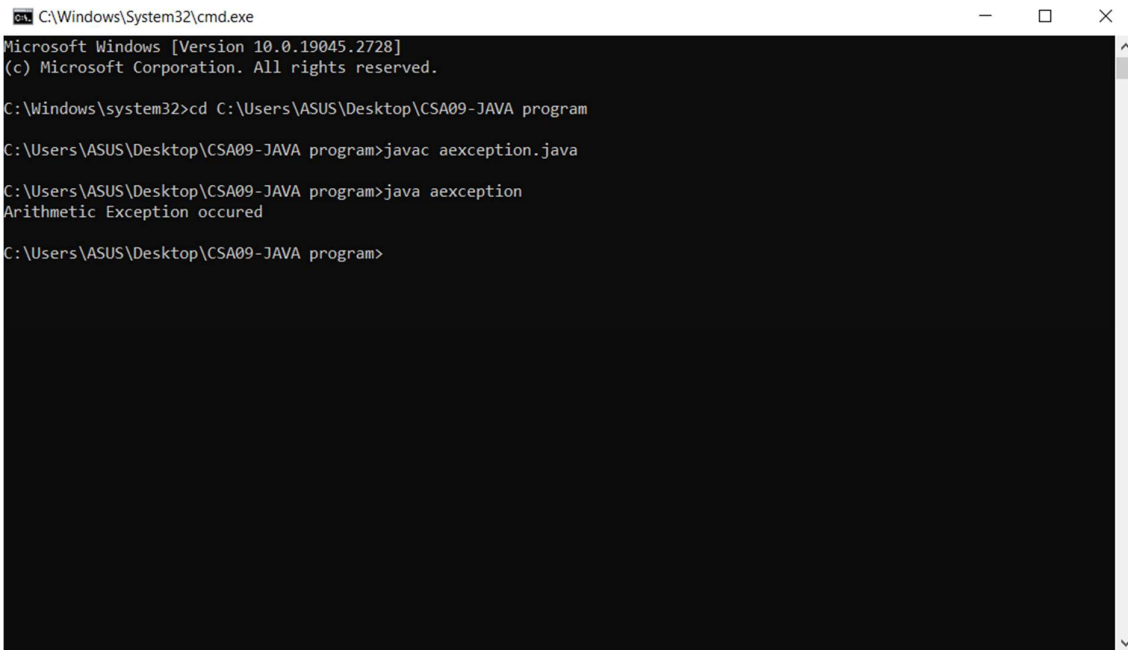


1.Arithmetic Exception

Program

```
import java.io.*;
import java.util.*;
class aexception
{
    public static void main(String[] args) {
        try{
            int a[]=new int[5];
            a[5]=30/0;
        }
        catch(ArithmeticException e)
        {
            System.out.println("Arithmetic Exception occurred");
        }
    }
}
```

Output:

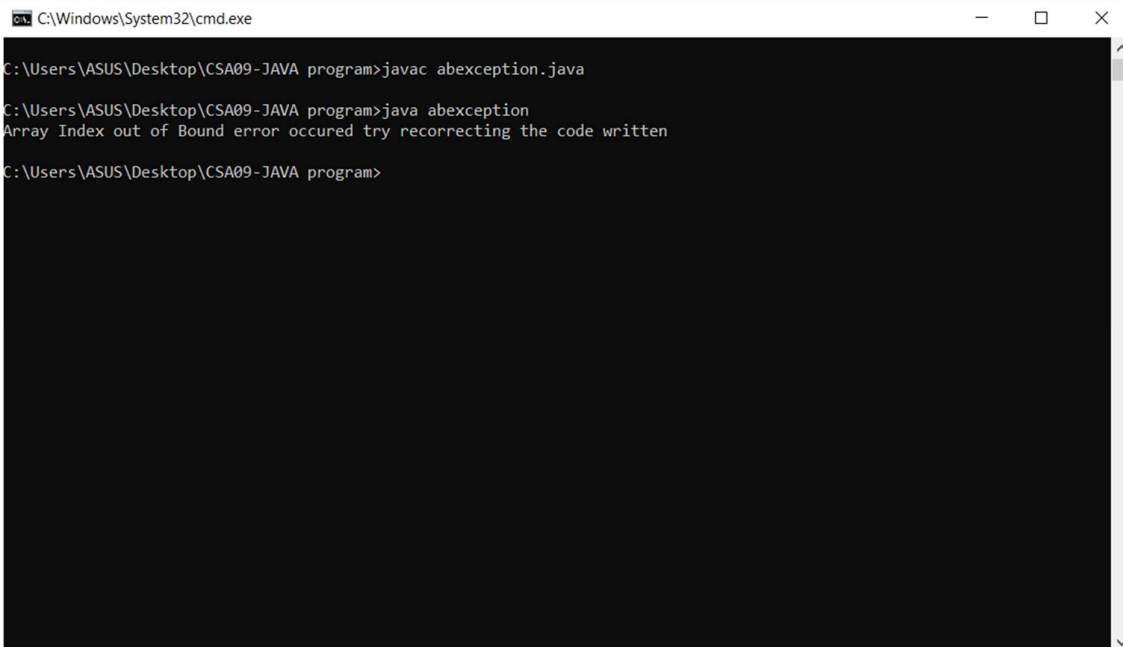


```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.2728]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>cd C:\Users\ASUS\Desktop\CSA09-JAVA program
C:\Users\ASUS\Desktop\CSA09-JAVA program>javac aexception.java
C:\Users\ASUS\Desktop\CSA09-JAVA program>java aexception
Arithmetic Exception occurred
C:\Users\ASUS\Desktop\CSA09-JAVA program>
```

Array Out of Bound Exception**Program**

```
import java.io.*;
import java.util.*;
class abexception {
    public static void main(String[] args)
    {
        try
        {
            int a[]=new int[5];
            System.out.println(a[10]);
        }
        catch(ArrayIndexOutOfBoundsException e)
        {
            System.out.println("Array Index out of Bound error occurred try recorrecting the code written");
        }
    }
}
```

Output:

```
C:\Windows\System32\cmd.exe
C:\Users\ASUS\Desktop\CSA09-JAVA program>javac abexception.java
C:\Users\ASUS\Desktop\CSA09-JAVA program>java abexception
Array Index out of Bound error occurred try recorrecting the code written
C:\Users\ASUS\Desktop\CSA09-JAVA program>
```

Null Pointer exception**Program:**

```
import java.io.*;
class npexception {
    public static void main(String[] args) {
        String ptr = null;
        try {
            if (ptr.equals("gfg"))
                System.out.print("Same");
        }
    }
}
```

```

        else
            System.out.print("Not Same");
    } catch (NullPointerException e) {
        System.out.print("NullPointerException occured... Rewrite the code !!!!!!!");
    }
}
}

```

Output

```

C:\Windows\System32\cmd.exe
C:\Users\ASUS\Desktop\CSA09-JAVA program>javac npexception.java
C:\Users\ASUS\Desktop\CSA09-JAVA program>java npexception
NullPointerException occured... Rewrite the code !!!!!!!
C:\Users\ASUS\Desktop\CSA09-JAVA program>

```

2 Program

```

import java.io.*;
import java.util.*;
class Table {
    void printTable(int n) {
        synchronized (this) {
            for (int i = 1; i <= 5; i++) {
                System.out.println(+n + "*" + i + "=" + (n * i));
                try {
                    Thread.sleep(400);
                } catch (Exception e) {
                    System.out.println(e);
                }
            }
        }
    }
}

class Mythread1 extends Thread {
    Table t;

    Mythread1(Table t) {

```

```
        this.t = t;
    }

    public void run() {
        t.printTable(5);
    }
}

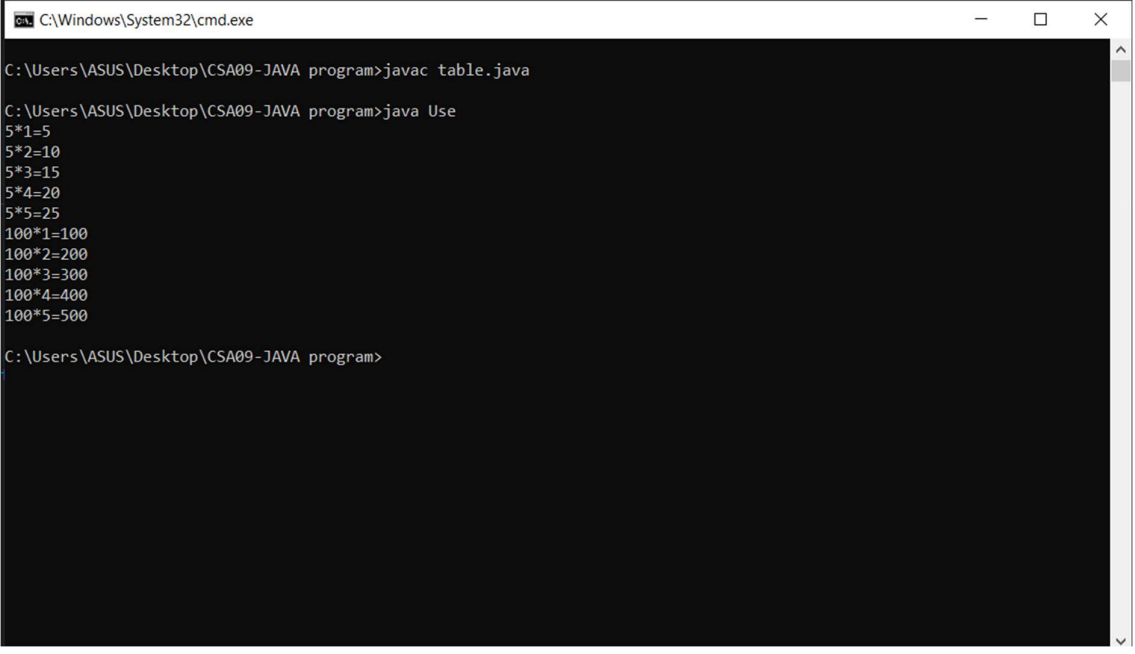
class Mythread2 extends Thread {
    Table t;

    Mythread2(Table t) {
        this.t = t;
    }

    public void run() {
        t.printTable(100);
    }
}

class Use {
    public static void main(String args[]) {
        Table obj = new Table();
        Mythread1 th1 = new Mythread1(obj);
        Mythread2 th2 = new Mythread2(obj);
        th1.start();
        th2.start();
    }
}
```

Output



```
C:\Windows\System32\cmd.exe

C:\Users\ASUS\Desktop\CSA09-JAVA program>javac table.java

C:\Users\ASUS\Desktop\CSA09-JAVA program>java Use
5*1=5
5*2=10
5*3=15
5*4=20
5*5=25
100*1=100
100*2=200
100*3=300
100*4=400
100*5=500

C:\Users\ASUS\Desktop\CSA09-JAVA program>
```


3. Program

```
import java.util.*;
import java.io.*;

public class ugly {
    public static void main(String args[]) {
        int inputNumber;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the number :");
        inputNumber = sc.nextInt();
        boolean check = true;
        for (int i = 2; i <= inputNumber; i++) {
            if (i != 2 && i != 3 && i != 5) {
                if (inputNumber % i == 0 && checkPrime(i)) {
                    check = false;
                    break;
                }
            }
        }
        if (check) {
            System.out.println(inputNumber + " is an ugly number");
        } else {
            System.out.println(inputNumber + " is Not an ugly number");
        }
    }

    static boolean checkPrime(int number) {
        boolean flag = true;
        for (int i = 2; i <= number / 2; i++) {
            if (number % i == 0) {
                flag = false;
                break;
            }
        }
        return flag;
    }
}
```

Output

 C:\Windows\System32\cmd.exe

```
C:\Users\ASUS\Desktop\CSA09-JAVA program>javac ugly.java
C:\Users\ASUS\Desktop\CSA09-JAVA program>java ugly
Enter the number :
45
45 is an ugly number
C:\Users\ASUS\Desktop\CSA09-JAVA program>
```

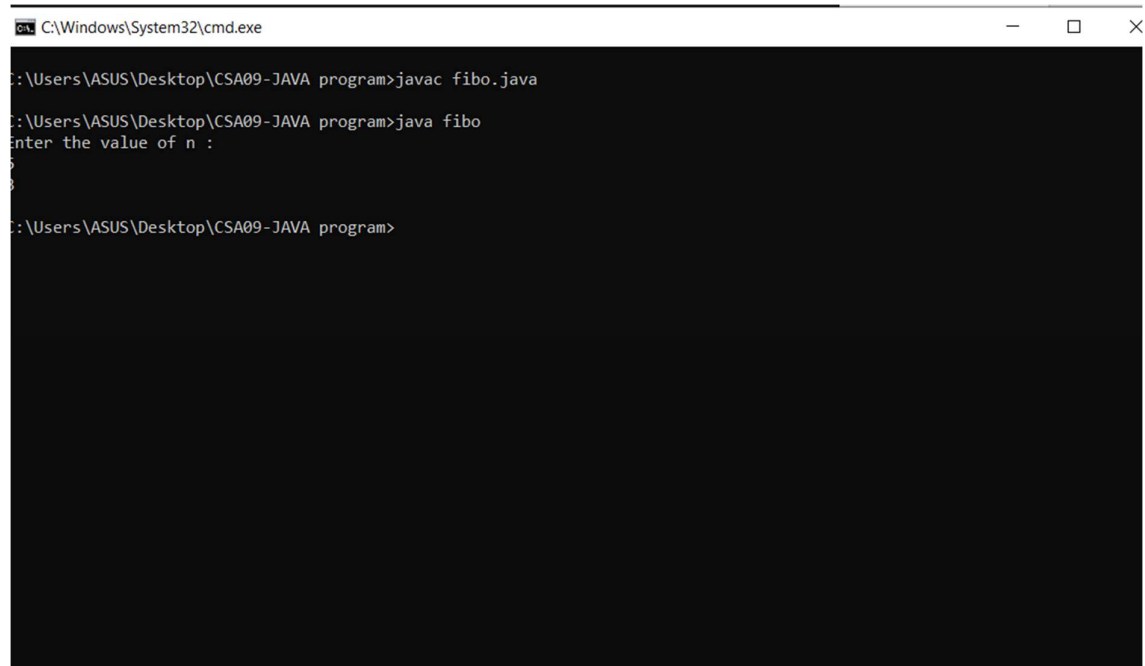
4.Program

```
import java.io.*;
import java.util.*;

class fibo {
    static int fib(int n) {
        if (n == 0 || n == 1)
            return 0;
        else if (n == 2)
            return 1;
        return fib(n - 1) + fib(n - 2);
    }

    public static void main(String args[]) {
        int n;
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the value of n : ");
        n = sc.nextInt();
        System.out.println(fib(n));
    }
}
```

Output



```
C:\Windows\System32\cmd.exe

C:\Users\ASUS\Desktop\CSA09-JAVA program>javac fibo.java

C:\Users\ASUS\Desktop\CSA09-JAVA program>java fibo
enter the value of n :
5
3
C:\Users\ASUS\Desktop\CSA09-JAVA program>
```

5.Program

```
import java.io.*;
import java.util.*;

class duplicate {
    static int removeDuplicates(int arr[], int n) {
        if (n == 0 || n == 1)
            return n;
        int[] temp = new int[n];
        int j = 0;
        for (int i = 0; i < n - 1; i++) {
            if (arr[i] != arr[i + 1])
                temp[j++] = arr[i];
        }
        temp[j++] = arr[n - 1];
        for (int i = 0; i < j; i++) {
            arr[i] = temp[i];
        }
        return j;
    }

    public static void main(String[] args) {
        int arr[] = { 10, 20, 20, 30, 40, 40, 40, 50, 50 };
        int n = arr.length;
        n = removeDuplicates(arr, n);
        for (int i = 0; i < n; i++) {
            System.out.print(arr[i] + " ");
        }
    }
}
```

Output

C:\Windows\System32\cmd.exe

```
C:\Users\ASUS\Desktop\CSA09-JAVA program>javac duplicate.java
```

```
C:\Users\ASUS\Desktop\CSA09-JAVA program>java duplicate  
10 20 30 40 50
```

```
C:\Users\ASUS\Desktop\CSA09-JAVA program>_
```