CS109 Assignment 1 - Text Based Version of Wordle

Due date and time: Thursday February 15, 11 pm

Points: 50 (40 for correctness, 10 for program hygiene. Follow the program hygiene guidelines as explained in PEP 8. https://peps.python.org/pep-0008/)

Starter File: **`wordle_text.py`** Available on Canvas. You must use this starter file. It handles reading words from files and creating the tuple that holds the possible secret words and the set that holds all valid words that are accepted as input from the user. The introductory portion of the program is also completed.

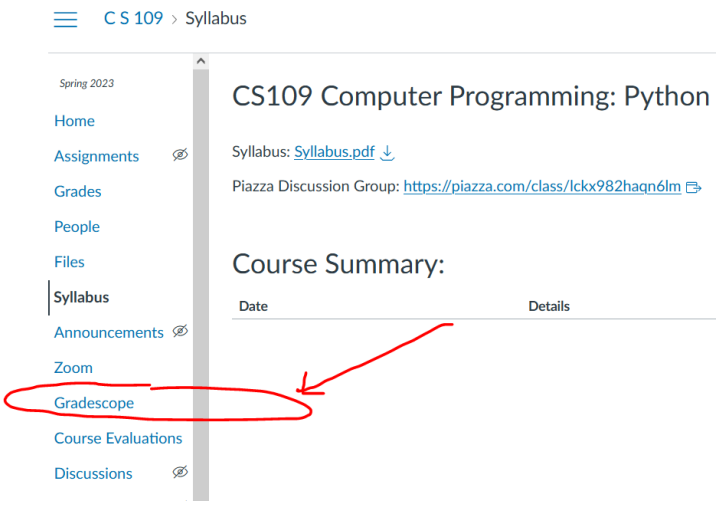
Dictionary Files: Available on Canvas. The **`secret_words.txt`** file contains the words that may be picked as the secret word. The **`other_valid_words.txt`** file contains the words that are accepted as valid input by the program, but will not be picked as the secret word for this version of the program. Assume these files are in the current working directory when your program is running. If you need help determining the current working directory, import the **`os`** module to your program with the **`import os`** statement and execute the following statement in your program:

```
print(os.getcwd())
```

Submission: File name must be: **`wordle_text.py`** **Your program may use features up to and including those from Python version 3.8 If you use features from versions of Python beyond 3.8 your program may not work with the autograder.**

The program must be your own work. You may not copy code from any source. You may not use an LLM / generative AI. Copying code from another source is cheating an will result in an academic dishonesty case filed with the Student Conduct and Academic Integrity. https://deanofstudents.utexas.edu/conduct/

Submit your program to GradeScope Assignment 1 via Canvas.



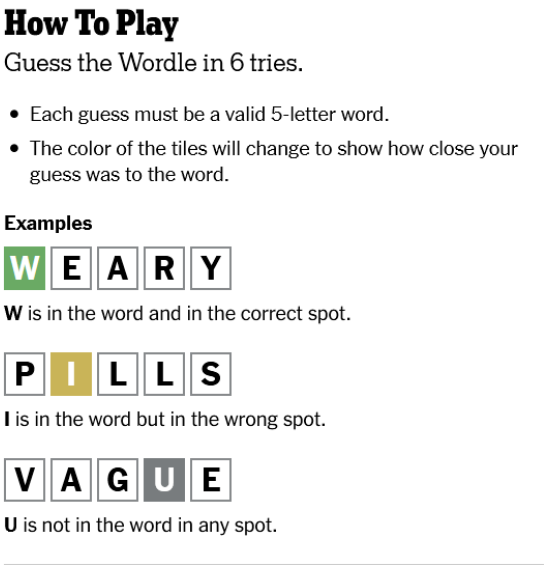
GradeScope will automatically grade your program. You can submit before the due date to determine if you program is passing the public test cases. If you are not passing all public test cases, rework you program and resubmit. You can resubmit as many times as you like before the due date. Your last submission before the due date shall be the program graded.

Half of the test cases are public. The other half are private and you shall see those results after your program is graded by the TA.

Program: Complete a Python program that allows a user to play a text-based version of Wordle, a word guessing game.

The official version of Wordle is located at https://www.nytimes.com/games/wordle/index.html.

The basic outline of the game as described by the official site.



As we are implementing a text-based version we use G for green, a letter in the word in the right spot, O for orange, a letter in the word but not at the right spot, and - for gray, a letter not in the word at any spot.

There is a file with the expected output for various runs of the program available on Canvas under CS109 -> Files -> Assignment 1.

The lines of asterisks, (****…***) are not part of the output. Rather they delineate the output from various runs of the program. Your output must match the expected output **exactly, character for character given the same input** or you will fail the test cases.

Examine the given sample outputs to determine how the program behaves to input that is not in the set of valid words.

Here is a sample run of the program:

```
Welcome to Wordle.

Enter y for instructions, anything else to skip: n

Enter y to set the random seed, anything else to skip: y

Enter number for initial seed: 12345

Enter your guess. A 5 letter word: SALES

GO-O-
SALES
```

```
Unused letters: B C D F G H I J K M N O P Q R T U V W X Y Z

Enter your guess. A 5 letter word: SHALL

GO-O-
SALES
GGG--
SHALL

Unused letters: B C D F G I J K M N O P Q R T U V W X Y Z

Enter your guess. A 5 letter word: SHARP

GO-O-
SALES
GGG--
SHALL
GGG-O
SHARP

Unused letters: B C D F G I J K M N O Q T U V W X Y Z

Enter your guess. A 5 letter word: SHARD

GO-O-
SALES
GGG--
SHALL
GGG-O
SHARP
GGG--
SHARD

Unused letters: B C F G I J K M N O Q T U V W X Y Z

Enter your guess. A 5 letter word: SHAPE

GO-O-
SALES
GGG--
SHALL
GGG-O
SHARP
GGG--
SHARD
GGGGG
SHAPE

Unused letters: B C F G I J K M N O Q T U V W X Y Z

You win. Great!

Do you want to play again? Type Y for yes: y

Enter your guess. A 5 letter word: ANGER
```

```
G-OGO
ANGER

Unused letters: B C D F H I J K L M O P Q S T U V W X Y Z

Enter your guess. A 5 letter word: AGREE

G-OGO
ANGER
GGGGG
AGREE

Unused letters: B C D F H I J K L M O P Q S T U V W X Y Z

You win. Magnificent!

Do you want to play again? Type Y for yes: y

Enter your guess. A 5 letter word: STARE

-O-GO
STARE

Unused letters: B C D F G H I J K L M N O P Q U V W X Y Z

Enter your guess. A 5 letter word: WOUND

-O-GO
STARE
-O---
WOUND

Unused letters: B C F G H I J K L M P Q V X Y Z

Enter your guess. A 5 letter word: FLICK

-O-GO
STARE
-O---
WOUND
-----
FLICK

Unused letters: B G H J M P Q V X Y Z

Enter your guess. A 5 letter word: SPORT

-O-GO
STARE
-O---
WOUND
-----
FLICK
--OGO
SPORT

Unused letters: B G H J M Q V X Y Z
```

```
Enter your guess. A 5 letter word: TERRO

TERRO is not a valid word. Please try again.

Enter your guess. A 5 letter word: TERROS

TERROS is not a valid word. Please try again.

Enter your guess. A 5 letter word: TERRA

-O-GO
STARE
-O---
WOUND
-----
FLICK
--OGO
SPORT
OG-G-
TERRA

Unused letters: B G H J M Q V X Y Z

Enter your guess. A 5 letter word: metro

-O-GO
STARE
-O---
WOUND
-----
FLICK
--OGO
SPORT
OG-G-
TERRA
GGGGG
METRO

Unused letters: B G H J Q V X Y Z

You win. Phew!

Do you want to play again? Type Y for yes: n
```

One note on the feedback. Letters in the correct spot take precedence over letters present in the word, but in the wrong spot.

For example, if the secret word is **RURAL** and the guess is **SALAD** the feedback would be:

```
--OG-
SALAD
```

The second A in **SALAD** takes precedence of the first A as it is in the correct spot for the word **RURAL**.

Use the random module to pick random words from the tuple that contains the potential secret words. The **random.randrange(stop)** or **random.choice(sequence)** functions may be used to pick a secret word.