1. ARITHMETICEXCEPTION

```
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");

 }

 }
```

ARRAY INDEX OUT OF BOUNDS EXCEPTION

```java
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");

  }

  }
```



```
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PS C:\Users\manoh> cd D:\javamk
PS D:\javamk> javac MT.java
PS D:\javamk> java MT
ArrayIndexOutOfBounds Exception occurs
rest of the code
PS D:\javamk> |
```
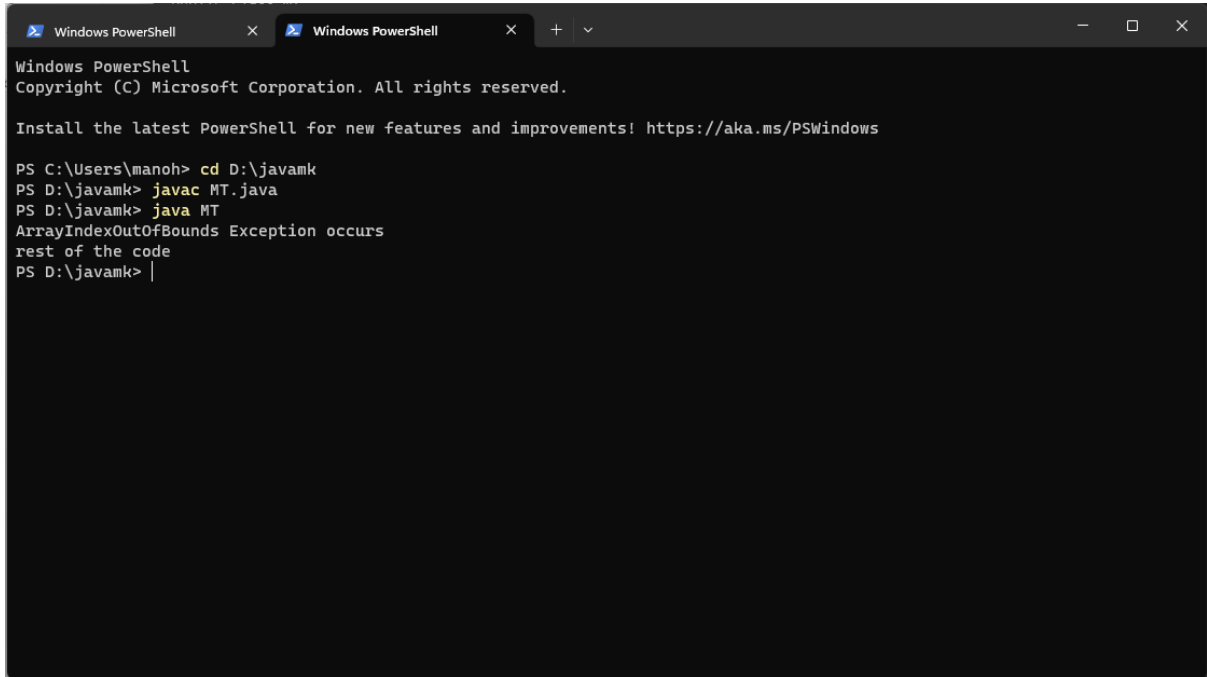
NULL POINTER EXCEPTION

```
import java.io.*;

class ne

{

public static void main (String[] args)

{

String ptr = null;

try

{

if (ptr.equals("gfg"))

System.out.print("Same");

else

System.out.print("Not Same");
```
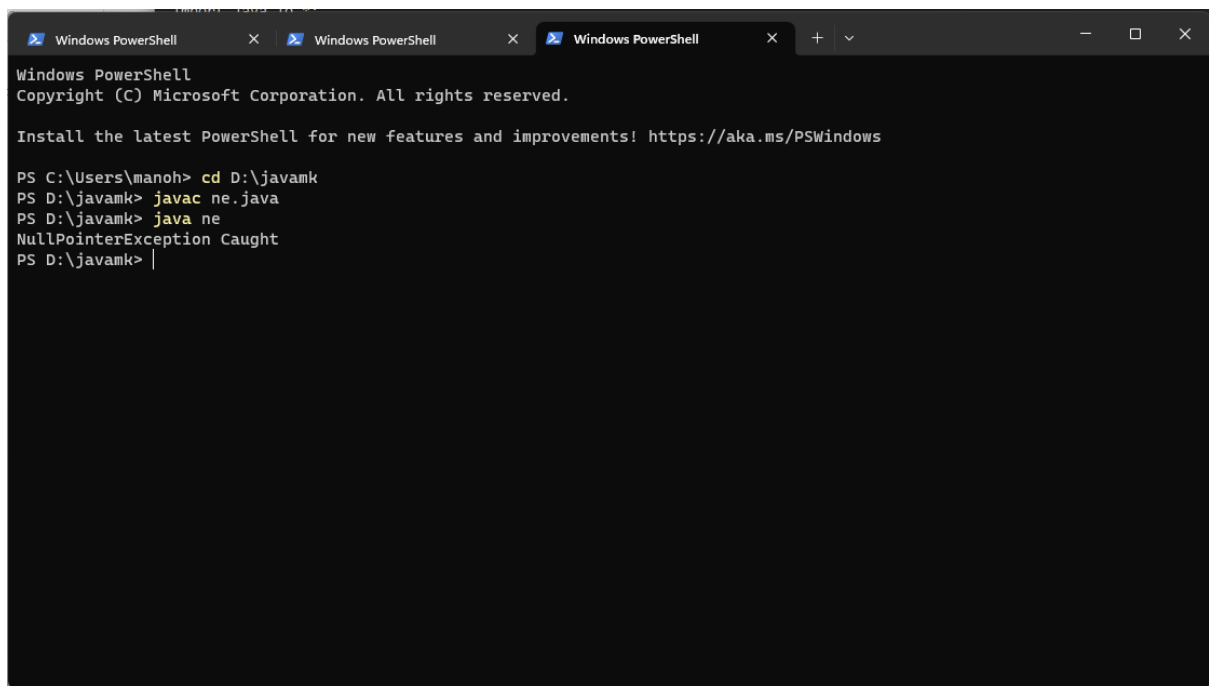
```
}

catch(NullPointerException e)

{

System.out.print("NullPointerException Caught");

}

}

}
```



```
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PS C:\Users\manoh> cd D:\javamk
PS D:\javamk> javac ne.java
PS D:\javamk> java ne
NullPointerException Caught
PS D:\javamk> |
```

2.MULTIPLICATION TABLE

```
class Table

{

void printTable(int n)

{

synchronized(this)

{

for(int i=1;i<=5;i++)

{

System.out.println(+n+"*"+i+"="+(n*i));

try
```

```java
{
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()
```

```java
{
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();
}
}
```

```
PS C:\Users\HP\OneDrive\Documents\java>  & 'C:\Program Files\Java\jdk-11.0.2\bin\java.exe' '-cp' 'C:\Users\HP\AppData\Roaming\Code\User\workspaceSto
rage\9a445a0b52dbb2f66fb890338b7cdbd7\redhat.java\jdt_ws\java_595d28fc\bin' 'Use'
100*1=100
100*2=200
100*3=300
100*4=400
100*5=500
5*1=5
5*2=10
5*3=15
5*4=20
5*5=25
PS C:\Users\HP\OneDrive\Documents\java>
```

3.UGLY NUMBER

```java
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;
```
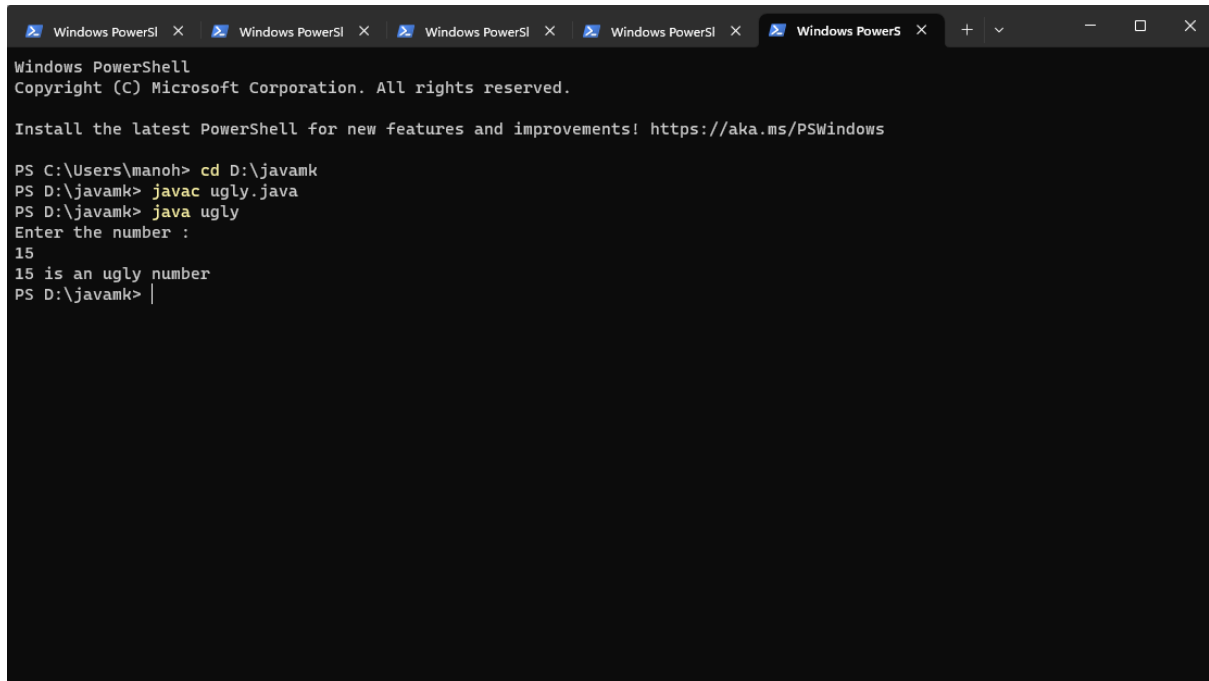
```
        }

    }

    return flag;

    }

}
```



```
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PS C:\Users\manoh> cd D:\javamk
PS D:\javamk> javac ugly.java
PS D:\javamk> java ugly
Enter the number :
15
15 is an ugly number
PS D:\javamk>
```

4.FIBONACCI NUMBERS

```java
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);

}
```

```java
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));

}

}
```


5.REMOVING DUPLICATE ELEMENTS

```java
import java.io.*;

import java.util.*;

class duplicate

{

 static int removeDuplicates(int arr[], int n)

 {

if (n == 0 || n == 1)

 return n;
```

```java
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]+" ");

}

}

}
```

```
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PS C:\Users\manoh> cd D:\javamk
PS D:\javamk> javac duplicate.java
PS D:\javamk> java duplicate
10 20 30 40 50
PS D:\javamk>
```

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