



AOOP Assignment Submission Report

[Submitted as part of CTA Assignment No-1]

Course:	Advanced Object-Oriented Programming	Course Code:	18UCSE508
Semester:	V	Division:	B

Submitted by:

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1.Problem Definition:

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

Java Program:

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];

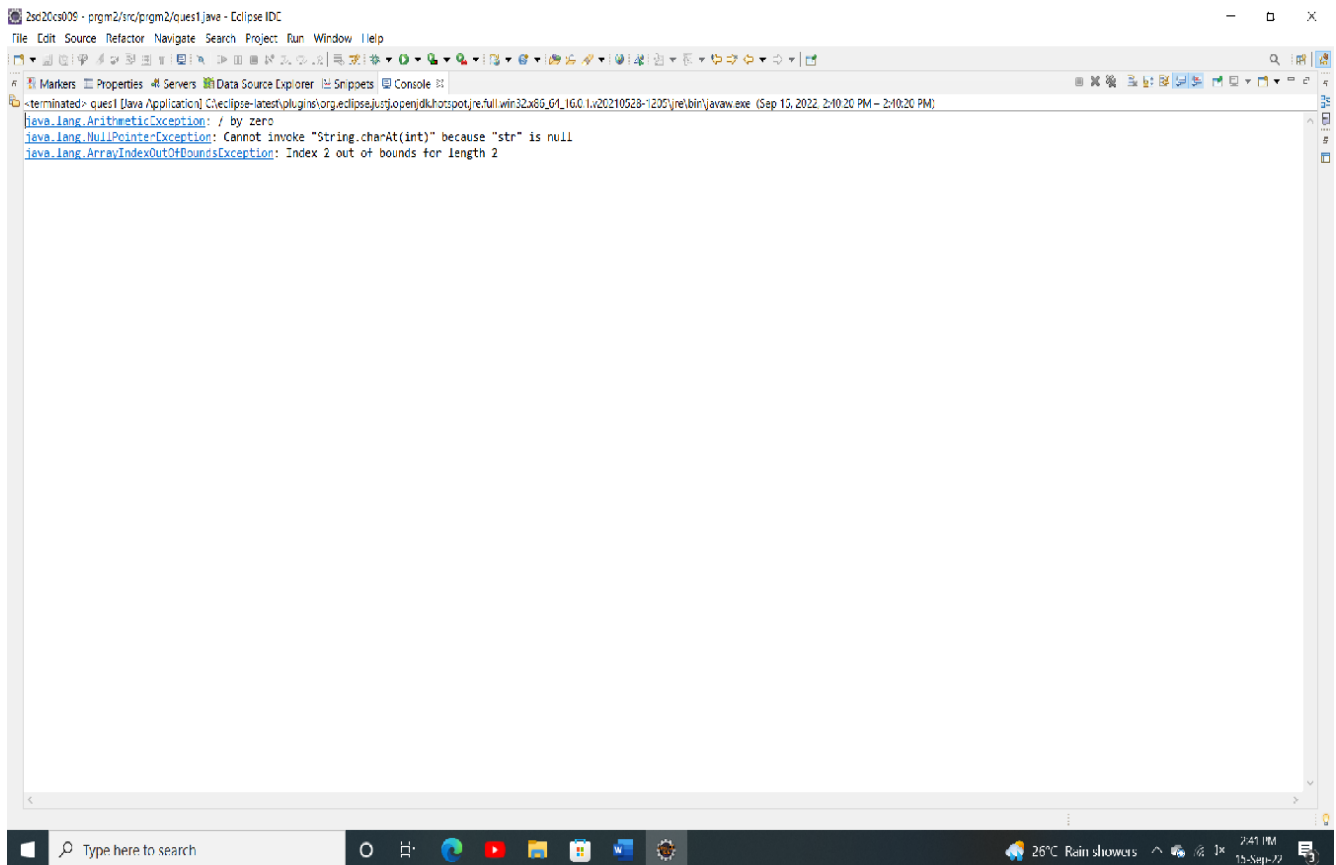
 A[0]=10;

 A[1]=20;

 A[2]=30;

```
}catch(ArrayIndexOutOfBoundsException aie) {  
    System.out.println(aie);  
  
}  
}
```

OUTPUT:



2.Problem Definition:

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.

Java Program:

```
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("enter 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();

            }

            else

            {

                System.out.println("number is prime");

            }

        }

    }

}
```

```
}  
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:



```
<terminated> ques3 [Java Application] D:\eclipse-latest\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.1.v20210528-1205\jre\bin\javaw.exe  
enetr an integer  
6  
Exception in thread "main" number not prime  
    at prime/prgm3.ques3.main(ques3.java:15)
```

3.Problem Definition:

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

Java Program:

```
package prg1;

import java.util.Scanner;

public class prg1{

    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");

    }

}

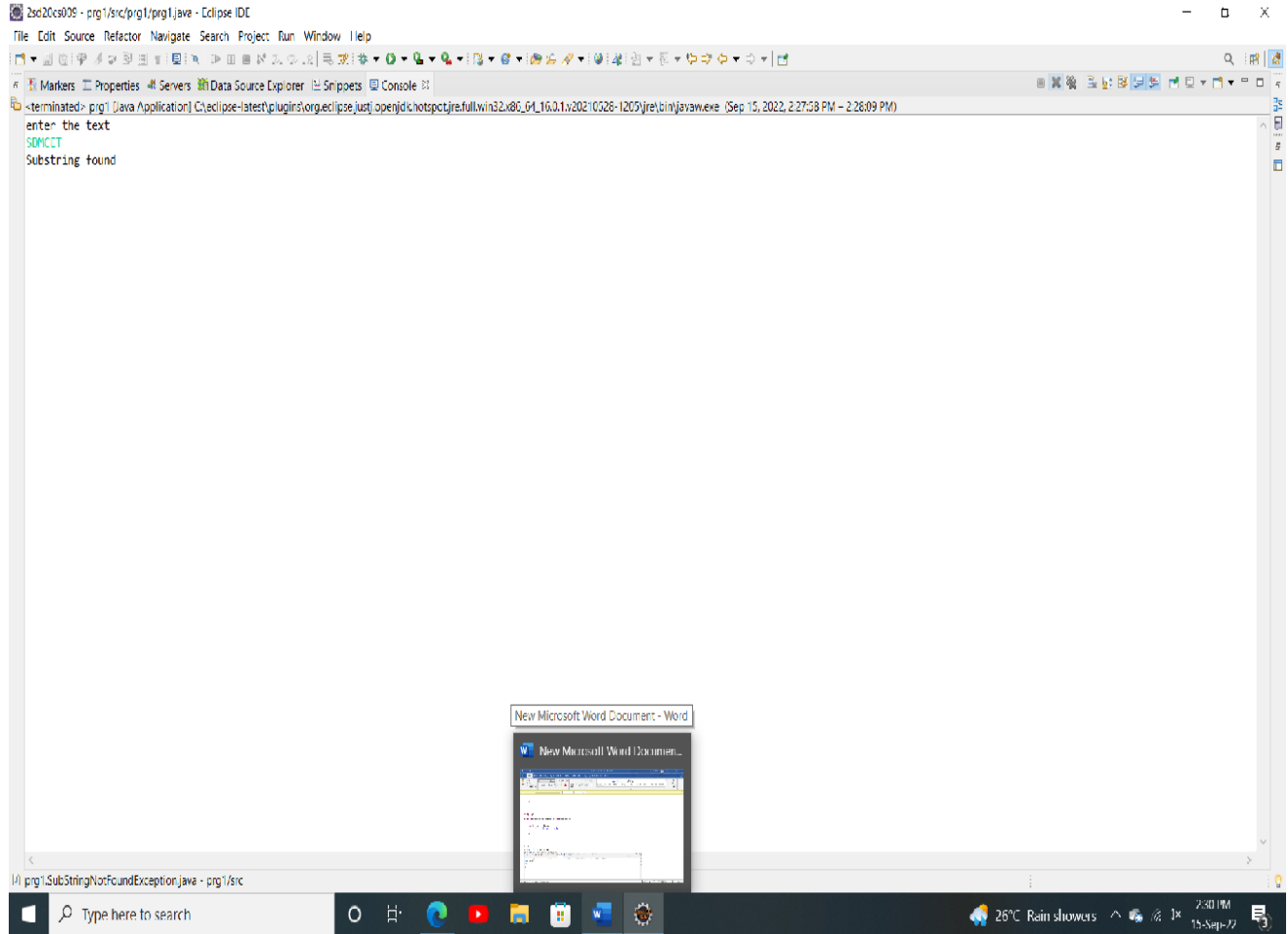
package prgm1;

public class SubStringNotFoundException extends Exception{

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

}
```

OUTPUT:



4.Problem Definition:

Write a Java program to perform the following operations:

- Create a file named Alphabets.txt and insert appropriate data into it
- Read the file and copy all the consonants into another file named Consonants.txt
- If vowel is encountered, throw an exception `VowelNotAllowedException` and continue until end of file

Java Program:

```
package Q4;  
  
import java.lang.Exception;  
  
import java.io.FileInputStream;
```

```
import java.io.FileOutputStream;

public class Ex4{

    public static void main(String [] args)throws Exception{

        FileInputStream fis = new
FileInputStream("D:\\eclipse-latest\\2SD20CS009\\Q4\\src\\alphabets.txt");

        FileOutputStream fos = new
FileOutputStream("D:\\eclipse-latest\\2SD20CS009\\Q4\\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
VowelNotAllowedException();

                }

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

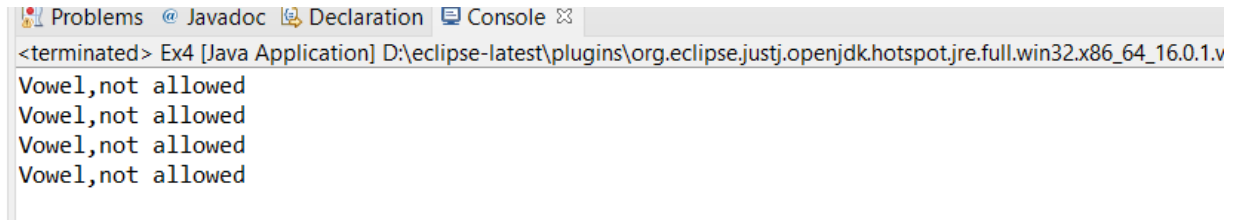
Input file: alphabets.txt

Contents : akshatareddy

Output file: consonants.txt

Contents : kshtrddy

Output:

A screenshot of the Eclipse IDE's Console window. The window has tabs for 'Problems', 'Javadoc', 'Declaration', and 'Console'. The 'Console' tab is active, showing the output of a Java application. The output text is: '<terminated> Ex4 [Java Application] D:\eclipse-latest\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.1.v Vowel,not allowed Vowel,not allowed Vowel,not allowed Vowel,not allowed'.

```
<terminated> Ex4 [Java Application] D:\eclipse-latest\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_16.0.1.v
Vowel,not allowed
Vowel,not allowed
Vowel,not allowed
Vowel,not allowed
```