Experiment No. 4

Problem Statement/Name of Experiment :

Develop a Java program to implement a lambda expression

i. To find the sum of two integers.
ii. ii. To calculate the factorial of a given number

Theory :

A lambda expression in Java is a concise way to represent an anonymous function (a function without a name) that can be passed around as a parameter or used to create functional interfaces. It provides a clear and expressive syntax for writing instances of single-method interfaces (functional interfaces).
Syntax:
The basic syntax of a lambda expression is as follows:

```
(parameters) -> expression
        or
(parameters) -> { statements; }
```

Code : 1

```
@FunctionalInterface
interface Sum {
   int add(int a, int b);
}

public class LambdaSum {
```

```
    public static void main(String[] args) {
        // Lambda expression to find the sum of two integers
        Sum sum = (a, b) -> a + b;

        // Example usage
        int result = sum.add(50, 10);
        System.out.println("The sum of 50 and 10 is: " + result);
    }
}
```

Output:

```
"C:\Program Files\Java\jdk-19\bin\java.exe" "-javaagent:C:\
The sum of 50 and 10 is: 60

Process finished with exit code 0
```

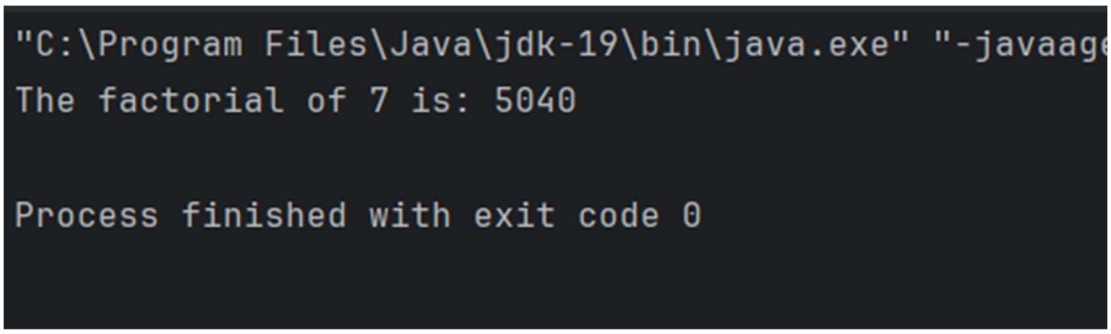
Code : 2

```
@FunctionalInterface
interface Factorial {
    int calculate(int n);
}

public class Facto {
    public static void main(String[] args) {
        Factorial factorial = (n) -> {
            int result = 1;
            for (int i = 1; i <= n; i++) {
                result *= i;
            }
            return result;
        };
```

```
        int num = 7;
        int factResult = factorial.calculate(num);
        System.out.println("The factorial of " + num + " is: " + factResult);
    }
}
```

Output:



Conclusion:

I have successfully implement the java program for lambda expression of sum of two number and factorial of a number.