

## 7.5Built-in Exception

Java defines several exception classes inside the standard package **java.lang**.

The most general of these exceptions are subclasses of the standard type Runtime Exception.

Since java.lang is implicitly imported into all Java programs, most exceptions derived from Runtime Exception are automatically available.

Java defines several other types of exceptions that relate to its various class libraries.

### 7.5.1 Unchecked Exception

An unchecked exception is an exception that occurs at the time of execution.

These are also called as **Runtime Exceptions**.

These include programming bugs, such as logic errors or improper use of an API. Runtime exceptions are ignored at the time of compilation.

Following is the list of Java Unchecked RuntimeException.

Sr. No.	Exception	Description
1	ArithmeticException	Arithmetic error, such as divide-by-zero.
2	ArrayIndexOutOfBoundsException	Array index is out-of-bounds.
3	ArrayStoreException	Assignment to an array element of an incompatible type.
4	ClassCastException	Invalid cast.

5	IllegalArgumentException	Illegal argument used to invoke a method.
6	IllegalMonitorStateException	Illegal monitor operation, such as waiting on an unlocked thread.
7	IllegalStateException	Environment or application is in incorrect state.
8	IllegalThreadStateException	Requested operation not compatible with the current thread state.
9	IndexOutOfBoundsException	Some type of index is out-of-bounds.
10	NegativeArraySizeException	Array created with a negative size.
11	NullPointerException	Invalid use of a null reference.
12	NumberFormatException	Invalid conversion of a string to a numeric format.
13	SecurityException	Attempt to violate security.
14	StringIndexOutOfBoundsException	Attempt to index outside the bounds of a string.
15	UnsupportedOperationException	An unsupported operation was encountered.

### 7.5.2 Checked Exception

A checked exception is an exception that occurs at the compile time, these are also called as compile time exceptions.

These exceptions cannot simply be ignored at the time of compilation, the programmer should take care of (handle) these exceptions.

Following is the list of Java Checked Exceptions Defined in java.lang.

<b>Sr. No.</b>	<b>Exception</b>	<b>Description</b>
1	ClassNotFoundException	Class not found.
2	CneNotSupportedException	Attempt to clone an object that does not implement the Cloneable interface.
3	IllegalAccessException	Access to a class is denied.
4	InstantiationException	Attempt to create an object of an abstract class or interface.
5	InterruptedException	One thread has been interrupted by another thread.
6	NoSuchFieldException	A requested field does not exist.
7	NoSuchMethodException	A requested method does not exist.