

When a program violates the restrictions of the language signals an error as an exception (ie. Accessing index out of bounds). An exception is when the program knows about an error that will happen, so this will prevent the program from crashing if it happens to access this error, and the user can create their own exceptions using the throws clause. All exceptions are instances of the class Throwable, and in code you use try/catch to handle them. This class and subclasses are exception classes. All checked exception classes are all the exception classes but the unchecked exception classes. An asynchronous exception is the one that can occur at any time of the program. When overriding a method, the throws clause appears too. A try clause can throw an exception class.

Compile errors while check exceptions: if the class doesn't have the throws clause inside its declaration; if a class variable initializer throws checked exception classes; if the superclass doesn't have explicit the throws clause or the subclass doesn't have it; if the catch clause can catch a checked exception but the try clause related to the catch can throw a checked exception too.

A statement is dynamically enclosed by a catch if it appears within the try block. The catch clause can handle the exception if one of its catchable exception classes is the class of the exception. All exceptions are precise, code that appears after one will not be evaluated. If no catch clause can catch the exception the thread will be terminated.