ASSIGNMENT 01

1) Write a Java program to check whether an input number is Palindrome or not.

```
1. import java.util.Scanner;
2.
3. public class Pali {
4.     public static void main(String args[])
5.     {
6.         int x,number, y,temp=0;
7.         Scanner in=new Scanner(System.in);
8.         System.out.println("Enter any number: ");
9.         number=in.nextInt();
10.        y = number;
11.        while(number!=0)
12.        {
13.            x=number%10;
14.            temp=temp*10+x;
15.            number=number/10;
16.        }
17.        if(temp==y)
18.        {
19.            System.out.println("Number is Palindrome");
20.        }
21.        else
22.        {
23.            System.out.println("not Palindrome");
24.        }
25.    }
26.}
```

OUTPUT:

```
Enter any number:
121
Number is Palindrome
```

2) Write a Java program to check whether an input number is Armstrong or not.

```
import java.util.*;
class Ang{
    public static void main(String[] args) {
        int num;
        try (Scanner in = new Scanner(System.in)) {
            System.out.println("Enter the number");
            num = in.nextInt();
        }
        int d=0, comp = num, temp = num;
        while(num!=0){
            d++;
            num = num / 10;
        }
        int s, sum = 0;
```

```
        while(comp!=0){
            s = comp % 10;
            sum = sum + (int)Math.pow(s, d);
            comp = comp / 10;
        }
        if(sum == temp){
            System.out.println("It is a Angstrome");
        }
        else{
            System.out.println("It is not a Angstrome number");
        }
    }
}
```

OUTPUT:

```
Enter the number
153
It is a Angstrome
```

3) Write a Java program to find factorial of a number.

```
import java.util.Scanner;

public class Fact {
    public static void main(String[] args) {
        int number, res=1;
        Scanner in=new Scanner(System.in);
        System.out.println("Enter any number: ");
        number=in.nextInt();
        for(int i = 1; i<=number; i++){
            res = res * i;
        }
        System.out.println(number+"! = "+res);
    }
}
```

OUTPUT:

```
Enter any number:
5
5! = 120
```

4) Write a Java program to find GCD and LCM of two number.

```
import java.util.*;

public class GCD {
    public static void main(String[] args) {
        int num1, num2, gcd = 1;
        try (Scanner in = new Scanner(System.in)) {
            System.out.println("Enter first number");
            num1 = in.nextInt();
            System.out.println("Enter second number");
            num2 = in.nextInt();
```

```
        }
        int n1 = num1;int n2 = num2;
        while(num1!=num2){
            if(num1>num2){
                num1 = num1 - num2;
            }
            else if(num2>num1){
                num2 = num2-num1;
            }
            else{
                gcd = num1;
            }
        }
        int lcm = (n1*n2)/gcd;
        System.out.println("GCD of " + n1 + " and " + n2 + " is " + gcd);
        System.out.println("LCM of " + n1 + " and " + n2 + " is " + lcm);

    }
}
```

OUTPUT:

```
Enter first number
2
Enter second number
4
GCD of 2 and 4 is 1
LCM of 2 and 4 is 8
```

5) Write a Java program to check whether a input is prime or not.

```
import java.util.Scanner;

public class Prime {

  public static void main(String[] args) {

    int num;
    try (Scanner in = new Scanner(System.in)) {
      System.out.println("Enter the number");
      num = in.nextInt();
    }
    boolean flag = false;
    for (int i = 2; i <= num / 2; ++i) {
      // condition for nonprime number
      if (num % i == 0) {
        flag = true;
        break;
      }
    }

    if (!flag)
      System.out.println(num + " is a prime number.");
    else
```

```
      System.out.println(num + " is not a prime number.");
  }
}
```

OUTPUT:

```
Enter the number
2
2 is a prime number.
```

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