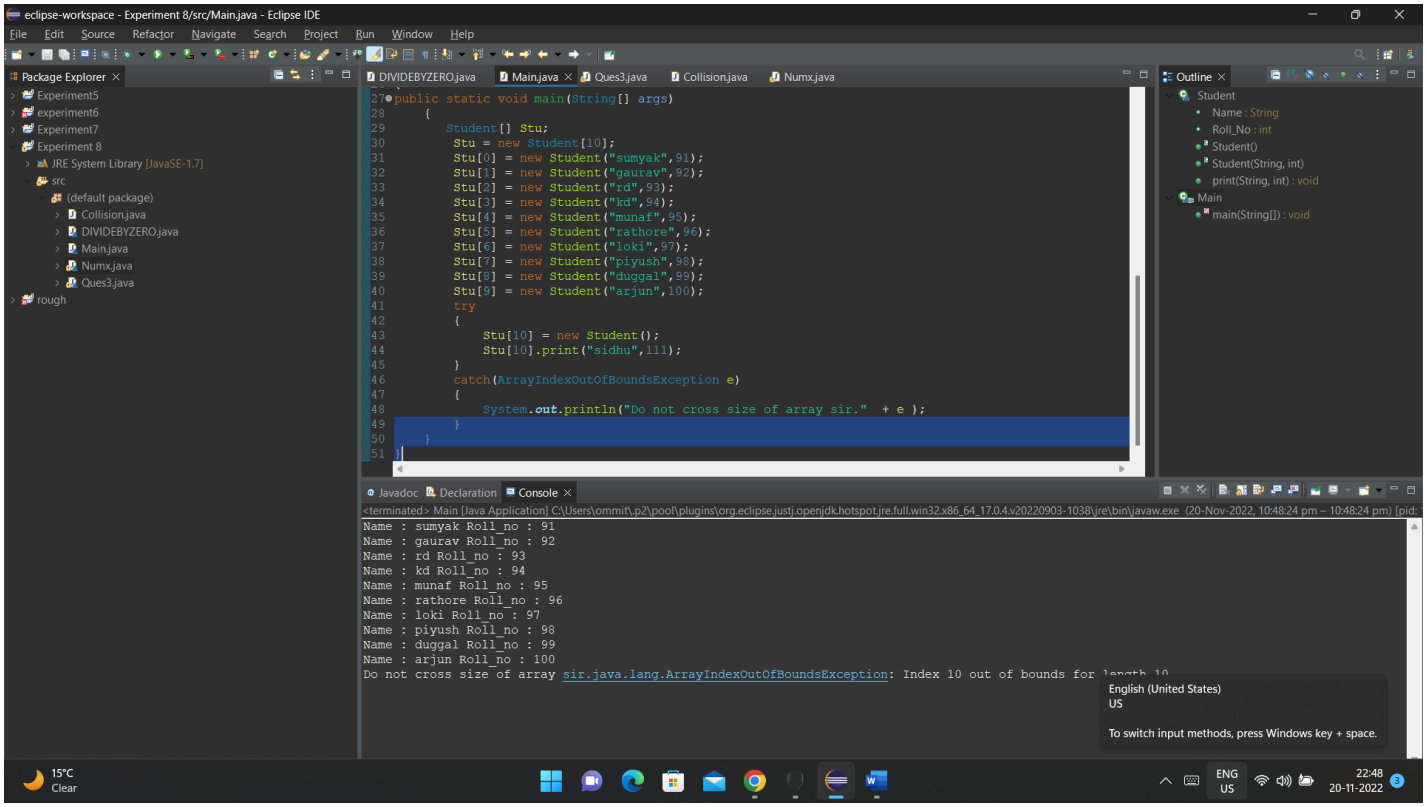
EXPERIMENT-8

1)Write a program in Java to display the names and roll numbers of students. Initialize respective array variables for 10 students. Handle ArrayIndexOutOfBoundsExeption, so that any such problem doesn't cause illegal termination of program.

CODE:-

```
class Student
{
   public String Name;
   public int Roll_No;
   public Student(){ };
   public Student(String N, int R)
   {
      Name = N;
      Roll_No = R;
      System.out.println("Name : "+Name+" "+"Roll_no : "+Roll_No);
   }
   public void print(String P, int K)
   {
      Name = P;
      Roll_No = K;
      System.out.println("Name : "+Name+" "+"Roll_no : "+Roll_No);
   }
}
class Main
{
public static void main(String[] args)
   {
     Student[] Stu;
      Stu = new Student[10];
      Stu[0] = new Student("sumyak",91);
      Stu[1] = new Student("gaurav",92);
      Stu[2] = new Student("rd",93);
      Stu[3] = new Student("kd",94);
      Stu[4] = new Student("munaf",95);
      Stu[5] = new Student("rathore",96);
      Stu[6] = new Student("loki",97);
      Stu[7] = new Student("piyush",98);
      Stu[8] = new Student("duggal",99);
      Stu[9] = new Student("arjun",100);
      try
      {
         Stu[10] = new Student();
         Stu[10].print("sidhu",111);
      }
      catch(ArrayIndexOutOfBoundsException e)
      {
         System.out.println("Do not cross size of array sir."  + e );
      }
   }
   }
```

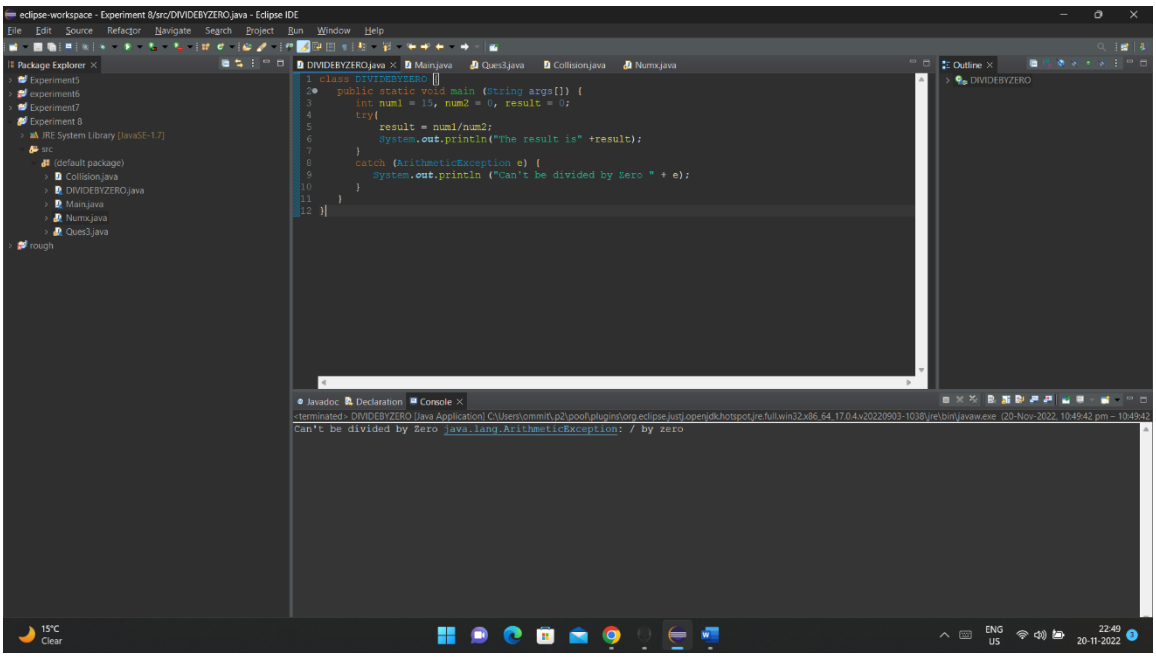
SCREENSHORT:-



2) Write a Java program to enable the user to handle any chance of divide by zero exception.

CODE:-

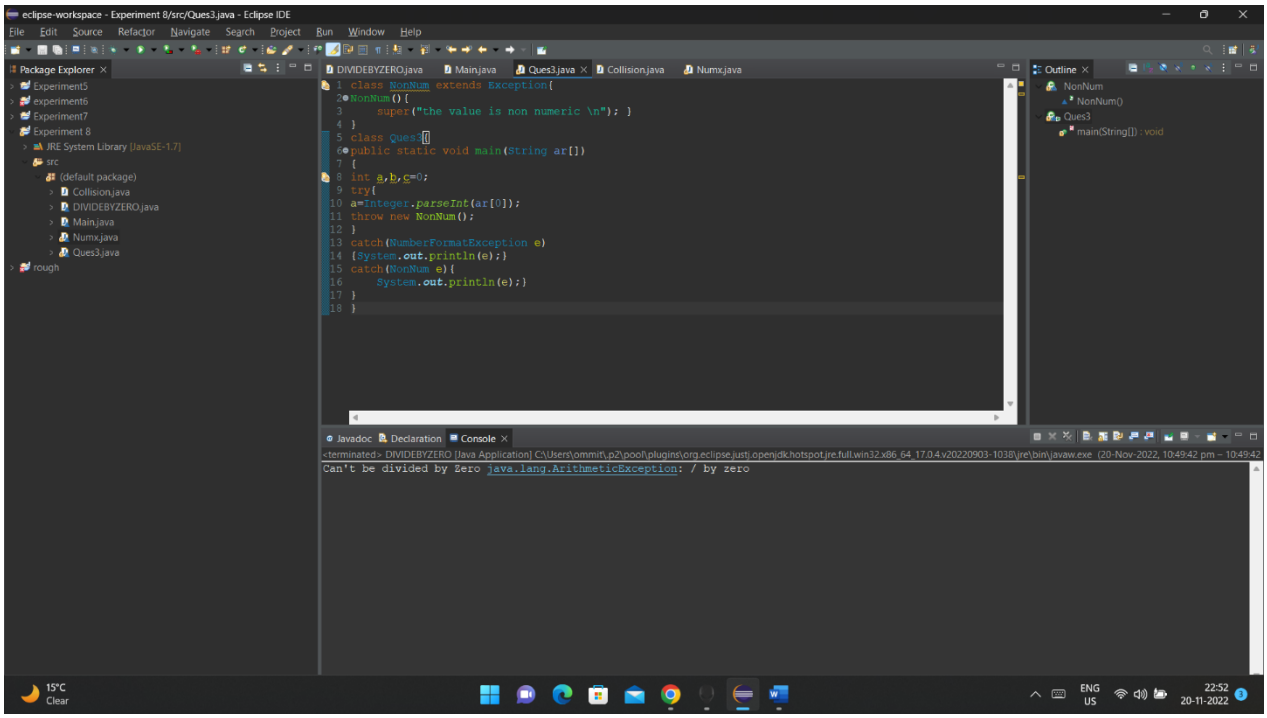
```
class DIVIDEBYZERO {
  public static void main (String args[]) {
    int num1 = 15, num2 = 0, result = 0;
    try{
       result = num1/num2;
       System.out.println("The result is" +result);
    }
    catch (ArithmeticException e) {
      System.out.println ("Can't be divided by Zero " + e);
    }
  }
}
```



3) Create an exception class, which throws an exception if operand is nonnumeric in calculating modules. (Use command line arguments).

'CODE:-

```
class NonNum extends Exception{
NonNum(){
        super("the value is non numeric \n"); }
}
class Ques3{
public static void main(String ar[])
{
int a,b,c=0;
try{
a=Integer.parseInt(ar[0]);
throw new NonNum();
}
catch(NumberFormatException e)
{System.out.println(e);}
catch(NonNum e){
        System.out.println(e);}
}
}
```

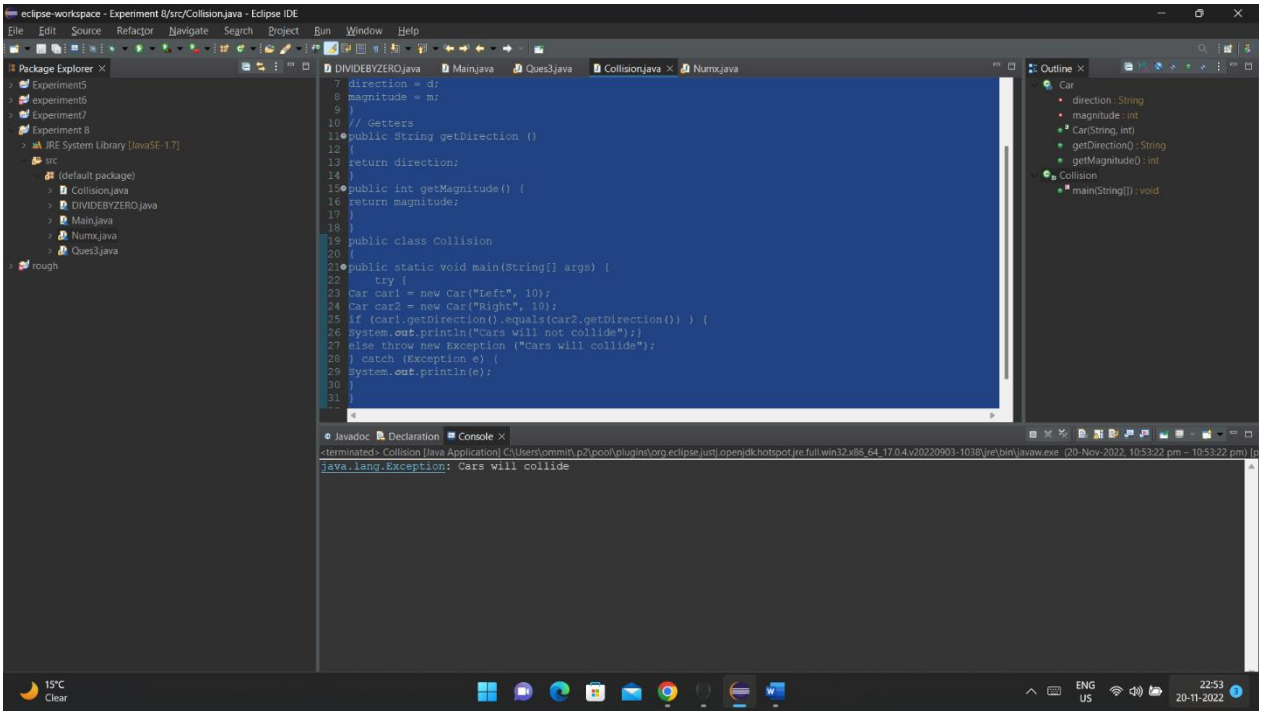


4) On a single track two vehicles are running. As vehicles are going in same direction there is no problem. If the vehicles are running in different direction there is a chance of collision. To avoid collisions write a Java program using exception handling. You are free to make necessary assumptions.

CODE:-

```
class Car
{
private String direction;
private int magnitude;
public Car (String d, int m)
{
direction = d;
magnitude = m;
}
// Getters
public String getDirection ()
{
return direction;
}
public int getMagnitude() {
return magnitude;
}
}
public class Collision
{
public static void main(String[] args) {
      try {
Car car1 = new Car("Left", 10);
Car car2 = new Car("Right", 10);
if (car1.getDirection().equals(car2.getDirection()) ) {
System.out.println("Cars will not collide");}
else throw new Exception ("Cars will collide");
} catch (Exception e) {
System.out.println(e);
}
}

}
```



5) Write a java program to throw an exception for an employee details.
• If an employee name is a number, a name exception must be thrown.
• If an employee age is greater than 50, an age exception must be thrown.
• Or else an object must be created for the entered employee details

CODE : –

```
import java.io.*;
import java.util.*;
class Numx
{
public static void main(String args[])
 {
String name;
int age;
System.out.println("-----ENTER EMPLOYEE DETAILS-----");
System.out.println("Enter Name and Age:");
Scanner in=new Scanner(System.in);

try
{
if(!(in.nextLine().matches("[a-zA-Z]+")))
{throw new IOException();}

age=in.nextInt();
if(age>50)
{
System.out.println("Age greater than 50 Exception");
throw new Exception();
}

Numx x=new Numx();
System.out.println("-----Object Created-----");
}

catch(Exception e)
{
System.out.println("Exception");
}
}
}
```