

## PRACTICAL ASSESSMENT – RECURSION (SET 1)

### Question 1: Print the character string in reverse order [5 marks]

Write a recursive method that display a string reversely on the console using the following header:

```
public static void reverseDisplay(String value)
```

For example: reverseDisplay("snap&stop") displays "pots&pans".

Write a test program that prompts the user to enter string and display its reversal.

[Answer]

```
import java.util.Scanner;

public class Question1 {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);
        System.out.print("Enter a string: ");

        String str = input.nextLine();
        Question1 word = new Question1();
        word.reverseDisplay(str);

    }

    public static void reverseDisplay(String value) {

        if ((value==null)|| (value.length() <= 1))
            System.out.println(value);
        else {
            System.out.print(value.charAt(value.length()-1));
            reverseDisplay(value.substring(0,value.length()-1));
        }

    }

}
```

**Question 2: Count the number of uppercase letters in a string [5 marks]**

Write a recursive method that returns the number of uppercase letters in a string. Write a test program that prompts the user to enter string (with combination of upper case and lower case) and display the number of uppercase letters in the string.

For example: user input: "WelCoMe", the output should be:

Total uppercase letters are: 3
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[Answer]

```
import java.util.Scanner;

public class Question2 {

    public static void main(String[] args) {

        Scanner input = new Scanner(System.in);
        System.out.print("Enter a string with combination
of uppercase and lowercase: ");

        String a = input.nextLine();
        System.out.println(searchUppercase(a));
    }

    public static long searchUppercase(String s, long
count) {
        if (s.length() == 0) {
            return count;
        }

        if (Character.isUpperCase(s.charAt(0))) ++count;

        String tail = s.substring(1);
        return searchUppercase(tail, count);
    }

    public static long searchUppercase(String s) {
        return searchUppercase(s, 0);
    }
}
```