JAVA PROGRAMMING

ASSIGNMENT

1) Write a program to count all prime and composite numbers entered by the user

```
import java.util.scanner;
Public class PrimeCompositeCounter {
    Public static void main( string[] args) {
        scanner scanner = new scanner ( system.in) ;
        int PrimiCount = 0 ;
        int CompositeCount = 0;

system.out.println("Enter numbers( :" ) ;
While ( true ) {
    int num = scanner.nextInt ( ) ;
    If ( num < 0 ) {
        break ;
    }
    If (isprime (num) ) {
        PrimeCount ++ ;
    } else if (num > 1 ) {
        CompositeCount ++ ;
    }
}

system.out.println(" Number of prime numbers :" + PrimeCount ) ;
system.out.println("No. of composite numbers :" + Composite Count ) ;
}
```

```
Public static boolean isPrime(int num) {
    if (num <=1) {
        return false;
    }
    for (int i=2; i<= math.sqrt(num); i++) {
        if (num % i ==0) {
            return false;
        }
    }
    return true;
}
```

2) Find the Mth max number and Nth minimum number in an array and the find the sum of it and difference of it

```
import java.util.Arrays;

Public class arrayoperations {
    Public static void main(String[] args) {
        int[] array = {5, 8, 2, 10, 15, 7};
        int m = 2;
        int n = 3;

        Arrays.sort(array);

        int mthmax = array[array.length - m];
        int nthMin = array[n-1];

        int sum = mthMax + nthMin;
        int difference = mthMax - nthMin;
```

```
System.out.Println("Mth maximum number:" + mthMax);
System.out.Println("Nth Minimum number:" + nthMin);
System.out.Println("Sum:" + Sum);
System.out.Println("Difference:" + difference);
  }
}
```

3) Find total amount present in ATM machine.

```
import java.util.Scanner;
Public class ATM {
    Public void static main(String[] args) {
    int totalAmount = 5000;
    int num100 = 20;
    int num500 = 10;
    int num2000 = 5;

    int total = (num100 * 100) + (num500 * 500) +
                                  (num2000 * 2000);
System.out.Println("Total Amount available in ATM
                                  machine: $", + total);
  }
}
```

4) Write a program to check if the given string and number is palindrome or not.

```
import java.util.scanner;
Public class palindromechecker {
    Public static void main (String[] args) {
    scanner input = new scanner (system.in);
    String s1 = "MADAM";
    String s2 = " ";
    int len=s1.length();
    for (int i = len-1; i>=0; i--)
   {
     s2 = s2 + s1.charAt(i);
  }
  If (s1.equals(s2))
      system.out.Print ("Palindrome");
  else
       system.out.Print("Not palindrome");
```

5) Write a program to convert decimal number equivalent to binary number and octal number.

```
import java.util.scanner;
Public class decimaltobinaryOctal {
      Public static void main (String[] args) {
      scanner input = new scanner (system.in);
      system.out.Print (" Enter a decimal number :");
      int decimal = input.nextInt();
```

```
string binary = Integer.tobinarystring (decimal);
string Octal = Integer.toOctalstring (decimal);

system.out.println("Binary equivalent :" + binary);
system.out.println("Octal equivalent :" + Octal);
input.close();
  }
 }
```

6) WORD PROBLEM.

```
import java.util.scanner;
Public class company
{
Public static void main (string[] args)
 {
int arr1 = {14,15,87,36,25,89,34};
int len = arr.length;
For (int i = 0; i < len; i++) {
  For (int j = i+1; j < len; j++) {
      If (arr[i] > arr[j]) {
      int temp = arr[i];
      arr[i] = arr[j];
      arr[j] = temp;
     }
  }
int M = 1, N = 3;
int Max = arr[len-M]
int Min = arr[n-1];
```

```
System.out.Print(M+"Maximum (greatest number = +"max");
System.out.Print("/n" + n +" Minimum number = "+min");
  }
 }
```

7) Write a program to print the first n perfect number.

```
import java.util.Scanner;
Public class perfect number
{
 Public static void main (String [] args)
{
 Scanner input = new Scanner (System.in)
 int n = input.nextInt();
 int Sum = 0, temp = 0;
 For ( int j = 2; j<=1000; j++)
 {
    If (n> temp)
    Sum =1;
    For (int i=2; i<j; i++)
   {
      if (j%.i ==0)
          Sum = Sum + i;
      }
      If (Sum ==j)
  {
    System.out.Print (j + " ");
    temp = temp + 1;
     }
   }
}
```

8) Write a program to print the first n perfect numbers.

```
import java.util.scanner;
Public class Perfectnumbers
{
Public static void main (String [] args)
{
scanner input = new scanner (system.in);
int n = input.nextInt();
    int sum =0, temp =0;
    For (int j =2; j<=1000; j++)
    {
     If (n> temp)
        Sum = 1;
     For (int i =2; i<j; i++)
     {
       If (j %.i ==0)
            Sum = Sum+i;
        }
        If (Sum == j)
     {
      system.out.Print (j+" ");
     temp = temp+1;
    }
  }
}
```

9) Write a program to enter the mark of the student in four subjects.

```
import java.util.scanner;
Public class students
{
Public static void main (string[] args)
{
   int a1 = 90;
   int a2 = 91;
   int a3 = 92;
   int a4 = 93;
   int total = (a1+a2+a3+a4);
   Float agg = total / 4f;
   System.out.Println (total);
   System.out.Println (agg);
   if (agg > 75)
       system.out.Println ("DISTINCTION");
   else if (age > 60 && agg < 75)
       system.out.Println ("First division:");
   else if (agg >= 40 && agg <50)
       system.out.Println ("Third division");
   else
       system.out.Println ("fail");
```

'o) Write a program to calculate tax given number.

```
import java.util.Scanner;
Public class calculator
{
 Public Static void main (String[] args)
 {
   Scanner input = new Scanner (System.in);
   int income = input.nextInt();
   Float tax;
       If (income <= 150000)
         System.out.Println("NO tax");
    else if (income >=150001 && income <= 500000)
        System.out.Println ("Tax =" + income/10);
     else if (income >= 300001 && income <= 500000)
        System.out.println("Tax" =+ income =120)
     else
       System.out.Println("Tax =" + income/30) :
    }
}
```