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Introduction

PuzzLex is a program designed to solve a variety of word problems, and was initially designed to find solutions to those last few crossword clues that you cannot solve.

It works by taking an incomplete word and finding all the possible words that are valid matches to the supplied pattern. At its simplest level you enter the word in the FIND FIELD: representing any unknown letters with a ?. When you press the SEARCH key PuzzLex will find the matches.

From this simple beginning PuzzLex has developed to solve a wide range of problems including: Incomplete Words, Anagrams, Multiple Word Anagrams and Countdown. Each of these types of problems are described in turn and can be accessed from the Contents page.

I hope that you enjoy using PuzzLex and if you have any comments positive or negative then please drop me a line.

Neville Bentley 1995

Registration

PuzzLex is distributed as Shareware.

You are free to evaluate the shareware software for a period of 30 days. If after that time you wish to continue using it you should register your copy.

Registration will give you the following benefits:

1   The latest version of PuzzLex.
2   The ability to search for words of up to 15 characters in length.
3   An internal lexicon of over 130,000 words. A lexicon of US spellings may be specified on the registration form in place of the normal UK spellings.
4   News of upgrades.
5   No more reminders about Registration when you exit the program.

How to Register

Compuserve Members
If you are a member of Compuserve you can register directly by going SWREG and ordering product 7186

UK Registrations
Fill in the Registration form at the bottom of this page and send it with a cheque or Postal Order for £15.00

Overseas Registrations
Fill in the Registration Form and send it with one of the following payment methods.

1   International Money Order
2   Cheques Drawn in UK Pounds Sterling
3   Cash
    If you choose to pay by cash please send it by some form of registered post in case of non-delivery. I trust you to apply the appropriate exchange rate and to add 15% to cover exchange charges.

Registration Form
Registration Form

PuzzLex Registration Form

Print Form

Please print out this form by selecting the Print Form button above and send to:

Mr N Bentley
38 Hammersley Street
Birches Head
Stoke-on-Trent
ST1 6LW
United Kingdom

PuzzLex is priced at £15.00 per copy.

If paying in currrency other than UK Pounds please add 15% to cover costs of exchange.

Please register me for the full and latest version of PuzzLex.

```
Name:

Address:




Telephone:
```

```
Where did you obtain your copy of PuzzLex?

```

```
Amount Enclosed:
```

PuzzLex is distributed with UK word spellings. If you would prefer US spellings please tick the box below

```
US Spellings
```

Thankyou for registering PuzzLex.

Finding an Incomplete Word

PuzzLex is extremely powerful at solving incomplete word problems that are the basis of most crossword puzzles.

Suppose that you have a nine letter word of which you know that the:

first letter is 'c'
fifth letter is 's'
and the last letter is 'd'

To get PuzzLex to search for all words that match this word pattern you simple type the word into the FIND field on the Search Definition Dialog representing any unknown letters with a '?' . In this example you would enter:

c???s???d

Now press the SEARCH key and wait while PuzzLex finds the matches which will be displayed in the Results Dialog.

Using the From Field
Using the Include Field
Using the Exclude Field

Using the From Field

This field allows you to provide a list of letters that PuzzLex will restrict itself to when trying to find matches for your FIND pattern. If nothing is entered here then PuzzLex can use any letters to find words that match the FIND word pattern.

Example

Suppose you have been presented with that old problem of:

"What is the longest word you can find using only the first row of keys on the keyboard?".

The following search definition instructs PuzzLex to FIND all words of five letters or more which can be made using the letters in the FROM field.

```
FIND:                   5*
FROM:                   qwertyuiop
USE ALL FROM LETTERS:
```

Note: Do Not mark the USE ALL FROM LETTERS checkbox as this would tell PuzzLex to find only those words that use ALL the letters. ie 10 letter words.

Pressing the SEARCH button will cause PuzzLex to list a number of solutions to this problem the largest of which is: wipeout

If you know this problem you will realise that this is not the correct answer. PuzzLex has restricted itself to using the letters only once. To obtain the correct solution change the FROM field to uppercase:

QWERTYUIOP

The use of uppercase characters in the FROM field instructs PuzzLex that it is free to reuse those characters. If the search is run again PuzzLex presents a number of 10 letter words one of which is typewriter. The correct answer.

Using the Include Field

Allows you to specify letters that must be included in a word for it to be considered a successful match to the FIND pattern.

Example 1

Some puzzles require you to supply a list of words that can be made from a given number of letters but which must contain a specific letter(s).

```
FIND:     ????*
FROM:     fgoiblenu
INCLUDE:  b
```

The example above will list all words of 4 or more letters containing a 'b' that can be made using the letters provided in the FROM field.

Example 2

To find all words that contain ALL the vowels enter the following search definition:

```
FIND:     *
INCLUDE:  aeiou
```

Using the Exclude Field

This field is the opposite of the INCLUDE field and permits you to exclude all words containing the specified letter or letters.

Example

How many words can you think of that do not include any of the vowels: aeiou? To solve this problem enter the following search definition:

```
FIND:           *
EXCLUDE:    aeiou
```

After you press the SEARCH key PuzzLex will return all the matching words that DO NOT contain any of the vowels'.

Anagrams

An <u>anagram</u> is a   word or phrase, the letters of which can be rearranged into another word or phrase. For instance garden is an anagram of danger.

 PuzzLex is able to solve a range of anagram type problems including:

[Single Word Anagrams](#)
[Incomplete Single Word Anagrams](#)
[Multiple Word Anagrams](#)

Single Word Anagram

Suppose you are presented with the letters ragden from which you need to find all possible anagrams. In the FIND field enter 6 or ??????   indicating a word of six characters. Now enter the characters "ragden" in the FROM field.

```
FIND:     6
FROM:     ragden
```

This search is telling PuzzLex to FIND all 6 letter words that can be made FROM the letters "ragden" . Pressing the SEARCH key will now cause PuzzLex to display the results of the search:

    danger
    gander
    garden
    ranged

Your FIND pattern does not have to be completely unknown. If in the above example you knew that the word you were looking for ended in an 'n' then you would enter 5n in the FIND field and "ragden" into the FROM field.

```
FIND:     5n
FROM:     ragden
```

This SEARCH is telling PuzzLex to find all 6 letter words that end in an 'n' that can be made FROM the letters "ragden. Presing the Search key will display the results:

    garden

Incomplete Single Word Anagrams

Suppose you are faced with the following anagram problem. You need to find a seven letter word but only have   6 letters to work with "DSEALE". The information to solve the anagram is incomplete. PuzzLex is able to solve this problem quite simply.

In the FIND field enter the pattern '7' for a seven letter word. However in this case we cannot use the FROM field because that would lead to an invalid set of search criteria. We would be asking PuzzLex to find a 7 letter word from 6 letters. Instead we will enter the 6 known letters into the INCLUDE field.

This search criteria tells Puzzlex to find all 7 letter words that include the 6 letters we have specified in the INCLUDE field.   Pressing the SEARCH key will produce a number of 7 letter words that solve the problem.

Multiple Word Anagrams

A multiple word <u>anagram</u> is similar to a normal anagram except that the solution consists of more than one word. PuzzLex offers a flexible and powerful approach to solving these types of problems.

A multiple word anagram of "Margaret Thatcher" is "That Great Charmer"

[A Simple Example](#)
[Using the USE ALL FROM LETTERS Check Box](#)
[Using the SUPPRESS PERMUTATIONS Check Box](#)
[Using the FIND ALL Wildcard !](#)
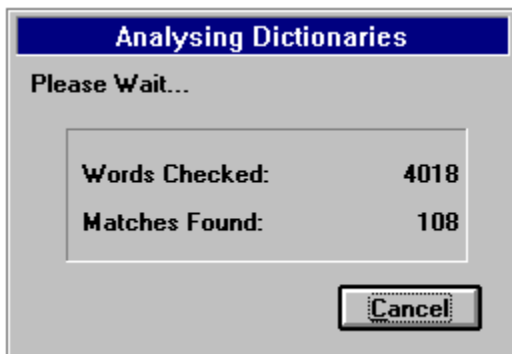[Tips](#)

A Simple Example

Suppose you had the following crossword clue:

> erect smartish breaks festive shrub 9,4

The solution is an <u>anagram</u> of 'erect smartish' as indicated by the word 'breaks'. Looking at your crossword grid suppose you have the following entry for this clue:

> ?h??s????   ??e?

To solve the problem using PuzzLex first enter the required pattern into the FIND field. Separate each <u>word pattern</u> by a space. Using the above example your pattern would be: '?h??s????   ??e?'. Now enter in the FROM Field the letters you believe make up the anagram: 'erectsmartish'. Now start the search by pressing the Search button.

A small window will appear asking you to wait while PuzzLex analyses its dictionaries. When this is completed the search will begin in earnest and the possible solutions to the problem will be displayed, each of which is an anagram of the letters "erectsmartish"

christmas reet
christmas tree

The correct answer, is of course, christmas tree.

Use all FROM

When this checkbox is marked PuzzLex will only display solutions that use ALL the letters in the FROM field. This is true of both single and multiple word type searches.

Consider the following:

```
FIND:    * *
FROM:    onetwo
```

If the USE ALL FROM LETTERS checkbox is NOT marked then this search criteria tells PuzzLex to find all combinations of two words that can be found in the FROM characters but NOT necessarily using ALL the letters. If you press SEARCH then amongst many solutions you will see is 'no to'. This satisfies the pattern which specifies two words of zero or more letters and 'no to' can be found in the FROM letters. However if you now mark the USE ALL FROM LETTERS field and repeat the search 'no to' is not returned as a solution because it did not use ALL the FROM, instead all the solutions contain a total of 6 letters.

Suppress Permutations

When this checkbox is marked PuzzLex will NOT display permutations of solutions.

Example

Consider the following search definition:

```
FIND:                  *  *
FROM:                  onetwo
USE ALL FROM LETTERS:   X
SUPPRESS PERMUTATIONS:
```

With the SUPRESS PERMUTIONS checkbox NOT marked the results of this search show a number of solutions including:

one two
two one

This is effectively the same solution but with the sequence of the words being different. If the SUPPRESS PERMUTATIONS checkbox is now marked and the search repeated. Only one occurance of this solution is returned:

one two

The use of this option is useful to reduce the amount of solutions returned by PuzzLex and to speed up the time taken to complete the search.

Allows you to define the <u>word pattern</u> for which PuzzLex will attempt to find matching words. You may enter any alphabetic characters, wild card characters (such as ?*!) and digits.

Digits will be interpreted as a sequence of consequtive ?s. For example an entry of "t4s" would be interpreted by PuzzLex as "t????s"

Tips For Multiple Word Searches

- Use the SUPPRESS PERMUTATIONS: facility as this will limit the number of solutions displayed and speed up the time the search takes.

- Applying the ! wildcard to people's names can provide some very amusing results but these searches can be lengthy. If this is so try searching for a specific number of words. To find all 3 word solutions enter * * * in the FIND field.

    or

    Perform a search using a single * to get a list of all the single words that can be found in that person's name, remember NOT to have the USE ALL FROM LETTERS checkbox marked. You can then select any particularly amusing words and use these to narrow down the search by entering this word before the ! wildcard in the FIND field.

- If a search is proving lengthy minimize it to run in the background and start up another version of PuzzLex to solve other problems.

CountDown

This is a Quiz Show which has been running on British TV (Channel 4) for over a decade now. It consists of a simple format in which two contestants compete by answering Word and Maths problems. The Word problems require the contestants to find the longest word they can from 9 letters.

Using PuzzLex to Solve Countdown

In your PATTERN FIELD enter the pattern 5* to find all words of 5 or more letters in length.

In your FROM FIELD enter the 9 letters.

Pressing the SEARCH key will return a list of words that can be made from the 9 letters you were given.

NB: Ensure that the USE ALL FROM LETTERS FIELD is not marked

Adding Your Own Words to PuzzLex

PuzzLex allows you to add additional words to its dictionary by selecting the   New Word button from the opening <u>Search Definition Dialog</u>. When selected you are presented with a dialog that allows you to enter the word to be added. Simply type in the new word and press the Add Word button, the word will now be used by PuzzLex in all future searches. If the word is already included in any of PuzzLex's   dictionaries you will be warned of the fact and the word will not be added.

Any words added using this facility are actually added to a supplementary file called puzzlex.usr in your PuzzLex directory. This file is in simple <u>ASCII</u> format and can be viewed and edited with most editors or word processors. I do not recommend that you alter the order in which words are stored in this file but you may remove any words that have been added incorrectly.

Background Searches

When executing a search that is taking a long time to complete you might prefer to get on with some other work while PuzzLex performs its search. You could do this by simply running up another program. This will work fine but you may find that the time your computer is giving to PuzzLex affects the other applications you are using. This will be particularly true of slower PCs.

If you minimise PuzzLex the search will be performed in a more friendly manner as PuzzLex makes more processing time available to other applications.

When minimised the PuzzLex icon will display Searching and the number of matches found.

Once the search has been completed the icon will display the word Done and the number of matches found.

Double clicking on the PuzzLex icon will restore PuzzLex to its normal size and running priority.

Saving Your Results

Once your search has completed and the results displayed in the <u>Results Dialog</u> you can save them in either of two formats by selecting the SAVE button or the SAVE <u>ASCII</u> button.

Save

Saves your results and search definition in PuzzLex format. After selecting this facility you will be presented with a typical Windows 'save file' dialog. This allows you to navigate around your system to select the disc and directory where you wish to save the results file. If you do not provide a file type in the name PuzzLex will add the default of pzl. Results saved using this option can be reloaded using the VIEW button on the <u>Search Definition Dialog</u>.

Save ASCII

Saves your results in plain ASCII format readable by most Word Processors and Text Editors. After selecting this facility you will be presented with a typical Windows 'save file' dialog. This allows you to navigate around your system to select the disc and directory where you wish to save the results file. If you do not provide a file type in the name PuzzLex will add the default of asc.

Search Definition Dialog

Allows you to set your search definition. Click on an area of the dialog for more information.
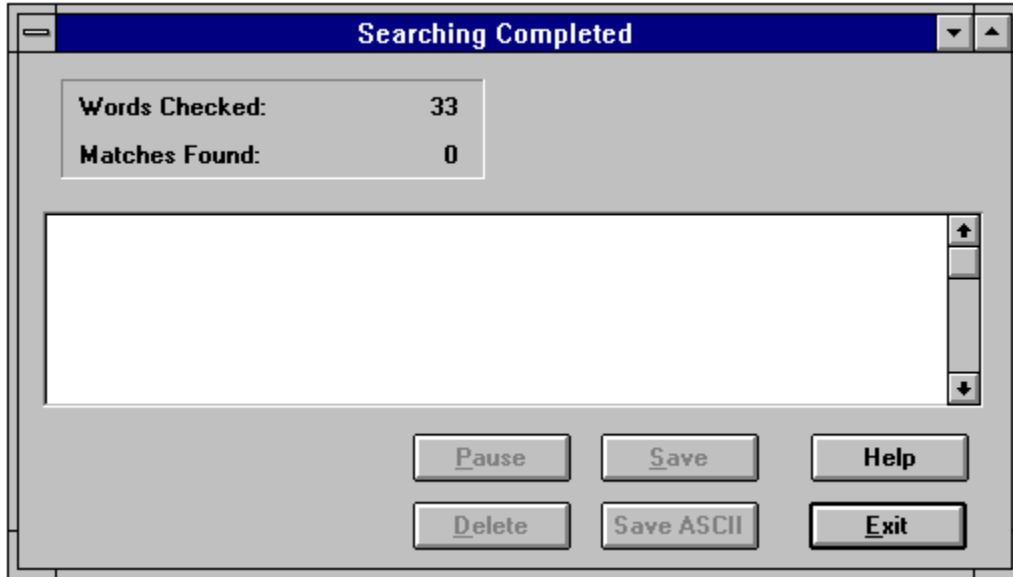
PuzzLex for Windows

Find

From

Include

Exclude

View

New Word

Clear All

☒ **Use All FROM Letters**

☐ Suppress Permutations

Search   Exit   Help

Results Dialog

This dialog is displayed once the search has been started. When the search has been completed or paused the results will be displayed in the listbox.

Searching Completed		
Words Checked:	33	
Matches Found:	0	

Pause   Save   Help

Delete   Save ASCII   Exit

Wild Cards

PuzzLex supports 3 types of <u>wildcard</u> characters: ?, * and   !

?

The ? is used to represent a single unknown character. A number of consequetive ?s can be represented in shorthand with a digit. For instance entering the number 5 in the FIND field would interpreted by PuzzLex as "?????"

*

The * is used to represent zero or more characters. Entering t* woud tell puzzlex to find all words beginning with the letter 't'. Entering a FIND pattern of *A*E*I*O*U* would tell PuzzLex to find all words that contain the vowels in alphabetic order.

!

The ! is used in multiple word searches. ! tells PuzzLex to find all the possible combinations of words that can be made from the letters supplied in the FROM field. If you specified a FIND field of ! and a FROM field of garden, PuzzLex would find a number of solutions including:

an dreg
den rag
end   rag
red nag
ranged

and several others.

PuzzLex INI File

When you first run PuzzLex a configuration file will be created in the PuzzLex directory PUZZLEX.INI. This file contains one setting to set the default directory for saved results files.

PATH=.\files

When you select   either the SAVE or SAVE ASCII buttons from the Results Dialog the Save File Dialog will start at this directory.

By default this directory will be a subdirectory of the PuzzLex directory called FILES. If this is not to your liking you can change this entry using any text editor.

Dictionary

PuzzLex has an extensive list of words which it uses to find solutions to your Search Definition. These words comprise the Main Dictionary held in the file MASTER.LEX. The words in this file are compressed and indexed to conserve space and ensure that searches are completed in as little time as possible.

PuzzLex's dictionary is a list of words it does NOT contain definitions.

You can add your own words to PuzzLex by using the Add New Word button on the Search Definition Dialog. These words will be stored in a supplementary dictionary called PUZZLEX.USR.

The words in the dictionary are drawn from a number of different sources. You may not find all the words in all dictionaries. If you are using PuzzLex to solve prize competitions ALWAYS check your answers against the dictionary specified in the competition rules.

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Pressing this button will clear all the search criteria fields and default the FIND field to '*'.

Delete a PuzzLex results file created using the SAVE button.

This field is the opposite of the INCLUDE field and permits you to exclude all words containing the specified letter or letters.

Exits this Dialog

The Find All Wild Card   !

This <u>wildcard</u> is exclusively for use with multiple word searches. Where the two other wildcards (* ?) supported by PuzzLex are used to represent unknown letters the ! is used to represent a number of words.

When used in the FIND field it tells PuzzLex to find all the possible combinations of words that can be made from the letters in the FROM field.   If this wildcard is used PuzzLex assumes that it is to use ALL the characters in the FROM field even if the USE ALL FROM LETTERS checkbox has not been marked.

Any pattern details entered after the ! wildcard in the FIND field will be ignored by PuzzLex, but you can enter details before using it.

Example 1

```
FIND:     !
FROM:     onetwo
```

This search definition will list al lthe combinations of words that can be made using all the letters in the FROM field.

Example 2

```
FIND:     t* !
FROM:     onetwo
```

Will find a word beginning with t then all combinations of words that can be made from the remaining letters

Example 3

```
FIND:     ! t*
FROM:     onetwo
```

Because you have defined part of your FIND pattern after the ! wildcard PuzzLex will warn you that it will ignore this informaton and use only the !. This search will be treated exactly as Example 1.

The FROM field allows you to enter a number of letters that PuzzLex must restrict itself to when matching the pattern specified in the FIND field.

When solving single word problems the case of the letters is significant. A letter entered in lower case may only be used once but a letter entered in upper case may be used repeatedly.

Display this Help page.

Allows you to specify letters that must be included in a word for it to be considered a successful match to the FIND pattern.

Displays the number of solutions currently found to the search criteria.

Allows you to add a word to the PuzzLex supplemenatry dictionary.

Temporarily pause the current Search to allow the results found so far to be viewed. Once Pause has been selected the button's caption will change to RESUME, pressing this button will allow the search to continue.

This listbox displays the solutions to the search criteria once the search has completed or has been paused.

Save the results to a file in plain <u>ASCII</u> format. This will allow the results to be opened by any text editor or Word Processor

Prompts you to select a file in which to save the results of this search. A file saved in this way can be viewed by selecting the VIEW button from the SEARCH dialog.

Pressing this button will start the search.

When this checkbox is marked PuzzLex will not display permutations of solutions.

When this checkbox is marked PuzzLex will only display solutions that use ALL the letters in the FROM field. This is true of both single and multiple word type searches.

Opens the view dialog which allows you to load the results from a previous search saved using the SAVE button on the Results Dialog.

Displays the number of words PuzzLex has examined in trying to solve the current search.

anagram

A word or phrase the letters of which make up another word or phrase.   GARDEN is an anagram of DANGER

ASCII

American standard code for information interchange: a computer code for representing alphanumeric characters.

EXCLUDE:

This field is the converse of the INCLUDE: field and permits you to exclude all words containing the specified letter or letters.

FIND:

Allows you to define the word pattern for which PuzzLex will attempt to find matching words. You may enter any alphabetic characters, wild card characters (such as ?*!) and digits.

Digits will be interpreted as a sequence of consecutive ?s. For example a FIND field of "t4s" would be interpreted by PuzzLex as "t????s"

FROM:

Allows you to enter a number of letters that PuzzLex must restrict itself to when matching the pattern specified in the FIND field.

When solving single word problems the case of the letters is significant. A letter entered in lower case may only be used once but a letter entered in upper case may be used repeatedly.

INCLUDE:

Allows you to specify letters that must be included in a word for it to be considered a successful match for the search definition.

wildcard

A special character that represents a number of unknown letters. PuzzLex supports three wildcards: ?*
and !.

word pattern

A pattern that represents one or more incomplete words. ?el?o is a pattern for: hello and cello