

# Difference Between Error Vs Exception In Java

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Both **java.lang.Error** and **java.lang.Exception** classes are sub classes of **java.lang.Throwable** class, but there exist some significant differences between them. **java.lang.Error** class represents the errors which are mainly caused by the environment in which application is running. For example, **OutOfMemoryError** occurs when JVM runs out of memory or **StackOverflowError** occurs when stack overflows.

Where as **java.lang.Exception** class represents the exceptions which are mainly caused by the application itself. For example, **NullPointerException** occurs when an application tries to access null object or **ClassCastException** occurs when an application tries to cast incompatible class types. In this article, we will discuss the differences between Error and Exception in java.

Below is the list of differences between Error and Exception in java.

## Error Vs Exception In Java :

1) Recovering from **Error** is not possible. The only solution to errors is to terminate the execution. Where as you can recover from **Exception** by using either try-catch blocks or throwing exception back to caller.

2) You will not be able to handle the **Errors** using try-catch blocks. Even if you handle them using try-catch blocks, your application will not recover if they happen. On the other hand, **Exceptions** can be handled using try-catch blocks and can make program flow normal if they happen.

3) **Exceptions** in java are divided into two categories – checked and unchecked. Where as all **Errors** belongs to only one category i.e unchecked.

[Click here for more info on Checked and Unchecked Exceptions.](#)

4) Compiler will not have any knowledge about unchecked exceptions which include **Errors** and sub classes of RuntimeException because they happen at run time. Where as compiler will have knowledge about checked **Exceptions**. Compiler will force you to keep try-catch blocks if it sees any statements which may throw checked exceptions.

5) **Exceptions** are related to application where as **Errors** are related to environment in which application is running.

Below is the quick recap of above points.

Errors	Exceptions
Errors in java are of type java.lang.Error.	Exceptions in java are of type java.lang.Exception.
All errors in java are unchecked type.	Exceptions include both checked as well as unchecked type.
Errors happen at run time. They will not be known to compiler.	Checked exceptions are known to compiler where as unchecked exceptions are not known to compiler because they occur at run time.
It is impossible to recover from errors.	You can recover from exceptions by handling them through try-catch blocks.
Errors are mostly caused by the envi-	Exceptions are mainly caused by the

Environment in which application is running.

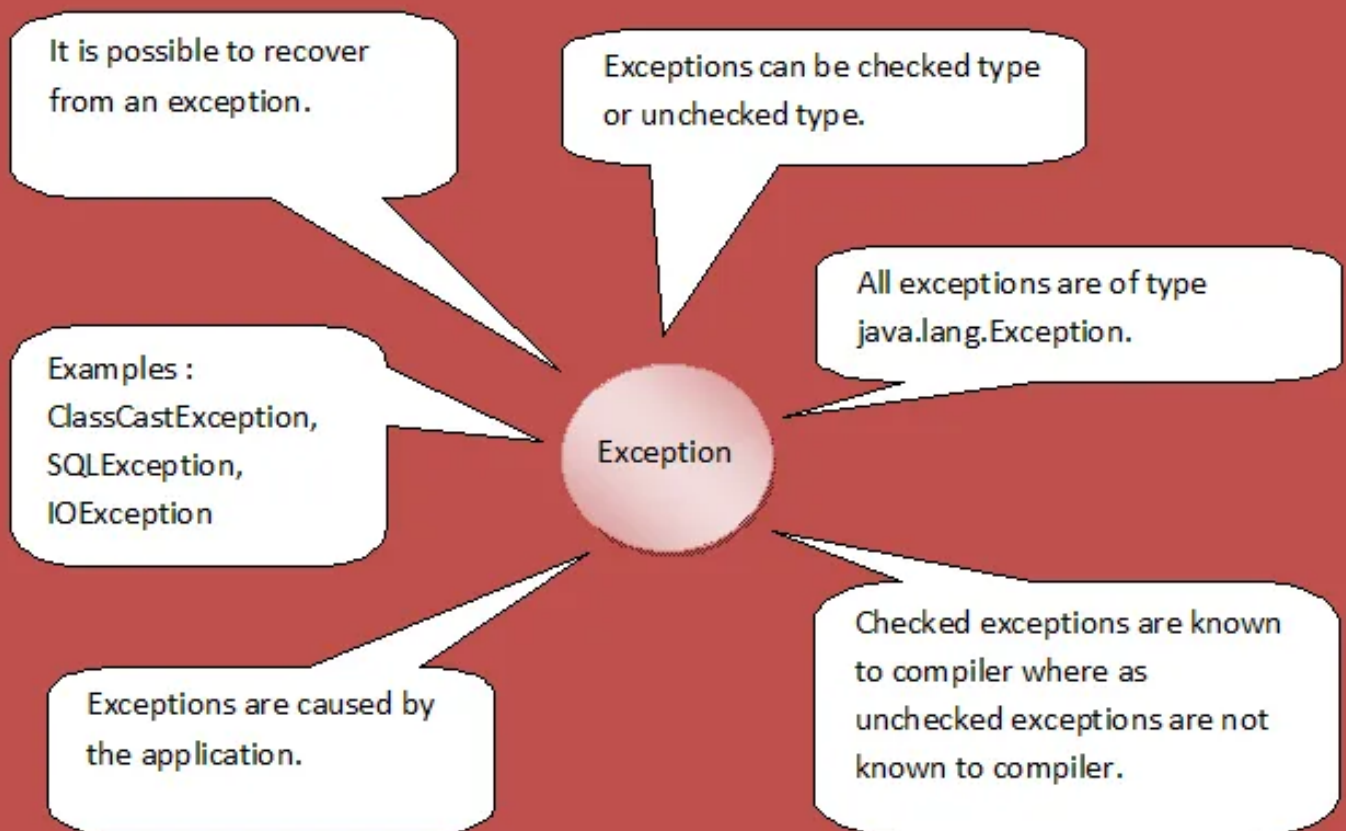
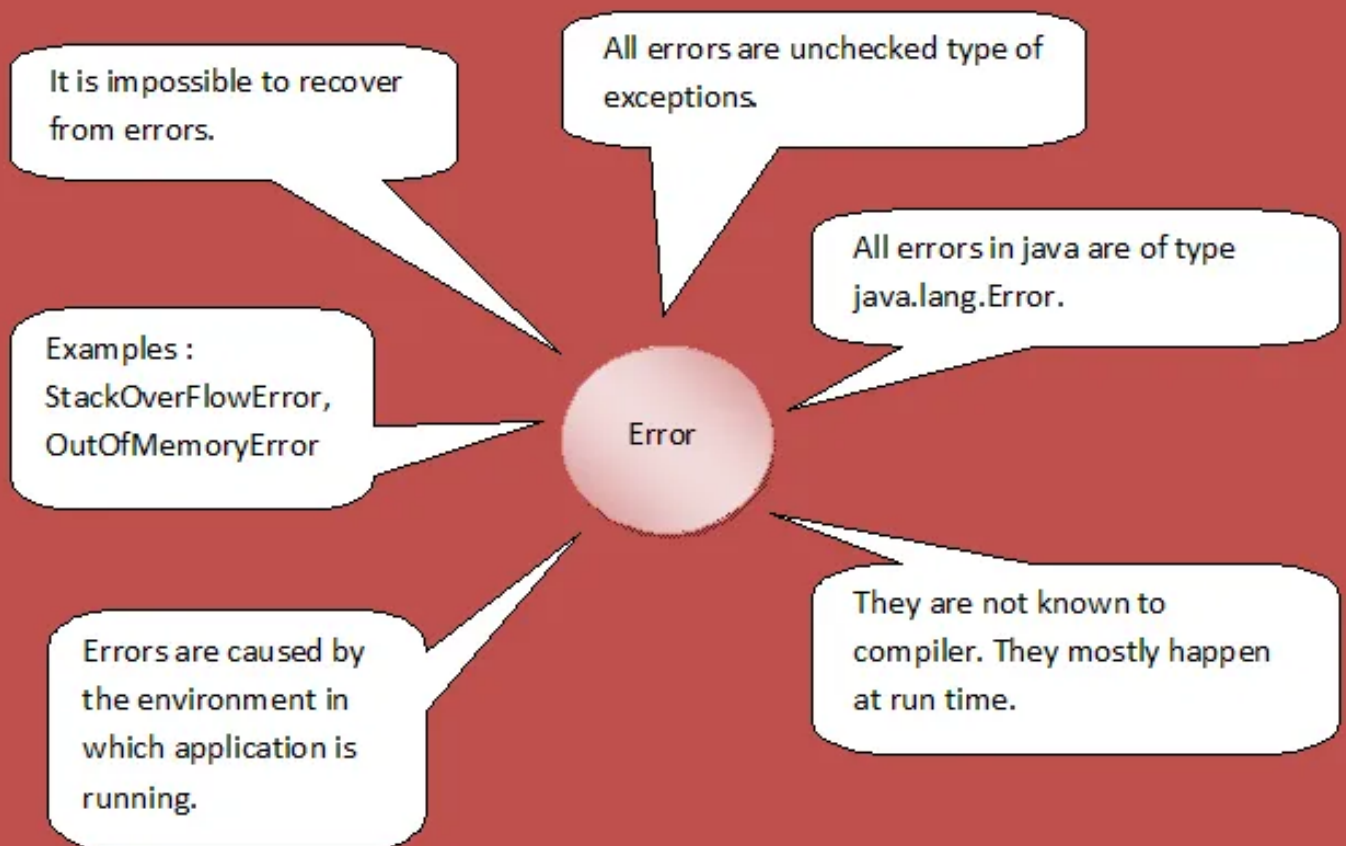
Application itself.

Examples :

java.lang.StackOverflowError,  
java.lang.OutOfMemoryError

Examples :

Checked Exceptions : SQLException,  
IOException  
Unchecked Exceptions : ArrayIndex-  
OutOfBoundsException, ClassCastEx-  
ception, NullPointerException



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