Assignment 04:

Question 1: Strong Number Check

Write a program to check whether a number is a **Strong number** or not.
A **Strong number** is a special number whose **sum of factorial of digits** is equal to the original number.

Example:
145 is a strong number because 1! + 4! + 5! = 145

Hint: Use **conditional operator, method, parameterized method** to take input.

Sample Input 1:

145

Expected Output:

145 is a strong number

Sample Input 2:

130

Expected Output:

130 is not a strong number

Main.java

Share Run

```java
import java.util.Scanner;

class Main {
    // method to calculate factorial of a digit
    static int factorial(int n)
    {
        int fact = 1;
        for (int i = 1; i <= n; i++)
        {
            fact *= i;
        }
        return fact;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number: ");
        int num = sc.nextInt();
        int temp = num;
        int sum = 0;

        // extract digits and add factorials
        while (temp > 0) {
            int digit = temp % 10;
            sum += factorial(digit);
            temp /= 10;
```

```
26              temp /= 10;
27          }
28
29          // check if strong number
30          if (sum == num) {
31              System.out.println(num + " is a Strong number");
32          } else {
33              System.out.println(num + " is NOT a Strong number");
34          }
35      }
36  }
```

Output:

```
Output                                                    Clear

Enter a number:
145
145 is a Strong number

=== Code Execution Successful ===
```

```
Output                                                    Clear

Enter a number:
130
130 is NOT a Strong number

=== Code Execution Successful ===
```

Question 2: Leap Year Check

Write a program to check **leap year** using if-else.
Rules for Leap Year:

- If a year is divisible by 4 **and not divisible by 100**, it is a leap year.
- Or, if a year is divisible by 400, it is also a leap year.

Hint: Take input from the user and store it in a variable year.

Sample Input 1:

2004

Expected Output:

LEAP YEAR

Main.java

Share Run

```java
import java.util.Scanner;

class Main
{
    public static void main (String[] args)
    {
        Scanner sc=new Scanner(System.in);
         System.out.println("Plese enter year Whether it is leap
              year or not:");
        int year=sc.nextInt();

        if((year%400==0) || (year%100 !=0 && year%4==0))
        {
            System.out.println("Leap year:"+year);
        }
        else
        {
            System.out.println("Non leap year");
        }


    }
}
```

Output:

Output

Clear

```
Plese enter year Whether it is leap year or not:
2001
Non leap year

=== Code Execution Successful ===
```

Output

Clear

```
Plese enter year Whether it is leap year or not:
2004
Leap year:2004

=== Code Execution Successful ===
```