```java
import java.util.Scanner;

public class MultithreadingDemo {

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter an integer in range 0-10 :");
        int num  = sc.nextInt();

        Thread factThread = new Factorial(num);
        Thread sumThread = new NaturalNumberSum(num);

        try {
            factThread.start();
            Thread.sleep(500);
            sumThread.start();
            // Wait for threads to join
            factThread.join();
            sumThread.join();
        } catch (InterruptedException e) {
            throw new RuntimeException(e);
        }

        System.out.println("\nMain method ended.");
    }
}


class Factorial extends Thread {
    private int num;

    public Factorial(int num) {
        this.num = num;
    }

    public void setNum(int num) {
        this.num = num;
    }

    @Override
    public void run() {
        int fact = 1;
        int temp = num;
        while(temp > 1) {
            fact *= temp--;
            System.out.println("Multiplied factorial with " + (temp + 1));
            // sleep for sometime
            try {
                Thread.sleep(1000);
            } catch (InterruptedException e) {
                throw new RuntimeException(e);
            }
        }
```

```
54
55          System.out.println("\nThe factorial of " + num + " is " + fact);
56      }
57  }
58
59
60  class NaturalNumberSum extends Thread {
61      private int num;
62
63      public NaturalNumberSum(int num) {
64          this.num = num;
65      }
66
67      public void setNum(int num) {
68          this.num = num;
69      }
70
71
72      @Override
73      public void run() {
74          int sum = 0;
75          int temp = num;
76          while(temp > 0) {
77              sum += temp--;
78              System.out.println("Added " + (temp + 1) + " to sum.");
79              // sleep for sometime
80              try {
81                  Thread.sleep(1000);
82              } catch (InterruptedException e) {
83                  throw new RuntimeException(e);
84              }
85          }
86
87          System.out.println("\nThe sum of all natural numbers till " + num + " is "
     + sum);
88      }
89  }
90
```

```
"C:\Program Files\Java\jdk-19\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=51190:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\bin" -Dfile.encoding=UTF-8 -Dsun.stdout.encoding=UTF-8 -Dsun.stderr.encoding=UTF-8 -classpath "D:\College\Fourth SEM\java\javA\out\production\javA;C:\Users\Abhishek\.m2\repository\org\jetbrains\annotations\24.0.0\annotations-24.0.0.jar" MultithreadingDemo
Enter an integer in range 0-10 :1

The factorial of 1 is 1
Added 1 to sum.

The sum of all natural numbers till 1 is 1

Main method ended.

Process finished with exit code 0

```