data in your database.) The New Layout/Report assistant guides you through creating a layout according to options you choose in a series of panels. You can choose to create layouts that are appropriate for viewing your data onscreen, or for printing reports. You can also create layouts that make it easy to print mailing labels or envelopes using the data in your database. Once you have created a layout, you have complete control over modifying it to suit your needs.
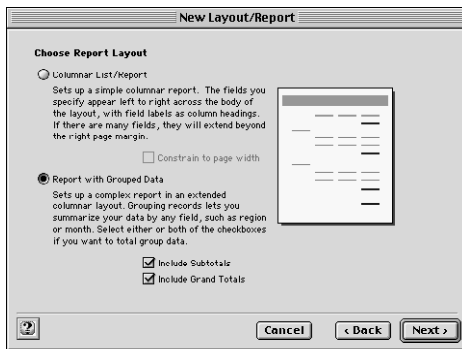
Using the New Layout/Report assistant, you can also now specify a layout *theme* to enhance the appearance of a layout or report and to give all your layouts a consistent look. Choose from a wide array of styles, each with a variation designed specifically for onscreen use or print.

Other layout improvements

Add a 3D look to layout objects

You can apply an effect that adds three-dimensional qualities to a field or object on a layout, including an embossed effect, an engraved effect, and a drop-shadow effect.

A button with no effects

A button with the Drop Shadow effect
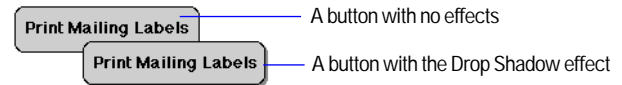
Create custom colors and use expanded color palettes

You can now add custom colors to fields, lines, rectangles, body parts, and other layout objects, as well as use standard colors from an expanded choice of color palettes, including an 88 color palette, a "web safe" 215 color palette, and a 256 color palette.

ODBC support in FileMaker Pro

FileMaker Pro 5 also brings some hefty improvements to its ODBC support.

You can use the ODBC support in FileMaker Pro to:

■ access FileMaker Pro data from ODBC-compliant applications to create charts, construct ad-hoc queries, or build a front-end with other applications, like Microsoft Visual Basic

■ construct SQL queries in FileMaker Pro (as in FileMaker Pro 4.1) to import data from other ODBC data sources like Microsoft Access or Oracle databases

FileMaker Pro shares data via ODBC with the Data Access Companions. The companions respond to SQL queries sent from other ODBC-compliant applications and interface between the FileMaker Pro ODBC driver and your FileMaker Pro database. Use the Local Data Access Companion to receive queries from an ODBC-compliant application on the same computer. The Remote Data Access Companion can receive requests from ODBC-compliant applications over a TCP/IP network.

Microsoft Excel import and file conversion

Converting many versions of Microsoft Excel spreadsheets is now easier than ever. FileMaker Pro can interpret column names as field names and assign an appropriate data type (text, number, date, or time) to fields, based on the data in the column. You can import and convert recent versions on both platforms through Excel 98.

ActiveX Automation support (Windows)

FileMaker Pro 5 adds support for ActiveX Automation on Windows. Using ActiveX Automation, you can automate a task that spans applications — similar to the way Apple Events allows one application to command another on the Mac OS. Typically, this is accomplished by building a custom application in Visual Basic, and using this application to command other applications.

With ActiveX Automation and Visual Basic you can create your own application (with its own interface) and drive multiple applications to accomplish a task. For example you could define a window in Visual Basic that has one button that says, "get today's sales data". The procedure for "get today's sales data" would open a FileMaker file and find all the sales for today; it would then export the data to a file. It would then start up Microsoft Excel and graph the exported data and have Microsoft Excel display the graph.

QuickTime

FileMaker Pro 5 supports Apple QuickTime 3.0 and QuickTime VR 3.0. You can insert any file type supported by QuickTime into a container field. If your database contains QuickTime movies in container fields and you publish the database on the Web using FileMaker Pro Instant Web Publishing, you can also play the QuickTime movies in a web browser.

Web publishing

Changes have been made to the Instant Web Publishing feature in FileMaker Pro to enhance the appearance of published databases and improve their security.

Web styles

FileMaker Pro Instant Web Publishing now includes web styles that determine the appearance of your database in a web browser. For example, you can choose the Lavender style to display titles and buttons in a purple color scheme. You can also choose styles that are specifically designed for searching or creating records. For example, you can create a guest book using the Entry Only style. You can choose a different style for each published database.

Most FileMaker Pro web styles *render* layouts. That is, they display your layouts in a web browser almost as they appear in a FileMaker Pro window. Web styles can render layouts in Form View, New Record, and Edit Record pages. Most FileMaker Pro web styles use cascading style sheets to render layouts.

Note The browser viewing the FileMaker Pro application via the FileMaker Pro Web Companion must support cascading style sheets for this feature to function properly.
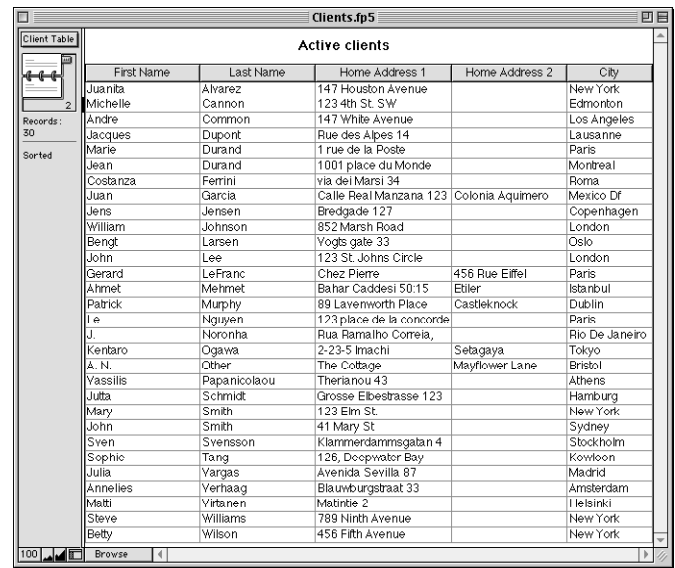
New Web Companion options

A new security option is available to limit access to your databases. You can now specify the IP addresses that can request data from the FileMaker Pro Web Companion. For example, you can specify that only IP addresses that start with 1.2.3.* can access your databases. Additionally, the log file format has been changed to comply with the NCSA/CERN compatible Common Log format. Also, there are new options for tracking Web Companion activity in log files.

View as Table

FileMaker Pro has always offered two ways to view your layouts: View as Form, which displays one record on the screen at a time, and View as List, which displays more than one record at a time. FileMaker Pro 5 now adds a third method of viewing your data onscreen: View as Table. With View as Table, data is displayed in a grid-like arrangement, similar in appearance to a spreadsheet, with each row displaying a record and each column displaying a field.

Columns can easily be resized by dragging an edge of a column's heading, sorted by clicking on a column's heading (if enabled), and reordered by dragging a column to a new position.

Improvements to value lists

Value lists have been improved in FileMaker Pro 5, too.

There are three major improvements to value lists:

■ You can now base a list of values on a relationship. This can yield a subset of a field's values, rather than the field's entire contents. The value list will display only values from records that are consistent with the criteria defined in the list's underlying relationship.

■ When you are deriving values from one field, but displaying another field's contents, you can now choose whether to sort on the first field (the one whose values are being stored) or the second one (the field whose values are just being displayed).

■ It is now possible to specify a value list that is defined in another FileMaker Pro 5 database. This allows you to reduce the repetition of custom or field-based value lists by reusing one central list in multiple files, and to use value lists in portals (where it's necessary to use a value list that must exist in the related file).

Note The external value list (using related values) must be in the same file as the related field in the portal.

The example below shows a value list based on a relationship. The same field is displaying a different list of values because the value in the match field, Category, has changed.

Value list based on key field value "Accessory"
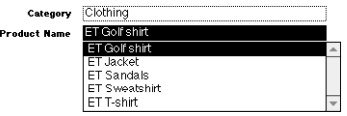
Value list based on key field value "Clothing"

Import script

You can now import scripts from other FileMaker Pro 5 databases into the current database. When you import a script, FileMaker Pro uses a strict protocol to map fields, layouts, scripts, value lists, files, relationships, and script references. Objects that do not map are still imported but are marked as unknown, allowing you to map script steps from the source file to the appropriate references in the destination file.

Import Update

You can now update records or individual fields in one file with information from matching records or fields in another file. You choose the criteria that determine which records "match" and which records and fields will be updated. It's a great feature for updating the desktop copy of your file in your office with changes you make on the road on your laptop.

This feature is accessible for any file that can be imported.

Multi-User (Hidden)

You now have the ability to easily "hide" databases being shared on a network by choosing the Multi-User (Hidden) option. This feature is especially useful for preventing network users from accidentally opening the "wrong" file, for example opening a related Line Items file when it's your intention that they open a Data Entry file.

Hands-on, task-oriented tutorial

To get new users up to speed more quickly, FileMaker Pro now features an extensive hands-on tutorial. Tutorial lessons guide you through common database tasks, including finding records, creating databases, calculations, scripts, and reports, and defining relationships.

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Lesson 1
FileMaker Pro basics

Welcome to the FileMaker® Pro tutorial. This tutorial shows you how you can manage your information in FileMaker Pro.

You will learn how to use FileMaker Pro software to:

- locate and sort information
- create and enter records in a simple database
- create mailing labels
- create calculations, buttons, and scripts
- create and run reports
- use the relational capabilities of FileMaker Pro

It takes approximately four hours to complete this tutorial, which can be done in one session or several shorter sessions.

How to use this tutorial

These lessons are based on the membership database of a fictitious travel firm, The Corporate Travelers Club. Corporate travelers who are members of this club save their businesses money on travel costs, and the club's expenses are offset by an annual membership fee. FileMaker Pro is used to track the members' names, addresses, and membership status, as well as to generate labels and form letters to contact members.

It's best to complete these lessons sequentially, as the concepts introduced in early lessons are assumed to be understood in later lessons. However, because the lessons are self-contained, it's possible to skip lessons entirely, or to complete them later if desired.

This tutorial assumes that you are familiar with your computer's operating system. Opening files, locating folders, and other activities that require some knowledge of your computer's OS are a necessary part of completing this tutorial.

Note All persons and companies listed in the sample files are purely fictitious, and any resemblance to existing persons and companies is purely coincidental.

Files included with this tutorial are intended to illustrate the features of FileMaker Pro, and as such, might be unsuitable for use as templates for further development.

We begin with a demonstration

To show you the goal of each lesson up front, we guide you through a sample file that illustrates a feature or concept. This way, you will always know a lesson's objectives.

We explain how it works

As we introduce new techniques and concepts, we will explain how to use them in other situations.

You build the structures

Because using FileMaker Pro is the most effective way to learn the application, each lesson features a hands-on activity designed to guide you through menus, screens, and concepts step by step.

Where to find the lesson files on your hard drive

The files used in this tutorial are installed as part of a typical FileMaker Pro installation set. They are also included with the trial version.

The sample files illustrate the concepts explained in the lessons, and let you see how features work before you build them. Refer back to the sample file associated with each lesson if you need to. The tutorial sample files for lessons 2 through 9 are installed in FileMaker Pro 5 Trial folder\Tutorial\Sample Files. The sample files for lesson 10, which explains relational databases, are installed in FileMaker Pro 5 Trial folder\Tutorial\Sample Files\Sample10.

The working files mimic the sample files, except the features being taught in particular lessons have been removed. You will add these missing items and structures as you complete each lesson. The working files for lessons 5 through 9 are installed in FileMaker Pro 5 Trial folder\Tutorial\Working Files. The working files for lesson 10 are installed in FileMaker Pro 5 Trial folder\Tutorial\Working Files\MyFiles10.

Overview of the FileMaker Pro Tutorial folder structure

FileMaker Pro 5 Trial folder

Tutorial

Sample Files
Sample02.fp5
Sample03.fp5
Sample04.fp5
Sample05.fp5
Sample06.fp5
Sample07.fp5
Sample08.fp5
Sample09.fp5
Sample 10 folder
    Companies.fp5
    Members.fp5

Working Files
MyFile05.fp5
MyFile06.fp5
MyFile07.fp5
MyFile08.fp5
MyFile09.fp5
MyFiles10 folder
    MyCompanies.fp5
    MyMembers.fp5
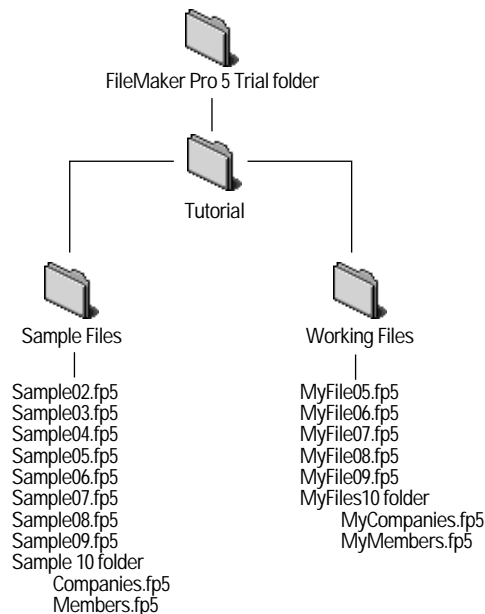
Database concepts

What is a database?

A *database* is a method of organizing and analyzing information. You've probably used several databases recently without realizing it. A date book, a parts list, and even your own address book are databases.

Why use a database?

Storing information in a database file has many benefits. A database doesn't just hold information—it helps you organize and analyze the information in different ways. For example, databases allow you to group information for reports, sort information for mailing labels, count your inventory, or find a particular invoice.

Computerized databases offer many additional advantages over their paper-based counterparts: speed, reliability, precision, and the ability to automate many repetitive tasks.

How is a database organized?

A database file is organized into *records*. Each record is a collection of *fields*.

Imagine your address book is a FileMaker Pro database file. Each listing in your address book is one record. Each record has information, such as name, address, and phone number. Each of these pieces of information—name, address, and phone number—is stored in a separate field.

FileMaker Pro basics

Unlike most word processing or spreadsheet programs, FileMaker Pro saves your work automatically. Consequently, it's important to carefully consider your actions when making sweeping changes to your files, especially when deleting records. Once records are deleted, they are completely removed from your database.

As you will learn in lesson 11, you should back up your files on a regular basis. Backups can save you many hours of unnecessary work and worry in the event that your files become lost or damaged, or records are inadvertently deleted.

About FileMaker Pro modes

When you work in FileMaker Pro, you work in one of four *modes*.

■ Use *Browse mode* to enter data and view records.

■ Use *Find mode* to locate a record or a group of records quickly.

■ Use *Layout mode* to specify how information will appear on the screen or when you print it.

■ Use *Preview mode* to see what the pages will look like when you print them.

Once you have opened a database, you can switch from one mode to another using either the View menu or the mode pop-up menu at the bottom of the application window. You can also quickly determine which mode your FileMaker Pro database is using by referring to this pop-up menu.
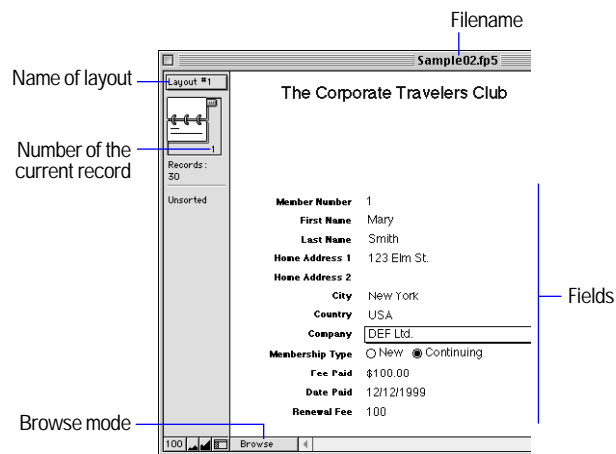
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Lesson 2
Browsing information

You view, enter, or change data in Browse mode. This is the simplest way to interact with your database.

In this lesson you will:

- open a database with data already in it
- move between records
- view information in different ways by switching layouts
- see the difference between *form view, list view,* and *table view.*

Open a database and move between records

To open the sample database for this lesson:

1. Open the Tutorial Folder in the FileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

You should be here: FileMaker Pro 5 Trial\Tutorial\Sample Files.

3. Open Sample02.fp5.

4. Notice that the database is in Browse mode. FileMaker Pro defaults to Browse mode when a database is opened.

The mode pop-up menu identifies the current mode
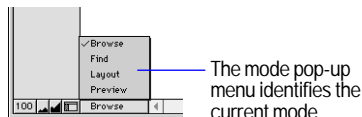
In the status area, notice that there are 30 records and that the first record is displayed.

Bookmark
Book icon
Number of records
Status area

Record currently displayed
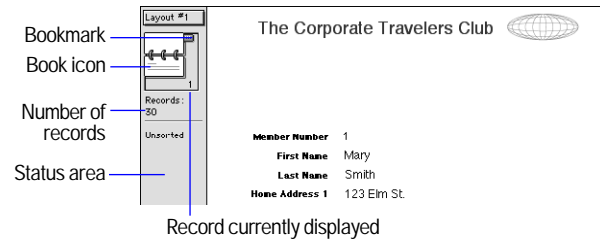
5. Click the bottom page of the book icon to move forward one record at a time, and click the top page to move back one record at a time.

6. Move between records by dragging the bookmark up or down.

You can also type a record number in the area immediately below the book icon to change the current record displayed.

View information in different ways

Even though you enter information only once in FileMaker Pro, you can use that information in many ways. *Layouts* let you view some or all of your fields.

Because it is not necessary to see all of your fields in each layout, layouts are a powerful tool for working with or printing just the information you need to accomplish a particular task.
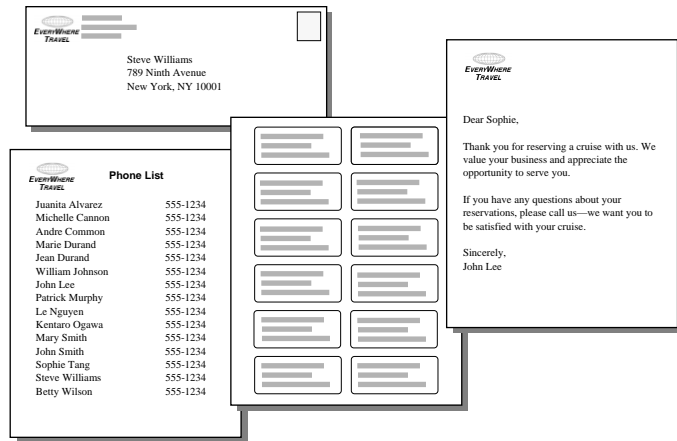
The same data can be arranged differently with multiple layouts

See a different layout

To see some layouts in action, use the Sample02.fp5 sample file you just opened.

1. Click on the layout pop-up menu, located above the book icon. A list appears showing the layouts available in this file.
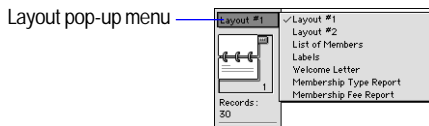
2. Examine Layout #1. Layout #1 shows all of the fields in the Sample02.fp5 database.
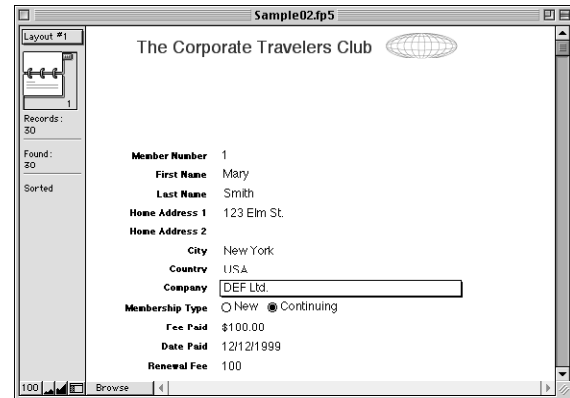
Layout #1 displays all of the fields in the Sample02.fp5 database

3. Go to the layout pop-up menu and choose the List of Members layout.

This layout shows each record as one row in a columnar list. Notice that the List of Members layout contains only four of the fields that were present in Layout #1. No data has been removed from the database. Because fewer fields are present on this layout, some data is simply not displayed.

The List of Members layout displays only four of the fields present on Layout #1

4. Go to the layout pop-up menu and return to Layout #1. No data has been lost.

View your layouts as forms, lists, and tables

You can view your layouts in three different ways: as a form, as a list, and as a table.

■ Form View displays your current layout one record at a time.

■ List View shows your current layout as a list, with one record appearing beneath another.

■ Table View shows you many records at one time in a grid.

Generally, layouts can be toggled between form view, list view, and table view while the database is in Browse mode.

Switch between form view, list view, and table view in the same layout to see how they are different.

1. In Sample02.fp5, switch to the List of Members layout. You see many records, in the form of a list.

2. Choose View menu > View as Form.

You now see a single record, displayed in the same layout. Only the viewing option has changed.

3. Choose View menu > View as Table.

The View as Table feature allows you to view many records at once in a grid.

4. Choose View menu > View as List to return to the original view of the List of Members layout.

First Name	Last Name	Home Address 1	Home Address 2	City
Mary	Smith	123 Elm St.		New York
Andre	Common	147 White Avenue		Los Angeles
Steve	Williams	789 Ninth Avenue		New York
Kentaro	Ogawa	2-23-5 Imachi	Setagaya	Tokyo
Marie	Durand	1 rue de la Poste		Paris
Michelle	Cannon	123 4th St. SW		Edmonton
John	Smith	41 Mary St		Sydney
Patrick	Murphy	89 Lavenworth Place	Castleknock	Dublin
Jean	Durand	1001 place du Monde		Montreal
Le	Nguyen	123 place de la		Paris
John	Lee	123 St. Johns Circle		London
Sophie	Tang	126, Deepwater Bay		Kowloon
Juanita	Alvarez	147 Houston Avenue		New York
Betty	Wilson	456 Fifth Avenue		New York
William	Johnson	852 Marsh Road		London
Julia	Vargas	Avenida Sevilla 87		Madrid
Ahmet	Mehmet	Bahar Caddesi 50:15	Etiler	Istanbul
Annelies	Verhaag	Blauwburgstraat 33		Amsterdam
Jens	Jensen	Bredgade 127		Copenhagen
Juan	Garcia	Calle Real Manzana	Colonia Aquimero	Mexico Df
Gerard	LeFranc	Chez Pierre	456 Rue Eiffel	Paris
Jutta	Schmidt	Grosse Elbestrasse		Hamburg
Sven	Svensson	Klammerdammsgatan		Stockholm
Matti	Virtanen	Matintie 2		Helsinki

5. When you are finished with this lesson, close the file by choosing
File menu > Close.

Lesson 3
Finding and sorting records

Your database is a collection of records. Sometimes you'll work with all of the records in the database (to mail out an annual catalog for each customer record in the database, for example). Often, however, you'll work with a subset of your database—people who come from a particular city, for example, or records that fall within a particular range of dates.

In FileMaker Pro, this process of searching for records that match particular criteria is called *finding* records. Once you've found the records you want to work with, you can change their order by *sorting* them. Records can be sorted in ascending or descending order.

In this lesson, you will:

- find records matching criteria in a single field and multiple fields
- find records matching a range of data
- narrow your searches by omitting records
- sort records in ascending and descending order

Find records based on criteria in a single field

In the membership database, find all of the members that are from New York City.

1. Open the Tutorial folder in the FileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

You should be here: FileMaker Pro 5 Trial\Tutorial\Sample Files.

3. Open Sample03.fp5.

4. Choose View menu > Find Mode.

In Find mode, you create a find request using the fields in the layout you see. Type the criteria you want to search for directly into the fields on the request.

5. Type New York in the City field.

6. Click the Find button in the status area.
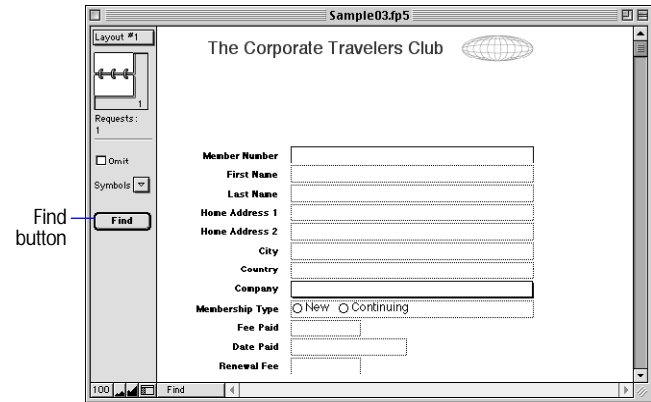
Your find request returns records for four members who live in New York. This is the *found set*.

Total number of records in the database — Number of records in the found set
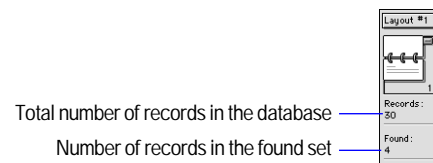
7. Click the book icon to view each of the four records in the found set.

Find records based on criteria in separate fields

You can find records that match multiple criteria, for example members who are both from the United States and are new members.

This type of search is commonly referred to as an *AND search*. To perform an AND search in FileMaker Pro, type each search criterion directly into the appropriate field in Find mode.

To find all members who live in the United States and are new members:

1. Choose View menu > Find Mode.

2. Type USA in the Country field.

3. Locate the Membership Type field, and select the New radio button.

Select the New radio button
in the Membership Type field

Membership Type   ⊙ New   ○ Continuing

4. Click Find in the status area.

Your find request returns a found set of two records for the two new members who live in the United States.

5. To find all of the records in your database, choose Records menu > Show All Records.

Note It is not necessary to choose Show All Records before performing a Find, as FileMaker Pro always finds records from the entire database.

Find records that match multiple criteria in the same field

Sometimes you need to find records that match more than one criterion in a single field. For example, you may need to find all members located in either New York or London. This type of search is commonly referred to as an *OR search*, because your found set will consist of records that match any one of the find criteria.

To perform an OR search in FileMaker Pro, you will need to use multiple find requests.

■ Type the first search criterion into the appropriate field of the first find request.

■ Create a second find request and enter the second search criterion in the same field.

When you click the Find button, FileMaker Pro will retrieve all of the records that match any of the criteria you've entered.

To find all members living in New York or London:

1. Choose View menu > Find Mode.

2. Type New York in the City field.

3. Choose Requests menu > Add New Request.

Notice that the status area shows that there are two requests.

Number of requests ———
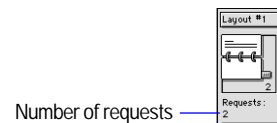
4. Type London in the City field of this second request.

5. Click Find in the status area.

Your find request returns a found set of six records for six members who live in either New York or London.

Find records that match a range of criteria in the same field

Sometimes, you might want to find records that match a range of criteria within a single field. For example, you might want to find all of the records that fall within a one-month period, or locate all of the sales invoices numbered between 500 and 1000.

To perform this type of search in FileMaker Pro, you use a special range symbol in your find request to specify the lower and upper limits of your find criteria.

To find the members who paid their membership fees between January 1, 2000 and June 30, 2000:

1. Choose View menu > Find Mode.

2. Type `1/1/2000` in the Date Paid field.

3. In the status area, click the Symbols pop-up menu. Select range from the list.

Symbols pop-up menu
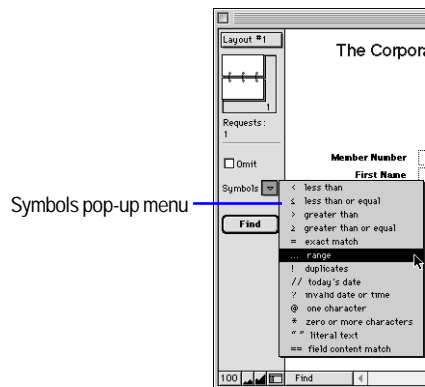
4. Your find request should now have `1/1/2000...` in the Date Paid field. Immediately after the ellipsis (...), type `6/30/2000`.

5. Click Find.

Your search returns six records, for six members who paid their fees within the first six months of the year 2000.

Narrow your search

Sometimes, you might need to find records that match certain criteria while at the same time excluding others (for example, finding all of the records that were added in a given year except for those added in February, or finding all customers who reside in New York state except for those in New York City). You can perform these types of finds by using a combination of multiple find requests and omitting certain records.

Because FileMaker Pro processes multiple find requests in the order they are created, it is possible to create very specific, layered searches in this manner. Omitting records in a search does not delete them from the database.

To find the records of members who paid their fees in the first six months of 2000, except for those who paid their fees in February:

1. Choose View menu > Find Mode.

2. Type `1/1/2000` in the Date Paid field.

3. In the status area, click the Symbols pop-up menu. Select range from the list.

4. After the ellipsis, type `6/30/2000`.

5. Choose Requests menu > Add New Request. Notice that the status area shows that this is the second request.

6. Type `2/1/2000` in the Date Paid field.

7. In the status area, click the Symbols pop-up menu and select range from the list.

8. After the ellipsis, type 2/29/2000 in the Date Paid field.

9. Click Omit in the status area to select it.

Omit checkbox
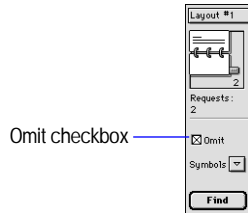
10. Click Find.

Your search returns five records for five members who paid their fees within the first six months of 2000, except the month of February.

Sort your found set

Once you have a found set of records to work with, you might want to sort those records. For example, you might want to display the records in alphabetical order, or sort them from newest to oldest.

To sort records in alphabetical order by the members' last names:

1. Go to the layout pop-up menu and choose the List of Members layout. This layout will make it easier to see the results of the sorting.

2. Choose Records menu > Sort.

3. If any fields appear in the Sort Order column on the right side of the dialog box, click Clear All.

4. In the list of available fields, select Last Name and click Move.

Sort direction buttons become active when a field is selected
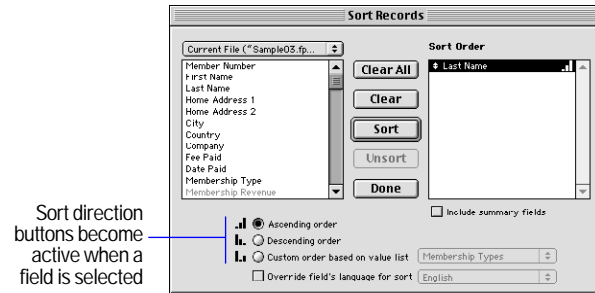
Notice the sort direction symbol to the right of the Last Name field increases in size from left to right. This indicates that when the database is sorted by this field, the data will be in ascending order (from a to z).

5. Click Sort.

The names in the List of Members are now in alphabetical order by last name.

6. When you are finished with this lesson, close each open file by choosing File menu > Close.

Lesson 4
Creating a database and entering records

In the previous lessons, you saw how to use a simple database with existing data. Now you will create your own file and add records.

In this lesson you will:

- create a simple database
- define fields to hold different kinds of data
- create records
- enter data
- modify data

If you are not familiar with database basics, you should do the first two lessons in this tutorial before continuing.

Create a simple database and define fields

Look at the sample file

The sample file is the model for the file you'll create. It shows you how fields are defined and that different field types hold different types of data.

1. Open the Tutorial folder in the FileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

You should be here: FileMaker Pro 5 Trial\Tutorial\Sample Files.

3. Open Sample04.fp5.

4. Choose File menu > Define Fields.

You see the Define Fields dialog box showing all of the fields in the database.
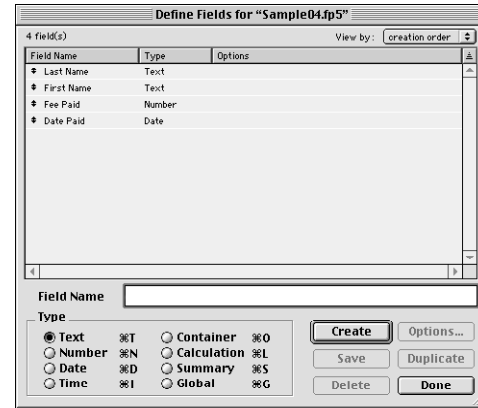
5. Notice that the First Name and Last Name fields are of type Text, Fee Paid is of type Number, and Date Paid is of type Date.

6. Click Done.

7. Notice that the data in each field corresponds to the field type.

You will learn how to add text and graphics, like the title and logo, in lesson 5.

About field definitions

You create a field for each category of information you want, such as First Name or City. To find, sort, calculate, and display data correctly, the field type should match the kind of data it contains (text, number, date, and so on). For example, you can't search for text values in a field of type Number.

You will learn about other field types in later lessons.

Create a database

1. Choose File menu > New Database.

2. If you see the New Database dialog box, choose Create a new empty file, then click OK. If not, go to step 3.

3. Go to the Working Files folder and select it as the location for this file.

4. For File Name, type MyFile04.

5. Click Save.

The Define Fields dialog box appears. You will now create fields to store information.

6. To create the first field, type First Name in the Field Name box.

7. Notice that the field type is Text.

Specify the field type — Name a field

8. Click Create.

9. Type Last Name in the Field Name box.

10. Click Create.

11. Type Fee Paid in the Field Name box, select Number in the Type area, then click Create.

12. Type Date Paid in the Field Name box, select Date in the Type area, then click Create.

Your defined fields should match those in the sample file.

13. Click Done.

You see the empty fields in a new, blank record. *Field labels* identify the fields. Your file is ready for data entry.

Field labels — Enter data here
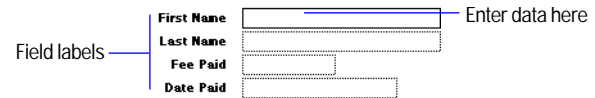
FileMaker Pro automatically saves your changes as you work.

Enter data into the database

Now you can begin to enter members' data.

Create the first record

1. If you don't see field boxes, press Tab to begin data entry.

2. Type Jane in the the First Name field.

3. Press Tab to move to the next field.

4. Type Doe in the Last Name field.

5. Type 25 in Fee Paid.

You will learn how to format number fields to display as currency in the next lesson.

6. Type 11/11/2000 in Date Paid.

The completed record should look like this:
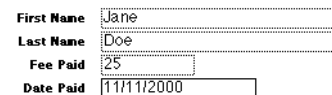
Create another record

1. Choose Records menu > New Record.

2. As you did for Jane Doe's record, enter data for `John Smith`, who paid `75` dollars on `2/2/2000`.

Your database now contains two records. Click the book icon to see each record.

Modify data in a record

Suppose you realize that Jane Doe paid 75 dollars, not 25. You can easily correct the entry.

1. Go to Jane Doe's record.

2. Select the amount in Fee Paid.

First Name	Jane
Last Name	Doe
Fee Paid	25
Date Paid	11/11/2000

3. Type the new amount, 75.

4. Click an empty area outside a field to save the change.

5. When you are finished with this lesson, close each open file by choosing File menu > Close.

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Lesson 5
Customizing what you see

You can enhance the way your data looks by adding graphics and other effects.

In this lesson, you will:

- learn how layouts determine what you see
- add, resize, and move fields
- display values in a number field as currency
- add text to a layout, and change its size and color
- add graphics
- see where to find other ways you can customize a layout

Customize your view in Layout mode

Look at the sample layouts

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

You should be here:FileMaker Pro 5 Trial\Tutorial\Sample Files.

3. Open Sample05.fp5.

4. Choose Layout #1 from the layout pop-up menu if it is not already selected.
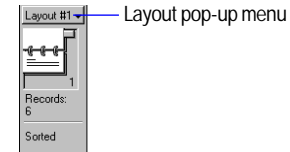
Layout pop-up menu

You see a simple layout.

5. Choose Layout #2 from the layout pop-up menu.

6. Notice that although this is the same record, now:

- First Name and Last Name are side by side
- you see the City field
- Fee Paid shows a dollar sign
- the club's name and logo are at the top of the screen

The Corporate Travelers Club

	First Name	Last Name
	Mary	Smith
City	New York	
Country	USA	
Fee Paid	$100.00	

You will make the above changes in this lesson.

7. Choose View menu > Layout Mode.

Use *Layout mode* to customize the appearance of your data. Notice that although the data is still in the file, you do not see it here.

About customizing layouts

Design layouts in Layout mode. You can include any combination of fields, text, and graphics on a layout. You can change the font and color of fields and text. You can also change the formatting of Number or Date fields.

Changes you make in Layout mode affect only the way data appears. The data itself remains as it was entered.

Leave the sample file open to refer to as you build these features in the working file.

Customize a layout

You will change a simple layout in this lesson's working file to make it look like Layout #2 in the sample file.

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Working Files folder.

You should be here:FileMaker Pro 5 Trial\Tutorial\Working Files.

3. Open MyFile05.fp5.

4. Choose View menu > Layout Mode.

You see a plain layout. You will modify this layout in different ways in the following sections.

Resize, move, and add a field

Select and resize a field

1. In Layout mode, click the First Name field to select it.
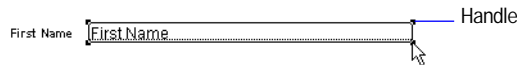
2. Drag the handle at the lower-right corner of the field to the left until the field is smaller, yet large enough to display the longest first name you expect in your file.

3. Choose View menu > Browse Mode to see your field.

4. Flip through the records.

If the field doesn't display all names completely, return to Layout mode and make the field larger.

5. Repeat this process for Last Name.

Move a field

1. Choose View menu > Layout Mode.

2. Click inside the Last Name field and drag it beside the First Name field.
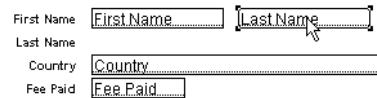
3. Drag the Last Name field label above the Last Name field.

4. Drag the First Name field label above the First Name field.

5. Choose View menu > Browse Mode to see your results.

Add a field

If a field has been defined in Define Fields, you can display it on any layout. In this database, some defined fields are not on this layout. You will add one of these fields now.

1. Choose View menu > Layout Mode.

2. Using the Field tool, drag the field to the layout, and place it below the First Name field.

Field tool — Drag the new field
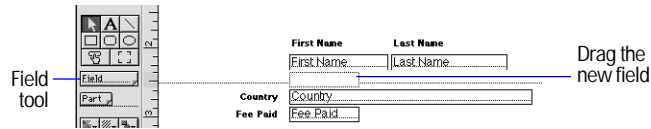
3. In the Specify Field dialog box, select the City field.

4. Click OK.

5. Choose View menu > Browse Mode to see your field.

You see a city entered in each record. City data was entered previously, and the field holds the data.

Display a number as currency

You can display a number as currency, even though only the number is typed into the field.

1. Choose Window menu > Sample05.fp5.

2. Choose View menu > Browse Mode.

3. In Layout #2, look at Fee Paid and notice that the number displays as currency.

4. Click the number to see the data actually entered in the field.

Formatting affects only the way data is displayed. It does not change the data.

5. Choose Window menu > MyFile05.fp5.

6. Choose View menu > Layout Mode.

7. Select the Fee Paid field.

8. Choose Format menu > Number.

9. Select options as shown in the following dialog box.
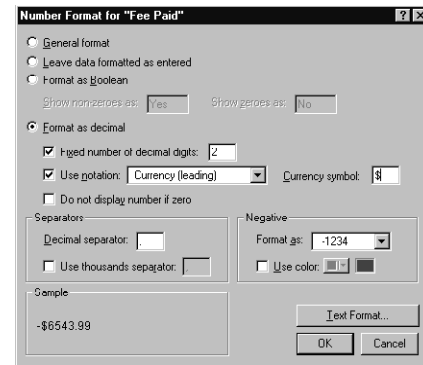
10. Click OK.

11. Choose View menu > Browse Mode to see the formatted data.

Add custom text to a layout

You will add the name of the organization to the top of the layout, then format the text.

Add text

1. Choose Window menu > Sample05.fp5.

2. Choose View menu > Layout Mode and look at the heading at the top of the layout.

This is your model.

3. Open MyFile05.fp5 if it is not already open.

4. Choose View menu > Layout Mode.

5. Select the text tool.
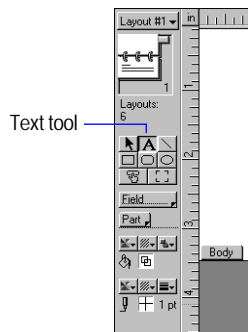
Text tool

6. Click the top of the layout where you want to begin the line of text.

7. Type The Corporate Travelers Club

8. Click the selection tool ![cursor] to end the text entry.

Change text size and color

1. Click the Corporate Travelers Club text to select the text block.

The Corporate Travelers Club
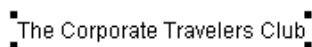
2. Choose Format menu > Text.

3. Choose 18 point from the Size list.

4. For Color, choose any dark blue.

5. Click OK.

Add a graphic to the layout

Add a logo beside the club name.

1. Choose Window menu > Sample05.fp5.

2. In Layout #2, choose View menu > Layout Mode and notice where the logo appears on the layout.

3. Open MyFile05.fp5 if it is not already open.

4. Choose View menu > Layout Mode.

5. Click beside the Corporate Travelers Club text, where you want to place the club logo.

You will see no change onscreen yet.

6. Choose Insert menu > Picture.

7. Open the Working Files folder.

8. Make sure all file types are showing, and select logo.gif.

9. Click Open.

10. Drag the logo to move it if necessary.

11. Choose View menu > Browse Mode to see the finished layout.

12. When you are finished with this lesson, close each open file by choosing File menu > Close.

Lesson 6
Creating lists, mailing labels, and form letters

You can easily create layouts to view and print information in many different ways.

In this lesson, you will create:

- a list of your records
- mailing labels
- a form letter

Create a columnar list

A columnar list shows many records simultaneously. Each row is one record. Each column holds one category of data, such as Last Name or Phone Number.

Look at the sample list

You can create a list of records that shows just the information you want to see.

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

You should be here:FileMaker Pro 5 Trial\Tutorial\Sample Files.

3. Open Sample06.fp5.

4. Choose the List of Members layout from the layout pop-up menu.

Layout pop-up menu
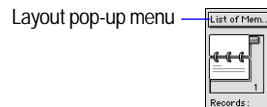
You see a columnar list showing some of your fields.

Last Name	First Name	Company	Membership Type
Smith	Mary	DEF Ltd.	Continuing
Common	Andre	ABC Company	Continuing
Williams	Steve	ABC Company	New
Ogawa	Kentaro	ABC Company	Continuing
Durand	Marie	DEF Ltd.	Continuing

About columnar list layouts

Choose View menu > Layout Mode to view the layout that produces the columnar list you just looked at.

Each field on the layout appears once, but the list displays many records.

Last Name	First Name	Company	Membership Type
Last Name	First Name	Company	Membership Type

Create a columnar list

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Working Files folder.

You should be here:FileMaker Pro 5 Trial\Tutorial\Working Files.

3. Open MyFile06.fp5.

4. Choose View menu > Layout Mode.

5. Choose Layouts menu > New Layout/Report.

6. For Layout Name, type `List of Members`.

7. Select Columnar list/report for the new layout type and click Next.

8. Select the Columnar list/report layout again, then click Next.

9. Double-click each of the following fields in the order you want it to appear in the list:
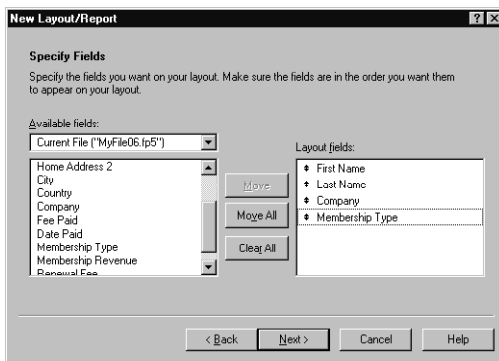
- Last Name
- First Name
- Company
- Membership Type

These fields move to the Layout fields list.

10. Click Next.

11. Click Next on each of the next four panels to accept the defaults.

12. Click Finish.

13. Choose View menu > Browse Mode.

The data in all records for the fields Last Name, First Name, Company, and Membership Type appears in the List of Members layout.

Create mailing labels

Look at the sample labels

1. Choose Window menu > Sample06.fp5.

2. Choose View menu > Browse Mode.

3. Select Labels in the layout pop-up menu.

You see the mailing label for the current record.

4. Choose View menu > Preview Mode.

You see a page of labels as it will print.

5. Notice that not all records have the same number of lines of text.

Records with four-line addresses display all lines. In records needing only three lines, the extra line is omitted so there is no blank line in the labels.

6. Choose View menu > Layout Mode.

You see the names of fields that will appear on the labels.
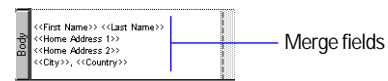
Merge fields

About label layouts

Label layouts use *merge fields*. Merge fields expand or contract to fit the data in the field, and take no space if the field is empty. Merge fields are for display and printing only. You don't enter data into merge fields.

Create a label layout

In this section, you will use the New Layout/Report assistant to:

- create a label layout
- select fields to include on the labels

Create the label

1. Choose Window menu > MyFile06.fp5.

2. Choose View menu > Layout Mode.

3. Choose Layouts menu > New Layout/Report.

4. For Layout Name, type `Labels`.

5. Select Labels for the new layout type.

6. Click Next.

7. Choose Avery 5160 from the Use label measurements for list.

8. Click Next.

Now you're ready to specify the label contents.

Choose the fields that will appear on the labels

1. Double-click First Name in the list.

First Name moves to the Label Contents area. The insertion point flashes.

2. After First Name, type a space.

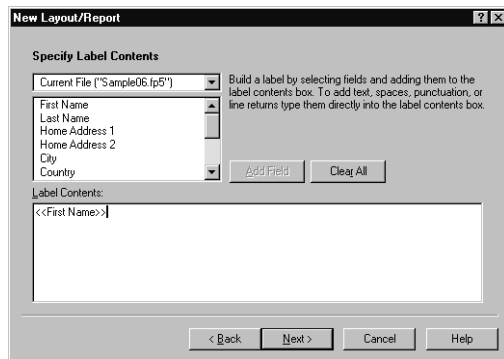**3.** Double-click Last Name in the list.

4. After Last Name, press Enter (Windows) or Return (Mac OS).

5. Double-click Home Address 1 in the list, then press Enter (Windows) or Return (Mac OS).

6. Double-click Home Address 2 in the list, then press Enter (Windows) or Return (Mac OS).

7. Double-click City in the list.

8. Type a comma, then a space.

9. Double-click Country in the list.

Now you have set up the merge fields.

10. Click Next.

11. Click View in Layout mode.

12. Click Finish.

Your label should look like this:

13. When you finish viewing your label layout, choose View menu > Preview Mode.

Your labels should look like those in the sample file.

Create a form letter

Look at the sample letter

1. Choose Window menu > Sample06.fp5.

2. Choose View menu > Browse Mode.

3. Choose Welcome Letter from the layout pop-up menu.

4. Flip through the records and look at the letter. You might need to scroll down to see all of it.

5. Notice the personalized address and salutation for each record.

6. Also notice that the wording in each letter is the same, except that the company name for each record appears in the first paragraph. The text flows around the company name, regardless of its length.

This letter is ready to print, for every record in the database.

About form letter layouts

The letter is simply a layout containing text, merge fields, and a graphic.

1. Choose View menu > Layout Mode.

2. Click anywhere on the text.

You see the handles in the corners of the entire text block. All of the text is in a single text block.

3. Notice that Company is a merge field in the body of the letter.

The address and salutation also use merge fields.

Create a form letter

To create this letter, you will:

■ create a blank layout

■ create a text block to contain your letter

■ add merge fields for the recipient's name and address

■ type the letter

■ customize the letter with the recipient's company name

■ add the closing

Create a one-page blank layout

1. Choose Window menu > MyFile06.fp5.

2. Choose View menu > Layout Mode.

3. Choose Layouts menu > New Layout/Report.

4. For Layout Name, type `Welcome Letter`.

5. Select Blank layout for the new layout type.

6. Click Finish.

7. On the layout, click the Header tab, then press Backspace (Windows) or Delete (Mac OS).

8. Click the Footer tab, then press Backspace (Windows) or Delete (Mac OS).

This letter will not use a header or footer.

9. Drag the Body tab down to about 11 inches.

When you release the mouse button, you will see the page boundary. If you don't see the page boundary, drag the Body tab down some more.

Body tab   Page boundary
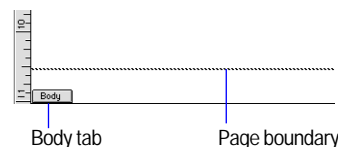
10. Now drag the Body tab up to just above the page boundary.

The page boundary line will disappear.

11. Use the scroll bar at the bottom of the screen to scroll a few inches to the right.

You see a heavy dotted line along the right side. This is the right-side page boundary. Your letter will be within these boundaries.

12. Scroll back all the way to the left.

13. Scroll up to the top of the layout.

Create the text block

You will create a text block with a 1.5-inch margin on all sides.

1. Click the text tool $\mathbf{A}$.

2. Drag a rectangle starting about 1.5 inches from the top left side of the layout, and ending about 1.5 inches from the bottom right side, as indicated by the page boundary lines.

When you release the mouse, the insertion point flashes in the top left of the text box. You will type the letter inside this box.

The text tool is selected
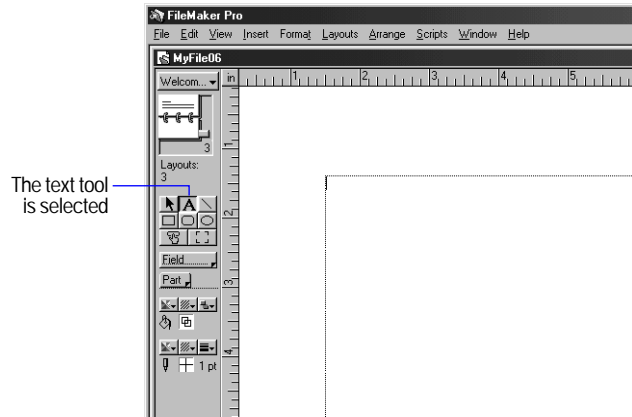
Add the address

1. Choose Insert menu > Merge Field.

2. Select First Name in the list and click OK.

3. Type a space.

4. Choose Insert menu > Merge Field.

5. Select Last Name in the list and click OK.

6. Move to the next line (enter a line space):

Windows: Press the Enter key above the Shift key on the keyboard.

Mac OS: Press Return.

7. Add merge fields for the street address, city, and country, with appropriate spaces, new lines, and punctuation.

Type the letter

1. Press Enter (Windows) or Return (Mac OS) twice to create two line spaces at the end of the address.

2. Start the salutation line: type `Dear` and a space.

3. Insert merge fields for the first and last name, separated by a space.

In your own letters, you can use more fields (for example, a title field) for a more elegant salutation.

4. Type a comma and two line spaces.

5. Type the letter:

> `The Corporate Travelers Club welcomes you and your company to our organization.`
>
> `We look forward to doing business with you and hope you have many pleasant trips with us!`

Customize the letter with the company name

1. Click after the word company in the first paragraph.

2. Type a comma and a space.

3. Insert a merge field for the company name.

4. Type another comma.

Add the closing

1. Click at the end of the text and enter two line spaces.

2. Press tab several times to go to the center of the text block.

3. Type `Sincerely`, then enter four line spaces.

4. Press Tab several times to align the insertion point with Sincerely, and type `John Jones`.

5. Enter a line space, then press Tab again to align the cursor with the previous lines of text, then type `President`.

Your layout should look like the letter in the sample file.

6. Choose View menu > Browse Mode to see your letter.

It should look like the letter in the sample file. See lesson 5 to learn how to add a logo.

7. When you are finished with this lesson, close each open file by choosing File menu > Close.

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Lesson 7
Simplifying data entry

You can simplify the way you enter data in FileMaker Pro and improve accuracy by using value lists, calculation fields, and data auto-entry.

In this lesson, you will:

- see how value lists can aid data entry
- write and test a calculation formula
- use a field's auto-entry options to automatically enter data

Enter data using value lists

Value lists let you choose the value you want from a scrolling list, a pop-up menu, checkboxes, or radio buttons. These lists can contain predefined values, or can be constructed dynamically based on the values in a particular field. They are an efficient way to enter frequently used values into your database.

Look at the sample value list

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

You should be here:FileMaker Pro 5 Trial\Tutorial\Sample Files.

3. Open Sample07.fp5.

4. Choose Layout #1 from the layout pop-up menu if it is not already selected.

5. Locate the Membership Type field on the current record. You see two radio buttons, one for New and one for Continuing. These correspond to the two choices in the Membership Types value list. Click one to enter the corresponding value in the field.

A value list with predefined values, displayed as radio buttons

Membership Type ⦿ New ○ Continuing

Define a value list

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Working Files folder.

You should be here:FileMaker Pro 5 Trial\Tutorial\Working Files.

3. Open MyFile07.fp5.

4. Choose Layout #1 from the layout pop-up menu if it is not already selected.

5. Choose File menu > Define Value Lists.

6. Click New.

7. Name the new value list by typing Membership Types.

8. Click into the large box and enter the values for this list, `New` and `Continuing`, by typing each value on its own line.
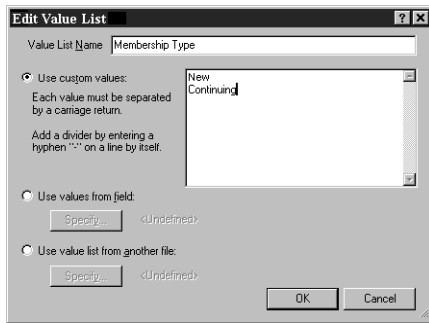
9. Click OK.

10. Click Done.

Assign a value list to a field and display it as radio buttons

1. Choose View menu > Layout Mode.
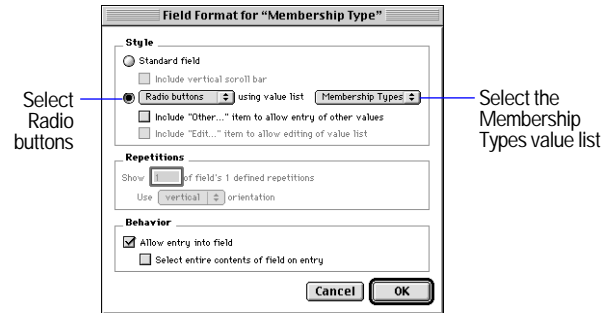
**2.** Select the Membership Type field.

3. Choose Format menu > Field Format.

4. In the Style area, click the triangle next to Pop-up list and select Radio buttons from the list.

5. Click the triangle button to the right of using value list and select Membership Types from the menu.

Select Radio buttons

Select the Membership Types value list

6. Click OK. Your radio buttons should be visible in Layout mode.

Membership Type field formatted as radio buttons
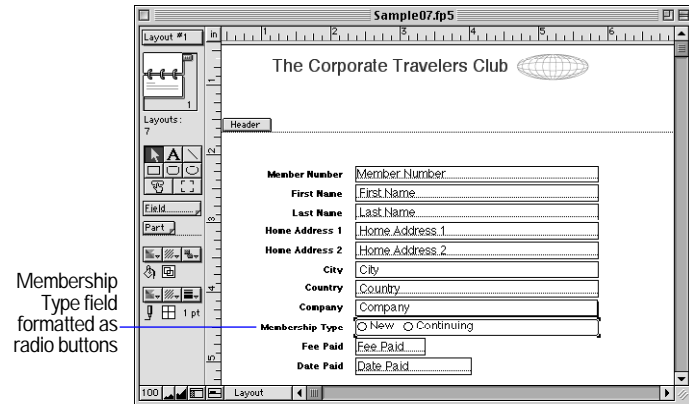
7. In Browse mode, test your value list and buttons by clicking them.

Generate values with a calculation field

When you want FileMaker Pro to perform a calculation for you, for example to determine the amount of tax owed or the proper fee to be paid, you use a *calculation field*. Calculation fields are one of the FileMaker Pro field types. FileMaker Pro can perform simple and complex calculations.

The calculation formula uses values from the current record or related records. The formula can use values from all field types. You can use calculations to return text values (for example, combining the contents of first name and last name fields into a full name field), dates, times, and the contents of container fields.

See how calculations speed data entry

Members of the Corporate Travelers Club pay an annual fee. New members pay a fee of $200, while continuing members pay $100.

The following steps show the calculation you are going to build. The calculation returns a membership renewal fee based on membership type.

1. Choose Window menu > Sample07.fp5.

2. Choose Layout #1 from the layout pop-up menu if it is not already selected.

3. Create a new record by choosing Records menu > New Record. Notice there's no data in the Renewal Fee field.

4. In the Membership Type field, click New. The Renewal Fee field indicates 200.

The Renewal Fee field is a calculation field.

5. In the Membership Type field, click Continuing. The value in Renewal Fee changes to 100.

6. Delete this record by choosing Records menu > Delete Record.

Deleting this record is necessary to set up a later part of this lesson.

7. Click Delete in the confirmation dialog box.

Create a calculation field

There are several different ways of formulating a calculation, each of which can yield the correct result. The following method uses an *If statement* to compare the data entered in the Membership Type field with one of the membership types. The calculation returns one of two results.
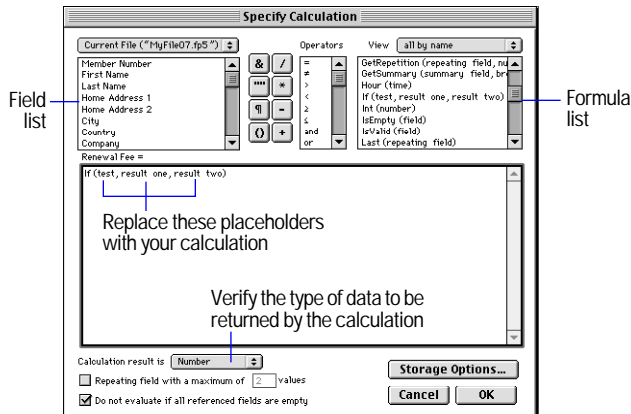
1. Choose MyFile07.fp5 from the Window menu.

2. Choose File menu > Define Fields.

3. For Field Name, type `Renewal Fee`.

**4**. For Type, click Calculation to make this a calculation field.
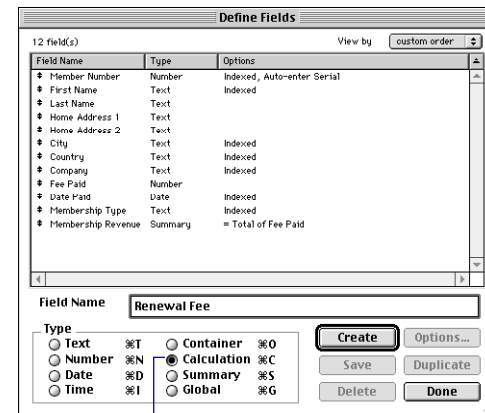
Click Calculation

5. Click Create.

The Specify Calculation dialog box appears.

6. Scroll through the list of formulas in the upper-right corner of the Specify Calculation dialog box until you locate If (test, result one, result two). Double-click this formula so that it appears in this dialog box.

This formula has three parts: a test, a result if the test evaluates as true (result one), and a result if the test evaluates as false (result two). You will replace the placeholders test, result one, and result two with the actual components of the calculation.

Field list

Formula list

Replace these placeholders with your calculation

Verify the type of data to be returned by the calculation

7. Select the placeholder test and type `Membership Type = "Continuing"` exactly as it appears here.

8. Select the placeholder result one, and type `100`.

9. Select the placeholder result two, and type `200`.

10. Make sure the calculation result is set to Number.

The completed calculation
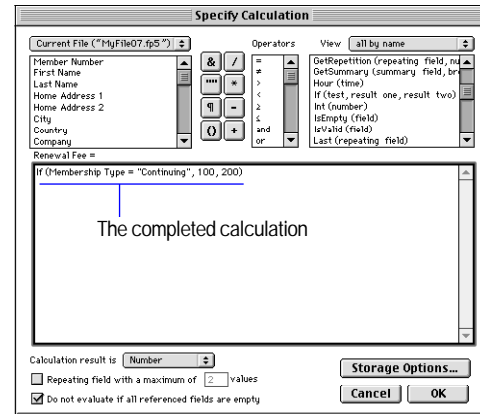
11. Click OK.

If you receive an error message, make sure that all spaces and punctuation are identical to the formula shown above.

12. Click Done.

The Renewal Fee field appears at the bottom of the layout. Depending on the size of your screen, you may need to scroll down to see it.

Your calculation formula is now complete. When data is entered in the Membership Type field, FileMaker Pro will compare it to the word we are testing for, "Continuing." The test is true if it matches this word, and the calculation will return your first result, 100. If it doesn't match, the test is false, and the second result is returned.

Test your calculation

To see if your calculation works, try changing the value in the Membership Type field to New, and notice the result in the Renewal Fee field—it should change as the membership type changes.

Automatically enter a serial number

FileMaker Pro lets you automatically enter certain types of data—for example, incremental numbers—when you create a new record.

## *Look at a serial number example*

1. Choose Window menu > Sample07.fp5.

2. Go to the last record in the database.

3. Locate the Member Number field, and note the current number of this record.

4. Create a new record by choosing Records menu > New Record.

The value in the Member Number field of the new record is increased by one.

Note If you did the first activity in this chapter, you will notice that the value in Member Number is 32, even though there are now 31 records in the Sample07.fp5 database. FileMaker Pro continues to increment serial numbers even if intervening records have been deleted, such as record 31 in this case.

Create a field for serial numbers

1. Choose Window menu > MyFile07.fp5.

2. Choose File menu > Define Fields.

3. For Field Name, type `Member Number`.

4. Select Number as the field type.

5. Click Create.

6. Click Options.

7. Select Serial number on the Auto-Enter tab. You don't need to change amounts for next value and increment by for this exercise.

Select Serial number
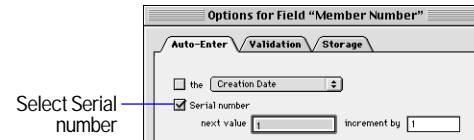
8. Click OK.

9. Click Done.

The new field appears at the bottom of the layout. (You might need to scroll down to see it.)

10. Test your new field entry option by choosing Records menu > New Record. Each time you create a new record, the value in the Member Number field increments by one.

To learn how to change the position of the new field, see lesson 5.

11. When you are finished with this lesson, close each open file by choosing File menu > Close.

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Lesson 8
Automating tasks with buttons and scripts

FileMaker Pro lets you automate many database tasks with buttons and scripts. These powerful features can save you a lot of time by performing a series of actions with a single click.

In this lesson you will:

- make and use a button to perform a task
- create and run a simple script to perform a multi-step task
- use a button to perform a script

Perform a task using a button

Look at a sample button

A *button* is an object on a layout that you can click to perform many FileMaker Pro commands. You can use a button to switch layouts in your database.

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

You should be here:FileMaker Pro 5 Trial\Tutorial\Sample Files.

3. Open Sample08.fp5.

4. Locate the button labeled Go to List of Members at the top of Layout #1.

5. Click the button. You should now be viewing the List of Members layout (as indicated by the layout pop-up menu).

Create the button

1. Open the Tutorial folder in the FileMaker Pro folder.

2. Open the Working Files folder.

You should be here: FileMaker Pro\Tutorial\Working Files.

3. Open MyFile08.fp5.

4. Choose Layout #1 from the layout pop-up menu if it is not already selected.

5. Select View menu > Layout Mode to switch to layout mode.

6. Click the button tool.

7. Draw the button at the top of the layout.
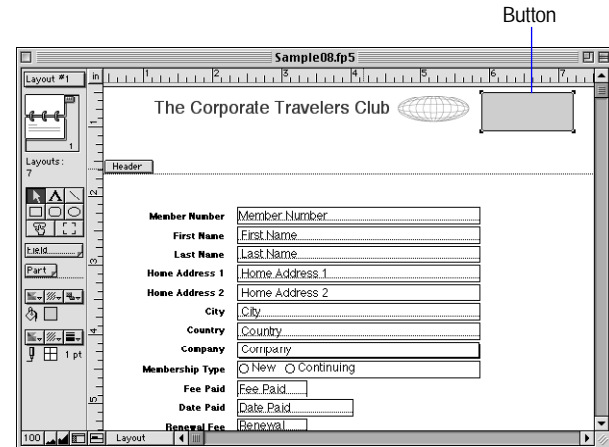
Button

8. In the Specify Button dialog box, select the Go to Layout command from the list.

9. In the Options area, select the List of Members layout.
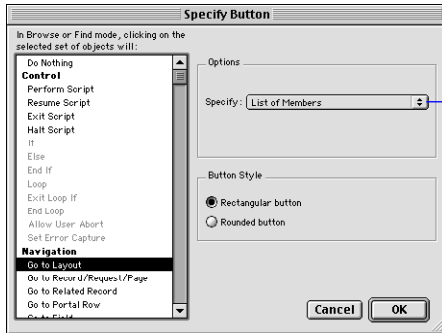
Specify the List of Members layout

10. Click OK.

11. Notice that the insertion point is now in the center of your button. Type Go to List of Members in your button to identify it.

12. Click outside the button.

If you need to move the button, select it and drag it to the desired location, as with any other layout element.

To test your button, go to Browse mode and click it. The button takes you to the List of Members layout.

Perform a series of tasks using a script

As you have just seen, you can use a button to perform a single command. To make FileMaker Pro perform a sequence of commands, use a script.

Run a script in the sample file

1. Choose Window menu > Sample08.fp5.

2. Choose Scripts menu > Preview Labels Layout.

You should now see the Labels layout, in Preview mode. This script lets you preview labels before you print.
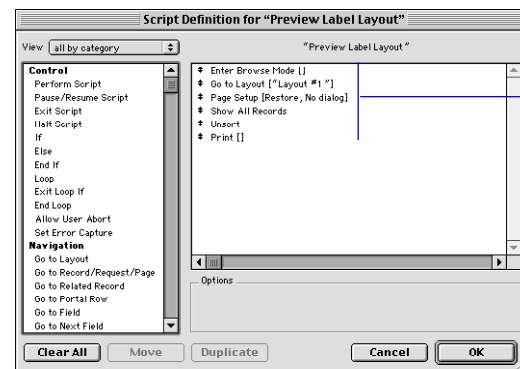
About scripts

A *script* lets you construct a series of instructions for FileMaker Pro to perform. Like buttons, scripts allow you to automate most of the FileMaker Pro menu commands, as well as activate some commands not found in the FileMaker Pro menu structure (such as Send Mail and Dial Phone). Simple scripts can perform a single task, while complex scripts might combine elements (such as user feedback and control) with programming techniques (such as branching and looping) to make powerful, dynamic instruction sets.

Create a script to preview the Labels Layout

1. Choose Window menu > MyFile08.fp5.

2. Choose Scripts menu > ScriptMaker.

3. In the Script Name text box, type Preview Labels Layout.

4. Click Create.

In the resulting Script Definition dialog box, notice that a script has been created, and that it includes some default script steps. All FileMaker Pro scripts are created with these same default script steps present. You will clear these default steps before adding your own steps to the script.

Delete these default script steps

5. Click Clear All.

6. Select the *Go to Layout* script step and click the *Move* button. (You can also select and move script steps by double-clicking them.)

7. In the Options area, select the Labels layout from the list of available layouts.
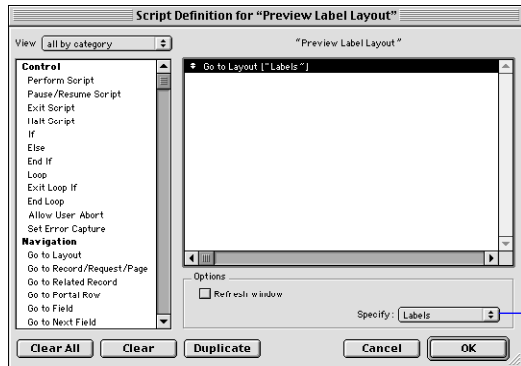

Specify the layout you want the script to go to

8. From the list on the left, scroll down and select the *Enter Preview Mode* script step, and move it over to your script.

9. With this script step selected, deselect the *Pause* checkbox in the Options area.

When you use a script to change modes, FileMaker Pro gives you the option of pausing the script. This can be useful if you require some input before continuing the script. In this instance, *Enter Preview Mode* is the last step of the script, so no user input is necessary.
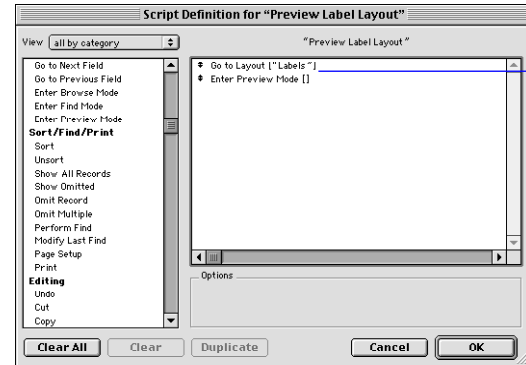
The finished script

10. Click OK, then click Done.

11. To run the script you have just created, choose Scripts menu > *Preview Labels Layout*. FileMaker Pro displays the Labels layout and switches to Preview mode.
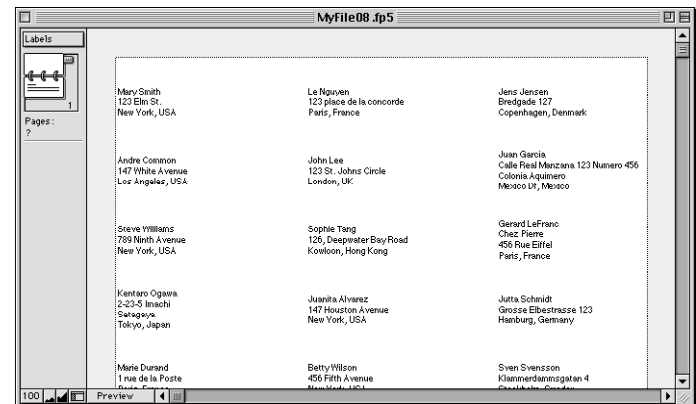
Assign a script to a button

While buttons are generally more convenient for users, scripts are a more powerful feature, allowing you to combine many menu commands into a single executable action. Using a button to run a script gives you the best of both features.

To assign the script you just created to a button:

1. In MyFile.08.fp5, choose Layout #1 from the layout pop-up menu.

2. Choose View menu > Layout Mode.

3. Double-click the button you created earlier in this lesson.

4. In the Specify Button dialog box, select the Perform Script script step from the top of the list on the left.

5. In the Options area, select Preview Labels Layout from the list of available scripts. Leave the rest of the default settings as they are.

If you have not already created this script, follow the steps described in "Create a script to preview the Labels Layout" on page 8-2.
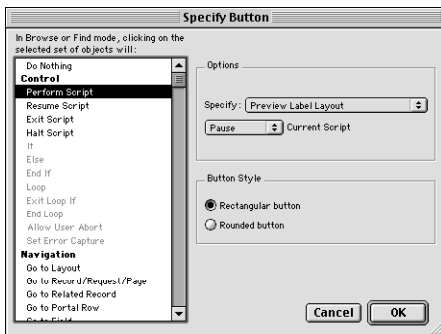
6. Click OK to save this button.

Rename the button

1. Click the text tool $\mathbf{A}$.

2. Click the button once. The text insertion point appears in the button.

3. Type Preview Labels Layout to rename this button.

Test the button

1. In Browse mode, test the button by clicking it.

Clicking this button performs the script, which displays the Labels layout and switches to Preview mode.

2. When you are finished with this lesson, close each open file by choosing File menu > Close.

Lesson 9
Creating and running reports

The process of retrieving and organizing data from a database is called *reporting*. *Summary reports* present just the totals of your data; they do not break information into smaller groups. *Subsummary reports*, also referred to as *reports with grouped data*, categorize information by a particular field or fields, allowing you to group information hierarchically. This subsummarized information can then be subtotaled, averaged, or counted.

In this lesson you will:

- generate a report with grouped data
- generate a report with grouped data and totals

Generate a report with grouped data

Look at a sample report

This example shows a report that groups the members by membership type. The report has been saved to a script.

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

You should be here:FileMaker Pro 5 Trial\Tutorial\Sample Files.

3. Open Sample09.fp5.

4. Choose Scripts menu > Membership Type Report to generate the membership type report.

5. Examine the resulting report.

First, notice that you are in Preview mode. Preview mode is necessary to view summarized data on the screen. Second, notice how the members are grouped by the membership type, and further alphabetized by last name within each of these categories.

6. Click the Continue button in the status area to complete the script and return to Layout #1.

About subsummary reports

A report with grouped data requires a number of elements to work properly.

Subsummary reports include:

■ a subsummary part in the report layout for each level of detail you want to break out. The New Layout/Report assistant creates these for you.

■ a field or fields to group records by. These fields are referred to as *break fields.*

■ records sorted by these break fields, in the order the subsummary parts appear on your report layout.

Create a subsummary report

To create the Membership Type Report:

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Working Files folder.

You should be here:FileMaker Pro 5 Trial\Tutorial\Working Files.

3. Open MyFile09.fp5.

4. In Layout mode, choose Layouts menu > New Layout/Report.

5. For Layout Name type `Membership Type Report.`

6. Select Columnar list/report for the new layout type and click Next.
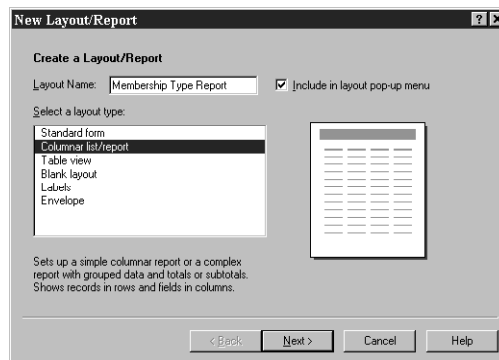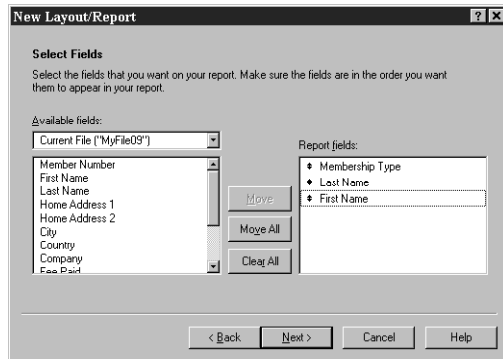

7. Select Report with grouped data, and click Next.
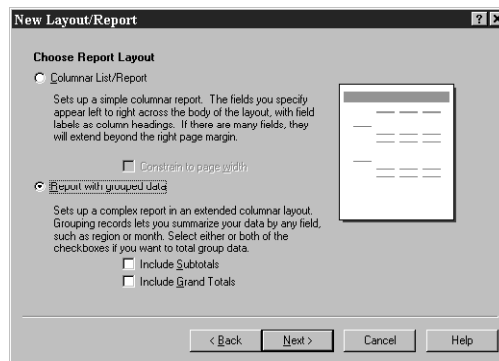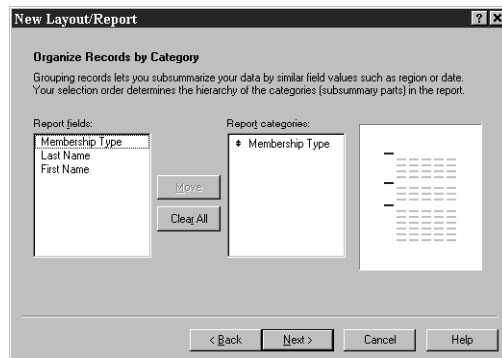

Select the fields used in this report

1. Double-click Membership Type, the first field to be used in this report, to move it to the Layout fields list.

2. Select and move the Last Name field.

3. Select and move the First Name field.

4. Click Next.

5. Move the Membership Type field to the Report categories list to organize the records by membership type.


Membership Type is referred to as a break field because you are using the contents of this field to break the records into categories for your report.

6. Click Next.

7. Move the Last Name field to the Sort order list.

This sorts the records in each group of membership types alphabetically by members' last names. Notice that the break field Membership Type appears automatically at the top of the Sort order list to enable FileMaker Pro to group records by this category.
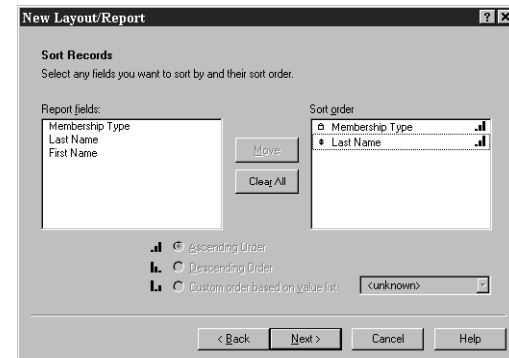
8. Click Next.

Select a theme and create the header and footer

1. Select the Standard theme to set the text size, color, and style of the finished report.

2. Click Next.

3. Go to the Top center list and select Large Custom Text.

4. Type `Membership Type Report` for the header of the report and click OK.

5. Go to the Bottom center list and select Page Number to number the pages in the report's footer.

6. Click Next.

Create a script to run this report again

1. Click Create a script.

2. Leave Script Name as it appears. Click Next.

3. Click View the report in Preview mode if it is not already selected.

4. Click Finish.

Your finished report should look like the report pictured on page 9-1.

Generate a report with grouped data and totals

Look at a sample report

This subsummary report:

- groups the members by membership type
- subtotals the fees collected for each membership type
- provides a grand total of these fees

1. To view the finished sample report, choose Window menu > Sample09.fp5.

2. Choose Scripts menu > Membership Fee Report to generate the membership fee report.

3. Examine the resulting report.

As in the previous example, the members are grouped by membership type. Additionally, the fees collected for each membership type are subtotaled beneath those members' names, and a grand total of all fees appears at the bottom of the report.

4. Click the Continue button to complete the script and return to Layout #1.

A report with grouped data and totals requires the same elements as a report with grouped data: a subsummary part in the report layout for each category, a field or fields to group records by, and a sort of the database by these fields.

Two additional elements are also required:

- a grand summary layout part
- summary field(s) to display totals, averages, or counts

Create a report with grouped data and totals

To create the Membership Fee Report:

1. Choose Window menu > MyFile09.fp5.

2. In Layout mode, choose Layouts menu > New Layout/Report.

3. For Layout Name, type `Membership Fee Report`.

4. Select Columnar list/report for the new layout type and click Next.

5. Select Report with grouped data and then select Include Subtotals and Include Grand Totals.
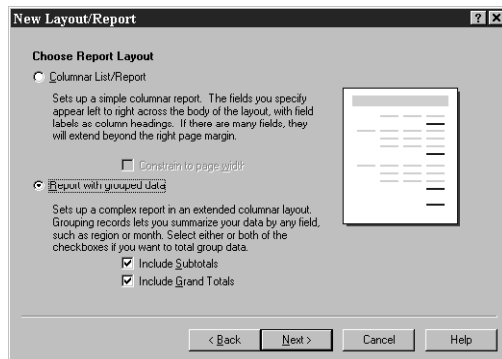
6. Click Next.

Select the fields used in this report

1. Select the first field to be used in this report, Membership Type, and move it to the Layout fields list.

2. Select and move the Last Name field.

3. Select and move the First Name field.

4. Select and move the Fee Paid field.

5. Click Next.

6. You want to organize the records by Membership Type. Move this field to the Report categories list.

7. Click Next.

8. Move the Last Name field to the Sort order list to sort the records in each group of membership types alphabetically by members' last names.

9. Click Next.

Specify subtotals and grand totals

A *summary field* is a type of field you can specify when you define fields. Summary fields allow calculations across all of the records in your found set. In general, when you need to total data across a number of records, you must use a summary field.

In the Membership Fee Report, you want to see subtotals for fees paid by each type of member, New and Continuing, and to see a grand total of both groups' fees at the end of the report. To accomplish this, you will need to specify subtotal and grand total summary fields in the New Layout/Report Assistant.

The summary field you will use is Membership Revenue, which has already been defined for you. Membership Revenue totals the fees entered in the Fee Paid field.

1. Click Add Subtotal to add the Membership Revenue field as the subtotal. This tells FileMaker Pro to create a subtotal of membership fees paid beneath each membership category.

2. Click Next.
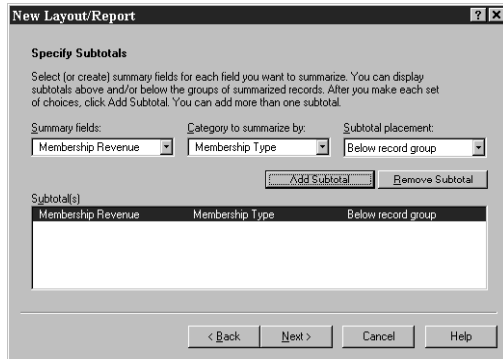
3. Click Add Grand Total to add the Membership Revenue field as the grand total at the end of the report. This tells FileMaker Pro to create a grand total of membership fees.
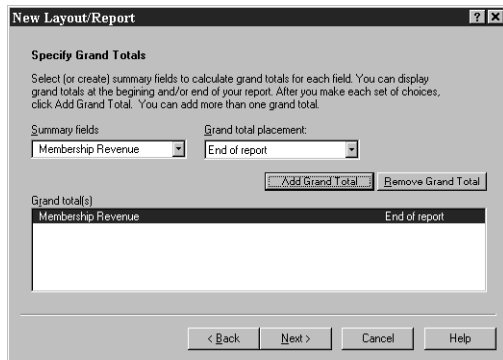
4. Click Next.

Select a theme and create the header and footer

1. Select the Standard theme to set the text size, color, and style of the finished report.

2. Click Next.

3. Go to the Top center list and select Large Custom Text.

4. Type Membership Fee Report for the header of the report and click OK.

5. Go to the Bottom center list and select Page Number to number the pages in the report's footer.

6. Click Next.

Create a script to run this report again

1. Click Create a script.

2. Leave Script Name as it appears. Click Next.

3. Click View the report in Preview mode if it is not already selected.

4. Click Finish.

Your finished report should look like the report pictured on page 9-4.

5. When you are finished with this lesson, close each open file by choosing File menu > Close.

Lesson 10
Making databases relational

Relational databases let you easily view relationships between files and streamline data entry. You can enter data once, then view and use that data in related files.

In this lesson, you will:

- see how relational databases work
- define a relationship
- display data from one related record
- display a list of related records

The sample files in this lesson are a Members file with records for individual Corporate Travelers Club members, and a Companies file for companies where these members work. Each company has many members.

View data from one related record

See how relationships work in the sample files

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

3. Open the Sample10 folder.

You should be here:
FileMaker Pro 5 Trial\Tutorial\Sample Files\Sample10.

4. Open Companies10.fp5 and browse through the records.

You see one record for each of the three companies that has members in the Corporate Travelers Club.

5. Open Members10.fp5 and browse through the records.

6. In Members10.fp5, create a new record for `Jane Doe`.

7. For Company, choose `ABC Company`.

> First Name   Jane
> Last Name   Doe
> Company   ABC Company

8. Notice that the address for ABC Company automatically appears.

> First Name   Jane
> Last Name   Doe
> Company   ABC Company
>
> Company Address   345 Industrial Park Blvd.
> Chicago
> USA

About related files

Companies10.fp5 and Members10.fp5 are related files.

When you enter a company name in a record in the Members file, FileMaker Pro identifies the record for that company in the Companies file. FileMaker Pro then displays the address from this matching company record in the Members file.

How does this happen? The Members file has a *relationship* to the Companies file that is based on matching data in the Company field in both files. The Company field is the *match field*. The Members file displays the company address using *related fields* based on this relationship.

You will learn both parts of this process: how to define the relationship and how to display data using the relationship.

Exit or Quit FileMaker Pro to close both files before continuing.

Display a related record in a file

Define a relationship to another file

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Working Files folder.

3. Open the MyFiles10 folder.

You should be here:
FileMaker Pro 5 Trial\Tutorial\Working Files\MyFiles10.

MyMembers10.fp5 and MyCompanies10.fp5 are the same as the sample files, but without the relational structures. You will build these structures now.

4. Open MyMembers10.fp5.

5. Choose File menu > Define Relationships.

6. Click New, navigate to the MyFiles10 folder in the Working Files folder, and double-click MyCompanies10.fp5.

7. In the Edit Relationship dialog box, select the Company field in the left column, and the ::Company field in the right column.

Fields in the file you are working in (MyMembers10.fp5) are on the left. Fields in the file you want to see data from (MyCompanies10.fp5) are on the right.

8. Notice that the relationship name defaults to the name of the related file: MyCompanies10.
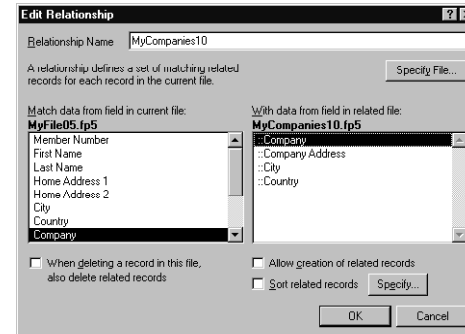
9. Click OK, then click Done.

Display data from a related record

Once you've defined the relationship, set up the layout to display data using that relationship. Here, you want to display the company address.

1. In MyMembers10.fp5, choose View menu > Layout Mode.

2. Using the Field tool [Field], drag a field onto the layout.

You see a list of fields in this file.

3. In the Specify Field dialog box, click Current File ("MyMembers10.fp5") and choose the MyCompanies10 relationship from the list.

You now see a list of the fields in the related file MyCompanies10.fp5. The colons (::) before each field name show that these are related fields, not fields defined in the file you are currently working in. These related fields will display data from the related file.

Choose the relationship to display fields from the related file

4. Click ::Company Address, then click OK.

5. Repeat steps 2-4 for City and Country.

6. Move the fields if necessary, and make the fields large enough to display all the data they contain. The fields should look like this:

7. Choose View menu > Browse Mode and flip through the records to view company addresses from the MyCompanies file in the MyMembers file.

8. When you are finished, Exit or Quit FileMaker Pro to close all files before continuing.

View data from a list of related records

Suppose you want to show all club members for each company. You also want to add new members to the Members file without entering the company name for each.

Work with related records in the sample files

View a list of related records

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Sample Files folder.

3. Open the Sample10 folder.

You should be here:
FileMaker Pro 5 Trial\Tutorial\Sample Files\Sample10.

4. Open Companies10.fp5.

5. Browse through the records.

You see a list of members at each company. They are all individuals in the Members file.

Add to the list

1. Go to the ABC Company record.

2. Add a new member by clicking the first empty line under First Name.

Displays a list of members from the related file

Click here to enter a new member for this company

3. Type Joe, then press Tab and type Williams in the last name field.

View the new record in the related file

1. Open Members10.fp5.

2. In Members10.fp5, go to the last record.

You see Joe Williams' record, with the company information filled in. You automatically created this record when you typed Joe Williams into the list in the Companies file.

Add a new record and view it in the list

1. In Members10.fp5, create a record for a new member who works at ABC Company.

2. Now return to Companies10.fp5 and look at the ABC Company record.

You see the new member in the list (scroll down if necessary).

About working with lists of related records

In the "View data from one related record" on page 10-1, a relationship in the Members file displays data (company addresses) from the Companies file. Here, a relationship in the Companies file displays data (member names) from the Members file.

Both relationships use the same match field, Company, but this time, there is more than one matching record in the related file because there is more than one member from each company. A *portal* in the Companies file displays the members for each company.

When you added Joe Williams to the list of members who work at ABC Company, the relationship automatically created a record for Joe Williams in the Members file. ABC Company is automatically entered into the match field because the name was added to the portal of the ABC Company record.

A new member added to the Members file automatically appears at the end of the members list in the matching company record in the Companies file.

Exit or Quit FileMaker Pro to close all open files.

Display a list of related records

### Create a portal to display matching records

1. Open the Tutorial folder in theFileMaker Pro 5 Trial folder.

2. Open the Working Files folder.

3. Open the MyFiles10 folder.

You should be here:
FileMaker Pro 5 Trial\Tutorial\Working Files\MyFiles10.

4. Open MyCompanies10.fp5.

A relationship must always be defined before you can display data from related records. The relationship to MyMembers10.fp5 has already been defined for you, using the process described in "Define a relationship to another file" on page 10-2.

5. To view the relationship, choose File menu > Define Relationships, select the relationship (MyMembers10), and click Edit.

6. Notice that Allow creation of related records is selected. This lets you add a name to the list.

7. Click OK, then click Done.

8. Choose View menu > Layout Mode.

9. Click the portal tool and draw a box to hold the list of names [ ].

10. In the Portal Setup dialog box, show records from the MyMembers10 relationship.

11. Show 7 rows in the portal.

Each row displays one matching member record.

12. Select Show vertical scroll bar.

13. Click OK.

Arrange the fields in the portal

1. Make the first portal row (the white part at the top of the portal) tall enough to hold a field.

2. Using the Field tool `Field`, drag a field into the first portal row.

3. Select the ::First Name field and click OK.

4. Drag another field beside ::First Name and specify ::Last Name.

5. Move the First Name and Last Name field labels above the portal, above their respective fields.

The portal should look like this when you are done.
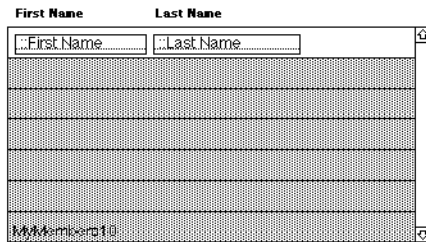
6. Choose View menu > Browse Mode to view your list of members.

7. Test your new structure: type the name of a new member at ABC Company, then look to see if it appears in MyMembers10.fp5 (it will be the last record).

8. When you are finished with this lesson, Exit or Quit FileMaker Pro to close all open files.

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Lesson 11
Keeping your data safe

Power failures, disk problems, and other unexpected computer problems can happen to anyone at any time. To help prevent data loss, regularly back up all important documents on your computer, including your databases.

In this lesson you will learn:

- how and when to back up your database
- where to learn about other ways to protect your files

How to back up your database

There are many ways to back up a file. This is one way.

1. Determine the size of the database.

Windows: Right-click the icon for the file, then choose Properties.

Mac OS: Click the icon for the file, then choose File menu > Get Info.

2. Identify a disk or volume that has enough available space for a copy of the database.

3. Open the database you want to back up.

4. Choose File menu > Save a copy as.

Select the disk and folder where you want to save your copy

Accept the default filename for your copy, or change the name

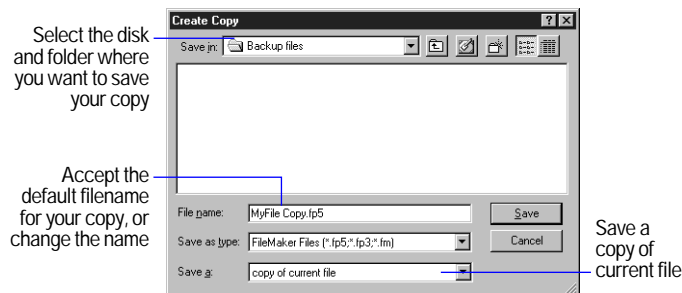Save a copy of current file

5. Click Save.

Important Next time, back up to a *different* disk or volume. Never back up over the only or most recent copy of your file. You should have several different backups at all times.

When to back up

You should back up:

- as often as necessary to be sure you can restore all of your data in an emergency.
- before you make a major or irreversible change like deleting records, deleting a field from Define Fields, or replacing data using the Import or Replace features.

Remember, it takes far less time to back up a file than it does to recreate a lost or damaged file!

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