

Glossary

Robust Exception Handling

Welcome! This alphabetized glossary contains many terms used in this module. Understanding these terms is essential when working in the industry, participating in user groups, and participating in other certificate programs.

Term	Definition
Abstract method error	An error that occurs when an application attempts to call an abstract method directly.
Access control exception	A security-related exception that occurs when an operation is not allowed due to insufficient permissions.
Arithmetic exception	An unchecked exception that occurs when an exceptional arithmetic condition arises, such as division by zero.
Array index out of bounds exception	An unchecked exception that is thrown when attempting to access an array with an invalid index.
Assertion error	An error that occurs when an assertion statement fails, typically used for debugging.
Break statement	A statement that exits a loop or switch statement when executed.
Catch block	A block of code used to handle an exception if it occurs within the preceding try block.
Checked exception	An exception that must be handled at compile-time using a try-catch block or declared in a method signature.
ClassCastException	An unchecked exception that occurs when an object is cast to an incompatible class.
ClassNotFoundException	A checked exception that occurs when an application tries to load a class by name but can't find it.
CloneNotSupportedException	A checked exception that occurs when an object does not implement the Cloneable interface but is being cloned.
ConcurrentModificationException	An unchecked exception that occurs when a collection is modified while being iterated.
Continue statement	A statement that skips the current iteration of a loop and proceeds to the next iteration.
Custom exception	A user-defined exception class that extends Exception or RuntimeException.
Deadlock	A condition where two or more threads are blocked forever, each waiting for the other to release resources.
Default exception handler	The Java runtime's built-in mechanism for handling uncaught exceptions by printing the stack trace.
Do-while loop	A control flow statement that executes a block of code at least once before checking the loop condition.
EOFException	A checked exception that occurs when an end-of-file condition is unexpectedly reached during input.
Error	A subclass of Throwable that represents serious problems that an application should not attempt to catch.
Exception	A subclass of Throwable that represents an abnormal condition that an application might want to handle.
Exception chaining	A mechanism where one exception is caused by another, maintaining the cause of an exception.
Exception hierarchy	The structured classification of exceptions in Java, where all exceptions derive from Throwable.
Finally block	A block of code that executes after a try block, regardless of whether an exception was thrown.
For loop	A control flow statement that executes a block of code a fixed number of times.
IllegalArgumentException	An unchecked exception that occurs when an illegal or inappropriate argument is passed to a method.
IllegalStateException	An unchecked exception that occurs when a method is invoked at an inappropriate time.
IllegalThreadStateException	An unchecked exception that occurs when a thread is in an inappropriate state for the requested operation.
IndexOutOfBoundsException	A superclass of exceptions that occur when accessing an index out of the valid range for an array or list.
Infinite loop	A loop that runs indefinitely due to a missing or incorrect termination condition.
InputMismatchException	An unchecked exception that occurs when input does not match the expected data type.
InterruptedException	A checked exception that occurs when a thread is interrupted while waiting or sleeping.
Logical error	An error in a program that causes incorrect results but does not throw an exception.
Multi-catch block	A catch block that handles multiple exception types using a single catch block.
NegativeArraySizeException	An unchecked exception that occurs when an attempt is made to create an array with a negative size.
Nested try block	A try block inside another try block, allowing for more specific exception handling.
NullPointerException	An unchecked exception that occurs when trying to access a method or field of a null object.
NumberFormatException	An unchecked exception that occurs when attempting to convert a string to a number, but the string is invalid.
OutOfMemoryError	An error that occurs when the Java Virtual Machine (JVM) runs out of heap memory.
Recursion	A programming technique where a method calls itself to solve a problem.
StackOverflowError	An error that occurs when the call stack exceeds its limit due to deep or infinite recursion.
StringIndexOutOfBoundsException	An unchecked exception that occurs when accessing an invalid index in a string.

Term	Definition
Synchronized block	A block of code that allows only one thread at a time to execute it, ensuring thread safety.
Throw keyword	A keyword used to explicitly throw an exception.
Throws keyword	A keyword used in method declarations to indicate that a method may throw one or more exceptions.
Try block	A block of code that attempts to execute statements that may throw exceptions.
Unchecked exception	An exception that is not checked at compile-time and usually results from programming errors.



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