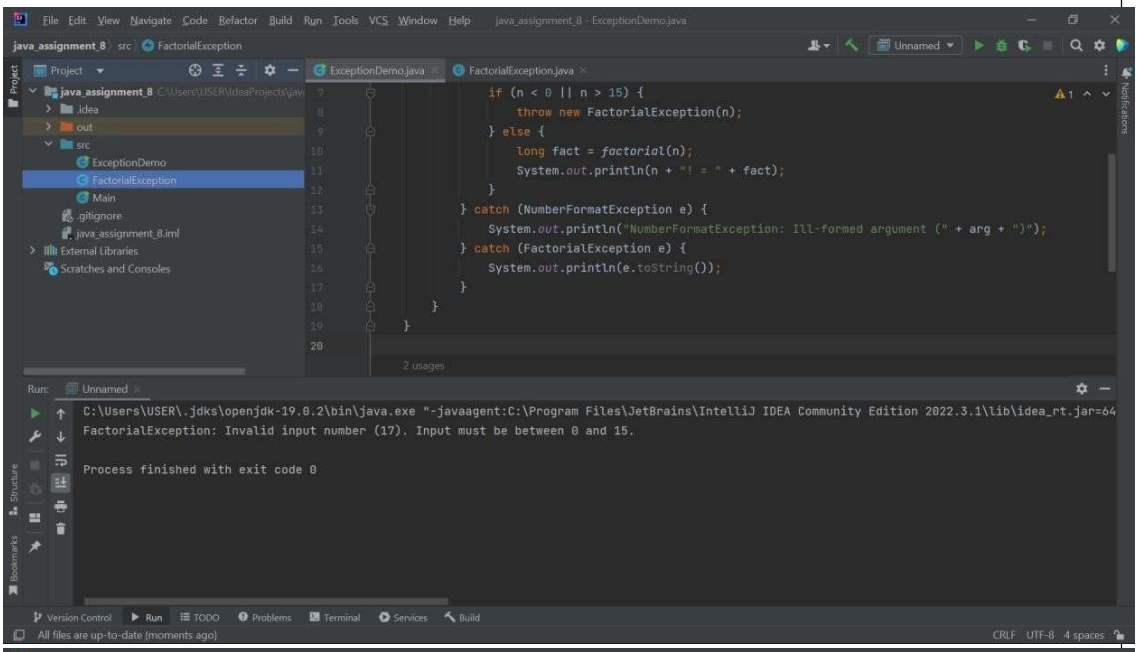
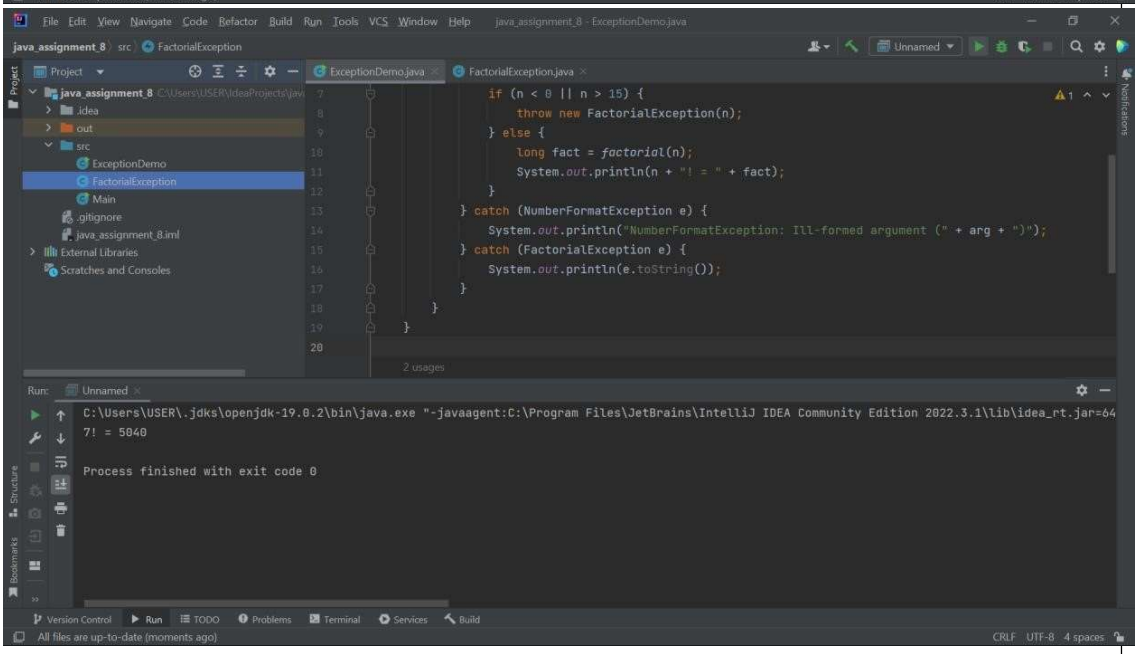
PART 1:

INPUT:

```
class FactorialException extends Exception {
private int number;

    public FactorialException(int number) {
this.number = number;
    }

    @Override
    public String toString() {          return "FactorialException:
Invalid input number (" + number + ").
Input must be between 0 and 15.";
    }
}

public class ExceptionDemo {
    public static void main(String[] args)
{         for (String arg : args) {
try {
                int n = Integer.parseInt(arg);
if (n < 0 || n > 15) {
                    throw new FactorialException(n);
                } else {
                    long fact = factorial(n);
                    System.out.println(n + "! = " + fact);
                }
            } catch (NumberFormatException e) {
                System.out.println("NumberFormatException: Ill-formed
argument (" + arg + ")");
            } catch (FactorialException e) {
                System.out.println(e.toString());
            }
        }
    }      public static long
factorial(int n) {          if (n == 0) {
return 1;          } else {
            return n * factorial(n - 1);
        }
    }
}
```

OUTPUT:


File Edit View Navigate Code Refactor Build Run Tools VCS Window Help
java_assignment_8 - ExceptionDemo.java
java_assignment_8 src FactorialException
Unnamed
Project
ExceptionDemo.java
FactorialException.java
java_assignment_8
.idea
out
src
ExceptionDemo
FactorialException
Main
.gitignore
java_assignment_8.iml
External Libraries
Scratches and Consoles
if (n < 0 || n > 15) {
throw new FactorialException(n);
} else {
long fact = factorial(n);
System.out.println(n + "! = " + fact);
}
} catch (NumberFormatException e) {
System.out.println("NumberFormatException: Ill-formed argument (" + arg + ")");
} catch (FactorialException e) {
System.out.println(e.toString());
}
}
}
2 usages
Run: Unnamed
C:\Users\USER\.jdks\openjdk-19.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=64
FactorialException: Invalid input number (17). Input must be between 0 and 15.
Process finished with exit code 0
Version Control Run TODO Problems Terminal Services Build
All files are up-to-date (moments ago)
CRLF UTF-8 4 spaces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java_assignment_8 - ExceptionDemo.java
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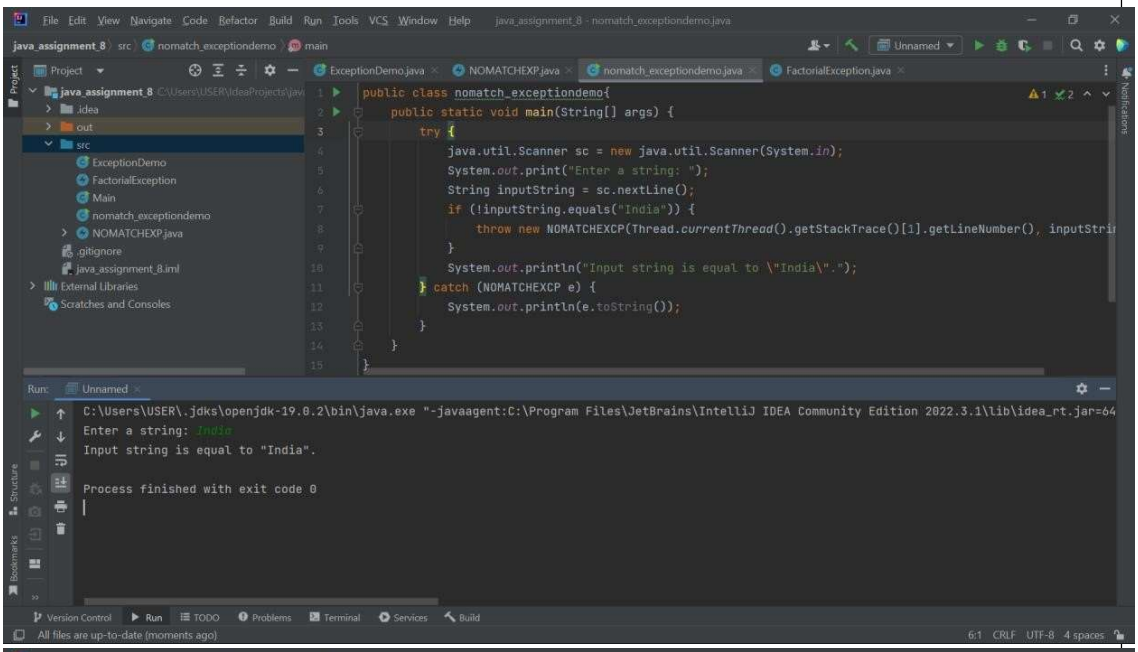
Main
.gitignore
java_assignment_8.iml
External Libraries
Scratches and Consoles
if (n < 0 || n > 15) {
throw new FactorialException(n);
} else {
long fact = factorial(n);
System.out.println(n + "! = " + fact);
}
} catch (NumberFormatException e) {
System.out.println("NumberFormatException: Ill-formed argument (" + arg + ")");
} catch (FactorialException e) {
System.out.println(e.toString());
}
}
}
2 usages
Run: Unnamed
C:\Users\USER\.jdks\openjdk-19.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=64
7! = 5040
Process finished with exit code 0
Version Control Run TODO Problems Terminal Services Build
All files are up-to-date (moments ago)
CRLF UTF-8 4 spaces

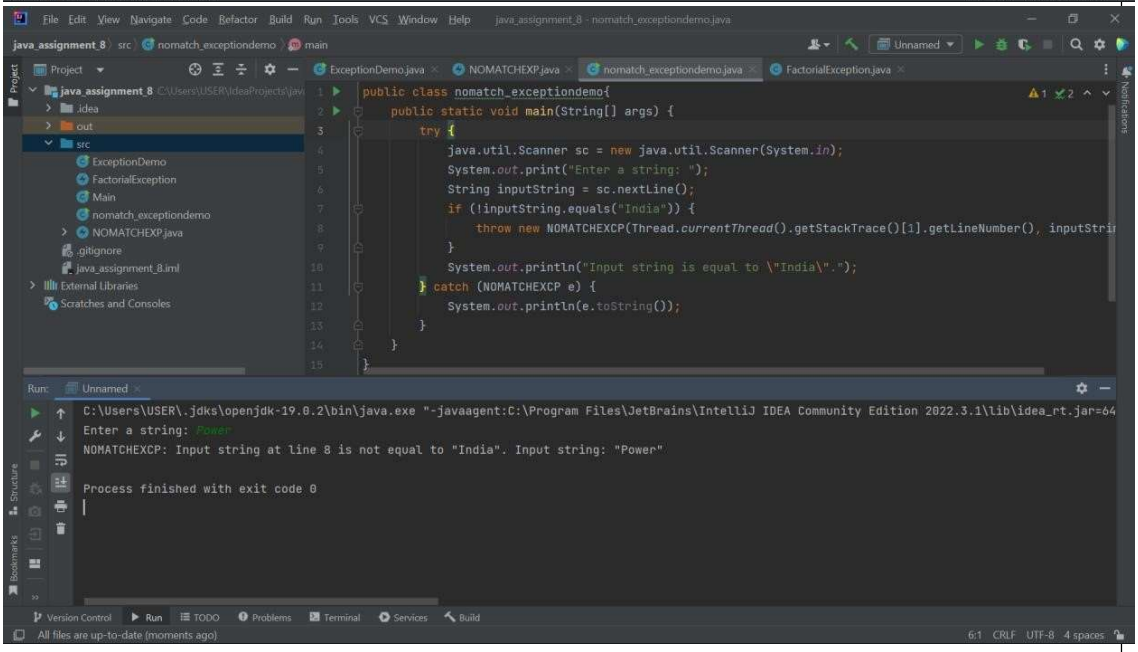
PART 2:

INPUT:

```
class NOMATCHEXCP extends Exception {
private int lineNumber;     private
String inputString;

    public NOMATCHEXCP(int lineNumber, String inputString)
{         this.lineNumber = lineNumber;
this.inputString = inputString;
    }

    @Override
    public String toString() {
        return "NOMATCHEXCP: Input string at line " + lineNumber + " is not
equal to \"India\". Input string: \"" + inputString + "\"";
    }
}

public class nomatch_exceptiondemo{
public static void main(String[] args) {
try {
            java.util.Scanner sc = new java.util.Scanner(System.in);
            System.out.print("Enter a string: ");
            String inputString = sc.nextLine();
if (!inputString.equals("India")) {
                throw new
NOMATCHEXCP(Thread.currentThread().getStackTrace()[1].getLineNumber(),
inputString);             }
            System.out.println("Input string is equal to \"India\".");
        } catch (NOMATCHEXCP e) {
            System.out.println(e.toString());
        }
    }
}
```

OUTPUT:


public class nomatch_exceptiondemo{
public static void main(String[] args) {
try {
java.util.Scanner sc = new java.util.Scanner(System.in);
System.out.print("Enter a string: ");
String inputString = sc.nextLine();
if (!inputString.equals("India")) {
throw new NOMATCHEXCP(Thread.currentThread().getStackTrace()[1].getLineNumber(), inputStri
}
System.out.println("Input string is equal to \"India\".");
} catch (NOMATCHEXCP e) {
System.out.println(e.toString());
}
}
}
C:\Users\USER\.jdks\openjdk-19.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=64
Enter a string: India
Input string is equal to "India".
Process finished with exit code 0


public class nomatch_exceptiondemo{
public static void main(String[] args) {
try {
java.util.Scanner sc = new java.util.Scanner(System.in);
System.out.print("Enter a string: ");
String inputString = sc.nextLine();
if (!inputString.equals("India")) {
throw new NOMATCHEXCP(Thread.currentThread().getStackTrace()[1].getLineNumber(), inputStri
}
System.out.println("Input string is equal to \"India\".");
} catch (NOMATCHEXCP e) {
System.out.println(e.toString());
}
}
}
C:\Users\USER\.jdks\openjdk-19.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=64
Enter a string: Power
NOMATCHEXCP: Input string at line 8 is not equal to "India". Input string: "Power"
Process finished with exit code 0

GITHUB LINK: https://github.com/Harsh-Ratna/Java-Programs/tree/main/java%20assignment%208