

CS 152 Computer Programming Fundamentals

Project 5: Wordle-ish*

Brooke Chenoweth

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This project is designed to help you practice working with strings in the context of an engaging application: the Wordle game initially developed by Josh Wardle, now available on the New York Times web site.¹ Given Wordle’s enormous popularity, we thought it would be fun to give you the chance to implement a version of the game.

1 Game Rules

Try to guess the secret word in 6 tries.

Each guess must be a valid 5-letter word.

After each guess, the computer will show you how close your guess was to the word. In the NY Times version, this is done by changing the color of the letter tiles. In our console game, we’ll print characters to give this information. You will create an array of `char`, where “X” indicates a letter in the correct location, “o” indicates a letter that is present in the word, but not in that position, and “.” indicates a letter that is not present in the word.

For example, if the hidden word is “relic” and you guess “rates”, the “r” is in the correct position and there is an “e”, but not in the position guessed. This would be indicated with `X..o.` in our game.

The most interesting special cases arise when the hidden word and the guesses contain multiple copies of the same letter. Suppose, for example, that the hidden word is “glass” and you for some reason guess “sassy”. The program will give feedback of `oo.X.` to show that there is an “s” in the fourth position and the first position shows that there is another “s” somewhere else in the hidden word, but the “s” in the middle is shown as not present, since there are not three “s” characters in the hidden word.

2 Program Description

I have provided you with some starter code in a file named `Wordle.java`. There are four methods you must complete to be able to play the game. The large word list² is in a separate

*This lab is inspired by the project at <http://nifty.stanford.edu/2022/eroberts-spelling-bee-wordle/>

¹<https://www.nytimes.com/games/wordle/index.html>

²Well, it’s an array of strings

file named `WordleDictionary.java` and must also be in your project to be able to play the game.

In addition, I have provided you with testing code in `WordleTester.java`. Place this file in the same project as `Wordle.java` and you will be able to test your methods without playing the game. This is particularly useful when you haven't fully implemented them yet.

3 Turning in your assignment

Submit your **Wordle.java** file to the Project 5 assignment in Canvas. Do not attach `.class` files or any other files.

4 Sample game transcripts

Let's play Wordle!

Play with 5 letter words? (y/n)

y

Using five letter words

What is your guess?

sassy

oo.X.

What is your guess?

asdfg

Not a recognized word! Try again

boast

..XX.

What is your guess?

glass

XXXXX

The word was glass

Let's play Wordle!

Play with 5 letter words? (y/n)

y

Using five letter words

What is your guess?

trade

....o

What is your guess?

coins

.X..X

What is your guess?

lumpy

.....

What is your guess?

hopes

.X.XX

What is your guess?

cones

.X.XX

What is your guess?

moves

.X.XX

The word was jokes

Let's play Wordle!

Play with 5 letter words? (y/n)

n

Using two letter words (for quick testing)

Guesses remaining: 6

What is your guess?

ab

Not a recognized word! Try again

aa

..

Guesses remaining: 5

What is your guess?

of

..

Guesses remaining: 4

What is your guess?

us

XX

The word was us