CSC 220 – Project #2: Word Unscrambler Game

Objective:
Design and implement a word unscrambler game in Java.

Project Details:
Write a program named `WordUnscrambler.java` that reads in a random word from a file called words.txt (note the lack of capitalization) that you provide. The file should contain one word per line. To read a random word you can generate a random number between 1 and the number of lines, and skip n-1 lines before reading the word. Scramble the word by swapping random pairs of letters a random number of times. Display the scrambled word with character indexes on top. Offer the user a menu with the following choices:

• Enter 1 to swap a pair of letters

If this option is selected prompt the user to enter two indexes and swap the letters. Print an error message if the indexes are invalid. If the word is unscrambled successfully print a congratulatory message containing the word and the number of steps it took to unscramble. Otherwise display the new word, and offer the menu again.

• Enter 2 to solve

If this option is selected print the unscrambled word and quit.

• Enter 3 to quit

If this option is selected quit.

Example run:

```
---------
 0123456
 rpocjet
---------

Enter 1 to swap letters.
Enter 2 to solve.
Enter 3 to quit.

1
Enter the indexes separated by spaces
0 1
---------
 0123456
 procjet
---------

Enter 1 to swap letters.
Enter 2 to solve.
Enter 3 to quit.

1
Enter the indexes separated by spaces
3 4
```

```
---------
 0123456
 projcet
---------

Enter 1 to swap letters.
Enter 2 to solve.
Enter 3 to quit.

1
Enter the indexes separated by spaces
4 5

Congratulations! You unscrambled the word project in 3 steps.
```

Formatting Requirements
- Follow indentation rules as discussed in class
- Use descriptive variable names
- Comment your code: your name, name of the class and assignment at the beginning of program, explanations of blocks of code throughout your program.

What to turn in
- Jar your `WordUnscrambler.java` file **and the words.txt file** into a file called `Project2.jar` and upload it to Canvas under category Project2 by the deadline.