City University of New York (CUNY)

CUNY Academic Works

2019

Activity - Python FUNCTIONS - Scrabble game

Robert J. Domanski
City University of New York - Graduate Center, rdomanski@hotmail.com

How does access to this work benefit you? Let us know!

Python Activity: FUNCTIONS
"Scrabble Game"

Learning Objectives

Students will be able to:
- Implement the logic of IF statements, Loops, and Functions
- Write code using the Python syntax for IF statements, Loops, and Functions
- Demonstrate debugging skills
- Determine how different functions are to be used in conjunction with one another

---

Scrabble is a classic board game where players take turns making words from the letters given to them on small tiles. In Scrabble, each word a player makes is given a score based on the value of each tile used.

How can we take that idea of giving each word a score and write a functional computer program around it?

First, we'll need to create a function to give each letter a score. Then we'll need to create another function to calculate the score of the entire word. The trick is to design these two functions in a way that they work together.

To write this program you will need to use this image of scrabble tiles:

Hint: Don't write 26 if/elif/else blocks! Instead, use the **in** keyword:

For example:

```
if letter in 'qz':
    return 10
```

1. ASSIGNMENT: Create a function named **letterScore** which should take as input (parameter) a single letter. The function should return as output the Scrabble tile value of that letter. If the input is not a letter from 'a' to 'z', the function should return 0.

---

2. ASSIGNMENT: Create another function named **wordScore** which should take as input (parameter) a word (or string). The function should return as outut the Scrabble score of that word/string. USE THE ABOVE **letterScore** FUNCTION AND LOOPING!

3. ASSIGNMENT: Edit the code so that the program will handle both uppercase and lowercase letters.