Exceptions :-

What is Exceptions?

An exceptions is unexpected/un-wanted/abnormal situation that occurred at runtime called exception.

What is Exception handling?

An exception handling is, we should have an alternate source through which we can handle the exception.

There are some object orientation mechanism has provided the following techniques to work with exceptions :-

1. **Try**
2. **Catch**
3. **Throw**
4. **Throws**
5. **Finally**

What is Exception Hierarchy?

Throwable class is the super or root class of java exception hierarchy which contains two sub classes.

1. **Exception**
2. **Error**

Exception

- **RuntimeException**
- **IOException**
- **SQLException**
- **InterrruptedException**
- **ClassNotFoundException**

Error

- StackOverFlowError
- OutOfMemoryError
- IOError
- Linking Error

RuntimeException

- ArithmeticException.
- NullPointerException.
- ClassCastException.
- DateTimeException.
- ArrayIndexOutOfBoundsException.
- NegativeArraySizeException.
- ArrayStoreException.
- UnsupportedOperationException.

IOException

- DirectoryNotFoundException.
- EndOfStreamException.
- FileNotFoundException.
- FileLoadException.
- PathTooLongException.

What is Try block?

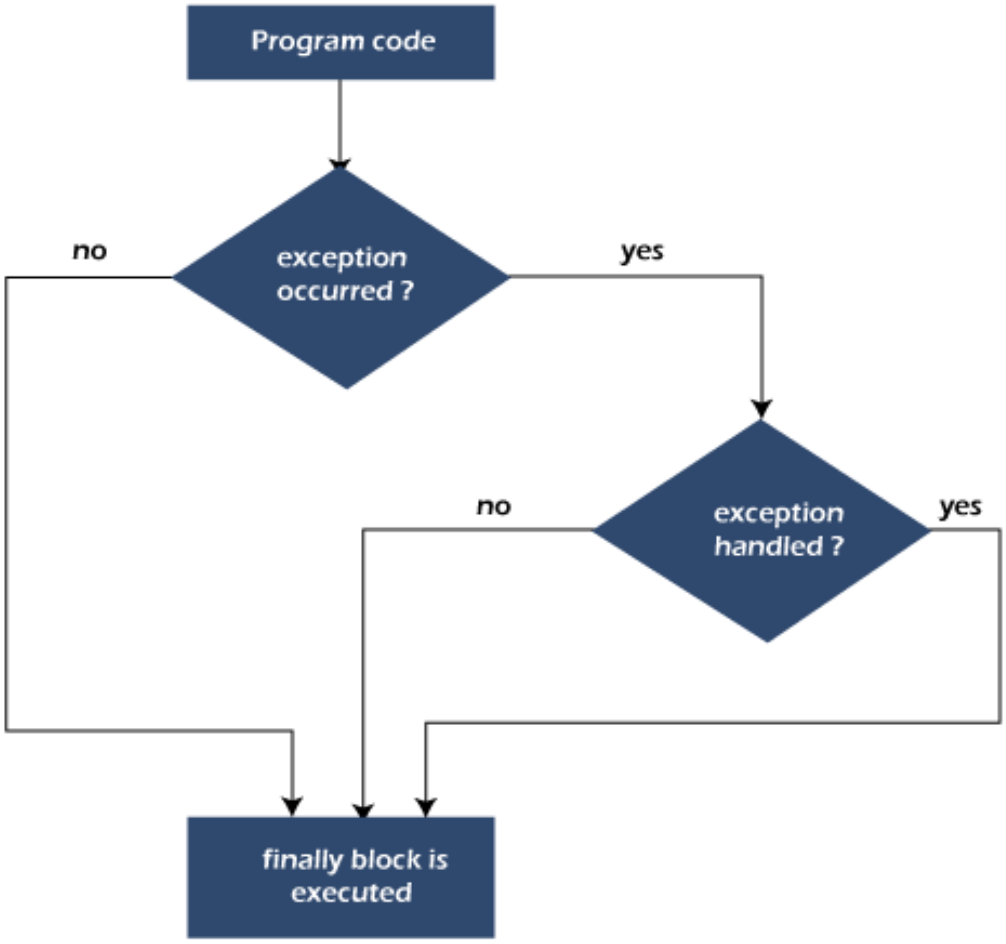
Whenever we write a statement and if the statement is error suspecting statement or risky code then put that code inside the try block.

What is Catch block?

The main purpose of Catch block is to handle the exception which are thrown by try block.

What is finally block?

Finally block is a real time block, and the main purpose of finally block to handle the resources.



What is Nested Try Block?

A try block which contain inside another try block is called nested try block.

What is Nested Catch Block?

A Catch block which contain inside another Catch block is called nested try block.

What is Nested Finally Block?

A Finally block which contain inside another Finally block is called nested try block.

What is Finalize method?

Finalize is a method, which is available in object Super class. The main purpose is to release the resources that is allocated by unused object, before removing unused object by garbage collector.

No.	final	finally	finalize
1)	Final is used to apply restrictions on class, method and variable. Final class can't be inherited, final method can't be overridden and final variable value can't be changed.	Finally is used to place important code, it will be executed whether exception is handled or not.	Finalize is used to perform clean up processing just before object is garbage collected.
2)	Final is a keyword.	Finally is a block.	Finalize is a method.

Checked Exception	Unchecked Exception
Checked exceptions occur at compile time.	Unchecked exceptions occur at runtime.
The compiler checks a checked exception.	The compiler does not check these types of exceptions.
These types of exceptions can be handled at the time of compilation.	These types of exceptions cannot be a catch or handle at the time of compilation, because they get generated by the mistakes in the program.
They are the sub-class of the exception class.	They are runtime exceptions and hence are not a part of the Exception class.
Here, the JVM needs the exception to catch and handle.	Here, the JVM does not require the exception to catch and handle.
Examples of Checked exceptions: • File Not Found Exception • No Such Field Exception • Interrupted Exception • No Such Method Exception • Class Not Found Exception	Examples of Unchecked Exceptions: • No Such Element Exception • Undeclared Throwable Exception • Empty Stack Exception • Arithmetic Exception • Null Pointer Exception • Array Index Out of Bounds Exception • Security Exception

What is Throw keyword?

Throw keyword is used to throw the user defined or customized exception object to the JVM explicitly.

What is Throws keyword?

Throws keyword is used when we doesn't want to handle exception and try to send the exception to the JVM.