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## Problem 1 - Word Scores

### Problem 1 - Word Scores

0.0/10.0 points (graded)

The first step is to implement some code that allows us to calculate the score for a single word. The function `getWordScore` should accept as input a string of lowercase letters (a *word*) and return the integer score for that word, using the game's scoring rules.

#### A Reminder of the Scoring Rules

##### Scoring

- The score for the hand is the sum of the scores for each word formed.
- The score for a word is the sum of the points for letters in the word, multiplied by the length of the word, plus 50 points if all  $n$  letters are used on the first word created.
- Letters are scored as in Scrabble; A is worth 1, B is worth 3, C is worth 3, D is worth 2, E is worth 1, and so on. We have defined the dictionary `SCRABBLE_LETTER_VALUES` that maps each lowercase letter to its Scrabble letter value.
- For example, 'weed' would be worth 32 points  $((4+1+1+2)$  for the four letters, then multiply by `len('weed')` to get  $(4+1+1+2)*4 = 32$ ). Be sure to check that the hand actually has 1 'w', 2 'e's, and 1 'd' before scoring the word!



- As another example, if  $n=7$  and you make the word 'waybill' on the first try, it would be worth 155 points (the base score for 'waybill' is  $(4+1+4+3+1+1+1)*7=105$ , plus an additional 50 point bonus for using all  $n$  letters).

## Hints

- You may assume that the input `word` is always either a string of lowercase letters, or the empty string `""`.
- You will want to use the `SCRABBLE_LETTER_VALUES` dictionary defined at the top of `ps4a.py`. You should not change its value.
- Do **not** assume that there are always 7 letters in a hand! The parameter `n` is the number of letters required for a bonus score (the maximum number of letters in the hand). Our goal is to keep the code modular - if you want to try playing your word game with  $n=10$  or  $n=4$ , you will be able to do it by simply changing the value of `HAND_SIZE`!
- **Testing:** If this function is implemented properly, and you run `test_ps4a.py`, you should see that the `test_getWordScore()` tests pass. Also test your implementation of `getWordScore`, using some reasonable English words.

Fill in the code for `getWordScore` in `ps4a.py` and be sure you've passed the appropriate tests in `test_ps4a.py` before pasting your function definition here.

```
1 def getWordScore(word, n):
2     """
3     Returns the score for a word. Assumes the word is a valid word.
4
5     The score for a word is the sum of the points for letters in the
6     word, multiplied by the length of the word, PLUS 50 points if all n
7     letters are used on the first turn.
8
9     Letters are scored as in Scrabble; A is worth 1, B is worth 3, C is
10    worth 3, D is worth 2, E is worth 1, and so on (see SCRABBLE_LETTER_VALUES)
11
12    word: string (lowercase letters)
13    n: integer (HAND_SIZE; i.e., hand size required for additional points)
14    returns: int >= 0
15    """
16    # TO DO - Remove this comment when you code this function
```

Press ESC then TAB or click outside of the code editor to exit



Submit

You have used 0 of 30 attempts

## Problem 1 - Word Scores

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- ? Are helper functions defined in the auto-grader? 10  
Are the helper functions available in the auto-grader for this problem? My code utilizes the helper...
- ? The function PASSED in the test function, but is not submitting here 7  
This is the error message: "This function should not call the 'loadWords' function." When I remove...
- ? Why is this appearing in my kernel? How do I remove it? 5  
ERROR:root:Invalid alias: The name clear can't be aliased because it is another magic command. E...
- ? How much will a missed deadline affect overall percentage? 2  
I remember someone writing that each pset contributes around 8% and they ignore the score of y...
- ? Is it possible to extend the ddl? 3  
As in my last post, seems there are quite a few people suffering the same thing as I do. Would it b...
- ? Why I cannot submit the answer now?? Is it past due already? 7  
I just came back from a biztrip and I remember the ddl is today, but why I cant submit it?
- ? what do they mean by "PLUS 50 points if all n letters are used on the first turn"? 2  
It means that if the letter entered is of the same length as in the first turn, or if it is of the same le...
- ? Qi 2  
I like that qi is in the word list.
- ? Short One-liners? 4  
I completed this problem in 4 lines and then thought that it would be pretty simple to make it a o...
- ? Testing help 7  
Can someone explain to this beginner how to use the test\_ps4a file to run tests on each problem i...
- ? And I like that farceur is in the list of words;) 1

?

Calling getFrequencyDict function works on spyder & test\_ps4, not in grader  
I call the function in this way: freq=getFrequencyDict(word) Where is the mistake please ?

6

? What is Stuff Bug?

There was a problem running your solution (Staff debug: L379). We couldn't run your solution (Sta...

4

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