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Department
of
COMPUTER SCIENCE AND ENGINEERING

ASSIGNMENT-1

[18UCSE508- ADVANCED OBJECT ORIENTED PROGRAMMING]

Course Teacher: Prof. Indira R Umarji

2022- 2023

Submitted
By

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2SD20CS106
5th Semester B division

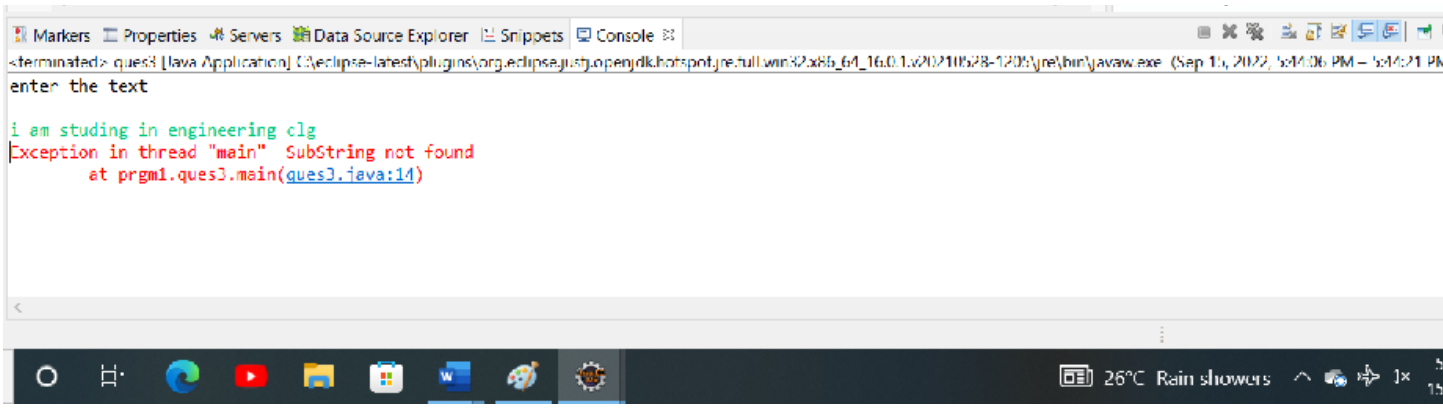
Q3. Write a Java program to perform the following operations:

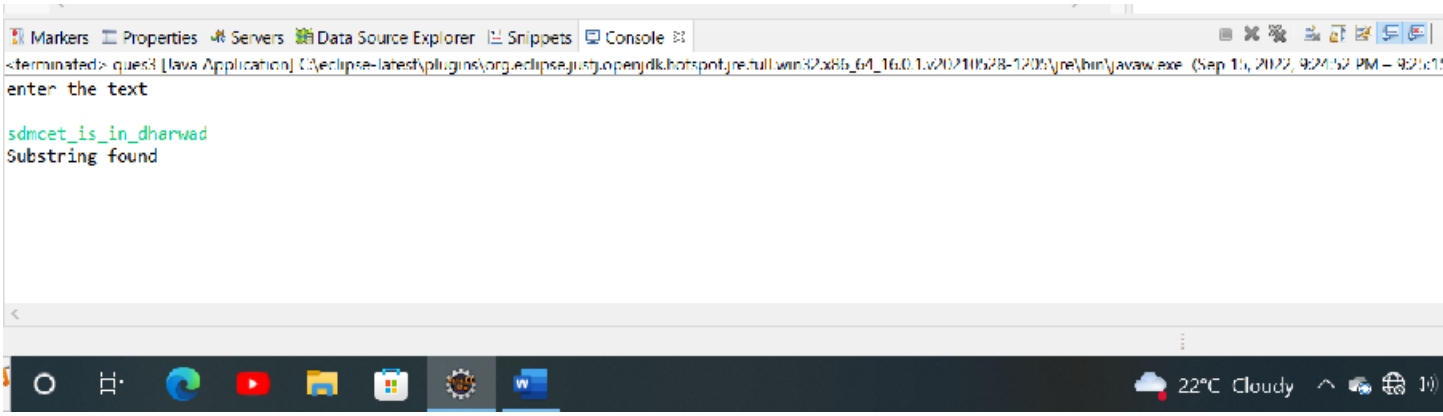
a) Read a line of text
b) Search for a sub-string SDMCET (case insensitive search)
c) If found, then print success message
d) Otherwise throw an exception SubStringNotFoundException with appropriate message

```
package prgm1;

import java.util.Scanner;

public class ques3 {

	public static void main(String[] args) throws Exception {
		Scanner sc=new Scanner(System.in);
		System.out.println("enter the text");
		String str=sc.next();
		String substr="SDMCET";
		boolean b=str.toLowerCase().contains(substr.toLowerCase());
		if(!b)
			throw new SubStringNotFoundException();
		else
			System.out.println("Substring found");


	}

}
```

```
package prgm1;

public class SubStringNotFoundException extends Exception{


	public String toString() {
		return " SubString not found";

	}

}
```

OUTPUT:



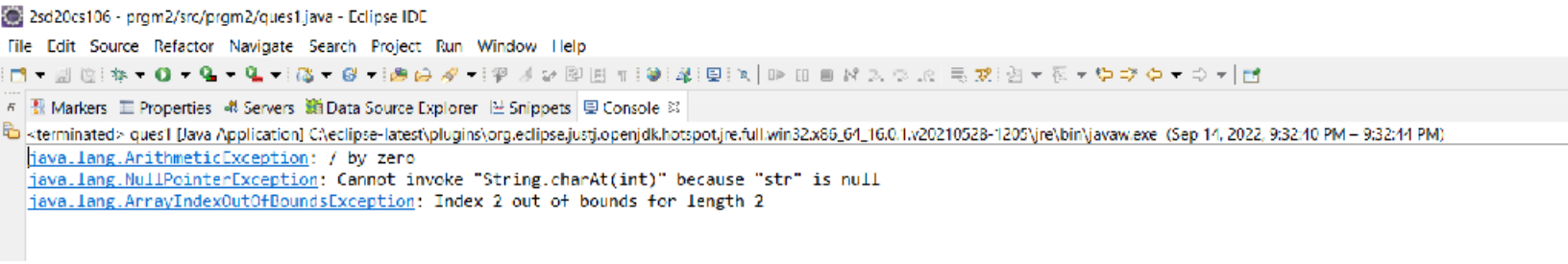


Q1. Write a Java program to generate and handle any three built-in exceptions and display appropriate error messages.

```
package prgm2;

public class ques1 {
        public static void main(String[] args) {
```

```
            try  {
                    int a=10,b=0;
                    int res=a/b;
                    System.out.println(res);
            }catch(ArithmeticException ae) {
                    System.out.println(ae);
            }
            try {
                    String str=null;
                    System.out.println(str.charAt(0));
            }catch(NullPointerException ne) {
              System.out.println(ne);

            }
      try {
            int[]  A= new int[2];
            A[0]=10;
            A[1]=20;
            A[2]=30;
      }catch(ArrayIndexOutOfBoundsException aie) {
              System.out.println(aie);

      }
         }
```

OUTPUT:



Q4. Write a Java program to perform the following operations:

a) Create a file named Alphabets.txt and insert appropriate data into it

b) Read the file and copy all the consonants into another file named Consonants.txt

c) If vowel is encountered, throw an exception VowelNotAllowedException and continue until

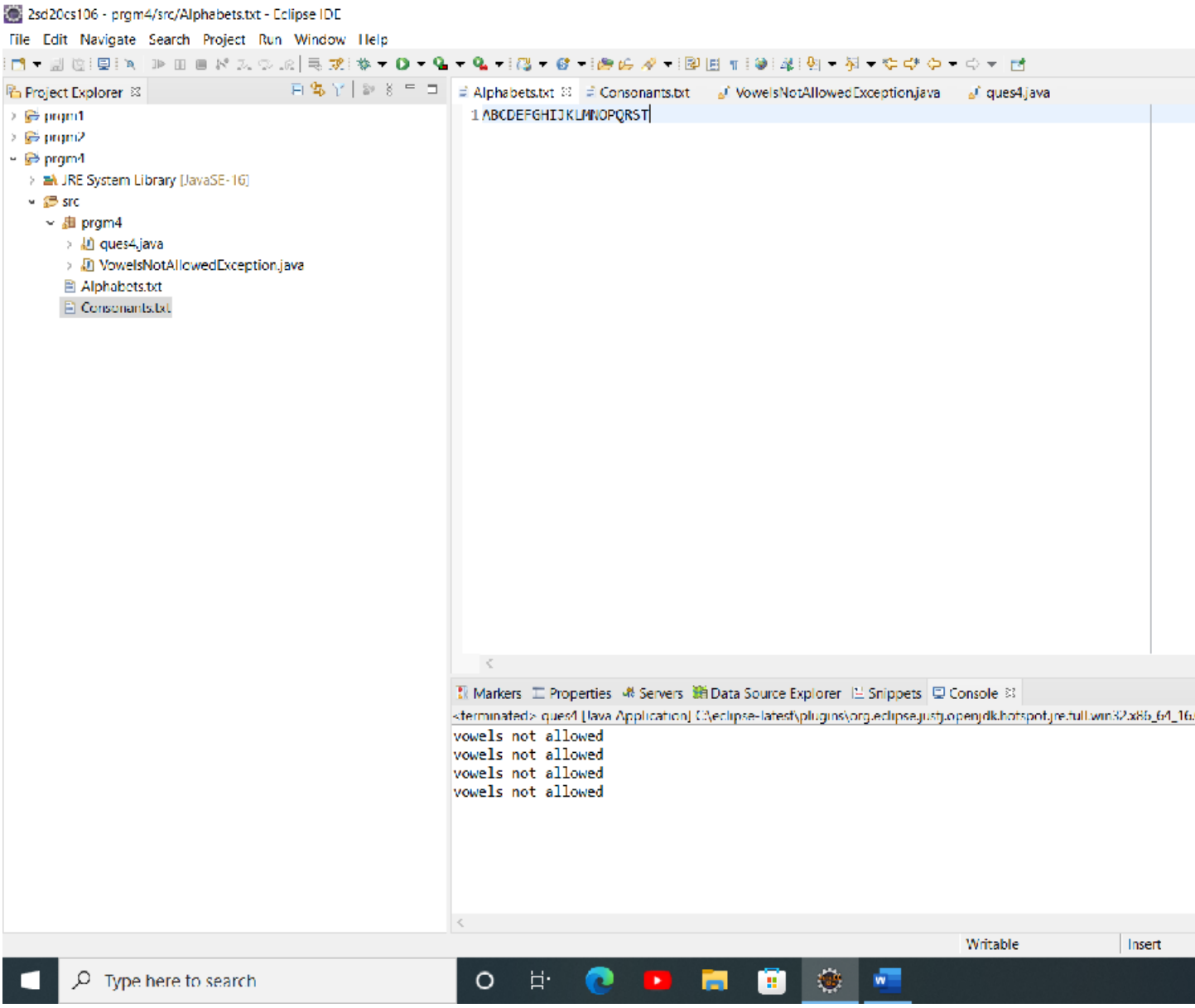
end of file

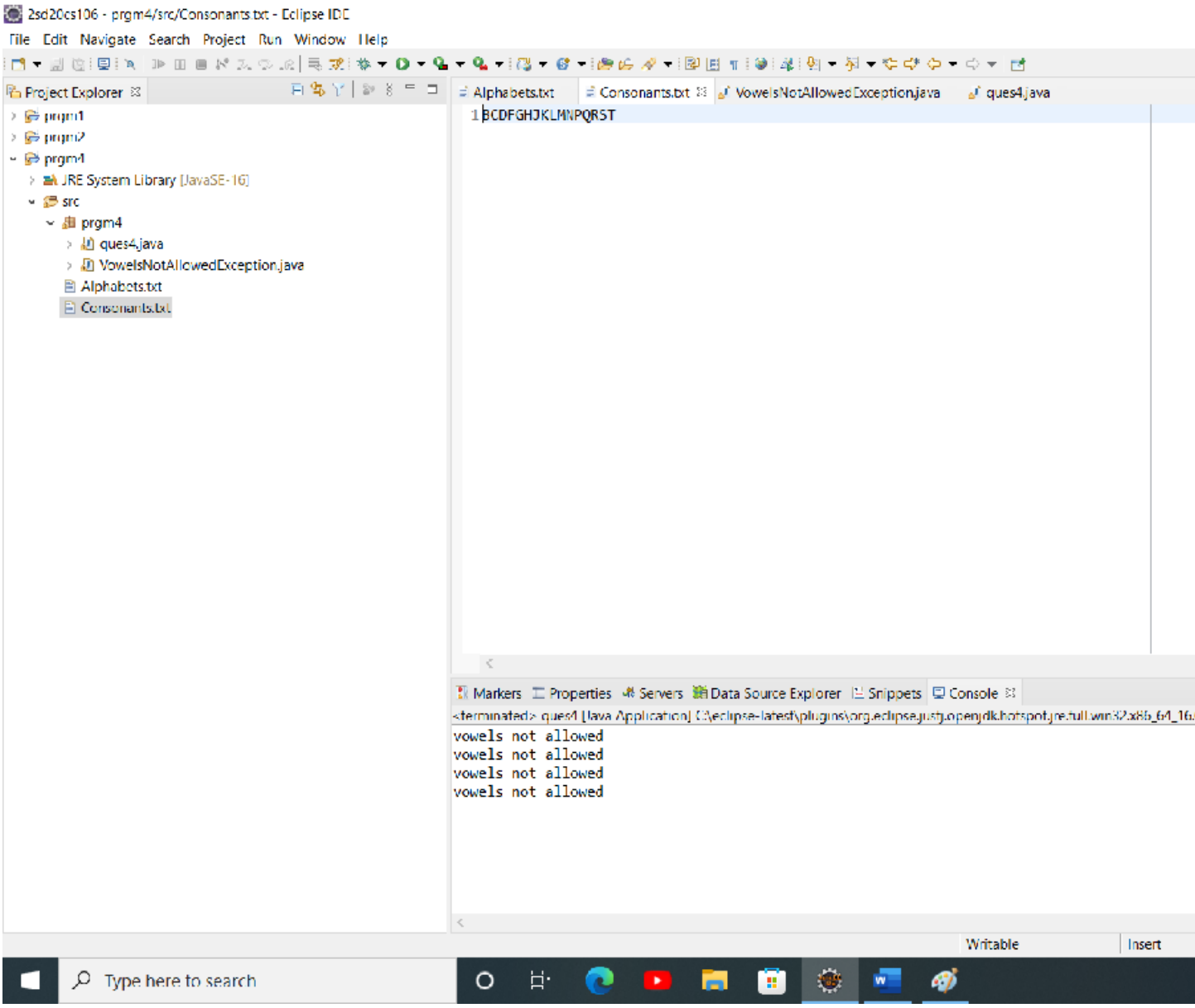
```
package prgm4;
import java.io.FileInputStream;
import java.io.FileOutputStream;

public class ques4 {

	public static void main(String[] args) throws Exception  {
		FileInputStream fis = new FileInputStream("C:\\eclipse-
latest\\2sd20cs106\\prgm4\\src\\Alphabets.txt");
		FileOutputStream fos = new FileOutputStream("C:\\eclipse-
latest\\2sd20cs106\\prgm4\\src\\Consonants.txt");
				int c;
			while((c=fis.read())!=-1) {
				try {
					if(c=='a'|| c=='e' || c=='i'|| c=='o'|| c=='u'||
c=='A'|| c=='E' || c=='I' ||c=='O'|| c=='U') {
						throw new VowelsNotAllowedException();

					}
						fos.write(c);
				}catch(Exception e)  {
					System.out.println(e);
```

```
                        }
                }

        }

}
```

```
package prgm4;

public class VowelsNotAllowedException extends Exception {

        public String toString() {
                return "vowels not allowed";
        }

}
```

OUTPUT:


2sd20cs106 - prgm4/src/Alphabets.txt - Eclipse IDE
File Edit Navigate Search Project Run Window Help
Project Explorer
prgm1
prgm2
prgm4
JRE System Library [JavaSE-16]
src
prgm4
ques4.java
VowelsNotAllowedException.java
Alphabets.txt
Consonants.txt
Alphabets.txt
Consonants.txt
VowelsNotAllowedException.java
ques4.java
1 ABCDEFGHIJKLMNOPQRST
Markers
Properties
Servers
Data Source Explorer
Snippets
Console
vowels not allowed
vowels not allowed
vowels not allowed
vowels not allowed
Writable
Insert
Type here to search



Q2. Write a Java program to read an integer and check whether the number is prime or not. If negative number is entered, throw an exception NegativeNumberNotAllowedException and if entered number is not prime, then throw NumberNotPrimeException.

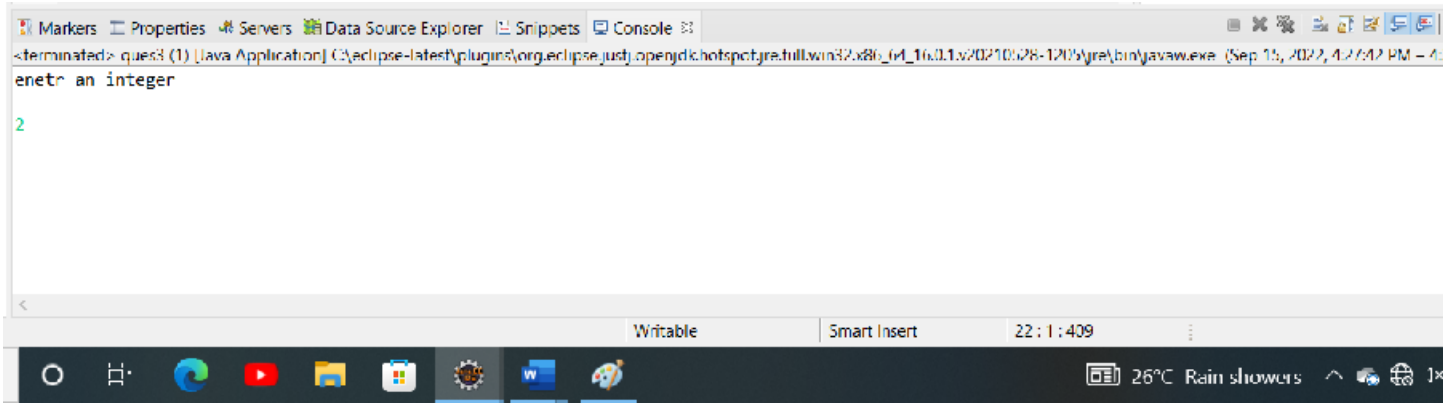
```
package prgm3;
import java.util.Scanner;

public class ques3 {
```

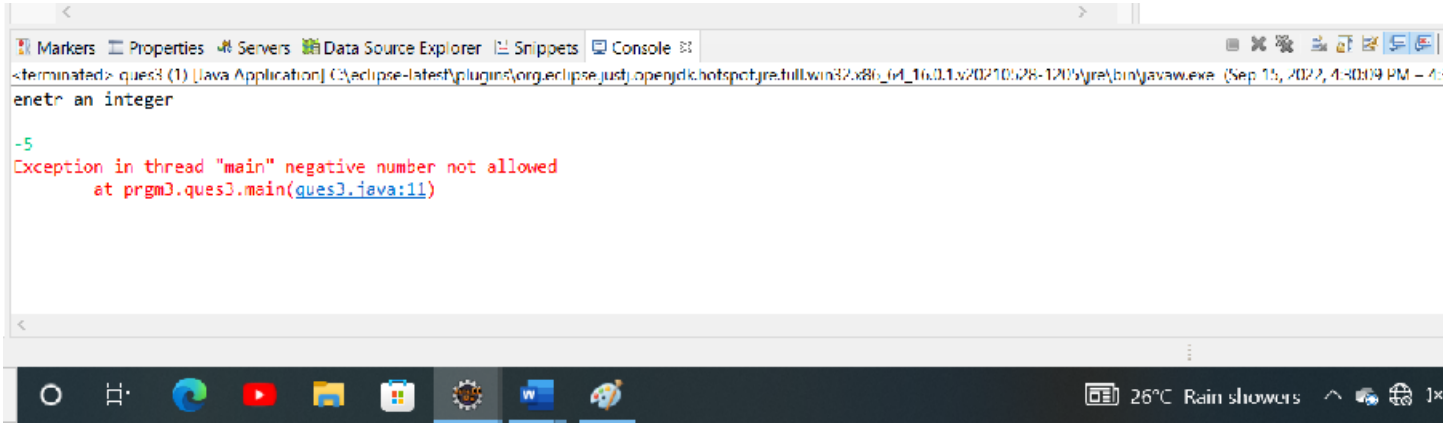
```
	public static void main(String[] args) throws Exception {
		Scanner sc=new Scanner(System.in);
		System.out.println("enetr an integer");
		int n=sc.nextInt();
		if(n<0) {
			throw new NegativeNumberNotAllowedException();
		}
		for(int i=2;i<n;i++) {
			if(n%i==0) {
				throw new NumberNotPrimeException();
			}
		}

	}

}
```

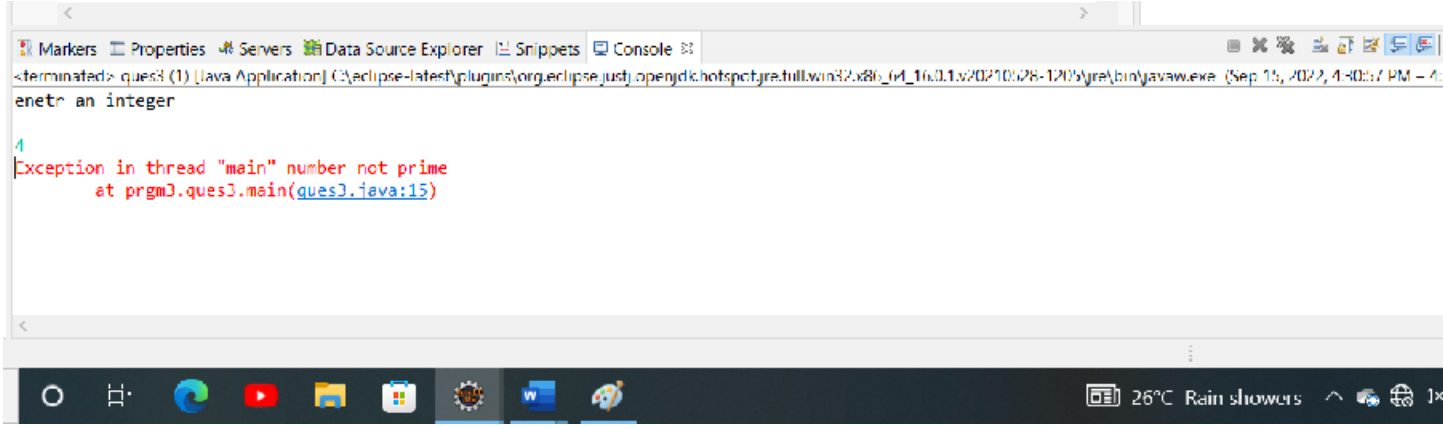
```
package prgm3;

public class NegativeNumberNotAllowedException extends Exception {

	public String toString() {
		return "negative number not allowed";
	}

}
```

```
package prgm3;

public class NumberNotPrimeException extends Exception {

	public String toString() {
		return "number not prime";

	}

}
```

OUTPUT:


Markers Properties Servers Data Source Explorer Snippets Console
enter an integer
2
Writable
Smart Insert
22 : 1 : 409
26°C Rain showers


Markers Properties Servers Data Source Explorer Snippets Console
enter an integer
-5
Exception in thread "main" negative number not allowed
at prgm3.ques3.main(ques3.java:11)
26°C Rain showers


Markers Properties Servers Data Source Explorer Snippets Console
enter an integer
1
Exception in thread "main" number not prime
at prgm3.ques3.main(ques3.java:15)
26°C Rain showers