Machine Problem 5

Scrabble score stats (15 points):

In the problem you will use streams to calculate the three largest scrabble score in a list of words, the average score, and display the words having scrabble score above and below the average score. (Hint: it will be helpful to create a static method that accepts a word and returns the Scrabble score for that word.)

Use the following code to create a HashMap to store the value for each letter:

```
Map<Character, Integer> letterValues = new HashMap();
letterValues.put('a', 1);
letterValues.put('b', 3);
letterValues.put('c', 3);
letterValues.put('d', 2);
letterValues.put('e', 1);
letterValues.put('f', 4);
letterValues.put('g', 2);
letterValues.put('h', 4);
letterValues.put('i', 1);
letterValues.put('j', 8);
letterValues.put('k', 5);
letterValues.put('l', 1);
letterValues.put('m', 3);
letterValues.put('n', 1);
letterValues.put('o', 1);
letterValues.put('p', 3);
letterValues.put('q', 10);
letterValues.put('r', 1);
letterValues.put('s', 1);
letterValues.put('t', 1);
letterValues.put('u', 1);
letterValues.put('v', 8);
letterValues.put('w', 4);
letterValues.put('x', 8);
letterValues.put('y', 4);
letterValues.put('z', 10);
```

List of words to be used: "Java", "program", "list", "string", "unix", "hours", "syntax", "error"

Your output should look like this:

Top three words are:
Java:18

syntax:16
program:12
Average scrabble value is: 10.125
words below average:[list, string, hours, error]
words above average:[Java, program, unix, syntax]

Count single digits (15 points):

Using streams to write a program that generates 100 random integers between 0 and 9 and displays the count for each number.

Sort two dimensional array (15 points):

Use streams to write a program that displays the distinct numbers in the number array. Display the numbers in increasing order, separated by one space.

Number array: {{34,89},{56,3},{27,61},{45,8},{45,89}}