**JAVA EXCEPTIONS AND ERROR HANDLING**

**Task-11**

***1.Four access modifiers in java:***

**1. Public →**access the data from anywhere within the program including other class and packages.

**2. Private →**access the data only within the class. It is not visible to other classes and package.

**3. Protected→**protected accessible within the package.

**4. Default→** Default access modifier are accessible only within the same package.

**Class →** class contains methods,variable,set of object.

**Method**→ collection of statement that perform a specific task.

**Variable→**store a data types valuesin variable.

2.

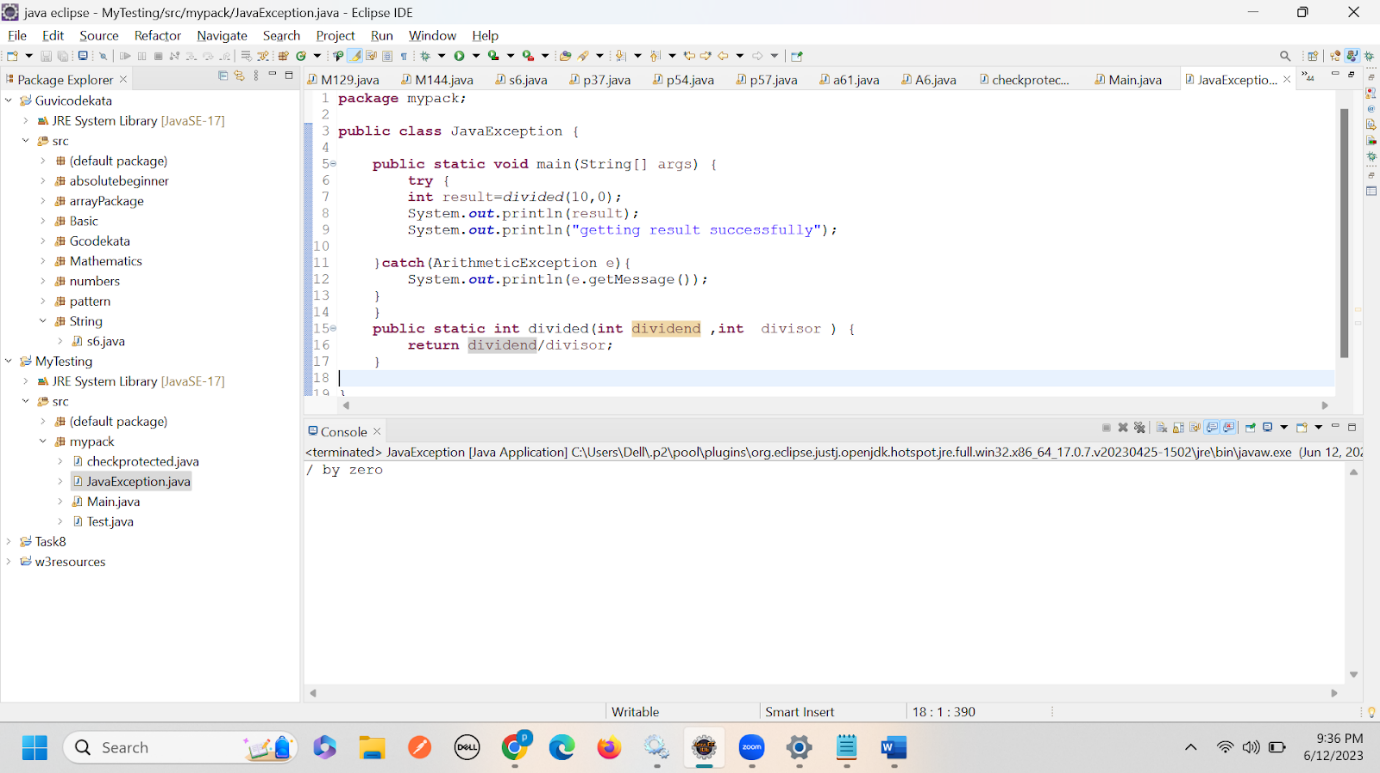
|  |  |
| --- | --- |
| **EXCEPTION** | **ERROR** |
| Exceptiona can be recovered | Error cannot be recovered |
| Two types:  1.checked exception  2.unchecked exception | Error are the one which occur due developer mistakes and it is unchecked type |
| Exception can raise at both runtime and compile time | Error show in run time. |
| Eg:  Arrayoutofindex exception  Arithmetic exception | Memory error. |

3.

|  |  |
| --- | --- |
| **CHECKED EXCEPTION** | **UNCHECKED EXCEPTION** |
| The exception are checked by compiler at compiler time | The exception are not checked by compiler time. |
| Eg:classnotfoundexception  Sqlexception  ioexception | Arithmeticexception  Arrayindexoutboundexception |

4.java program:

  1.getting two integer from user→second integer is zero→display error message.



Code:

**package** mypack;

**public** **class** JavaException {

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

**try** {

**int** result=*divided*(10,0);

System.***out***.println(result);

System.***out***.println("getting result successfully");

}**catch**(ArithmeticException e){

System.***out***.println(e.getMessage());

}

}

**public** **static** **int** divided(**int** dividend ,**int** divisor ) {

**return** dividend/divisor;

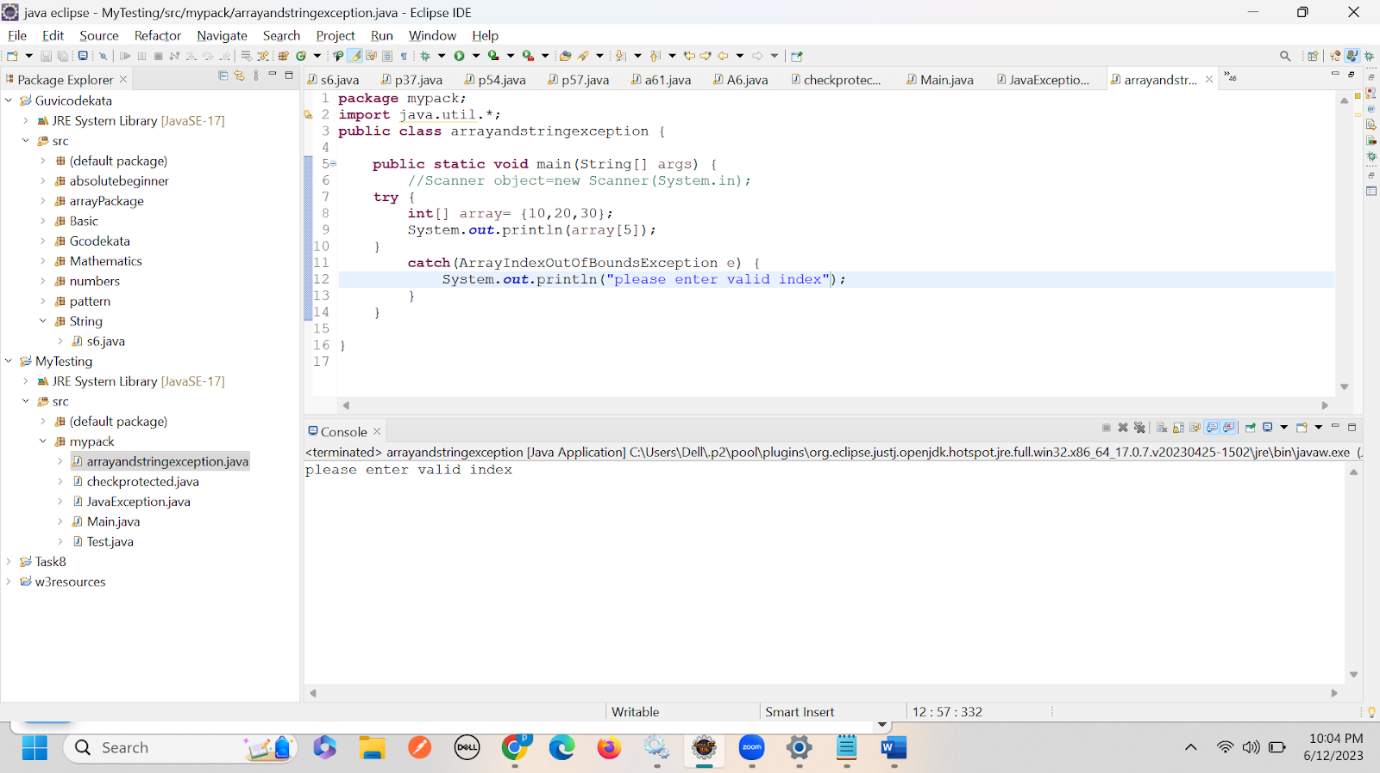
}

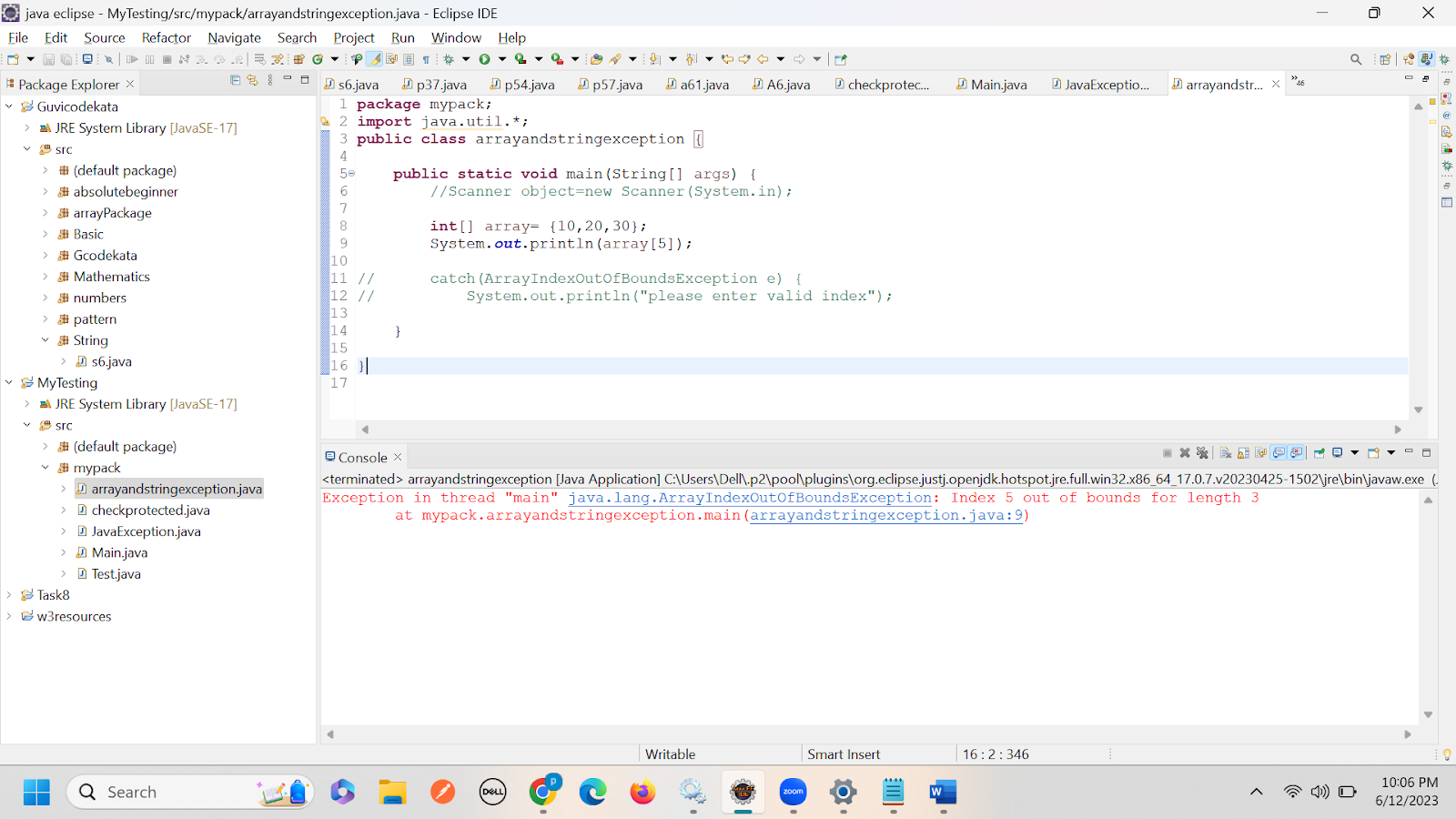
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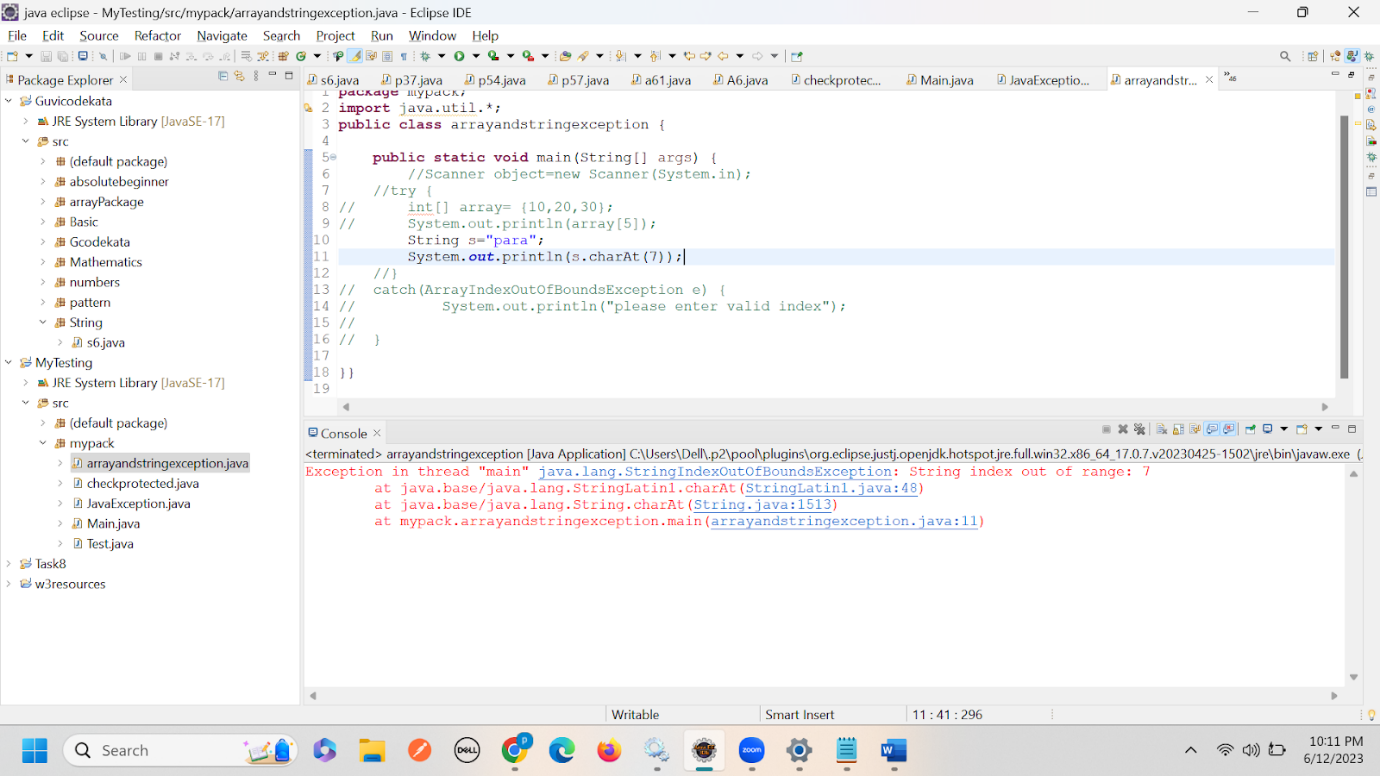
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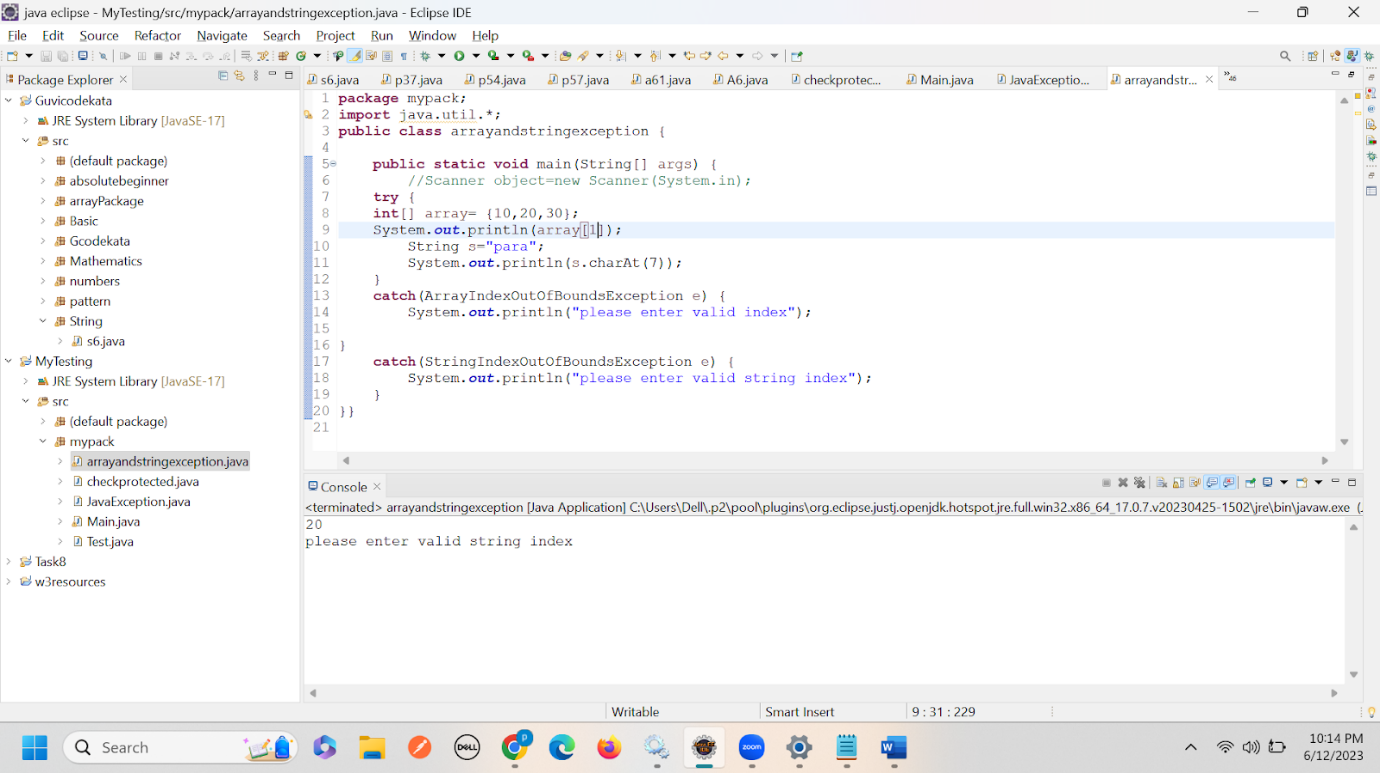
5.

Code for ArrayoutofBoundindex, Stringindexoutofboundsexception.









Code:

**package** mypack;

**import** java.util.\*;

**public** **class** arrayandstringexception {

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

//Scanner object=new Scanner(System.in);

**try** {

**int**[] array= {10,20,30};

System.***out***.println(array[1]);

String s="para";

System.***out***.println(s.charAt(7));

}

**catch**(ArrayIndexOutOfBoundsException e) {

System.***out***.println("please enter valid index");

}

**catch**(StringIndexOutOfBoundsException e) {

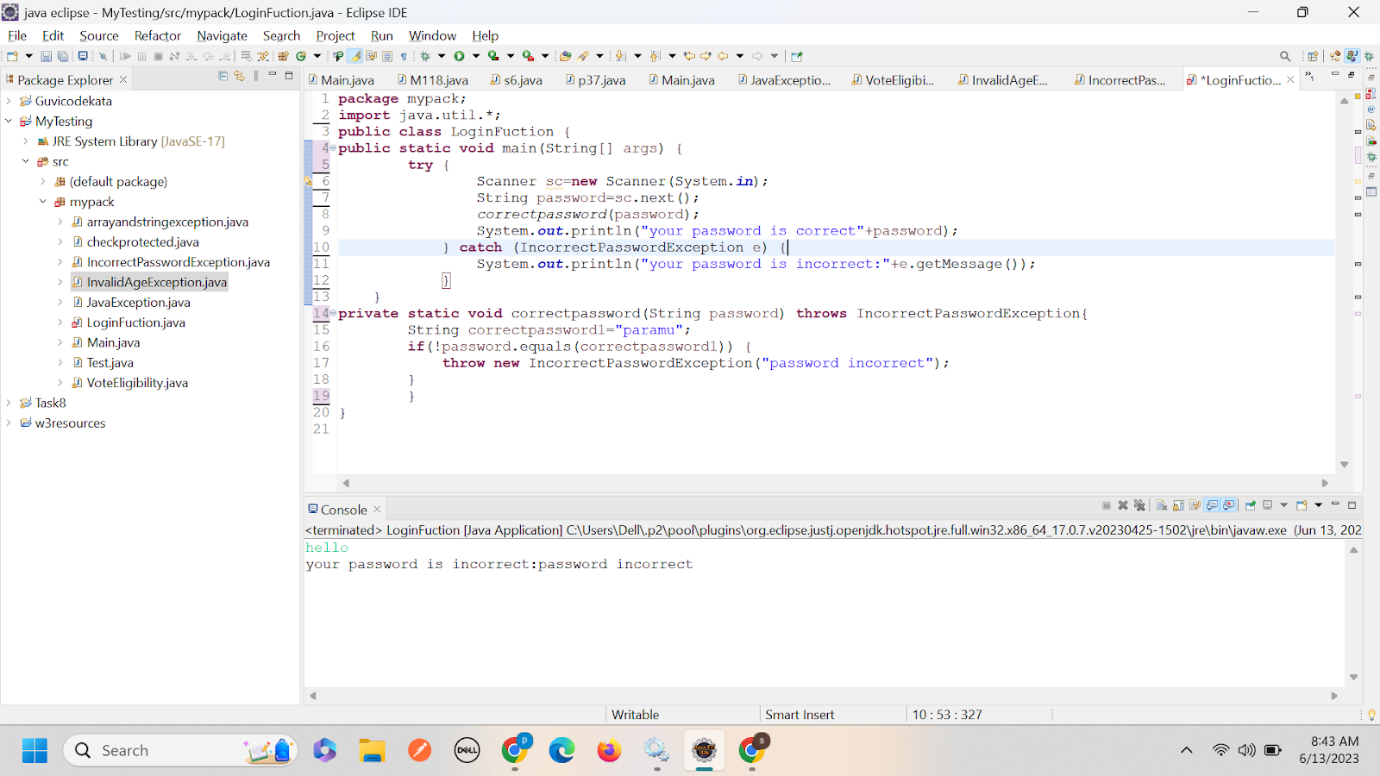
System.***out***.println("please enter valid string index");

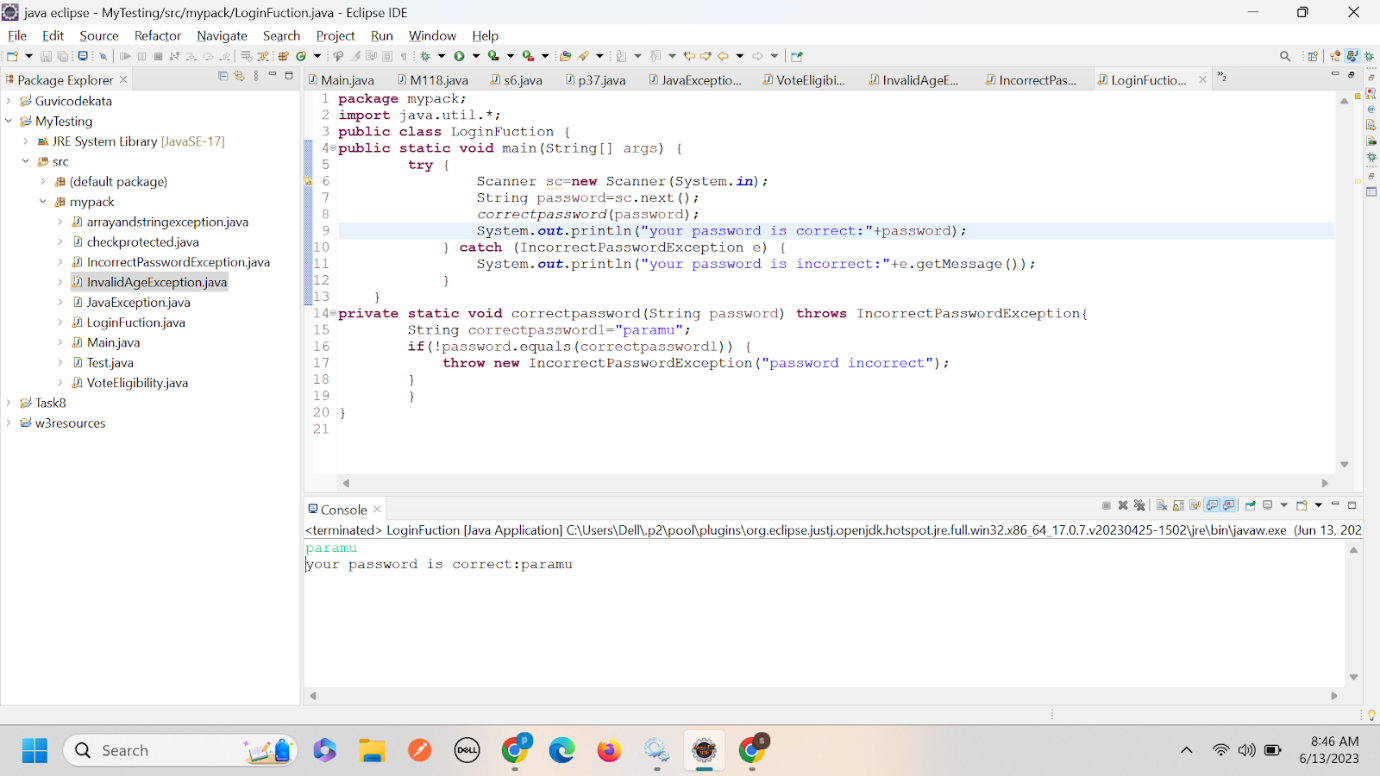
}

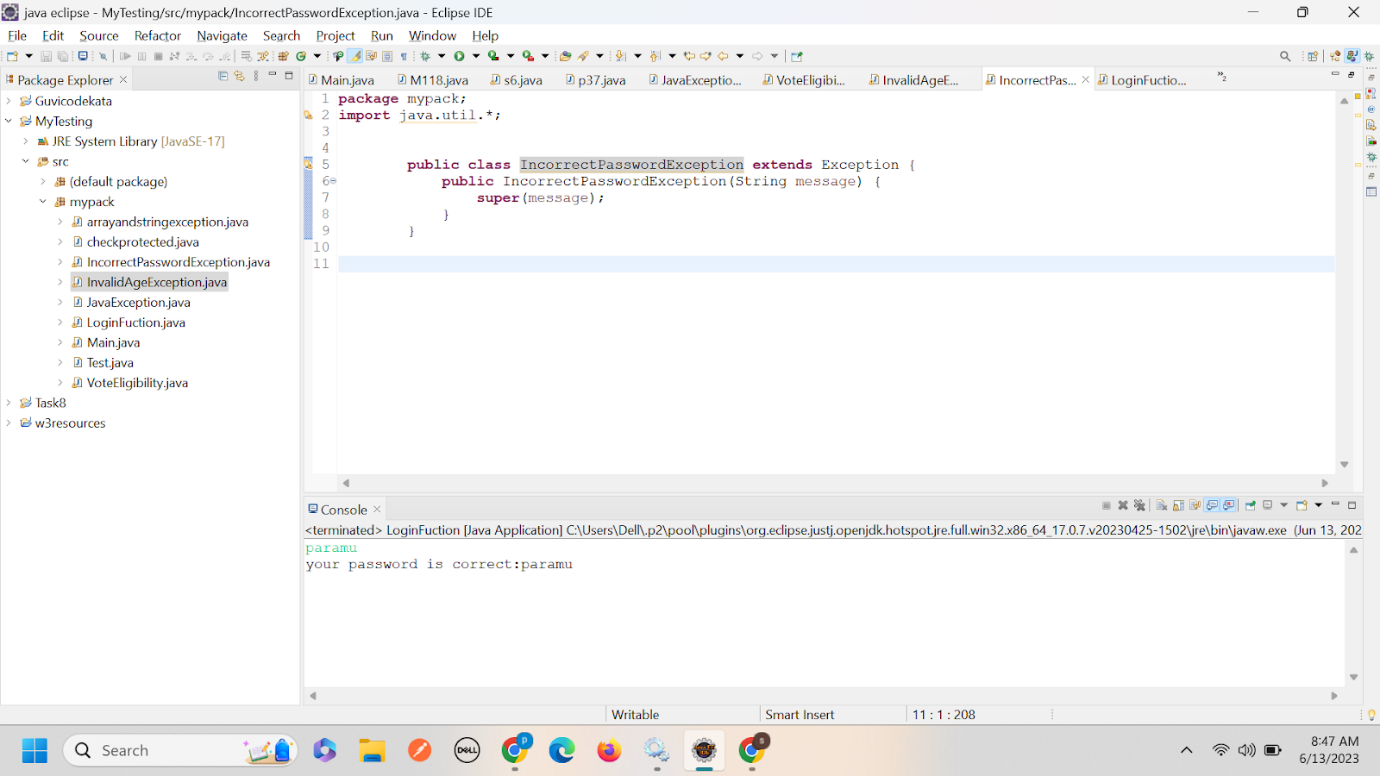
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6.check password correct or incorrect:







Code:

**package** mypack;

**import** java.util.\*;

**public** **class** LoginFuction {

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

**try** {

Scanner sc=**new** Scanner(System.***in***);

String password=sc.next();

*correctpassword*(password);

System.***out***.println("your password is correct:"+password);

} **catch** (IncorrectPasswordException e) {

System.***out***.println("your password is incorrect:"+e.getMessage());

}

}

**private** **static** **void** correctpassword(String password) **throws** IncorrectPasswordException{

String correctpassword1="paramu";

**if**(!password.equals(correctpassword1)) {

**throw** **new** IncorrectPasswordException("password incorrect");

}

}

}

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**package** mypack;

**import** java.util.\*;

**public** **class** IncorrectPasswordException **extends** Exception {

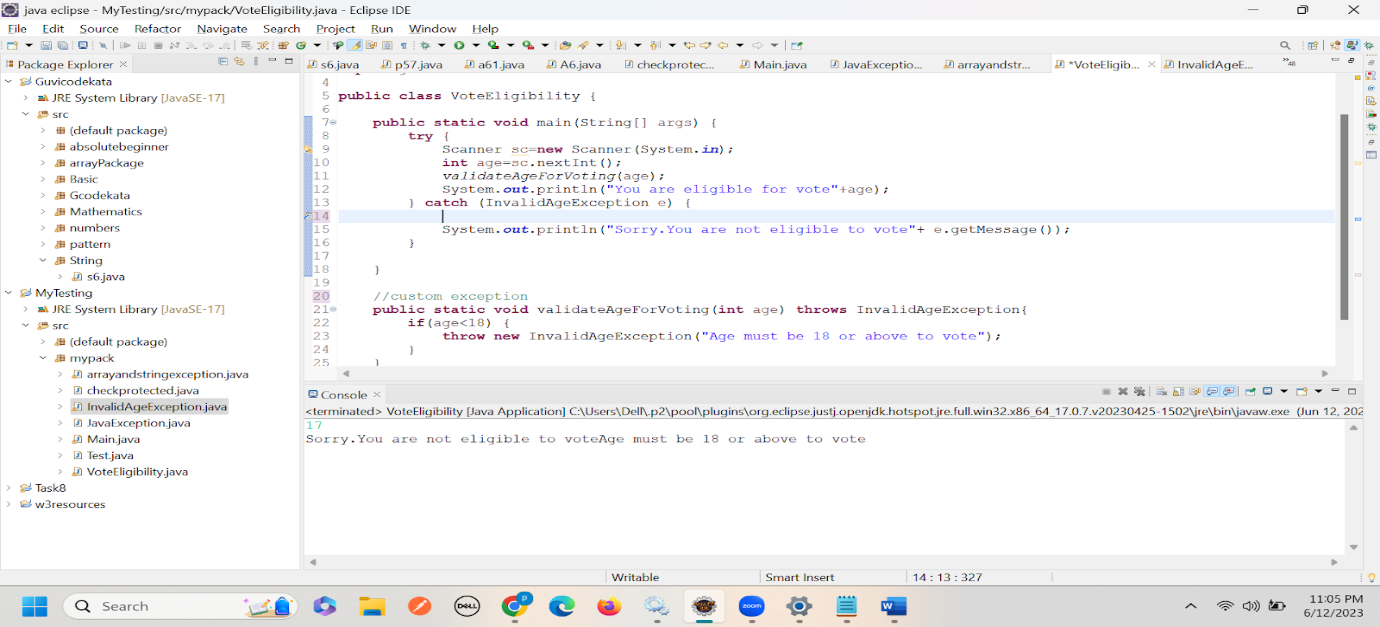
**public** IncorrectPasswordException(String message) {

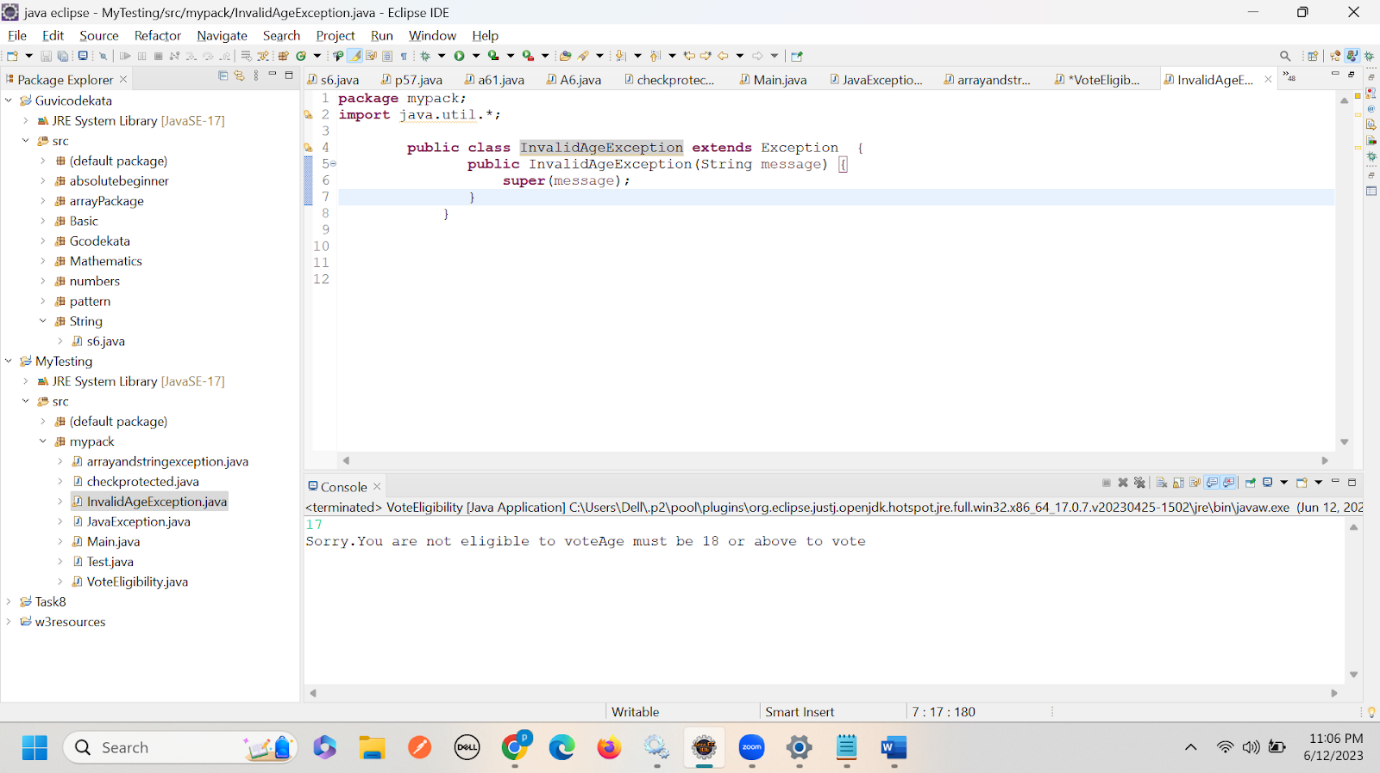
**super**(message);

}

}

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7.



Code:

**package** mypack;

**import** java.util.Scanner;

**public** **class** VoteEligibility {

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

**try** {

Scanner sc=**new** Scanner(System.***in***);

**int** age=sc.nextInt();

*validateAgeForVoting*(age);

System.***out***.println("You are eligible for vote"+age);

} **catch** (InvalidAgeException e) {

System.***out***.println("Sorry.You are not eligible to vote"+ e.getMessage());

}

}

//custom exception

**public** **static** **void** validateAgeForVoting(**int** age) **throws** InvalidAgeException{

**if**(age<18) {

**throw** **new** InvalidAgeException("Age must be 18 or above to vote");

}

}

}

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**package** mypack;

**import** java.util.\*;

**public** **class** InvalidAgeException **extends** Exception {

**public** InvalidAgeException(String message) {

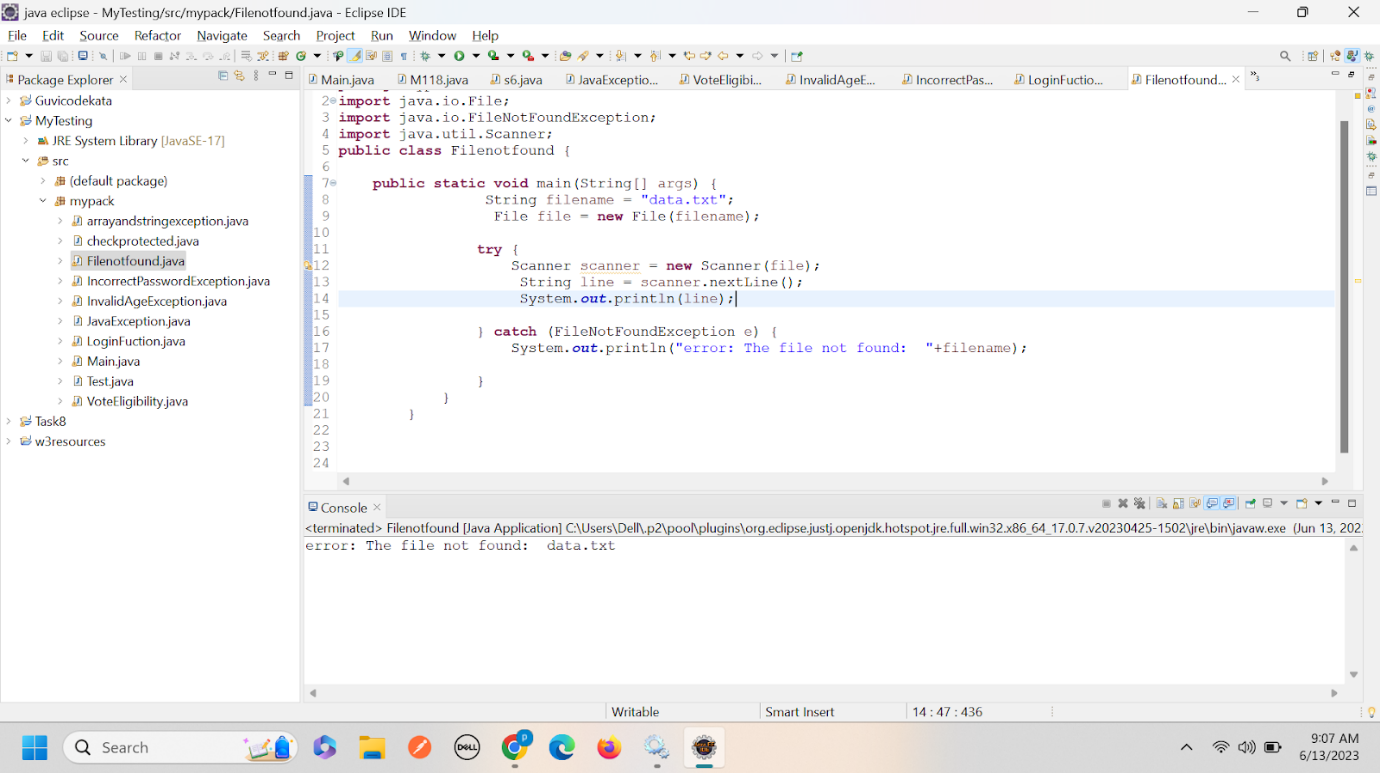
**super**(message);

}

}

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8. Filenotfoundexception:



Code:

**package** mypack;

**import** java.io.File;

**import** java.io.FileNotFoundException;

**import** java.util.Scanner;

**public** **class** Filenotfound {

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

String filename = "data.txt";

File file = **new** File(filename);

**try** {

Scanner scanner = **new** Scanner(file);

String line = scanner.nextLine();

System.***out***.println(line);

} **catch** (FileNotFoundException e) {

System.***out***.println("error: The file not found: "+filename);

}

}

}

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