

# Project 3: Word Game

## Purpose

Demonstrate usage of basic file operations, and more complex text manipulation.

## Description

For this project you will build a word game loosely based on “Spelling Bee” from the New York Times.

To play, the user will be presented with 7 unique characters which have been scrambled but spell a word that is composed of the 7 unique letters. The user uses the characters presented to make as many 4 or more letter words as they can from the list of letters.

## Game Rules & Scoring

Words guessed by the user:

- must be made of characters presented to the user
- must be at least 4 letters long
- may use the same letter more than once
- must be a valid word in words.txt

Assigning points for user guesses:

- four letter words are worth 1 point each
  - test = 1 point
- words longer than four letters are worth 1 point for each character
  - testing = 7 points
- words less than 4 letters OR words not in words.txt OR words that have already been guessed get 0 points

## Game Implementation

Choose a word from words.txt that has exactly 7 **unique** letters. The same word should not be used each game round.

Scramble the unique letters from the word and display them to the user.

Display the user’s score (score is 0 at start of game).

The user can enter one of four things that will perform the action(s) described. The current score should be displayed after each action.

- `mix`
  - displays the same letters in a new order
- `ls` (short for list)
  - displays all valid words the user has entered

- `bye`
  - ends the game
- `[a word]`
  - checks if that word was valid (see Game Rules & Scoring)
  - assigns points to valid word (see Game Rules & Scoring)
  - updates the score per the points earned

The game should continue performing the action based on the user's input and display the score after performing the action until the user enters `bye`.

## Examples

The game word chosen from words in words.txt in this example was: `pluming`

```

    i          g          m          u          n          l          p
plum
Score: 1
mug
Score: 1
mix
    p          m          u          g          i          l          n
Score: 1
limping
Score: 8
pluming
Score: 15
ls
    plum
    limping
    pluming
Score: 15
bye
```

## Rubric

- Projects that don't compile will receive a 0.
  - You may use block comments if you have non-compiling sections of code.
- Projects that only have a main method will receive a 0.
- If you use a paid solution site (Chegg, CourseHero, etc.), you will receive an F in the course.

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- [15 pts] Chooses a word with seven unique letters from `words.txt`
  - [5 pts] Displays the seven unique letters to the user
  - [15 pts] When the user types `mix`, program scrambles and redisplay the letters
  - [10 pts] When the user types `ls`, program lists the valid words guessed

- [5 pts] When the user types `bye`, program exits
- [10 pts] Validates that user guessed words are valid words using words in `words.txt`
- [10 pts] Scores user guess words based on rules & updates score
- [15 pts] Logical use of methods to implement solution
- [15 pts] Follows javadoc standards including method descriptions and block tags