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Department
of
COMPUTER SCIENCE AND ENGINEERING

ASSIGNMENT-1

[18UCSE508- ADVANCED OBJECT ORIENTED PROGRAMMING]

Course Teacher: Prof. Indira R Umarji

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Submitted
By
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2SD20CS120
5th Semester B division

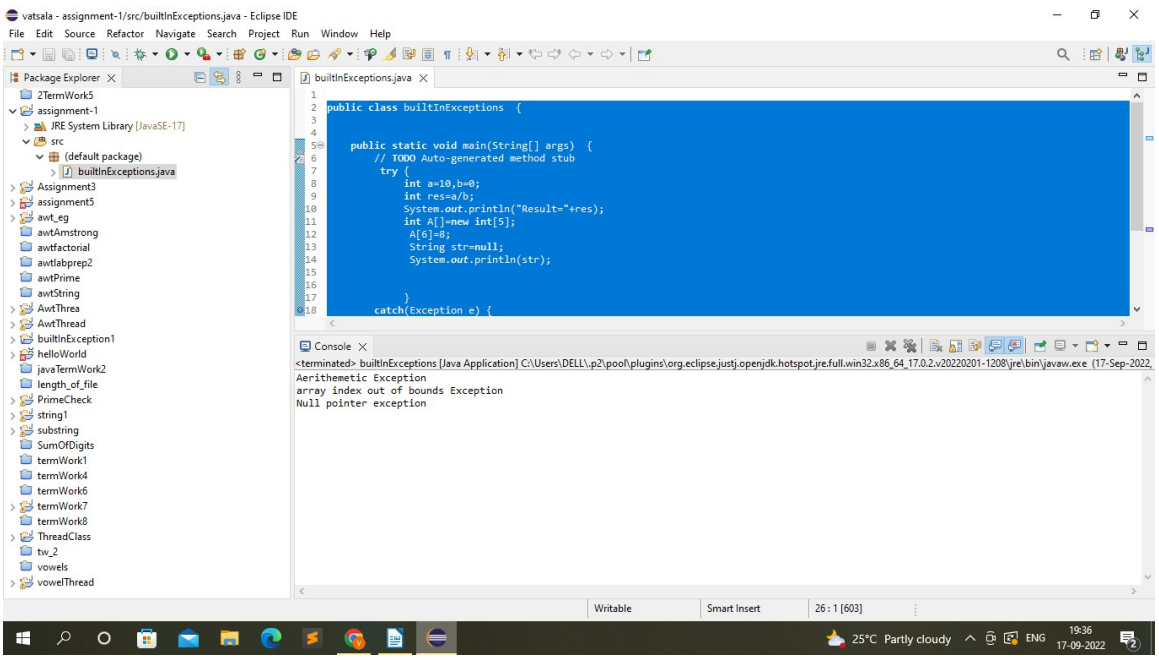
Q1. Write a Java program to generate and handle any three built-in exceptions and display appropriat error messages.

```
public class builtInExceptions  {


	public static void main(String[] args)  {
		// TODO Auto-generated method stub
	  try {
		 int a=10,b=0;
		int res=a/b;
		System.out.println("Result="+res);
		int A[]=new int[5];
		  A[6]=8;
		  String str=null;
		  System.out.println(str);


		}
		catch(Exception e) {
		System.out.println("Aerithemetic Exception");
		System.out.println("array index out of bounds Exception");
		System.out.println("Null pointer exception");
			}
		}
	}
```

Output:



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

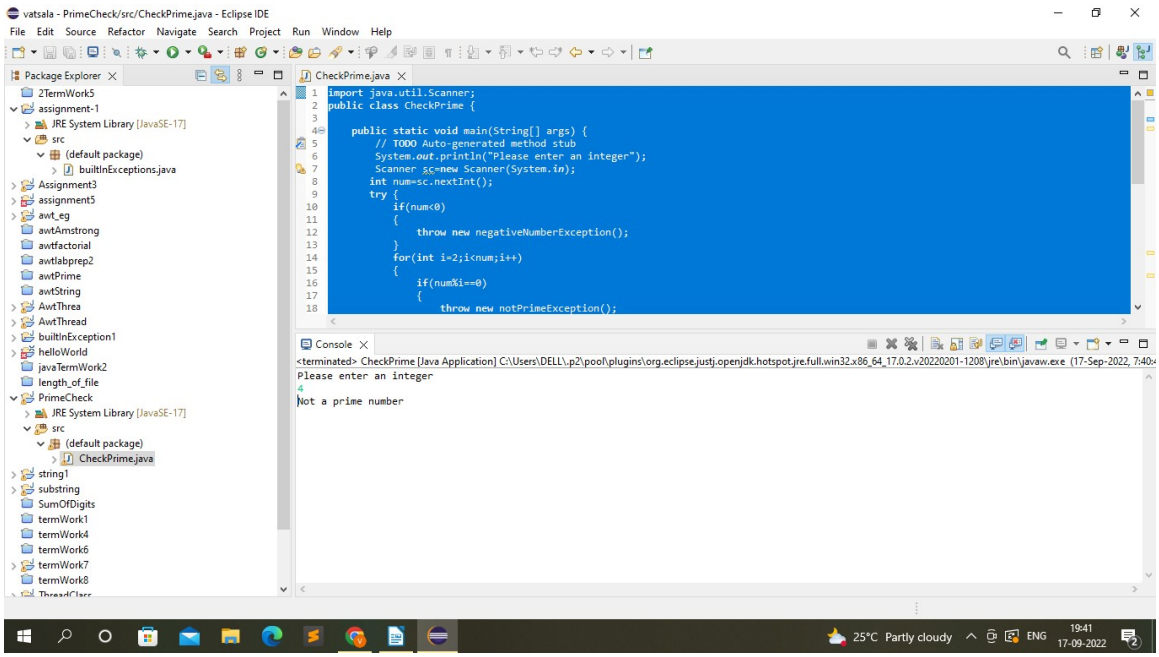
```
import java.util.Scanner;
public class CheckPrime {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		System.out.println("Please enter an integer");
		Scanner sc=new Scanner(System.in);
	 int num=sc.nextInt();
	 try {
	   if(num<0)
	   {
			throw new negativeNumberException();
	   }
	   for(int i=2;i<num;i++)
	   {
			if(num%i==0)
			{
				throw new notPrimeException();
			}
	   }

		System.out.println("Its a prime");
```

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

class negativeNumberException extends Exception{
       public String toString() {
              return"NegativeNumberNotAllowed";
       }
}
class notPrimeException extends Exception{
       public String toString() {
              return"Not a prime number";
       }
       }
```



output:

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

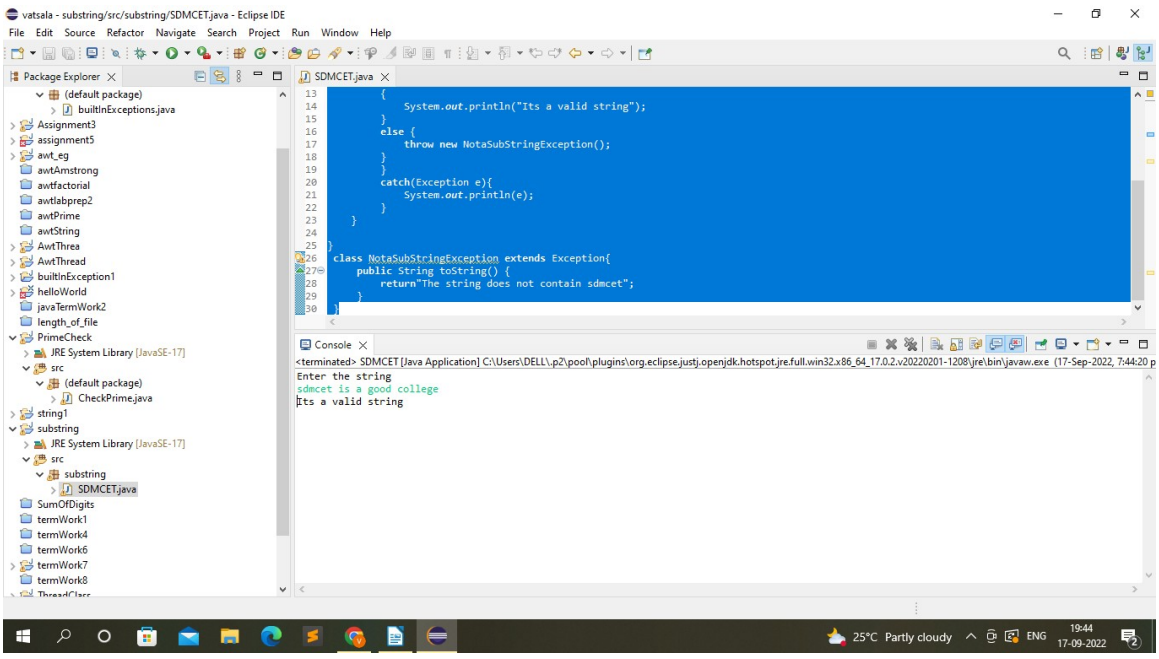
```java
package substring;
import java.util.Scanner;
public class SDMCET {

	public static void main(String[] args) {
		// TODO Auto-generated method stub

	  System.out.println("Enter the string");
	  Scanner sc=new Scanner(System.in);
	  String str=sc.next();
	  try {
	  if(str.contentEquals("sdmcet")||str.contentEquals("SDMCET"))
	  {
		System.out.println("Its a valid string");
	  }
	  else {
		throw new NotaSubStringException();
	  }
	  }
	  catch(Exception e){
		System.out.println(e);
	  }
	}

}
 class NotaSubStringException extends Exception{
	 public String toString() {
		return"The string does not contain sdmcet";
	 }
 }
```

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

```
//import java.io.*;
import java.io.FileInputStream;
import java.io.FileNotFoundException;
import java.io.FileOutputStream;
import java.io.IOException;
public class Streams {

	public static void main(String[] args) throws Exception {
		// TODO Auto-generated method sub


		FileInputStream is=new FileInputStream("C:\\Users\\DELL\\
Desktop\\vatsala\\Assignment3\\src\\Alphabets.txt");
		FileOutputStream os=new FileOutputStream("C:\\Users\\DELL\\
Desktop\\vatsala\\Assignment3\\src\\Cnsonants.txt");


		 int c;


	while((c=is.read())!=-1) {
		try {

if(c=='a'||c=='e'||c=='i'||c=='o'||c=='u'||c=='A'||c=='I'||c=='E'||c=='O'||
c=='U')
 {
    throw new vowelNotAllowedException();
  }
		   os.write(c);

	}

catch(Exception e) {
	System.out.println(e);
			}
		}


	}
}



class vowelNotAllowedException extends Exception{
	public String toString() {
		return"Vowels not allowed";
	}
}


Output:
Alphabets.txt
Hello
 This is vatsala
```

Consonants.txt

Hll

Ths s vtsl