

Department: BCA
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Subject: JAVA (5th sem.)
Topic: Exception Handling (Multi-catch block)

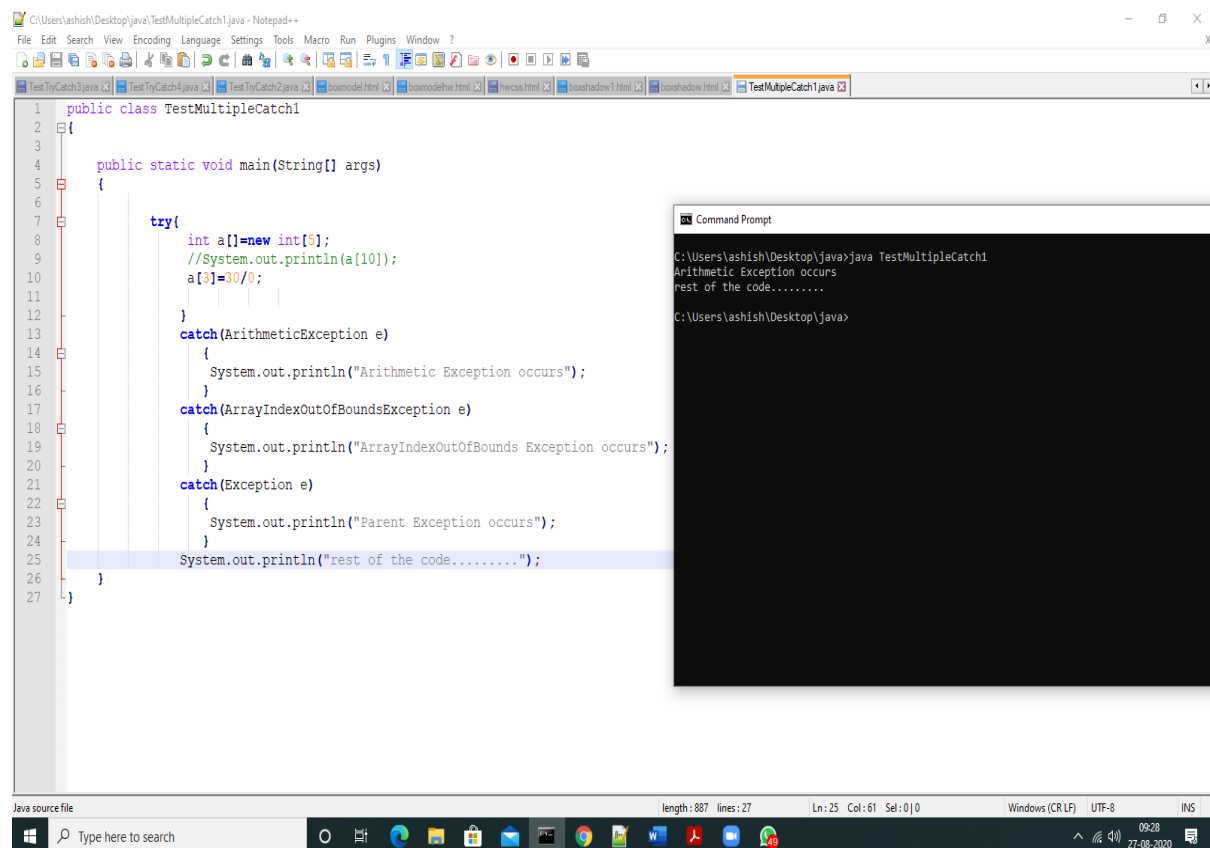
Java Multi-catch block:

A try block can be followed by one or more catch blocks. Each catch block must contain a different exception handler. So, if we have to perform different tasks at the occurrence of different exceptions, use java multi-catch block.

Points to remember:

- At a time only one exception occurs and at a time only one catch block is executed.
- All catch blocks must be ordered from most specific to most general, i.e. catch for `ArithmeticException` must come before catch for `Exception`.

Example:



```
1 public class TestMultipleCatch1
2 {
3
4     public static void main(String[] args)
5     {
6
7         try{
8             int a[]=new int[5];
9             //System.out.println(a[10]);
10            a[3]=30/0;
11        }
12        catch(ArithmeticException e)
13        {
14            System.out.println("Arithmetic Exception occurs");
15        }
16        catch(ArrayIndexOutOfBoundsException e)
17        {
18            System.out.println("ArrayIndexOutOfBoundsException occurs");
19        }
20        catch(Exception e)
21        {
22            System.out.println("Parent Exception occurs");
23        }
24        System.out.println("rest of the code.....");
25    }
26 }
27 }
```

```
C:\Users\ashish\Desktop\java>java TestMultipleCatch1
Arithmetic Exception occurs
rest of the code.....
C:\Users\ashish\Desktop\java>
```

Java Nested try block:

The try block within a try block is known as nested try block in java.

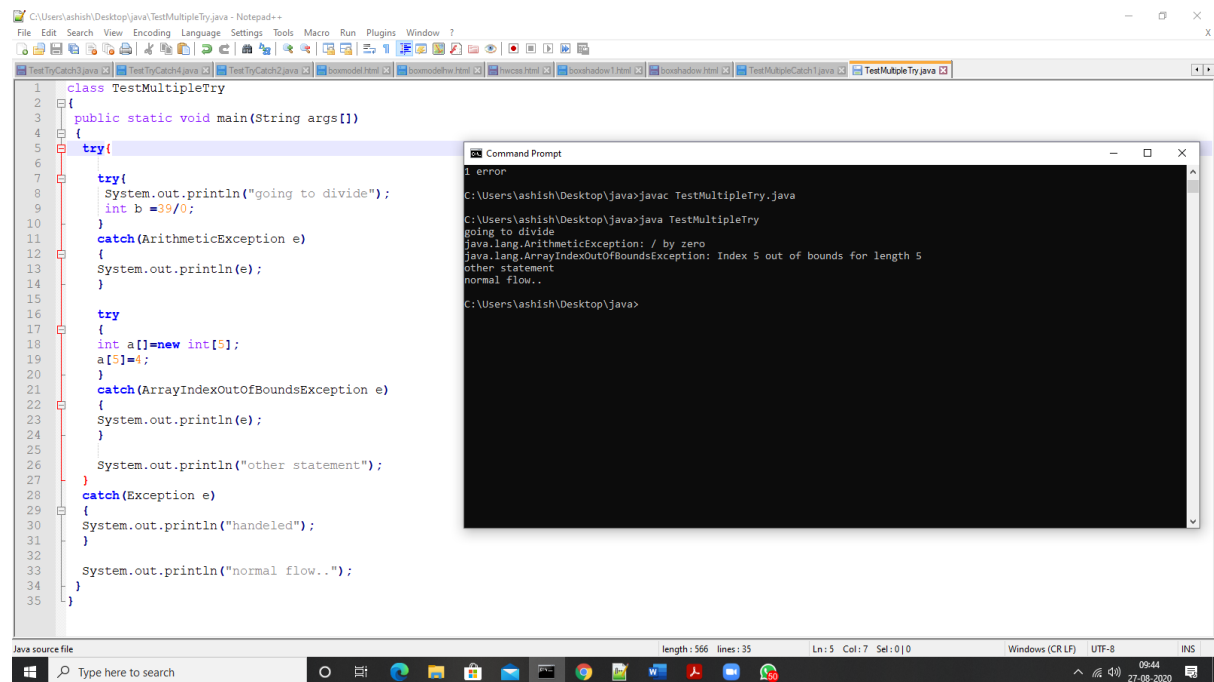
Why use nested try block:

Sometimes a situation may arise where a part of a block may cause one error and the entire block itself may cause another error. In such cases, exception handlers have to be nested.

Syntax:

```
....  
try  
{  
    statement 1;  
    statement 2;  
    try  
    {  
        statement 1;  
        statement 2;  
    }  
    catch(Exception e)  
    {  
  
    }  
}  
catch(Exception e)  
{  
}  
....
```

Example:



The screenshot shows a Notepad++ editor window with the following Java code:

```
1 class TestMultipleTry
2 {
3     public static void main(String args[])
4     {
5         try{
6
7             try{
8                 System.out.println("going to divide");
9                 int b = 39/0;
10            }
11            catch(ArithmeticException e)
12            {
13                System.out.println(e);
14            }
15
16            try
17            {
18                int a[]=new int[5];
19                a[5]=4;
20            }
21            catch(ArrayIndexOutOfBoundsException e)
22            {
23                System.out.println(e);
24            }
25            System.out.println("other statement");
26        }
27        catch(Exception e)
28        {
29            System.out.println("handed");
30        }
31
32        System.out.println("normal flow..");
33    }
34 }
35 }
```

The Command Prompt window shows the output of the program:

```
1 error
C:\Users\ashish\Desktop\java>javac TestMultipleTry.java
C:\Users\ashish\Desktop\java>java TestMultipleTry
going to divide
java.lang.ArithmeticException: / by zero
java.lang.ArrayIndexOutOfBoundsException: Index 5 out of bounds for length 5
other statement
normal flow..
C:\Users\ashish\Desktop\java>
```