

- What is an Exception?

-> An exception is a run time error.

-> An exception is an abnormal condition that arises in a code sequence at run time.

```
statement 1;  
statement 2;  
statement 3; //exception occurs  
statement 4;  
statement 5;  
statement 6;  
statement 7;
```

```
int x = 10;  
int y = 0;  
int result = x/y; //exception occurs here
```

```
.....  
.....
```

Different types of exception

```
int x = 10;  
int y = 0;  
int result = x/y; -----> ArithmeticException : Can't divide a number by 0
```

```
String name = null;  
System.out.println(name.charAt(0)); -----> NullPointerException
```

```
String name = "Anisul"; // length is 6  
System.out.println(name.charAt(9)); -----> StringIndexOutOfBoundsException
```

Different types of exception

`int num = Integer.parseInt("ania");` —————> **NumberFormatException**

`File file = new File("D://file.txt");` —————> **FileNotFoundException**

Some other exceptions

.....
ClassNotFoundException

IOException

NoSuchMethodException

Etc.

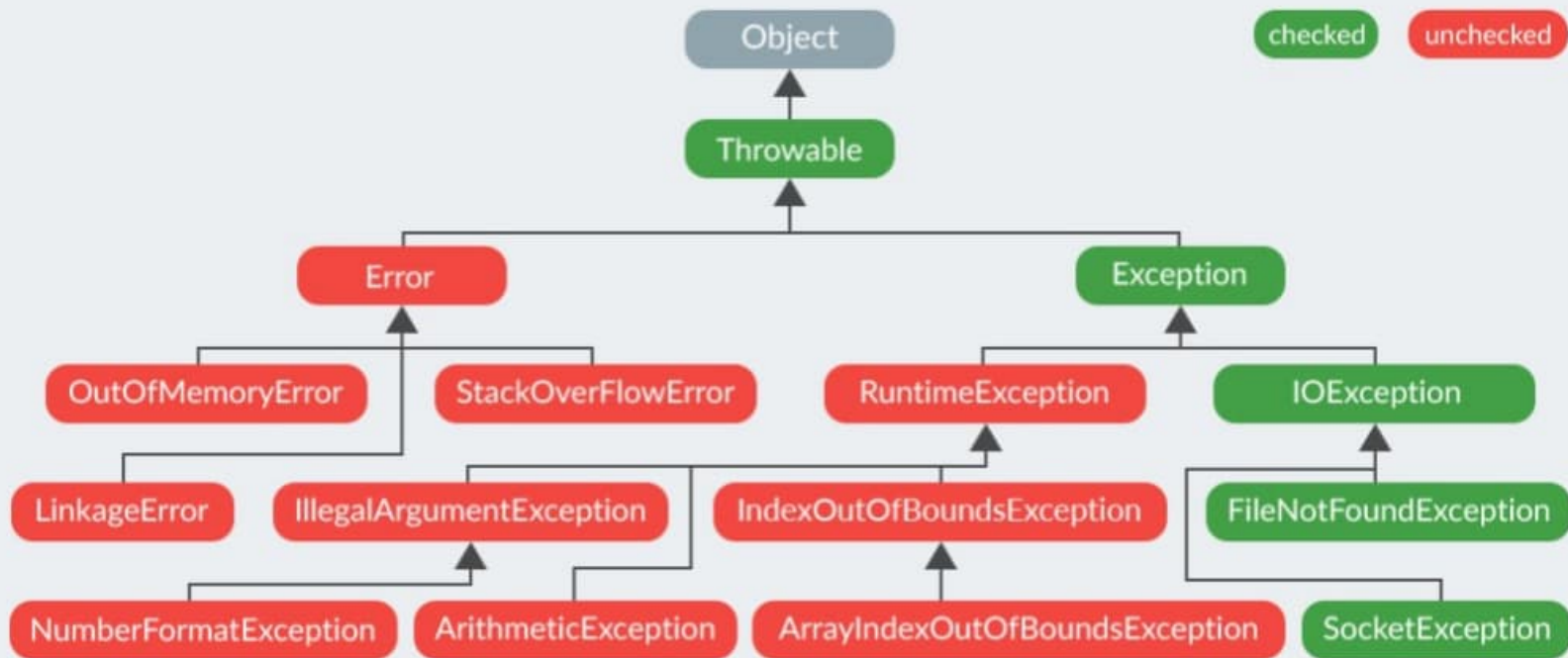
`int a[] = new int[5];`
`a[5] = 32;` —————> **ArrayIndexOutOfBoundsException**

1) what is exception?

- An exception is a run time error.

2) Different types of exception

- ArithmeticException
- NullPointerException
- StringIndexOutOfBoundsException
- NumberFormatException
- FileNotFoundException
- ArrayIndexOutOfBoundsException
- ClassNotFoundException
- IOException
- NoSuchMethodException etc.



- What is exception handling?

-> The **exception handling** is one of the powerful *mechanism to handle the runtime errors* .

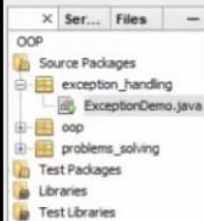
- Exception handling is managed by 5 keywords.

1. try
2. catch
3. finally
4. throw
5. throws

Try-catch-finally block

```
try{  
    //code you want to monitor  
} catch (ExceptionType1 e1) {  
    //exception handler for exception  
} catch (ExceptionType2 e2) {  
    //exception handler for exception  
}  
.....  
finally{  
    //block of code to be executed after try block  
}
```

Part: 2



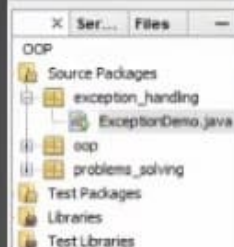
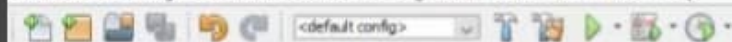
ExceptionDemo.java

Source History

```
1 package exception_handling;
2
3 public class ExceptionDemo {
4
5     public static void main(String[] args) {
6
7         int x = 10;
8         int y = 0;
9         int result = x / y;
10        System.out.println("Result : "+result);
11        System.out.println("Last line of the program");
12
13    }
14 }
15
```

Output - OOP (run)

```
run:
Exception in thread "main" java.lang.ArithmeticException: / by zero
    at exception_handling.ExceptionDemo.main(ExceptionDemo.java:9)
C:\Users\Devi\AppData\Local\NetBeans\Cache\8.2\executor-snippets\run.xml:53: Java returned: 1
BUILD FAILED (total time: 0 seconds)
```

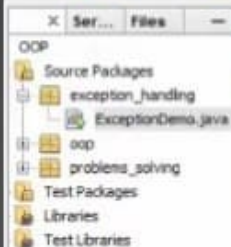
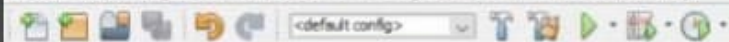
ExceptionDemo.java

Source History

```
4
5 public static void main(String[] args) {
6
7     try {
8         int x = 10;
9         int y = 0;
10        int result = x / y;
11        System.out.println("Result : " + result);
12    } catch (ArithmeticException e) {
13        System.out.println("Exception : "+e);
14    }
15
16    System.out.println("Last line of the program");
17
18 }
19
20
```

Output - OOP (run)

```
run:
Exception : java.lang.ArithmeticException: / by zero
Last line of the program
```



ExceptionDemo.java

Source History

```

4
5 public static void main(String[] args) {
6
7     try {
8         int x = 10;
9         int y = 0;
10        int result = x / y;
11        System.out.println("Result : " + result);
12    } catch (ArrayIndexOutOfBoundsException e) {
13        System.out.println("Exception : "+e);
14    }
15
16    System.out.println("Last line of the program");
17
18    }
19 }
20

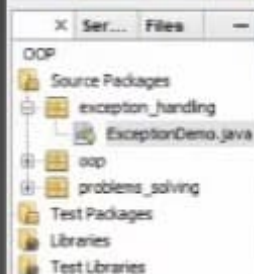
```

Output - OOP (run)

```

Run:
Exception in thread "main" java.lang.ArithmeticException: / by zero
    at exception_handling.ExceptionDemo.main(ExceptionDemo.java:10)
    at C:\Users\Devl\AppData\Local\NetBeans\Cache\8.2\executor-snippets\run.xml:52: Java returned: 1
BUILD FAILED (total time: 0 seconds)

```



ExceptionDemo.java

Source History

```

4
5 public static void main(String[] args) {
6
7     try {
8         int x = 10;
9         int y = 0;
10        int result = x / y;
11        System.out.println("Result : " + result);
12    } catch (Exception e) {
13        System.out.println("Exception : "+e);
14    }
15
16    System.out.println("Last line of the program");
17
18 }
19
20

```

Output - OOP (run)

```

run:
Exception : java.lang.ArithmeticException: / by zero
Last line of the program
BUILD SUCCESSFUL (total time: 0 seconds)

```

```

4
5 public static void main(String[] args) {
6
7     try {
8         int x = 10;
9         int y = 0;
10        int result = x / y;
11        System.out.println("Result : " + result);
12    } catch (ArrayIndexOutOfBoundsException e) {
13        System.out.println("Exception : "+e);
14    }
15    finally{
16        System.out.println("Last line of the program");
17    }
18
19

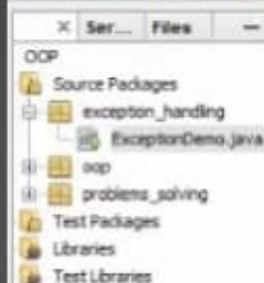
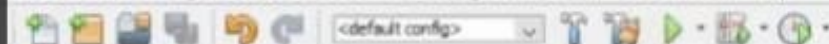
```

Output - OOP (run)

```

Last line of the program
Exception in thread "main" java.lang.ArithmeticException: / by zero
    at exception_handling.ExceptionDemo.main(ExceptionDemo.java:10)
C:\Users\Devi\AppData\Local\NetBeans\Cache\8.2\executor-shippeta\run.xml:63: Java returned: 1
BUILD FAILED (total time: 0 seconds)

```



ExceptionDemo.java

Source History

```
7      try {
8          int x = 10;
9          int y = 0;
10         int result = x / y;
11         System.out.println("Result : " + result);
12     } catch (ArrayIndexOutOfBoundsException e1) {
13         System.out.println("Exception : "+e1);
14     } catch (ArithmeticException e2) {
15         System.out.println("Exception : "+e2);
16     }
17
18     finally{
19         System.out.println("Last line of the program");
20     }
21
22
```

Output - OOP (run)

```
run:
Exception : java.lang.ArithmeticException: / by zero
Last line of the program
BUILD SUCCESSFUL (total time: 0 seconds)
```



X Ser... Files

OOP

- Source Packages
 - exception_handling
 - ExceptionDemo.java
 - oop
 - problems_solving

Test Packages

Libraries

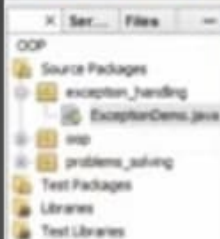
Test Libraries

ExceptionDemo.java X

Source History

```
7      try {
8          int x = 10;
9          int y = 0;
10         int result = x / y;
11         System.out.println("Result : " + result);
12     } catch (Exception e1) {
13         System.out.println("Exception : " + e1);
14     } catch (ArithmeticException e2) {
15         System.out.println("Exception : " + e2);
16     }
17
18     finally {
19         System.out.println("Last line of the program");
20     }
21
22
```

~~Wrong~~



```
ExceptionDemo.java
Source History
7      try {
8          int x = 10;
9          int y = 0;
10         int result = x / y;
11         System.out.println("Result : " + result);
12     } catch (ArithmeticException e1) {
13         System.out.println("Exception : "+e1);
14     } catch (Exception e2) {
15         System.out.println("Exception : "+e2);
16     }
17
18     finally{
19         System.out.println("Last line of the program");
20     }
21
22
23
24 }
```



X Ser... Files

ExceptionDemo.java

Source History

7 try {

8 int x = 10;

9 int y = 0;

10 int result = x / y;

11 System.out.println("Result : " + result);

12 } catch (Exception e2) {

13 System.out.println("Exception : "+e2);

14 }

15 }

16 finally{

17 System.out.println("Last line of the program");

18 }

19 }

20 }

21 }

22 }

23 }