Java and Scala Laboratory

Experiment No 1

D12

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Q1.Implement a java program to calculate gross salary and net salary taking the following data. Input: empno, empname, basic Process DA=70% of basic HRA=30% of basic CCA= Rs. 240/- PF=10% of basic PT=Rs.100/-

```java
import java.util.Scanner;

class First{

    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the employee name: ");
        String empName = sc.nextLine();
        System.out.println("Enter the employee no: ");
        int empNo = sc.nextInt();
        System.out.println("Enter the Basic: ");
        int empBasic = sc.nextInt();

        double DA = 0.7* empBasic;
        System.out.println("The DA is "+DA);

        double HRA = 0.3* empBasic;
        System.out.println("The DA is "+HRA);

        double PF = 0.1* empBasic;
        System.out.println("PF is: "+PF);
    }
}
```

```
Enter the employee name:
Amitesh
Enter the employee no:
105
Enter the Basic:
50000
The DA is 35000.0
The DA is 15000.0
PF is: 5000.0
```

Q2. Write menu driven java program which will read a number and should implement following methods i. Factorial () ii. testArmstrong () iii. testPalindrome ()

```java
import java.util.Scanner;

public class amitesh2 {

    Run | Debug
    public static void main(String[] args) {
        Scanner obj = new Scanner(System.in);
        System.out.println(x:"Factorial");
        int n, i, fact = 1;
        System.out.println(x:"Enter number: ");
        n = obj.nextInt();
        for (i = 1; i <= n; i++) {
            fact *= i;
        }
        System.out.println("The factorial is: " + fact);

        System.out.println(x:"armstrong");
        int n1, digit, sum = 0, temp;
        System.out.println(x:"enter number: ");
        n1 = obj.nextInt();
        temp = n1;
        while (n1 > 0) {
            digit = n1 % 10;
            sum += (digit * digit * digit);
            n1 = n1 / 10;

        }
```

```
27          if (sum == temp) {
28              System.out.println(x:"its armstrong number");
29          } else {
30              System.out.println(x:"not an armstrong number");
31          }
32
33          System.out.println(x:"palindrome program");
34          int n2, rev = 0, copy;
35          System.out.println(x:"Enter number: ");
36          n2 = obj.nextInt();
37          copy = n2;
38          while (n2 > 0) {
39              int remainder = n2 % 10;
40              rev = rev * 10 + remainder;
41              n2 = n2 / 10;
42          }
43          if (copy == rev) {
44              System.out.println(x:"its a palindrome");
45          } else {
46              System.out.println(x:"its not a palindrome");
47          }
48
49      }
50  }
```

```
Factorial
Enter number:
5
The factorial is: 120
armstrong
enter number:
54
not an armstrong number
palindrome program
nter number:
121
its a palindrome
```

Q3. Write a Java Program to take an integer N and print its first 10 multiples. Each multiple N * i (where 1<=i<=10) should be printed on a new line in the form: N x i = result.

```java
import java.util.Scanner;

class amitesh3 {
    Run | Debug
    public static void main(String args[]) {
        Scanner sc = new Scanner(System.in);
        System.out.println(x:"Enter the number: ");
        int number = sc.nextInt();
        for (int i = 1; i <= 10; i++) {
            System.out.println(number * i);
        }
    }
}
```

```
Enter the number:
10
10
20
30
40
50
60
70
80
90
100
```

Q4. Take input of age of three people by user and determine oldest and youngest among them.

```java
import java.util.Scanner;

public class amitesh4 {
    Run | Debug
    public static void main(String args[]) {
        Scanner sc = new Scanner(System.in);
        System.out.print(s:"Enter the age 1: ");
        int age1 = sc.nextInt();
        System.out.print(s:"Enter the age 2: ");
        int age2 = sc.nextInt();
        System.out.print(s:"Enter the age 3: ");
        int age3 = sc.nextInt();
        int oldest = Math.max(age1, Math.max(age2, age3));
        int youngest = Math.min(age1, Math.min(age2, age3));
        System.out.println("The oldest person is " + oldest + " years old.");
        System.out.println("The youngest person is " + youngest + " years old.");
    }
}
```

```
Enter the age 1: 10
Enter the age 2: 30
Enter the age 3: 20
The oldest person is 30 years old.
The youngest person is 10 years old.
```

Q5. If x = 2 y = 5 Z= 0 Then find values of the following expressions: a. x == 2 b. x != 5 c. x != 5 && y >= 5 d. z != 0 || x == 2 e. !(y < 10)

```java
import java.util.*;
class amitesh5{
    Run | Debug
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        int x=2, y=5, z=0;
        boolean a = (x==2);
        System.out.println(a);
        boolean b = (x!=5);
        System.out.println(b);
        boolean c = (x!=5 && y>=5);
        System.out.println(c);
        boolean d = (z!=0 || x==2);
        System.out.println(d);
        boolean e = (!(y<10));
        System.out.println(e);
    }
}
```

```
true
true
true
true
false
```

Q6. A shop will give discount of 10% if the cost of purchased quantity is more than 1000. Ask user for quantity Suppose, one unit will cost 100. Judge and print total cost for u

```java
import java.util.*;
public class amitesh6 {
    Run | Debug
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        int quant, cost=100;
        double total_cost=0;
        System.out.println(x:"enter the quantity: ");
        quant = sc.nextInt();
        total_cost = cost * quant;
        if(total_cost > 1000){
            total_cost = total_cost * 0.9;
        }
        System.out.println("Total cost is: " + total_cost);
}}
```

```
enter the quantity:
11
Total cost is: 990.0
```