

CS 326 - Project #6

Purpose: Become familiar with basic Ruby syntax, data types, and control structures.
Points: 100

Assignment:

Write a simple Ruby program to calculate a Scrabble score. The program should prompt for a word, and then output the Scrabble score for that word. Keep prompting for words until the user quits (return with no input). The program should display an error if two or more words are entered (on the same line).

Scrabble letter scores are as follows:

```
{ 'A' => 1, 'F' => 4, 'K' => 5, 'P' => 3, 'Uv' => 1,  
  'B' => 2, 'G' => 2, 'L' => 1, 'Q' => 10, 'V' => 4,  
  'C' => 3, 'H' => 4, 'M' => 3, 'R' => 1, 'W' => 4,  
  'D' => 2, 'I' => 1, 'N' => 1, 'S' => 1, 'X' => 8,  
  'E' => 1, 'J' => 8, 'O' => 1, 'T' => 1, 'Y' => 4,  
  'Z' => 10  
};
```

In Scrabble, a word can be a double word score or triple word score. Also, a letter (upper or lower case) can be a double letter score, or triple letter score. The double and triple word scores affect the value of the entire word, while the double and triple letter scores only affect a single letter. If the user puts a '2' or '3' at the beginning of the word, the word is scored as a double or triple word score. If the user puts a '2' or '3' *behind* a letter, that letter is scored as a double or triple letter score. Words or letters can only be doubled or tripled (other multipliers are an error).

For example, '2cr3azy' doubles the word value and triples the value of 'r' (total Scrabble score is 42), '2scrab2ble' triples the word value and doubles the value of 'b' (total Scrabble score of 28), and 'per3l' triples the value of 'r' (total Scrabble score of 8).



Submission:

- 1) Submit a copy of the Ruby source file.
- 2) Using the script utility, submit a copy of the program execution based on the following input.

```
2cr3azy  
Scrabble  
2scRab3ble  
cs326  
per3l  
Computer Science  
per4l  
2Com3p2uter  
6perl  
3ed2
```

Example Execution:

A sample run of your program, using script, would look something like this:

```
% script
Script started, file is typescript
% ruby scrabble.pl

Scrabble Score Calculator

Enter word to score: 2cr3azy
Score for '2cr3azy' is: 42

Enter word to score: 2Scrab2ble
Score for '2Scrab2ble' is: 28

Enter word to score: Computer Science
Error, found bad character ' '.

Enter word to score:

Bye!

%
% exit
Script done, file is typescript
%
```