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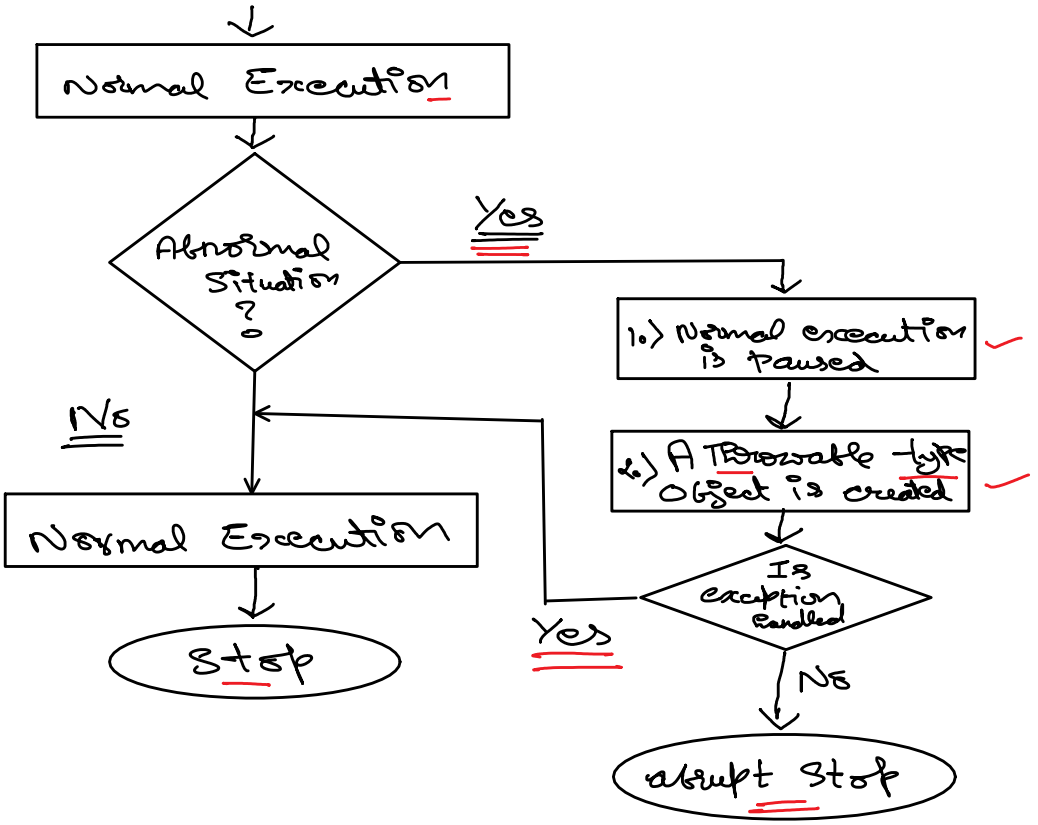
Exception & Exception Handling

Exception :

A problem that occur at runtime, due to an abnormal situation is known as Exception.
When Exception Occur, the execution of the program is Stopped, and the remaining part of the code is not executed.

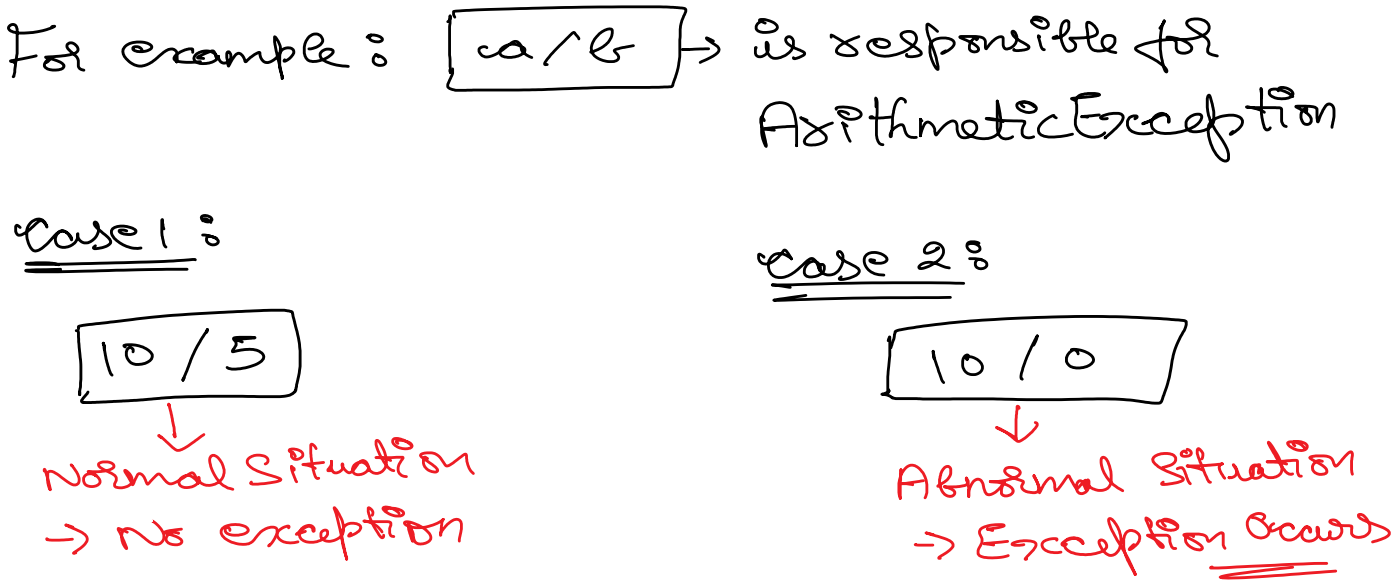
Example refer: **app26/excep1/src/E2.java**

What Happens when an exception occur in java..?



Note :

1. For exception, there is a specific statement responsible.
2. That statement throws exception only during **abnormal situation**



Statements Responsible	Exception Name
exp1 / exp2	ArithmeticException
array_ref[index]	ArrayIndexOutOfBoundsException
String_ref.charAt(index)	StringIndexOutOfBoundsException
(type) reference	ClassCastException
reference . member_name	NullPointerException

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Types Of Exceptions in java :

1. Checked Exception
2. Unchecked Exception

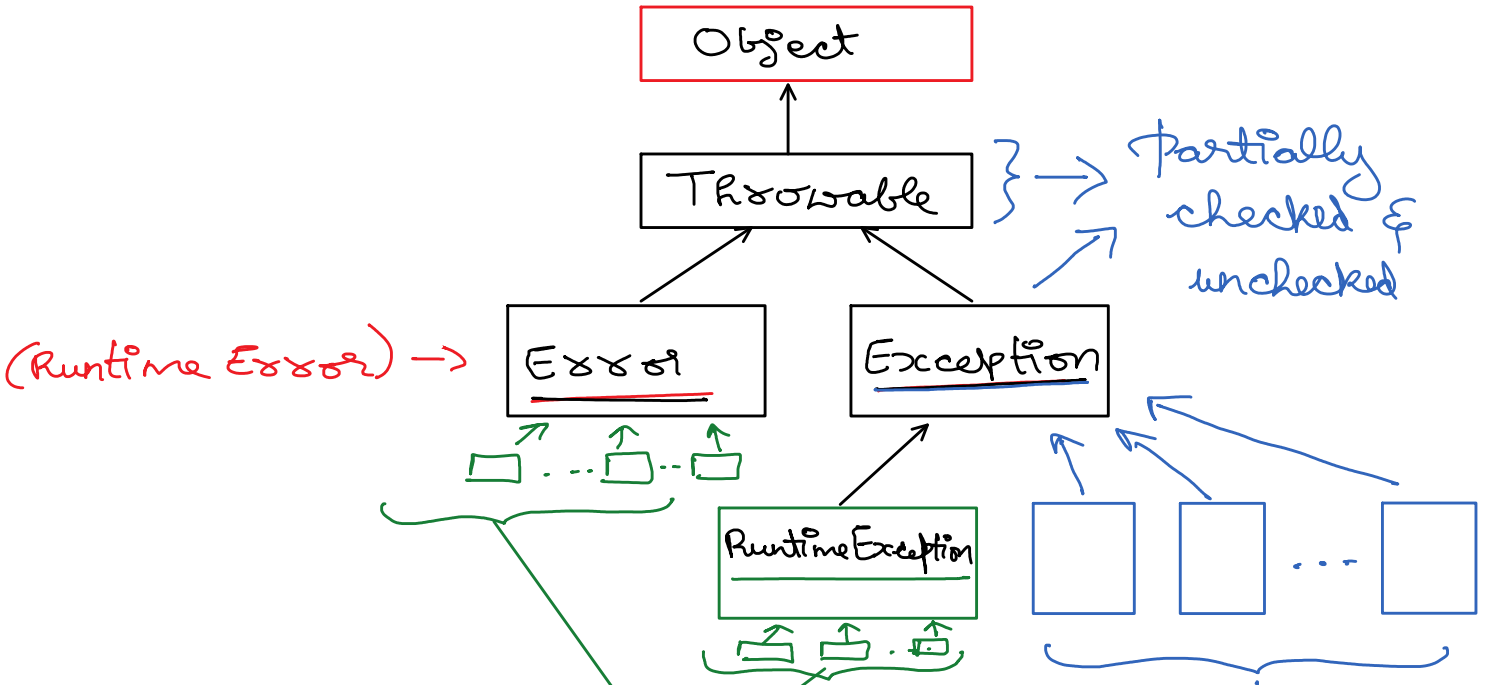
Checked Exception :

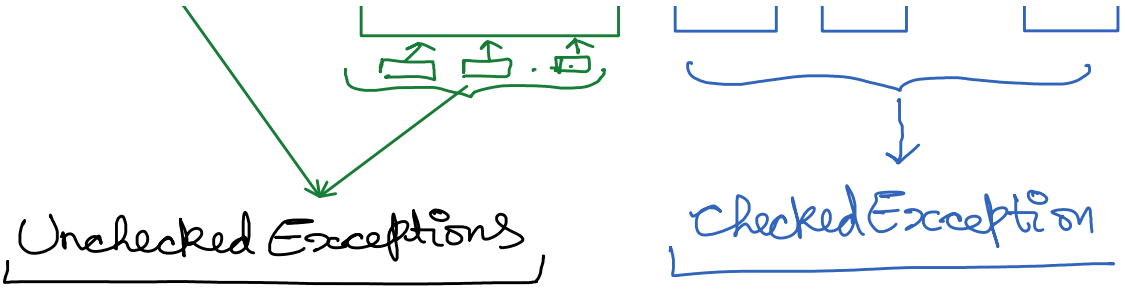
The compiler aware exception is known as checked exception, i.e., the compiler knows the statement responsible for the exception. Therefore, it forces the programmer to either handle or declare the exception, if not done we get **unreported exception compile time error.**

Unchecked Exception:

The compiler unaware exceptions is known as unchecked exception, i.e., the compiler does not know the statements which are responsible for the exception. Hence it does not force the programer to either handle or declare the exception.

Throwable Class Hierarchy :





Important Examples of unchecked exceptions :

1. RuntimeException
2. ArithmeticException
3. NullPointerException
4. ClassCastException
5. ArrayIndexOutOfBoundsException
6. StringIndexOutOfBoundsException

Important Examples of checked exceptions :

1. FileNotFoundException
2. IOException
3. SQLException
4. CloneSupportedException
5. ClassNotFoundException

Throwable :

Throwable class is defined in java.lang package.

Note :

1. in all built in Throwable type classes toString() is overridden such that they return fully qualified name of the class.
   example refer: app26.excep1/src/E6.java
2. Some important methods of Throwable class :
   a) **String getMessage()**
   b) **void printStackTrace()**