On Thursday, February 16th at 6:00AM EST, UTC-5, we will be conducting a brief database maintenance. The event should last about 5 minutes.

Problem 1 - Word Scores

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Problem 1 - Word Scores

10.0 points possible (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

Problem Set due Feb 23, 2017 15:30 PST

- Midterm Exam
- Week 5: Object Oriented Programming
- Sandbox

- 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.

```
def getWordScore(word, n):
    """
    Returns the score for a word. Assumes the word is a valid

    The score for a word is the sum of the points for letters
    word, multiplied by the length of the word, PLUS 50 points
    letters are used on the first turn.

    Letters are scored as in Scrabble; A is worth 1, B is wort
    worth 3, D is worth 2, E is worth 1, and so on (see SCRABE

    word: string (lowercase letters)
    n: integer (HAND_SIZE; i.e., hand size required for additi
    returns: int >= 0
    """
    # TO DO ... <-- Remove this comment when you code this fun
```

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

Unanswered

Submit You have used 0 of 30 attempts

Problem 1 - Word Scores

Topic: Problem Set 4 / Problem 1

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