Glossary

Introduction to Java Environment and Ecosystem

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.

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Access modifier A keyword that defines he scope and visibility of a class, method, or variable (for example, public, private, or protected) Annotation Ann	Abstract class	
Amentation Application Programming Interface (AP) Application Programming Interface (AP) A set of roles and tools that allow differents onlyware applications to communicate with each other. Application Programming Interface (AP) A set of roles and tools that allow differents onlyware applications to communicate with each other. Application Programming Interface A set of roles and tools that allow differents of the same type in a contiguous memory location. Argument A value that is passed to a function or method when it is called. Army A data structure that holds a fixed number of elements of the same type in a contiguous memory location. Autoboxing The automatic occaversion of a primitive data type into its corresponding wrapper class object. Brookan A data type that represents one of the two values: true or falue. Brooks statement A control flow statement that is used to exit a loop or switch statement prematurely. Bytecode A low-level, platform-independent code generated by the Java compiler that runs on the Java Virtual Machine (IVM). Casting The process of converting one data type into another. Catch black A bow-level, platform-independent code generated by the Java compiler that runs on the Java Virtual Machine (IVM). Casting The process of converting one data type into another. Catch black A back of code used to handle exceptions in a tyy-catch structure. Checked exception An exception must be declared in the method signature or handfeld using a try-catch block. Class A blacquint for creating objects and defining attributes (fields) and behaviors (methods). Class and A part of the Java Runtime Provincement (IKE) sepamethic for dynamically localing classes into memory. Constructor A special method that is used to initialize objects when a class is instination. Constructor A special method that is used to initialize objects when a class is instination. Data encapsulation The process of restricting direct access to object data and allowing manipulation through methods. Data encapsulation T	Abstract method	A method without a body that subclasses of an abstract class must implement.
Application Programming Interface Applications Programming Interface Applications to communicate with each other. Application Programming Interface Applications of the same and tools that allow different software applications to communicate with each other. Application Programming Interface A small Java program that runs within a web brower or applict viewer. Argument A value that is passed to a function or method when it is called. Argument A data structure that holds a fixed number of elements of the same type in a contiguous memory location. Autobaxing The automatic conversion of a primitive data type into its corresponding weapper class object. Boolean A data type that represents one of the two values: true or false. Break stitutemen A control flow statement that is used to exit a loop or switch stitutement prematurely. Bytecoole A low-level, platform-independent code generated by the Java compiler that runs on the Java Virtual Machine (IVM), Cassing The process of converting one data type into another. catch block A block of code used to handle exceptions in a try-catch structure. Checked exception A reception must be declared in the method signature or handled using a try-catch block. Class of order A part of the Java Runtime Environment (IRF) responsible for dynamically loading classes into memory. Constructor A paperal method that is used to initialize objects when a class is instituted. Constructor A pocial method that is used to initialize objects when a class is instituted. Constructor A pocial method that is used to initialize objects when a class is instituted. Constructor A pocial method that is used to initialize objects when a class is institution. Data encapsulation The process of resolving method calls at runtime instead of compile time. Beautiful tool the account of making class variables private and accessible only firrough public methods to ensure security. Despute (Dumble ended queue) A control structure that executes a block of code at least once before checking the condit	Access modifier	A keyword that defines the scope and visibility of a class, method, or variable (for example, public, private, or protected).
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Term	Definition
Immutable object	An object whose state cannot be changed after creation.
Import statement	A statement used to include Java packages or specific classes in a program.
Inheritance	A mechanism where a subclass derives properties and behaviors from a parent class.
Interface	A blueprint for a class that defines abstract methods, which must be implemented by subclasses.
Iterator	An object that provides a way to traverse elements in a collection sequentially.
Java Archive (JAR)	A package file format that contains compiled Java classes and resources.
Java Development Kit (JDK)	A software development kit used to develop Java applications, including a compiler and libraries.
Java Runtime Environment (JRE)	A software package that provides the libraries and components needed to run Java applications.
Java Virtual Machine (JVM)	A virtual machine that executes Java bytecode and provides platform independence.
List	A collection that maintains an ordered sequence of elements and allows duplicates.
Local variable	A variable declared inside a method or block, accessible only within that scope.
Loop	A control structure used to execute a block of code repeatedly while a condition is true.
Method	A block of code that performs a specific task when called.
Method overloading	Defining multiple methods with the same name but different parameter lists in the same class.
Method overriding	Redefining a method in a subclass that is already defined in a parent class.
Multithreading	A programming technique that allows multiple threads to run concurrently.
Mutable object	An object whose state can be changed after creation.
Nested class	A class defined inside another class.
NullPointerException	A runtime exception that occurs when attempting to access an object reference that is null.
Object	An instance of a class that encapsulates state (fields) and behavior (methods).
Overriding	The process of providing a new implementation for a method in a subclass that already exists in the superclass.
Package	A namespace that groups related Java classes and interfaces together.
Polymorphism	The ability of an object to take multiple forms, allowing methods to be called on objects of different types.
Primitive data type	A basic data type in Java such as int, char, float, or Boolean.
Recursion	A programming technique where a method calls itself to solve a problem.
Reflection	The ability of a program to inspect and manipulate its own structure at runtime.
Serialization	The process of converting an object into a byte stream for storage or transmission.
Stack memory	A memory area used for storing method call frames and local variables.
Static method	A method that belongs to the class rather than instances of the class.
String	A sequence of characters, implemented as an immutable object in Java.
Super keyword	A keyword used to refer to the parent class of an object.
Synchronized block	A block of code that ensures thread safety by allowing only one thread to execute at a time.
Thread	A lightweight process that runs concurrently with other threads.
try-catch block	A control structure used to handle exceptions by catching errors and executing alternative code.
Type casting	The process of converting one data type into another.
Variable	A named storage location for data in a program.
Wrapper class	A class that provides an object representation for primitive data types.
While loop	A control structure that executes a block of code as long as a condition is true.

