EXERCISE 11 – IsPalindrome

In this assignment, you will create a program that checks whether a word is palindrome.

Problem

To achieve your objective, you just need to complete one method. Such method receives as input a String and returns a Boolean value. Such value will be true if you can read the word from left-to-right just as you can read it from right-to left. For example, "dabalearrozalazorraelabad" is a palinedrome.

Find below the skeleton of the class you will get to get started, which includes the method you must complete:

```
/**
 * Implement the method isPalindrome below.
 * It should return true if a word is palindrome; otherwise it should retun false.
 *
 * A word is a palinedrome if you can read from left-to-right just as you can
 * read it from right-to left. For example, "lagerregal" is a palinedrome.
 *
 * Test your method using the class TestPalindrome. Your tests are automatically
 * executed when you run the program.
 *
 * When you think your method works correctly, click "Submit".
 * No worries, you can submit multiple times.
 */

public class Palindrome {

    /** returns true if the provided argument "word" is a palindrome */
    public boolean isPalindrome(String word) {
        // TODO: write your implementation of Palindrome here
        return false;
    }

}
```

Fig. 1. Palindrome class skeleton

Testing Instructions

In order to run and test your program, the TestPalindrome class shown below is provided:

```
/**
 * Class to test the function isPalindrome
 */
import java.util.*;

class TestPalindrome {

    /**
     * Write your test cases here. Insert in the HashMap "word", true/false
     * indicating if the word is palindrome or not.
     */
    public Map<String, Boolean> getTestsPalindrome() {
        Map<String, Boolean> testInputs = new HashMap<String, Boolean>();

        // test inputs
        testInputs.put("lagerregal", true);
        testInputs.put("mama", false);

        return testInputs;
    }
}
```

Fig. 2. TestPalindrome class

Once you think you have reached a solution, you could try if it works properly just by hitting the Run button. As a result, the method will be executed a couple of times, and the results will be compared against the Boolean values accompanying each word included in the testInputs. In other words:

- The output of isPalindrome("lagerregal") will be compared against the true value.

- The output of isPalindrome("mama") will be compared against the false value.

The system will inform then about the result of those executions, as the following figure illustrates.

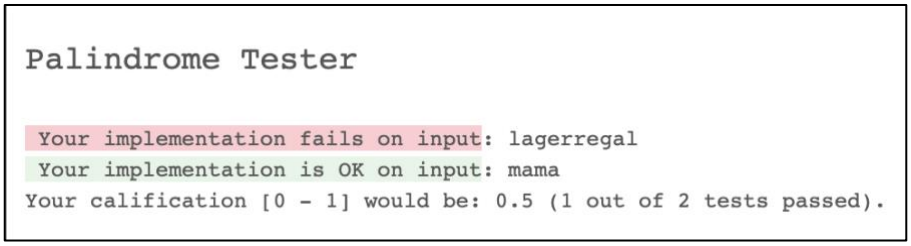

Fig. 3. Running output

Apparently, the solution provided has failed to identify whether "lagerregal" is a palindrome and it has correctly identified that "mama" is not a palindrome. The solution provided has consequently passed 1 out of 2 tests and thus its mark would have been 0.5 points (marks are given in the [0 – 1] range).

You can change the words used as input and/or add more words to test, just by copy/paste the correspondence sentences. For each sentence you should just provide a pair of (Word, Boolean) values so that the Boolean value informs about whether the Word value is or not a palindrome.

Submission Instructions

Once you have finished submit your solution using the Submit button of Codeboard. Keep in mind you can make any number of submissions. The last one is the one that will be persisted in the system. In other words, the last submission overwrites previous submission.