PROGRAMMING IN JAVA LAB-8

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Part 1 : Write a Java Program to find the factorial of 'n' integers (as command line arguments CLA). Write your own exception "MyExcep" to validate integer values to be in certain range.

Part 2:

Define an exception class called "NOMATCHEXCP" that is thrown when the string from keyboard is not equal to "India". Write a Demo program using try-catch block that shows the use of this user-defined exception. class NOMATCHEXCP should have a parameterized constructor and the exception message generated should show the line number and the erroneous String that was inputted by the user.

//

PART1:

```java
class MyExcep extends Exception {
    public MyExcep(String message) {
        super(message);
    }
}

public class Factorial {
    public static void main(String[] args) {
        int n;
        for(int i=0;i<args.length;i++){
            try {
                int fact = 1;
                n = Integer.parseInt(args[i]);


                if (n < 0 || n > 15) {
                    throw new MyExcep("Invalid input! Integer must be
between 0 and 15.");
                }


                for (int j = 1; j <= n; j++) {
                    fact *= j;
                }
```

```java
                System.out.println("Factorial of " + n + " is: " + fact);

            } catch (MyExcep e) {
                System.out.println(e.getMessage());
            } catch (NumberFormatException e) {
                System.out.println("Invalid input! Please enter an integer
value.");
            }
        }
    }
}
```

OUTPUT:

```
C:\Users\nayye\OneDrive\Desktop\JAVA>java Factorial 8 -6 abcd 5 20
Factorial of 8 is: 40320
Invalid input! Integer must be between 0 and 15.
Invalid input! Please enter an integer value.
Factorial of 5 is: 120
Invalid input! Integer must be between 0 and 15.
```

PART2

```java
import java.util.Scanner;

class NOMATCHEXCP extends Exception {
    public NOMATCHEXCP(int line, String input) {
        super("Error: Line " + line + ": \"" + input + "\" is not equal to
\"India\"");
    }
}

public class Demo {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        String input;
        int line = 0;

        try {
            System.out.print("Enter a string: ");
            input = scanner.nextLine();
            line++;

            if (!input.equals("India")) {
                throw new NOMATCHEXCP(line, input);
            }

            System.out.println("Input string is equal to \"India\"");
        } catch (NOMATCHEXCP e) {
            System.err.println(e.getMessage());
        }
    }
}
```

OUTPUT:

```
Enter a string: Aadarsh
Error: Line 1: "Aadarsh" is not equal to "India"


Process finished with exit code 0
|
```

```
Enter a string: India
Input string is equal to "India"


Process finished with exit code 0
```

GITHUB: https://github.com/aadarsh1810/JAVA/tree/main/Assignment-8