ACSL

 American Computer Science League

**008 -2013 - 2014**

**Contest #1**

ACSL Scrabble
Senior Division

Problem: ACSL Scrabble is a lettered tile game played on a grid game board. The board for this program will be 4 x 10. The grid squares are numbered as below:

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |

The squares that are every other multiple of 3 ( 3, 9, 15...) are Double Letter score squares.

The squares that are multiples of 5 and not used above are Triple Letter score squares.

The squares that are multiples of 7 and not used above are Double Word score squares.

The squares that are multiples of 8 and not used above are Triple Word score squares.

Letter values will come from the following chart:

 A, E - 1 point

 D, R - 2 points

 B, M - 3 points

 V, Y - 4 points

 J, X - 8 points

INPUT: There will be 6 lines of input. The first line will give the letters of the word. The word will always have 4 letters. The remaining 5 lines will contain 3 starting locations and directions for the word. The 1, H on Sample Input Line 2 indicates that the word starts at Location 1 and is placed horizontally across the board. Words can be placed horizontally (H) or vertically (V) on the board.

OUTPUT: For each set of starting locations, print the largest point total scored.

SAMPLE INPUT SAMPLE OUTUT

1. J, A, V, A 1. 66

2. 1, H, 11, H, 21, H 2. 42

3. 1, V, 2, V, 3, V 3. 48

4. 2, H, 12, H, 22, H 4. 84

5. 3, V, 4, V, 5, V 5. 120

6. 7, H, 6, V, 17, H

TEST INPUT TEST OUTPUR

1. X, R, A, Y 1. 51

2. 1, H, 12, H, 23 H 2. 96

3. 2, V, 13, H, 8, V 3. 90

4. 7, V, 8, V, 9, V 4. 144

5. 7, H, 25, H, 13, H 5. 144

6. 7, V, 7, H, 4, V