**Assessment – 1**

Question -1

Calculate Electricity Bill

Given a method calculateElectricityBill() with three inputs. Write code to calculate the current bill. Include a class UserMainCode with a static method calculateElectricityBill which accepts 3 inputs .

The return type of the output should be an integer . Create a class Main which would get the inputs and call the static method calculateElectricityBill present in the UserMainCode.

Input and Output Format:

Input consist of 3 integers.

First input is previous reading, second input is current reading and last input is per unit charge

Reading Format - XXXXXAAAAA where XXXXX is consumer number and AAAAA is meter reading. Output is a single integer corresponding to the current bill.

Refer sample output for formatting specifications.

Sample Input 1:

ABC2012345

ABC2012660

4

Sample Output 1: 1260

Question-2

Write a program to read a string and validate whether the given string is a valid color code based on the following rules: - Must start with "#" symbol - Must contain six characters after # - It may contain alphabets from A-F or digits from 0-9 Include a class UserMainCode with a static method validateColorCode which accepts a string. The return type (integer) should return 1 if the color is as per the rules else return -1. Create a Class Main which would be used to accept a String and call the static method present in UserMainCode.

Input and Output Format:

Input consists of a string.

Output consists of a string (Valid or Invalid). Refer sample output for formatting specifications. Sample Input 1:

#FF9922

Sample Output 1: Valid

Sample Input 2: #FF9(22

Sample Output 2: Invali

Question -3

nCr

Write a program to calculate the ways in which r elements can be selected from n population, using nCr formula nCr=n!/r!(n-r)! where first input being n and second input being r.

Note1 : n! factorial can be achieved using given formula n!=nx(n-1)x(n-2)x..3x2x1.

Note2 : 0! = 1. Example 5!=5x4x3x2x1=120 Include a class UserMainCode with a static method calculateNcr which accepts two integers. The return type (integer) should return the value of nCr. Create a Class Main which would be used to accept Input elements and call the static method present in UserMainCode.

Input and Output Format: Input consists of 2 integers.

The first integer corresponds to n, the second integer corresponds to r.

Output consists of a single Integer.

Refer sample output for formatting specifications.

Sample Input 1: 4 3

Question-4

Validating Input Password 102.Write a code get a password as string input and validate using the rules specified below.

Apply following validations:

1. Minimum length should be 8 characters

2. Must contain any one of these three special characters @ or \_ or #

3. May contain numbers or alphabets.

4. Should not start with special character or number

5. Should not end with special character

Include a class UserMainCode with a static method validatePassword which accepts password string as input and returns an integer. The method returns 1 if the password is

valid. Else it returns -1. Create a class Main which would get the input and call the static method validatePassword present in the UserMainCode.

Input and Output Format: Input consists of a string.

Output is a string Valid or Invalid.

Refer sample output for formatting specifications.

Sample Input 1: ashok\_23

Sample Output 1: Valid

Sample Input 2: 1980\_200

Sample Output 2: Invalid