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Part-VIII
Exception Handling

Practical No: 35

AIM: WAP to show the try-catch block to catch the different types of exceptions.

Solution

Practical35.java

```
package com.jayshil.javaapp;

import java.io.*;
public class Practical35 {
    public static void main(String[] args) {

        /**
         *
         */
        int a = 5, b = 0;
        try{
            System.out.println("a/b = "+a/b);
        }
        catch (ArithmeticException e) {
            System.out.println("Arithmetic Exception occurred");
        }

        /**
         *
         */

        /**
         *
         */
        int[] Array = new int[5];
        try{
            System.out.println(Array[7]);
        }
        catch (ArrayIndexOutOfBoundsException e){
            System.out.println("Array Index Out of Bounds Exception");
        }

        /**
         *
         */
    }
}
```



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```

/*****
*****/

    try {
        Class.forName("MyclassC");
    }
    catch (ClassNotFoundException e) {
        System.out.println("Class Not Found Exception");
    }

/*****
*****/

/*****
*****/

    try{
        File file = new File("myFile");
        FileInputStream fis = new FileInputStream(file);
        System.out.println("Hello");
    }
    catch (FileNotFoundException e) {
        System.out.println("File Not Found Exception");
    }

/*****
*****/

/*****
*****/

    String str = "Jayshil";

    try{
        System.out.println(str.charAt(9));
    }
    catch (StringIndexOutOfBoundsException e)
    {
        System.out.println("String index out of bound exception");
    }

/*****
*****/

```



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```
/*  
*****  
try {  
    int num = Integer.parseInt ("Jayshil") ;  
    System.out.println(num) ;  
}  
catch (NumberFormatException e) {  
    System.out.println("Number format exception");  
}  
  
/*  
*****  
  
}  
}
```

Output

```
Run: Practical35 x  
D:\softwares\Java\bin\java.exe "-javaagent:D:\softwares\Java\intelliJ\IntelliJ IDEA Community Editi  
Arithmetic Exception occurred  
Array Index Out of Bounds Exception  
Class Not Found Exception  
File Not Found Exception  
String index out of bound exception  
Number format exception  
  
Process finished with exit code 0  
  
Run | TODO | Problems | Terminal | Build  
All files are up-to-date (moments ago)
```



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Practical No: 36

AIM: WAP to generate user defined exception using “throw” and “throws” keyword.

Solution

Practical36.java

```
package com.jayshil.javaapp;
import java.util.Scanner;

class InvalidAgeException extends Exception{
    InvalidAgeException(String s){
        super(s);
    }
}

public class Practical36 {
    static void validate(int age)throws InvalidAgeException{
        if(age<18)
            throw new InvalidAgeException("not valid");
        else
            System.out.println("welcome to vote");
    }

    public static void main(String args[]){

        Scanner myObj = new Scanner(System.in);
        System.out.println("Enter Your age :");
        int number = myObj.nextInt();

        try{
            validate(number);
        }catch(Exception m){System.out.println("Exception occured: "+m);}

        System.out.println("rest of the code...");
    }
}
```

Output



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```
Run: Practical36 x
D:\softwares\Java\bin\java.exe "-javaagent:D:\softwares\Java\intelliJ\IntelliJ IDEA Community Edition 2020.3.2\
Enter Your age :
55
welcome to vote
rest of the code...

Process finished with exit code 0
|

Run TODO Problems Terminal Build
Build completed successfully in 1 sec. 719 ms (a minute ago)
```



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Practical No: 37

AIM: Write a program that raises two exceptions. Specify two 'catch' clauses for the two exceptions. Each 'catch' block handles a different type of exception. For example the exception could be 'ArithmeticException' and 'ArrayIndexOutOfBoundsException'. Display a message in the 'finally' block.

Solution

Practical37.java

```
package com.jayshil.javaapp;

import java.util.InputMismatchException;
import java.util.Scanner;

public class Practical37 {
    public static void main(String[] args) {
        Scanner Input_obj = new Scanner(System.in);
        System.out.println("Enter a number : ");

        try {
            int number1 = Input_obj.nextInt();
            int number2 = 100/number1;
            System.out.println("Answer is "+number2);
        }
        catch (InputMismatchException E){
            System.out.println("Input Mismatch exception generated");
        }

        catch (ArithmeticException AE){
            System.out.println("Arithmetic Exception occurred");
        }

        finally {
            System.out.println("The code ends.");
        }
    }
}
```



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Output:-

There will be 3 scenarios:-

- **When Input is a string then Input Mismatch Exception Occurs**
- **When Input is “0” then the Arithmetic exception occurs**
- **When Input is an integer then we will get the output as desired**

Case1:-

```
Run: Practical37 x
D:\softwares\Java\bin\java.exe "-javaagent:D:\softwares\Java\intelliJ\IntelliJ IDEA Community
Enter a number :
jayshil
Input Mismatch exception generated
The code ends.
Process finished with exit code 0
|
Run TODO Problems Terminal Build
Build completed successfully in 1 sec, 542 ms (10 minutes ago)
```

Case2:-

```
Run: Practical37 x
D:\softwares\Java\bin\java.exe "-javaagent:D:\softwares\Java\intelliJ\IntelliJ IDEA Community
Enter a number :
0
Arithmetic Exception occurred
The code ends.
Process finished with exit code 0
|
Run TODO Problems Terminal Build
All files are up-to-date (moments ago)
```



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Case3:-

```
Run: Practical37 x
D:\softwares\Java\bin\java.exe "-javaagent:D:\softwares\Java\intellij\IntelliJ
Enter a number :
4
Answer is 25
The code ends.

Process finished with exit code 0
```

Run TODO Problems Terminal Build

All files are up-to-date (moments ago)