Department of Computer Science & Engineering, SDMCET, Dharwad

AOOP Assignment Submission Report

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

A

Submitted by

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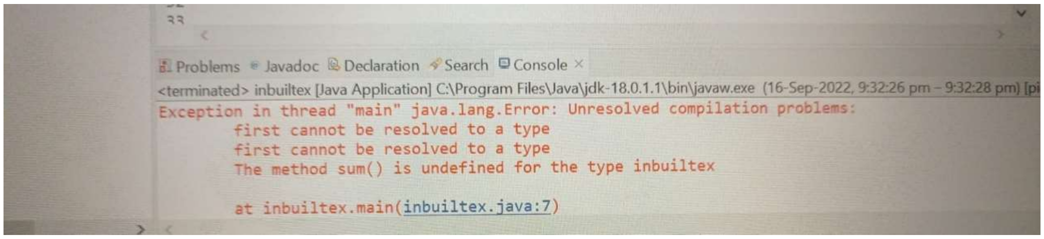
1. Problem Definition:

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

2. Java Program:

```
import java.lang.Exception;

public class inbuiltex {

        public static void main(String[] args) {
                try {
                        first fr = new first();
                }catch(ClassNotFoundException cn) {
                        System.out.println("class with the name first is not found");
                        cn.printStackTrace();

                }

                try {
                        int a = sum();
                }catch(NoSuchMethodException ns) {
                        System.out.println("function with the name sum is not fount");
                        ns.printStackTrace();
                }

                try {
                String name = "Amulya";

                        System.out.println(name.charAt(10));
                }catch(StringIndexOutOfBoundsException si) {
                        System.out.println("no alpabet found at 6th index");
        si.printStackTrace();
                }
        }
```

3. Screen Shots of Execution:



```
<terminated> inbuiltex [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe  (16-Sep-2022, 9:32:26 pm – 9:32:28 pm) [pi
Exception in thread "main" java.lang.Error: Unresolved compilation problems:
        first cannot be resolved to a type
        first cannot be resolved to a type
        The method sum() is undefined for the type inbuiltex

        at inbuiltex.main(inbuiltex.java:7)
```

1. Problem Definition:

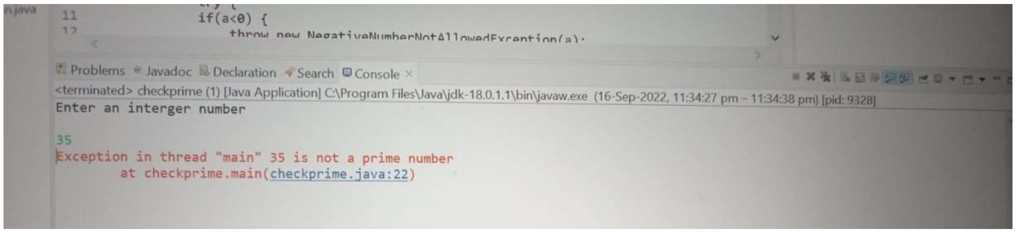
Write a Java program to read an integer and check whether the number is prime or not.If negativenumber is entered, throw an exception NegativeNumberNotAllowedException and if entered number is not prime, then throw NumberNotPrimeException.

2. Java Program:

```
import java.util.Scanner;
      public class checkprime {
         public static void main(String args[]) throws Exception {
               Scanner sc = new Scanner(System.in);
               int a,i;
               System.out.println("Enter an interger number");
               a=sc.nextInt();
               try {
               if(a<0) {
                       throw new NegativeNumberNotAllowedException(a);
               }
               }catch(NegativeNumberNotAllowedException na) {
                 na.printStackTrace();

               }

               if(a>=0){
                       for(i=2;i<a/2;i++) {
                               if((a%i)==0) {
                                       throw new NumberNotPrimeException(a);
                               }
                       }

                               if(i==a/2)
                                      System.out.println("Entered number is a prime number");
               }
         }
         }


            public class NegativeNumberNotAllowedException extends Exception {
         int a;
         NegativeNumberNotAllowedException(int a){
              this.a=a;
         }

         public String toString() {
              return a+"is a negative number.Negative number should not be entered";
```

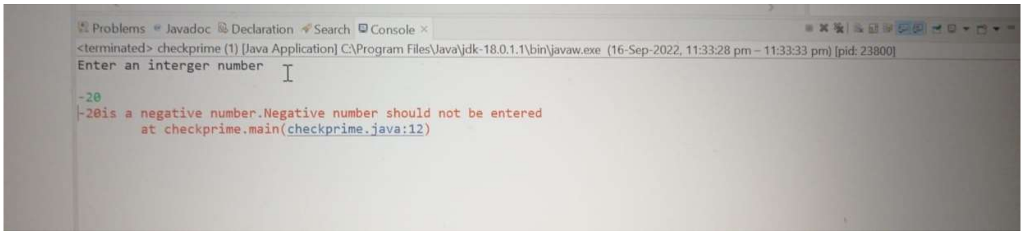
```
                }
        }


public class NumberNotPrimeException extends Exception {
                int  a;
                NumberNotPrimeException(int  a){
                        this.a=a;
                }

                public String toString() {
                        return a+" is not a prime number";
                }
        }
```

3. Screen Shots of Execution:

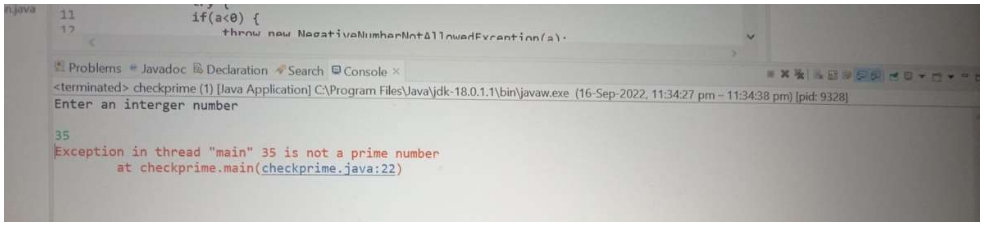


```
                if(a<0) {
                    throw new NegativeNumberNotAllowedException(a);
```

```
<terminated> checkprime (1) [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe  (16-Sep-2022, 11:34:27 pm – 11:34:38 pm) [pid: 9328]
Enter an interger number

35
Exception in thread "main" 35 is not a prime number
        at checkprime.main(checkprime.java:22)
```



```
<terminated> checkprime (1) [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe  (16-Sep-2022, 11:33:28 pm – 11:33:33 pm) [pid: 23800]
Enter an interger number

-20
-20is a negative number.Negative number should not be entered
        at checkprime.main(checkprime.java:12)
```



```
                if(a<0) {
                    throw new NegativeNumberNotAllowedException(a);
```

```
<terminated> checkprime (1) [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe  (16-Sep-2022, 11:34:27 pm – 11:34:38 pm) [pid: 9328]
Enter an interger number

35
Exception in thread "main" 35 is not a prime number
        at checkprime.main(checkprime.java:22)
```

1. 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)

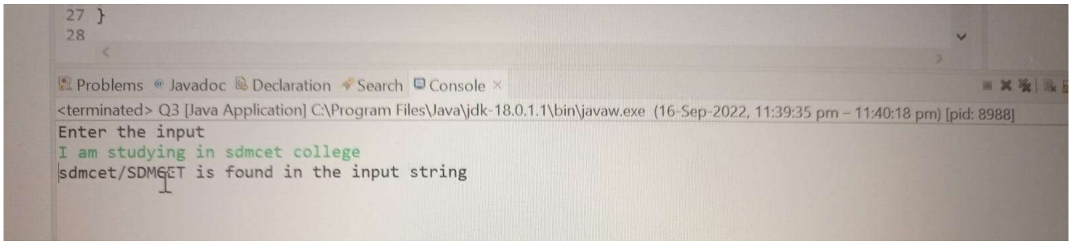
c) If found, then print success message

d) Otherwise throw an exception SubStringNotFoundException with appropriate message

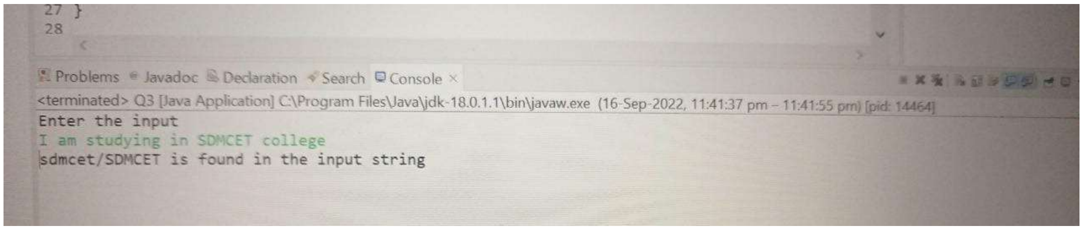
2. Java Program:

```
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;


public class Q3 {
    public static void main(String args[]) throws IOException {
            String text;
            InputStreamReader ir = new InputStreamReader(System.in);
            BufferedReader br = new BufferedReader(ir);
            System.out.println("Enter the input");
            text=br.readLine();
            boolean a=text.toLowerCase().contains("sdmcet".toLowerCase());

            if (a==true) {
                        System.out.println("sdmcet/SDMCET is found in the input string");
            }
            try {
    if(a== false) {
                throw new SubStringNotFoundException();
            }
            }catch(SubStringNotFoundException sn) {
                        sn.printStackTrace();
            }

    }
}
import java.lang.Exception;

public class SubStringNotFoundException extends Exception{


            public String toString() {
                        return "substring SDMCET not found in the entered text";
    }

  }
```

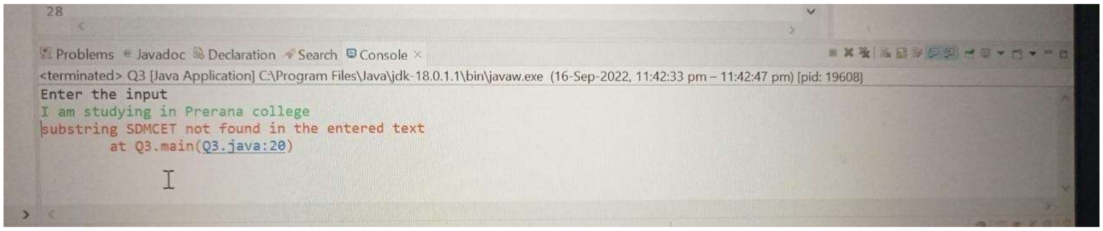
3. Screen Shots of Execution:



```
}

<terminated> Q3 [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe (16-Sep-2022, 11:39:35 pm – 11:40:18 pm) [pid: 8988]
Enter the input
I am studying in sdmcet college
sdmcet/SDMCET is found in the input string
```



```
}

<terminated> Q3 [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe (16-Sep-2022, 11:41:37 pm – 11:41:55 pm) [pid: 14464]
Enter the input
I am studying in SDMCET college
sdmcet/SDMCET is found in the input string
```



```
<terminated> Q3 [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe (16-Sep-2022, 11:42:33 pm – 11:42:47 pm) [pid: 19608]
Enter the input
I am studying in Prerana college
substring SDMCET not found in the entered text
        at Q3.main(Q3.java:20)
```

1. Problem Definition:

Write a Java program to perform the following operations:

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

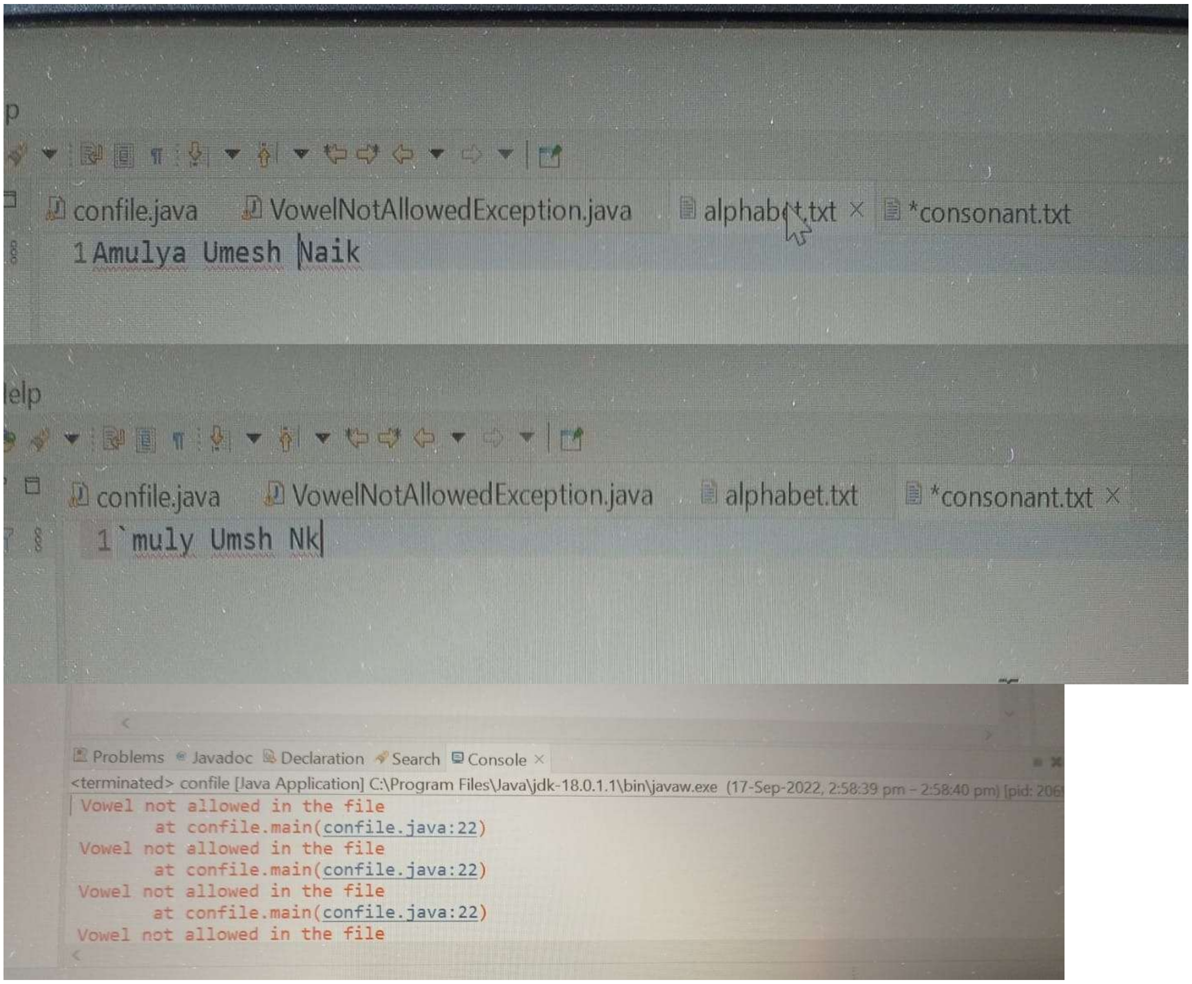
b) Read the file and copy all the consonants into another file named Consonants.txt

c) If vowel is encountered, throw an exception VowelNotAllowedException and continue until end of file.

2. Java Program:

```
import java.io.FileInputStream;


import java.io.FileOutputStream;
import java.io.FileNotFoundException;
import java.lang.Integer;
    public class confile {
     public static void main(String args[]) throws Exception {
     try {
       FileInputStream fis = new FileInputStream("alphabet.txt");
       FileOutputStream fos = new FileOutputStream("consonants.txt");

       int ch;
       while((ch=(fis.read()))!=-1){
              try {
              switch(ch) {
              case 'a':
              case 'A':
              case 'e':
              case 'E':
              case 'i':
              case 'I':
              case 'o':
              case 'O':throw new VowelNotAllowedException(ch);
              default:{


                   fos.write(ch);
              }
              }
              }catch(VowelNotAllowedException vn) {
              vn.printStackTrace();
       }//catch end

       }//while end
     }catch(FileNotFoundException fn) {
        System.out.println(fn);
     }

     }//main end
}//class end

       public class VowelNotAllowedException extends Exception {

        int a;
    public VowelNotAllowedException(int a) {
        this.a=a;
    }

    public String toString() {
        return  “Vowel not allowed in the file";
    }

}
```

3. Screen Shots of Execution:



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```
<terminated> confile [Java Application] C:\Program Files\Java\jdk-18.0.1.1\bin\javaw.exe  (17-Sep-2022, 2:58:39 pm – 2:58:40 pm) [pid: 206
Vowel not allowed in the file
        at confile.main(confile.java:22)
Vowel not allowed in the file
        at confile.main(confile.java:22)
Vowel not allowed in the file
        at confile.main(confile.java:22)
Vowel not allowed in the file
```