

Cross Word Grid

Due Date:

This assignment is due Wednesday 2008-03-31.

Purpose:

To become familiar with the `javax.swing.*` architecture for using `Graphics` to produce graphical output.

Reading Assignment:

Read Chapter 14 of the textbook before attempting this assignment.

Cross Word Grid

Write a “cross-word” generating program that takes input similar to that shown in Figure ??, and produces output similar to that shown in Figure ??.

The program should read from an input file and produce a GUI.

The format of the input file is illustrated in Figure ?. The first two lines of an input file are numbers: the first number is the number of rows (r) in the crossword and the second number is the number of columns (c). After that come r lines of text, each line containing exactly c -characters. The last r lines of text consist only of alphabetic characters, all of which are either lower-case or capital 'X'.

The format of the output GUI is illustrated in Figure ?. It consists, at least conceptually, of three components.

The first component is an $r \times c$ grid of squares that are either black or white. Xs on the input are represented by black squares on the output. Other characters are drawn in white squares in uppercase. White squares have a small number in the top-left corner if they are the beginning of either a horizontal or vertical word. (It is possible that they may be both. See the square numbered 4 in the example.) One-letter words are ignored (in the example, the A in the top row is not considered a vertical word).

The large letters should be centered if possible. (See below.)

The second component is a column of the horizontal words with their starting numbers. The third component is a column of the vertical words with their starting numbers.

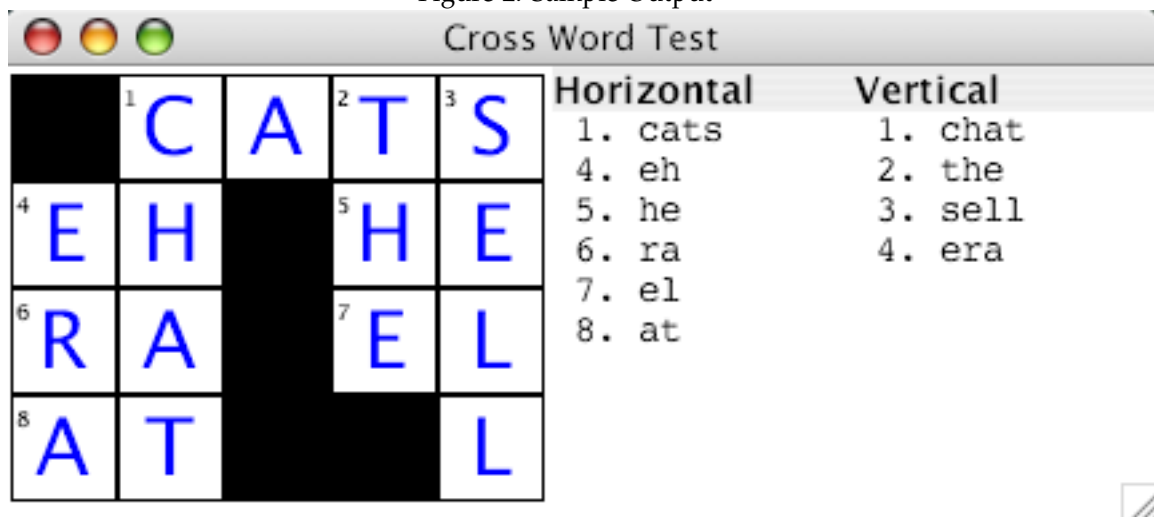
Figure 1: Sample Input

```

_____ in.txt _____
4
5
Xcats
ehXhe
raXel
atXXl
_____

```

Figure 2: Sample Output



Programming Details

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