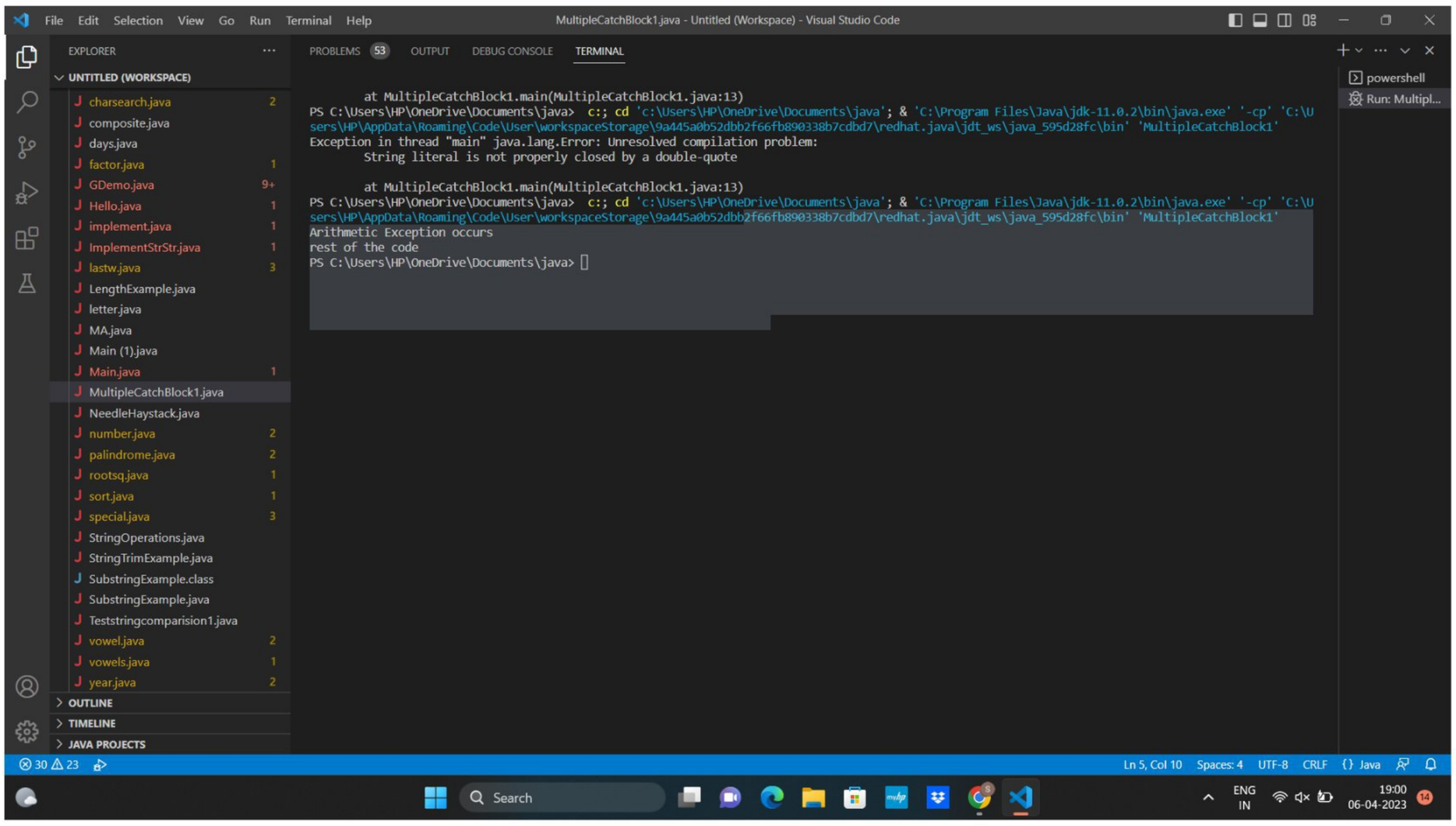
PROGRAM:1

```
public class MultipleCatchBlock1 {
    public static void main(String[] args) {
     try{
     int a[]=new int[5];
     a[5]=30/0;
     }
     catch(ArithmeticException e)
     {
    System.out.println("Arithmetic Exception occurs");
    }
    catch(ArrayIndexOutOfBoundsException e)
    {
    System.out.println("ArrayIndexOut Of Bounds Exceptionoccurs");
    }
    catch(Exception e)
     {
    System.out.println("Parent Exception occurs");
    }
    System.out.println("rest of the code");
}
}
```

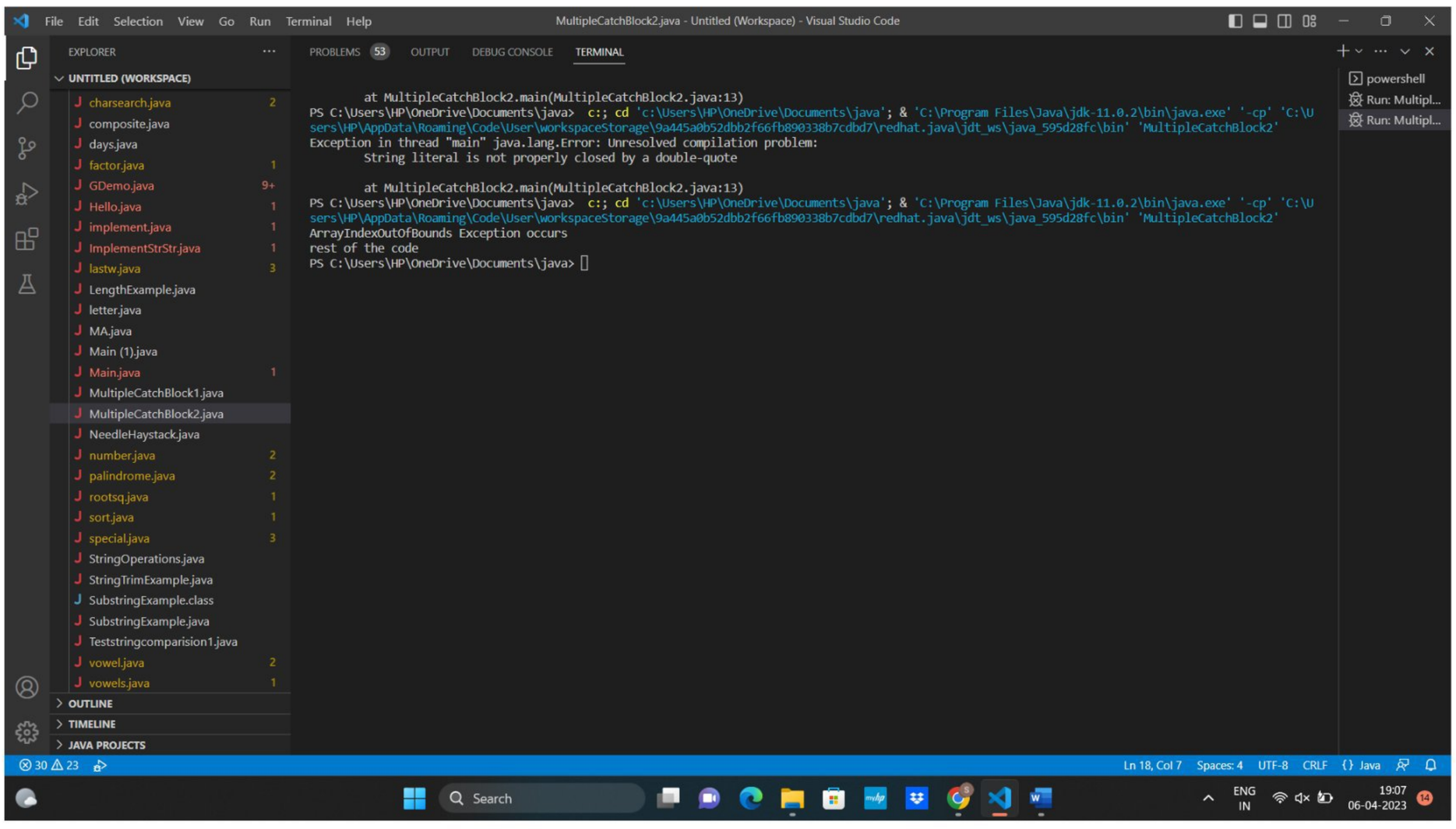
OUTPUT:



ARRAY INDEX OUT OF BOUNDS:

```
public class MultipleCatchBlock2 {
    public static void main(String[] args)
    {
    try
    {
    int a[]=new int[5];
    System.out.println(a[10]);
    }
    catch(ArithmeticException e)
    {
    System.out.println("Arithmetic Exception occurs");
    }
    catch(ArrayIndexOutOfBoundsException e)
    {
    System.out.println("ArrayIndexOutOfBounds Exception occurs");
    }
    catch(Exception e)
    {
    System.out.println("Parent Exception occurs");
    }
    System.out.println("rest of the code");
}
}
```

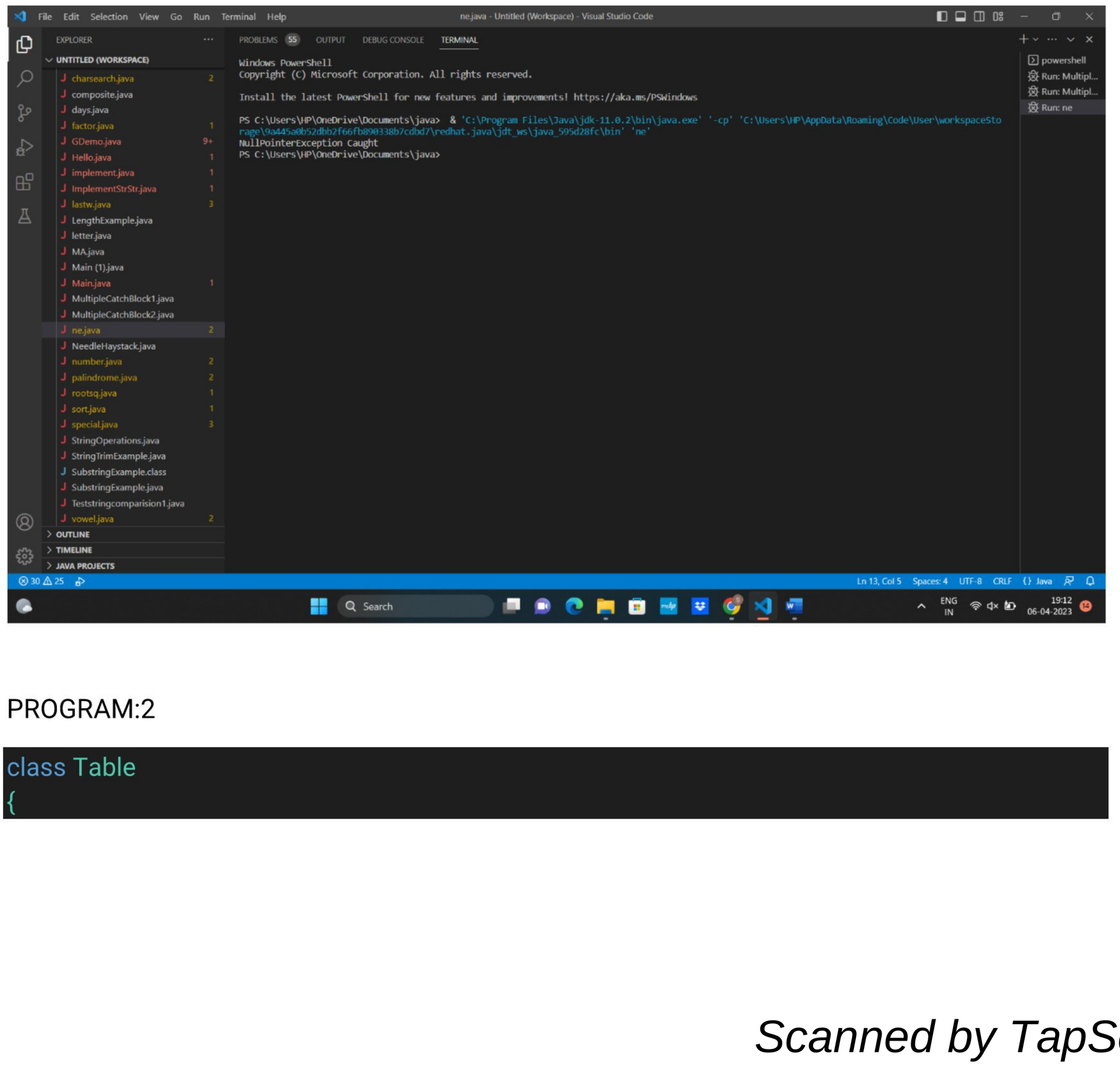
OUTPUT:



NULL POINTER EXCEPTIPON:

```java
import java.io.*;
class ne
{
public static void main (String[] args)
{
// Initializing String variable with null value
String ptr = null;
// Checking if ptr.equals null or works fine.
try
{
if (ptr.equals("gfg"))
System.out.print("Same");
else
System.out.print("Not Same");
}
catch(NullPointerException e)
{
System.out.print("NullPointerException Caught");
}
}
}
```

OUTPUT:



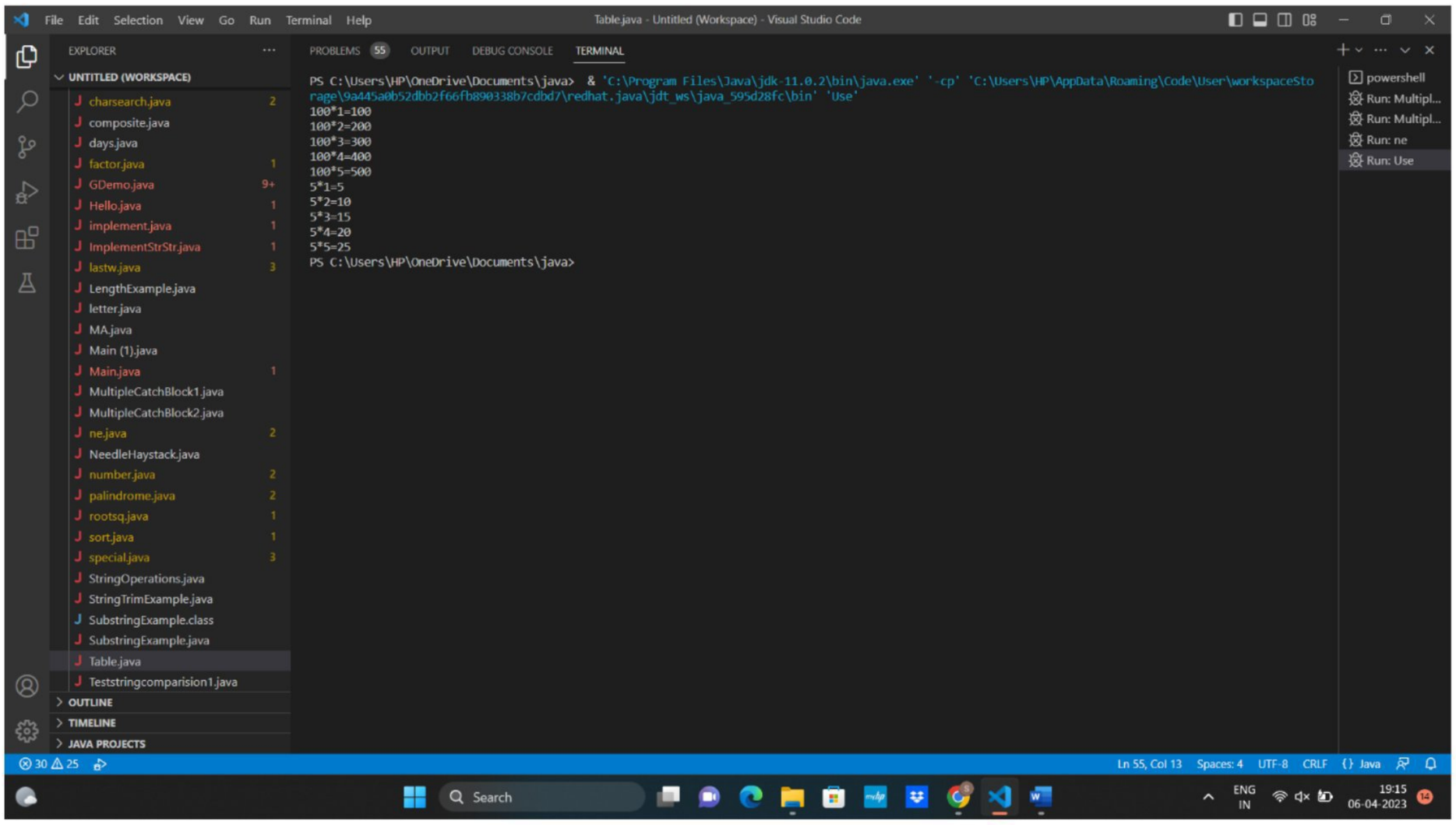
PROGRAM:2

```java
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:

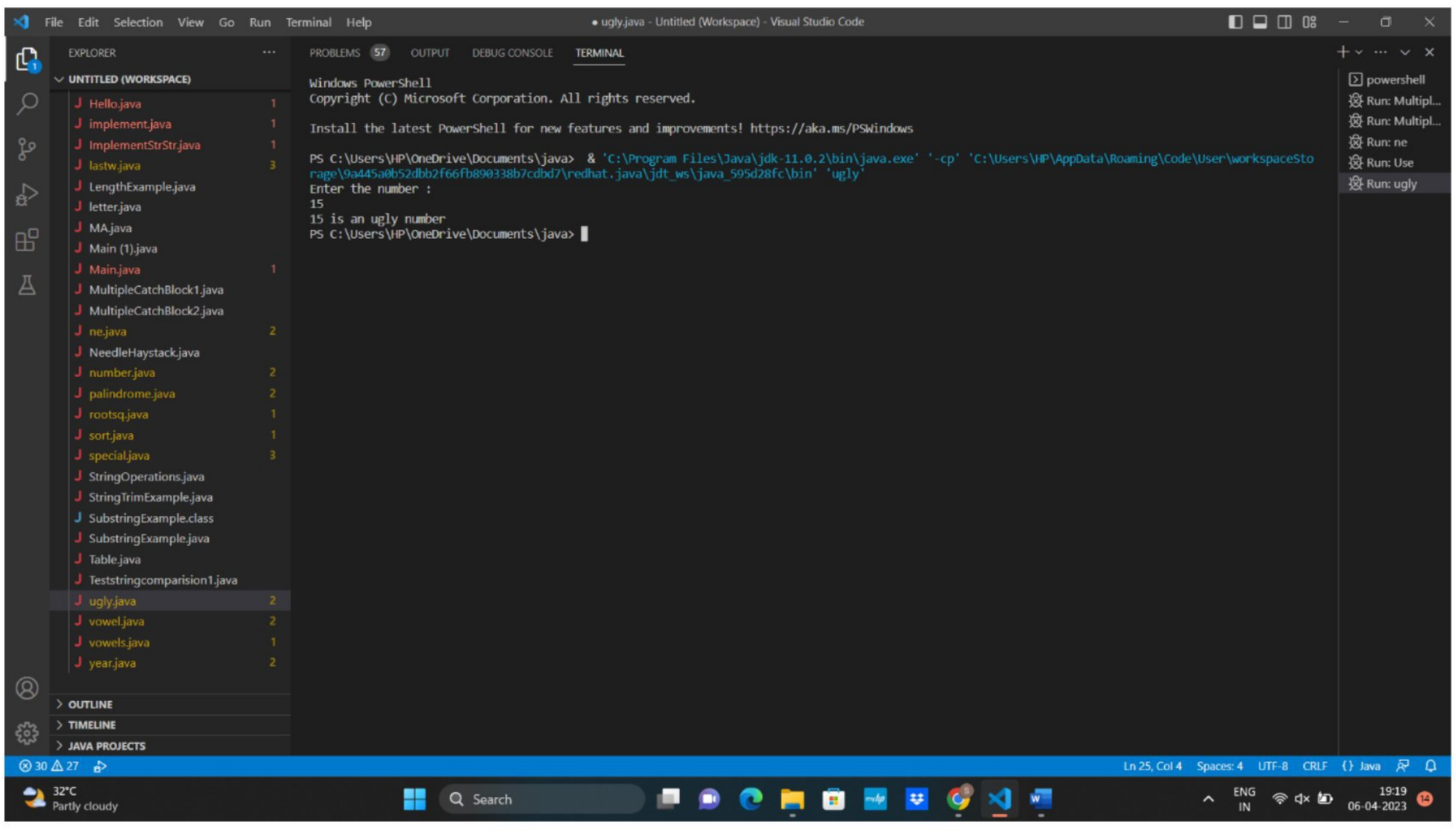


PROGRAM:3

```
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:

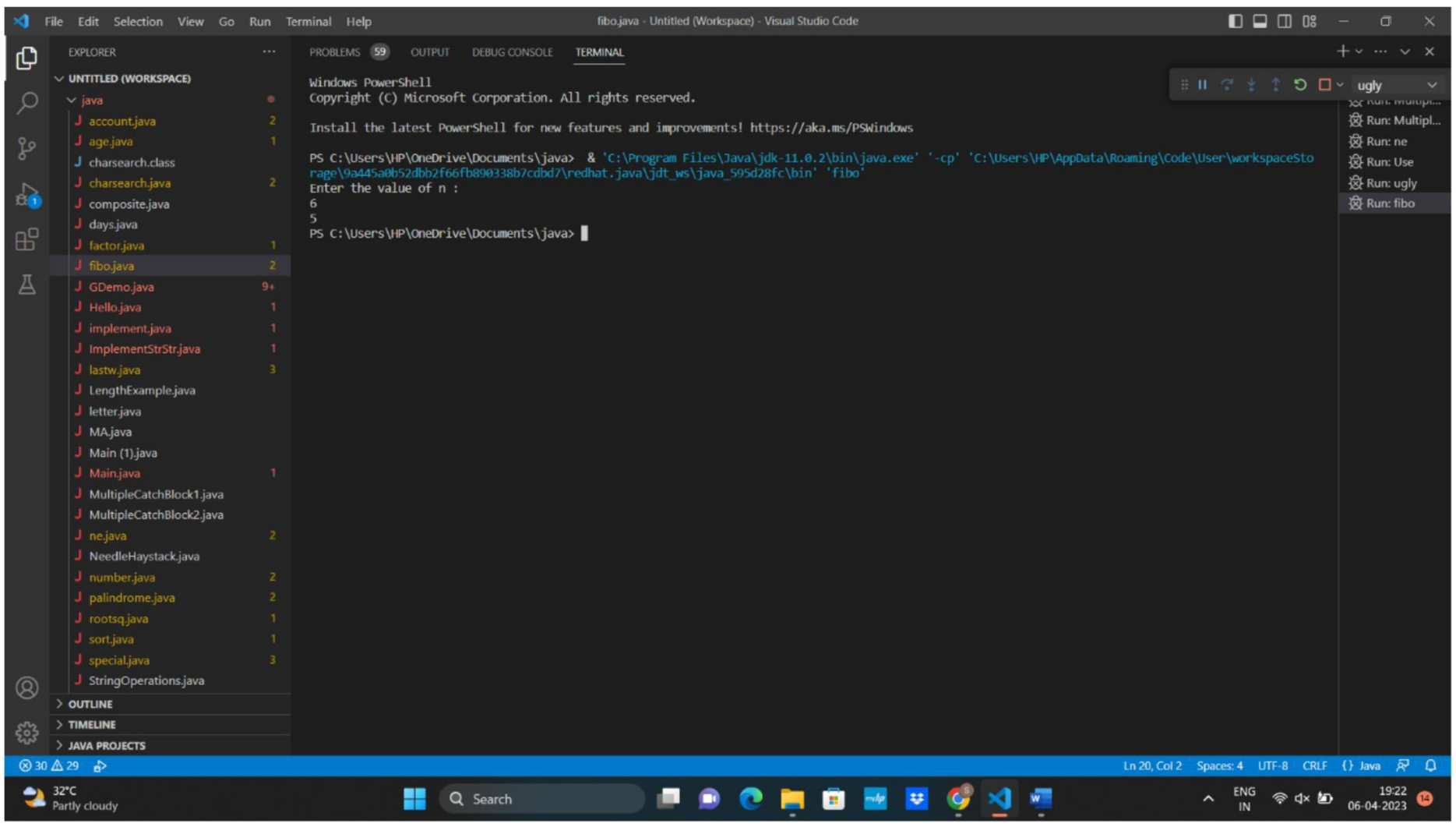


PROGRAM:4

```
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:



PROGRAM:5

```
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: