Assessment-3

Vashishth gajjar

19BCE2286

Lab Asessment-6

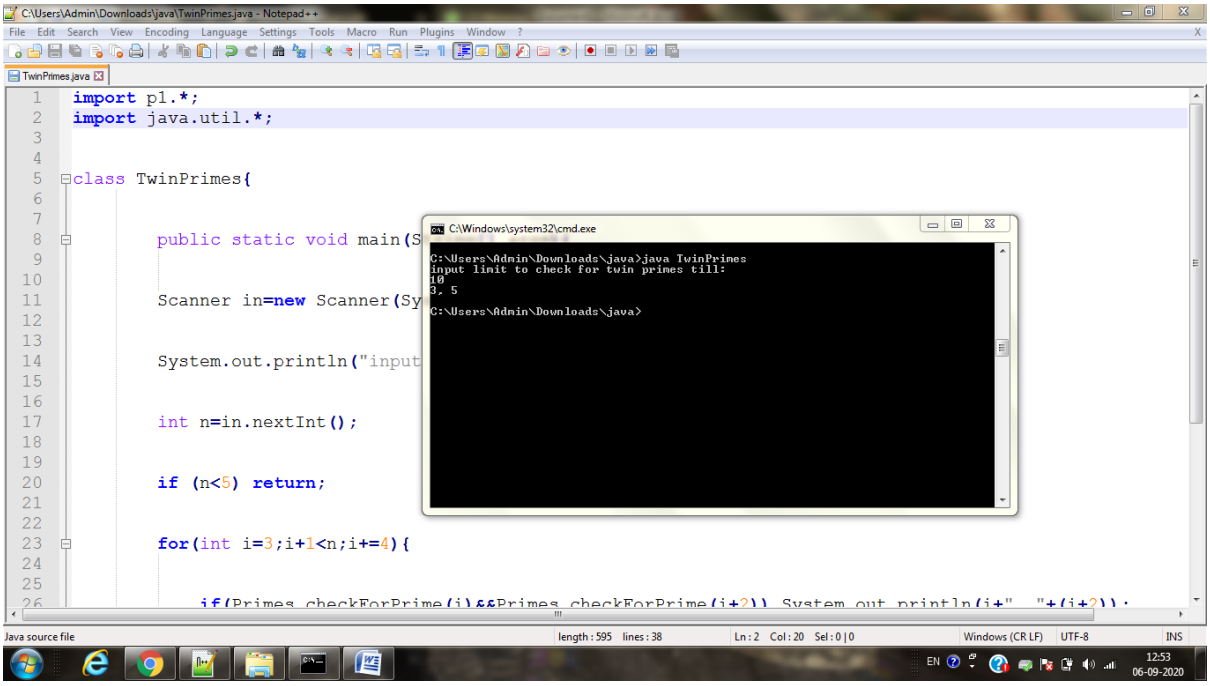
Q)

```
package p1;


public class Primes{
```

```
    public static boolean checkForPrime(int a){

        if(a<4) return a>1;
        for(int i=2;i<a/2;i++)
                        if (a%i==0) return false;

        return true;
    }}


        import p1.*;
import java.util.*;


class TwinPrimes{
```

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

Scanner in=new Scanner(System.in);

System.out.println("input limit to check for twin primes till:");

int n=in.nextInt();

if (n<5) return;

for(int i=3;i+1<n;i+=4){
```

```
if(Primes.checkForPrime(i)&&Primes.checkForPrime(i+
2)) System.out.println(i+", "+(i+2));




if(i+2<n&&Primes.checkForPrime(i+1)&&Primes.check
ForPrime(i+3)) System.out.println((i+1)+", "+(i+3));


      }
   }
}
```



Q)

```
package p2;


interface AddSub{
    void add();
    void sub();
}


class Test1 implements AddSub{
    void add()
```

```
	{
		int a=1,b=2;
		int c=a+b;
		System.out.println("Addition=" + c);
	}
	void sub()
	{
		int a=4,b=2;
		int c=a-b;
		System.out.println("Subtraction=" + c);
	}
}

package p3;

interface MulDiv{
	void mul();
	void div();
```

```
}

class Test2 implements MulDiv{
	void mul()
	{
		int a=1,b=0;
		int c=a*b;
		System.out.println("Multiplication=" + c);
	}
	void div()
	{
		int a=4,b=1;
		int c=a/b;
		System.out.println("Division=" + c);
	}
}

import p2.*;
```

```
import p3.*;


public class Run{
	public static void main(String[] args)
	{
		AddSub as=new Test1();
		as.add();
		as.sub();
		MulDiv md=new Test2();
		md.mul();
		md.div();
	}
}
```

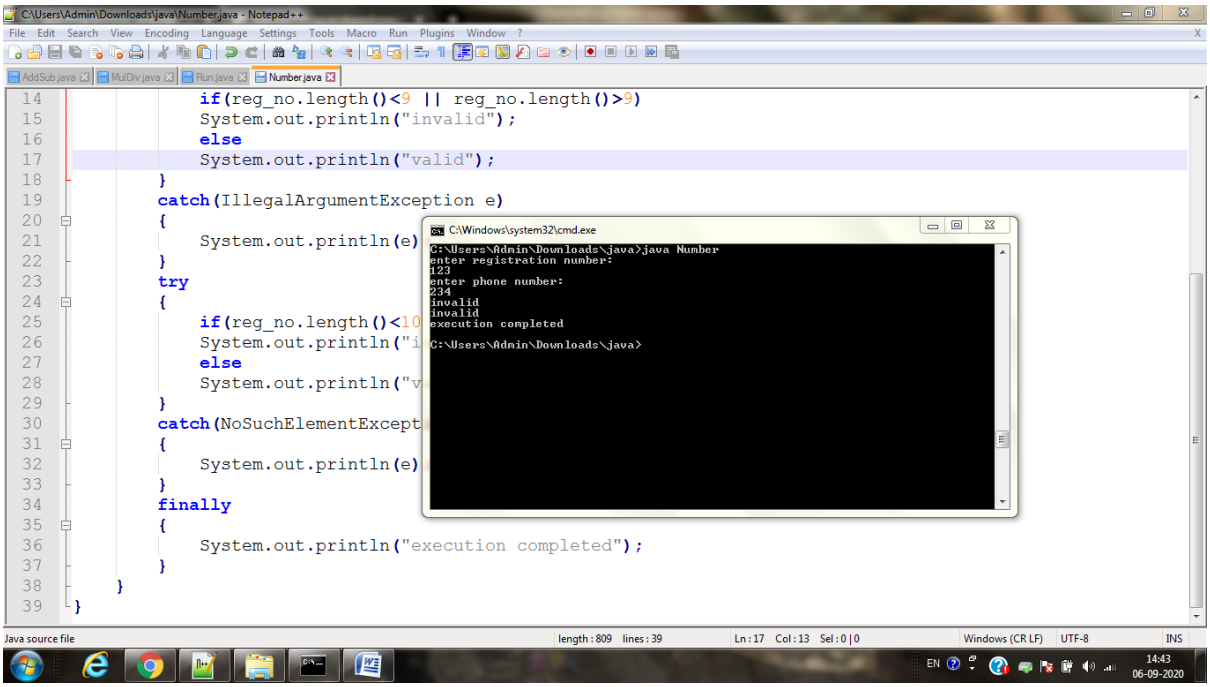
Lab Assesment-7

Q)

```
import java.util.*;


public class Number{
	public static void main(String[] args)
	{
		String reg_no,phone_no;
		Scanner sc=new Scanner(System.in);
		System.out.println("enter registration number:");
		reg_no=sc.nextLine();
		System.out.println("enter phone number:");
		phone_no=sc.nextLine();
		try
		{
			if(reg_no.length()<9 || reg_no.length()>9)
			System.out.println("invalid");
```

```
            else
                System.out.println("valid");
            }
            catch(IllegalArgumentException e)
            {
                System.out.println(e);
            }
            try
            {
                if(reg_no.length()<10 ||
reg_no.length()>10)
                System.out.println("invalid");
                else
                System.out.println("valid");
            }
            catch(NoSuchElementException e)
            {
                System.out.println(e);
```

```
            }
            finally
            {
                System.out.println("execution
completed");
            }
        }
}
```



Lab Assessment-8

Q)

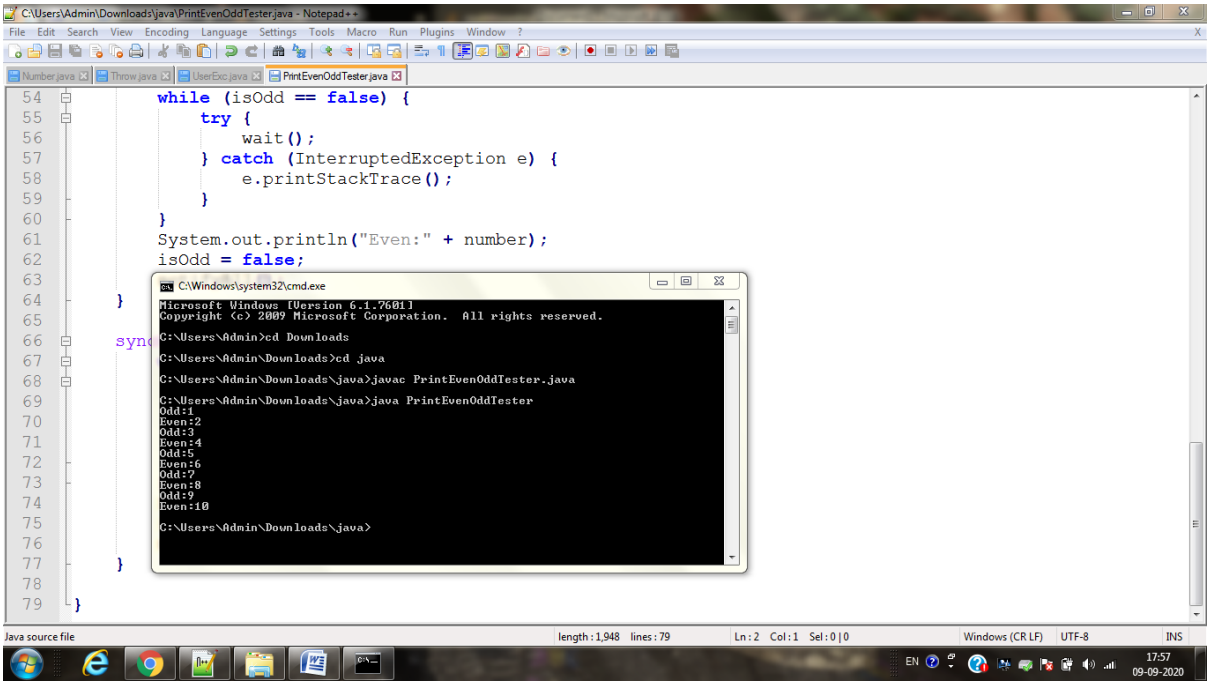
```
public class PrintEvenOddTester {


   public static void main(String... args) {
      Printer print = new Printer();
      Thread t1 = new Thread(new TaskEvenOdd(print,
10, false));
      Thread t2 = new Thread(new TaskEvenOdd(print,
10, true));
      t1.start();
      t2.start();
   }


}


class TaskEvenOdd implements Runnable {
```

```
    private int max;
    private Printer print;
    private boolean isEvenNumber;

    TaskEvenOdd(Printer print, int max, boolean
isEvenNumber) {
        this.print = print;
        this.max = max;
        this.isEvenNumber = isEvenNumber;
    }

    @Override
    public void run() {

        //System.out.println("Run method");
        int number = isEvenNumber == true ? 2 : 1;
        while (number <= max) {
```

```
            if (isEvenNumber) {
                //System.out.println("Even :"+
Thread.currentThread().getName());
                print.printEven(number);
                //number+=2;
            } else {
                //System.out.println("Odd :"+
Thread.currentThread().getName());
                print.printOdd(number);
                // number+=2;
            }
            number += 2;
        }


    }


}
```

```
class Printer {

    boolean isOdd = false;

    synchronized void printEven(int number) {

        while (isOdd == false) {
            try {
                wait();
            } catch (InterruptedException e) {
                e.printStackTrace();
            }
        }
        System.out.println("Even:" + number);
        isOdd = false;
        notifyAll();
    }
```

```
    synchronized void printOdd(int number) {
        while (isOdd == true) {
            try {
                wait();
            } catch (InterruptedException e) {
                e.printStackTrace();
            }
        }
        System.out.println("Odd:" + number);
        isOdd = true;
        notifyAll();
    }
}
```

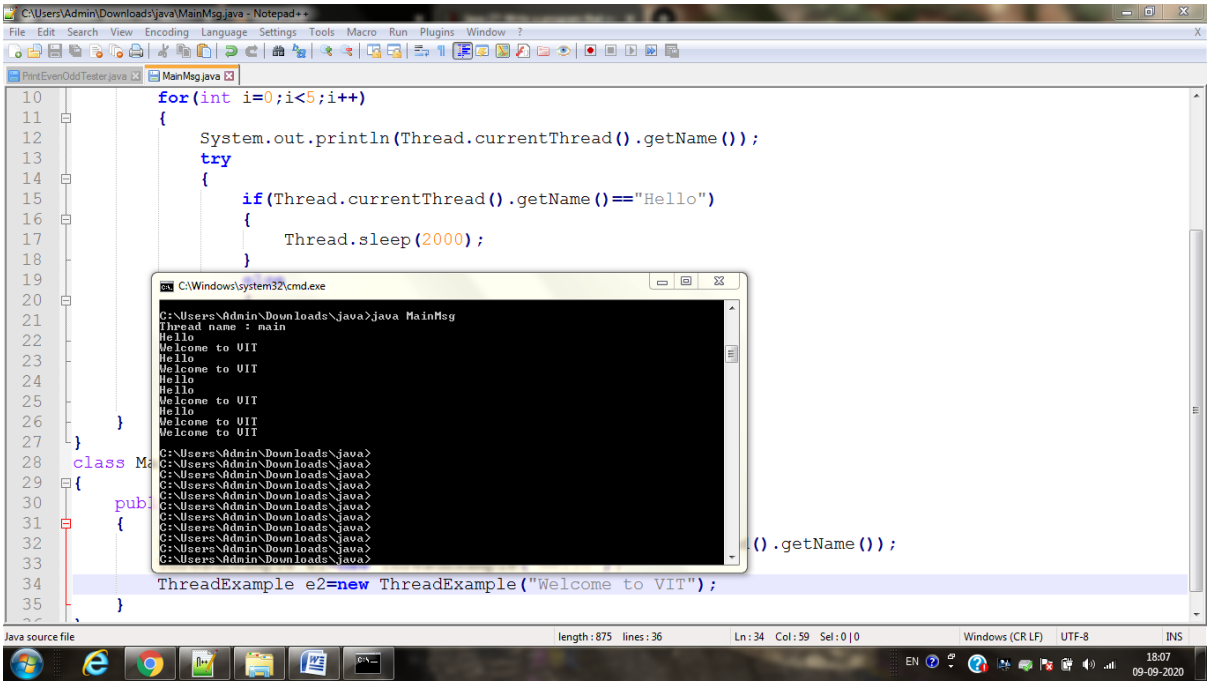


Q)

```
class ThreadExample extends Thread
{
  ThreadExample(String s)
  {
    super(s);
    start();
  }
  public void run()
  {
```

```
        for(int i=0;i<5;i++)
        {

System.out.println(Thread.currentThread().getName())
;
            try
            {

if(Thread.currentThread().getName()=="Hello")
                {
                    Thread.sleep(2000);
                }
                else
                {
                    Thread.sleep(4000);
                }
            }
            catch(Exception e){}
        }
```

```
    }
}
class MainMsg
{
    public static void main(String arg[])
    {
        System.out.println("Thread name :
"+Thread.currentThread().getName());
        ThreadExample e1=new ThreadExample("Hello");
        ThreadExample e2=new
ThreadExample("Welcome to VIT");
    }
}
```


C:\Users\Admin\Downloads\java\MainMsg.java - Notepad++
File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?
PrintEvenOddTester.java
MainMsg.java
for(int i=0;i<5;i++)
{
System.out.println(Thread.currentThread().getName());
try
{
if(Thread.currentThread().getName()=="Hello")
{
Thread.sleep(2000);
}
}
}
class Ma
{
pub
{
().getName());
ThreadExample e2=new ThreadExample("Welcome to VIT");
}
C:\Windows\system32\cmd.exe
C:\Users\Admin\Downloads\java>java MainMsg
Thread name : main
Hello
Welcome to VIT
Hello
Welcome to VIT
Hello
Hello
Welcome to VIT
Hello
Welcome to VIT
Welcome to VIT
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
C:\Users\Admin\Downloads\java>
Java source file
length : 875 lines : 36
Ln : 34 Col : 59 Sel : 0 | 0
Windows (CR LF)
UTF-8
INS
EN
18:07
09-09-2020