Java for beginners

Exception Handling

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Agenda

1. Exception
2. Concept
3. Exception class hierarchy
4. Throwable
5. Types of Exceptions
6. Handling Exceptions

Types of Exceptions

1. Checked (Compile time checking)
2. Unchecked (Runtime exceptions)

Unchecked exceptions are RuntimeException and any of its subclasses.

They are basically business logic programming errors.

Handling Exceptions

```
try {

}
catch(ExceptionClass e){

}
finally {

}
```

try

```
try {

}
catch(ExceptionClass e){

}
finally {

}
```

The java code that you think may produce an exception is placed within a try block for a suitable catch block to handle the error

try

```
try {

}
catch(ExceptionClass e){

}
finally {

}
```

If no exception occurs the execution proceeds with the finally block else it will look for the matching catch block to handle the error.

try

```
try {

}
catch(ExceptionClass e){

}
finally {

}
```

Again if the matching catch handler is not found execution proceeds with the finally block and the default exception handler throws an exception.

If an exception is generated within the try block, the remaining statements in the try block will not be executed.

catch

```
try {

}
catch (ExceptionClass e) {

}
finally {

}
```

Exceptions thrown during execution of the try block can be caught and handled in a catch block.

On exit from a catch block, normal execution continues and the finally block is executed

Example

```
Class Example {
    public static void main(String [] args) {
        try {
            System.out.println( 3/0);
            System.out.println ("In try");
        }
        catch (ArithmeticException e) {
            System.out.println ( e.getMessage());
        }
        System.out.println ("Outside try-catch");
    }
}
```

finally

```
try {

}
catch( ExceptionClass e ){

}
finally {

}
```

A finally block is always executed, regardless of the cause of exit from the try block, or whether any catch block was executed.

Generally, finally block is used for freeing resources, cleanup, closing connections etc.

Remember

For each try block there can be zero or more catch blocks, but only one finally block.

The catch blocks and finally block must always appear in conjunction with a try block

A try block must be followed by either at least one catch block or one finally block.

The order exception handlers in the catch block must be from the most specific exception