Session-17 try-catch-finally

Thursday, August 25, 2022   5:12 PM

16th faltu ka session tha.

Type Of Errors

1. Compile Time Error / Checked Error
   - Syntax error
   - Semantic error

2. Run Time error / Unchecked Error

A Runtime error is called an **Exceptions** error. It is any event that interrupts the normal flow of program execution. Example for exceptions are, **arithmetic exception, Null pointer exception, Divide by zero exception,** etc. It is an **object which is thrown at runtime**.

Compile time error:- Which come before the execution of running the program.

- Syntax error:- declaration of int a as in a.
- Semantic error :- not declare the variable before using it.

Runtime time error:- which comes on running the programs.

What Are Exceptions

Exception is an abnormal condition or event that interrupts the execution of program instruction and disrupts the normal flow of the program.

Why Do We Need Exception Handling

```
Code block {
statement 1; →
statement 2;
statement 3;
statement 4;
statement 5;//exception occurs   ( Runtime error )
statement 6;
statement 7;
statement 8;
statement 9;
statement 10;
```
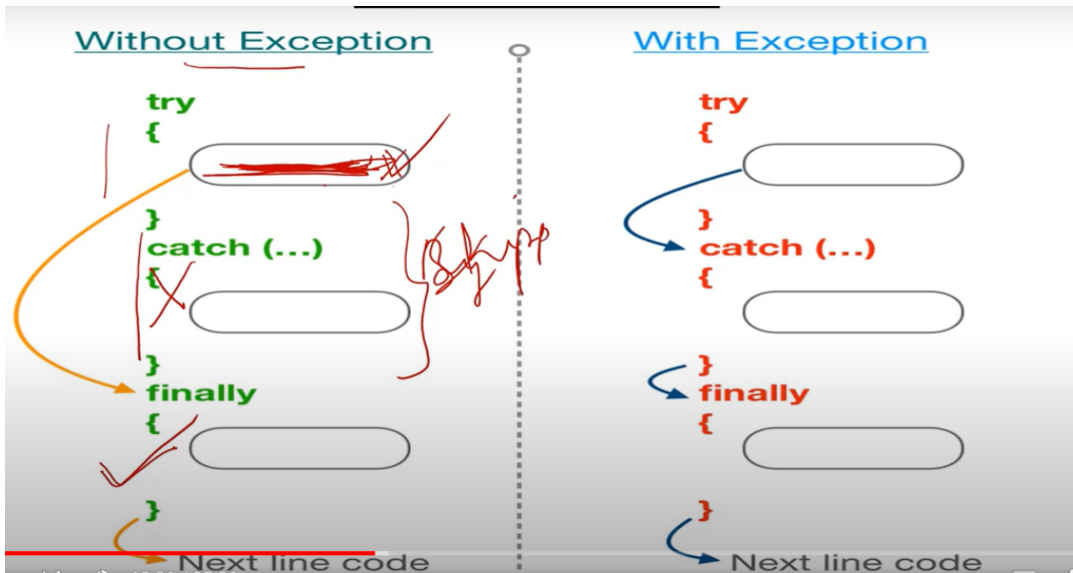
7:03 / 35:06

Keyword	Description
try	The "**try**" keyword is used to specify a block where we should place an exception code.. The try block must be followed by either catch or finally. It means we can't use try block alone

catch	The "**catch**" block is used to handle the exception. It must be preceded by try block which means we can't use catch block alone. It can be followed by finally block later.
finally	The "**finally**" block is used to execute the necessary code of the program. It is executed whether an exception is handled or not.
throw	The "**throw**" keyword is used to throw an exception.
throws	The "**throws**" keyword is used to declare exceptions. It specifies that there may occur an exception in the method. It doesn't throw an exception. It is always used with method signature.

Without Exception | With Exception

```
try
{

}
catch (...)
{

}
finally
{

}
Next line code
```

```
try
{

}
catch (...)
{

}
finally
{

}
Next line code
```

```java
package java_hub;

public class New_048_try_catch_finally {

    public static void main(String[] args) {

        // Arithmetic Exception


        try {
            int result = 100/0;
        }
        catch (Exception e) {
            System.out.println(e.toString());

        }

        System.out.println("hello");


    }
}
```

Problems Javadoc Declaration Console × Coverage
<terminated> New_048_try_catch_finally [Java Application] C:\Program Files\Java\jdk-17.0.2\bin\javaw.exe (04-Mar-2023, 4:52:44 pm – 4:52:45 pm) [pid: 13800]
java.lang.ArithmeticException: / by zero
hello

```java
        // Null pointer Exception

        String s;
        try {
            s = null;

            System.out.println(s.length());

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


        System.out.println("hello");


```

Problems Javadoc Declaration Console × Coverage
<terminated> New_048_try_catch_finally [Java Application] C:\Program Files\Java\jdk-17.0.2\bin\javaw.exe (04-Mar-2023, 4:56:43 pm – 4:56:43 pm) [pid: 35120]
java.lang.NullPointerException: Cannot invoke "String.length()" because "s" is null
hello

```java
        // Null pointer Exception

        String s;
        try {
            s = null;
```

```
26
27            System.out.println(s.length());
28
29        } catch (Exception e) {
30            System.out.println(e.toString());
31        }finally {
32            System.out.println("it should excuate for sure");
33        }
34
35
36
```

Problems Javadoc Declaration Console × Coverage

<terminated> New_048_try_catch_finally [Java Application] C:\Program Files\Java\jdk-17.0.2\bin\javaw.exe (04-Mar-2023, 4:59:55 pm – 4:59:55 pm) [pid: 24228]

java.lang.NullPointerException: Cannot invoke "String.length()" because "s" is null
it should excuate for sure