

# Python 2023 Competition

**Problem Statement:** Games are part of our society. This is particularly true when one considers the vast number of games people like to play on their personal electronic devices. For this contest, you will create a one-person word scramble game in Python based on a set of criteria. Scoring will be based on the level of complexity of your developed program. You must have a working program to earn points.

## Game Criteria:

1. Single player
2. Words are selected from one of the following lists based on the level:
  - a. Level 1: Zoo animals: `["zebra", "monkey", "elephant", "hippopotamus"]`
  - b. Level 2: Flowers: `["lilly", "daffodil", "magnolia", "poinsettia"]`
  - c. Level 3: Dog Breeds: `["doberman", "labrador", "newfoundland", "schnauzer"]`
3. **Guesses:** Player is allowed 4 guesses to unscramble the word (Tier 1); Player is allowed 4 guesses and 10 seconds to unscramble the word (Tier 2)
4. **Scoring:** player earns points in the following manner: (Tier 1)
  - 4 points if correct word is provided in 1 guess
  - 3 points in 2 guesses
  - 2 points in 3 guesses
  - 1 point in 4 guesses
5. **Moving up levels:** player moves up to Level 2 if 12 or more points earned in Level 1 and moves up to Level 3 if 24 points or more earned in Levels 1 and 2 (Tier 1)

**Scoring:** Your submission must compile in order to be evaluated. In the event of a tie, Code Documentation and the use of an Object-Oriented Approach will distinguish differences.

**Submission Requirements:** Upon completion of the competition, you must submit your .py files on a flash drive provided by the judges. Make sure your code is well documented and sourced for any material you use that is not your original work.

## Scoring Rubric:

### Tier 1

Criteria	Points
1 Comments, whitespace, and inclusion of references are present	/10
2 Word scramble function consistently selects, scrambles and displays word from a list	/10
3 Player guess- check function allows for 4 attempts, correctly looping back to each trial if a wrong guess is provided	/10
4 Score function updates player's score after each word is "played"	/10
5 Switch level function correctly moves player to the next level based on the player's score from the previous level	/10
6 Game play function correctly calls functions from 2-5 above and outputs a final score.	/10

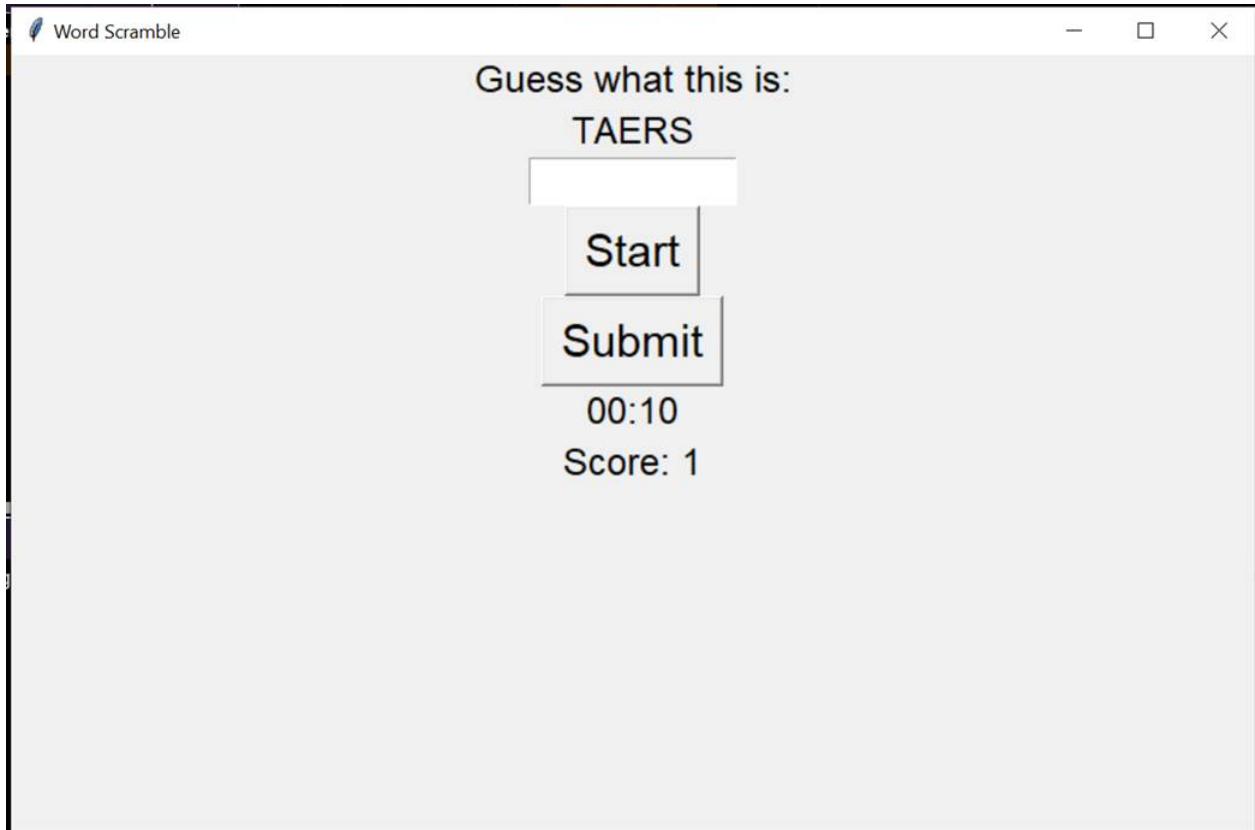
### Tier 2

Criteria	Points
1 Effective use of classes to demonstrate object-oriented design principles	/10
2 Use of exception handling	/5
3 Sufficient use of GUI that displays game information (start button, display of scrambled word, input/guess box, timer, score); see Figure 1	/10

### Tier 3

Criteria	Points
1 Output player score to a shareable format	/5
2 Implementation of leaderboard	/10

Total: \_\_\_\_\_



**Figure 1:** Example of user interface to play the game