Project 3: Word Game

NOTE: *If you turn in a solution to this problem based on something from a pay-for-answers website such as Chegg, CourseHero, etc., you will receive an F in this course (not just on this assignment). Start early and seek help from a lab assistant, the help room, or your professor if you need it. If you don't have time to do that, it is better to get a low grade on the project than to cheat and fail the course.*

This program involves one turn in a simple word game based on one from the New York Times. In the game, a player tries to make as many valid words as possible from a list of letters.

Rules

- Words must be at least four letters long.
- Letters can be used more than once.
- Words must be contained in the file words.txt to be considered valid.

Scoring

Four letter words are worth one point each; longer words are worth one point for each letter in the word. For example, "test" is worth one point, and "testing" is worth seven points.

Gameplay

To start the game, choose a word from words.txt that has exactly seven ***unique*** letters. Scramble the unique letters from the word and display them to the user. Next, display the user's score (initially zero). The user can then type in one of four things:

`mix` – re-displays the letters in a new order

`ls` – (Note: this is lowercase LS, meant to be short for "list") displays a list of all the valid words the user has entered so far

`bye` – ends the game

`any other word` – updates the user's score if the word was valid (i.e. if it is made up of

only the seven letters, is at least four letters long, and is contained in the words.txt file)

This process of displaying the score and then responding to the user's input should continue until the user types bye.

Examples:

```
❯ java Main
       o       t       p       n       r       i       g
Score: 0
going
Score: 5
ring
Score: 6
ringing
Score: 13
mix
       r       i       p       t       n       o       g
Score: 13
ls
going
ring
ringing
Score: 13
bye
```

Rubric:

Note: Code that does not compile will receive a zero.

[20 pts] Chooses a word with seven unique letters from words.txt

[5 pts] Displays the seven unique letters to the user

[15 pts] Scrambles and redisplays the letters when the user types `mix`

[10 pts] Lists the words found so far when the user types `ls`

[15 pts] Recognizes valid and invalid words

[10 pts] Keeps score as described

[5 pts] Quits when the user types `bye`

[20 pts] The program is clearly organized, commented, and follows standard coding practices, including using descriptive/meaningful variable and class names. **Note:** This is worth more points than in previous projects. Your program should be logically organized into methods, and your main method should consist primarily of calls to these other methods. **You will not receive any credit for this item if all of your code is in main.**