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Assignment - 4

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

Sample input:

Enter the numbers
4, 54, 29, 71, 7, 59, 98, 23

output:

Composite number: 3
Prime number: 5

```
int arr[] = {4, 54, 29, 71, 7, 59, 98, 23};
int com = 0, prime = 0;
for (int i = 0; i < arr.length; i++)
{
    int c = 0;
    for (int j = 1; j < arr[i]; j++)
    {
        if (arr[i] % j == 0)
            c++;
    }
    if (c > 1)
        com ++;
    else
        Pri ++;
}
System.out.print ("composite Number: " + com);
System.out.println (" In prime number: " + Pri);
```

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2. Find the mth maximum number and Nth minimum number in an array.

```
int arr[] = {14, 16, 87, 36, 25, 87, 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 number = "+max);
System.out.print("\n"+n+" minimum number = "+min);
int Diff = max - min;
int Diff = max - min;
system.out.print("\n Sum = "+Sum);
System.out.print("\n Difference = "+Diff);
```

3. write a program to print the total amount available in the ATM

```
Int n1 = 500, d1 = 4, n2 = 100, d2 = 20, n3 = 200,
    d3 = 32, n4 = 2000, d4 = 1;
int Total = (n1 * d1) + (n2 * d2) + (n3 * d3) +
                                    (n4 * d4);
System.out.print("Total Available Balance
                        in ATM : " + TOTAL);
```

output:

12400.

4. write a program using choice to check.

```
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");
```

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5. write a program to convert Decimal number equivalent to Binary number and octal!

```
int dec=15;
string bin = Integer.toBinaryString(dec);
string oct = Integer.toOctalString(dec);
System.out.println("Binary number = "+bin);
System.out.print("octal number = "+oct);
```

6. In an organisation they decide to give bonus all the employee on new year. A 5% bonus on salary is given to the grade A workes and 10% bonus on salary to the grade B workers.

```
Scanner input = new Scanner(System.in);
int a,b;
double bonus = 0;
System.out.print("Enter the grade of the
                  employee :");
char a1 = input.next().charAt(0);
System.out.print("Enter the Salary of
                  employee :");
int b1 = input.nextInt();
if (a1 == 'A')
{
    bonus = b1 * (0.05);
    if (b1 < 10000)
    {
        bonus = bonus + b1 * (0.02);
    }.
```

```
System.out.println("salary = "+b1);
System.out.println("bonus = "+bonus);
System.out.println("total to be Paid = "+
                                  +(b1+bonus);
}
  else if (a1=='B')
{
   bonus = b1*(0.1);
   if (b1<10000).
   {
     bonus = bonus+b1*(0.02);
   }
     System.out.println("salary = "+b1);
     System.out.println("bonus = "+bonus);
     System.out.println("total to be paid
                          ="+(b1+bonus);
}
else{
   System.out.print("Enter valid grade");
}
```

7. write a program to print the first n prefect number.

```
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 enter the marks of a student in four subjects.

```
int a1=90;
int a2 =91;
int a3=92;
int a4=93;
int total = (a1+a2+a3+a4);
float agg = total/4.f;
System.out.println(total);
System.out.println(agg);
if (agg>=75):
        system.out.println("Distinction");
else if (agg>=60 && agg<75)
        System.out.println("first division");
else if (agg>=50 && agg<60)
        System.out.println("Second division");
else if (agg>=40 && agg<50)
        System.out.println("Third division");
else  system.out.println("Fail");
```

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9. write a program to calculate tax given the following conditions:

```
Scanner input = new Scanner (System.in);
int income = input.nextInt();
float tax;
if (income < 150000)
    system.out.println ("No tax");
else if (income >= 150000 && income <= 300000)
    system.out.println ("Tax =" income/10);
else if (income >= 300000 && income <= 500000)
    System.out.println ("Tax = income/20);
else
    System.out.println ("Tax = income/30);
```

10. Calculate the factorial number using function

```
Scanner input = new Scanner (System.in);
    int n = input.nextint ();
    int fact = 1;
    for (int i = 1; i <= n i++)
    {
      fact = fact * i;
    }
    System.out.println ("The factorial
        of" n "is :" + fact);
```