57 JAVA KEY WORDS AND THEIR USES

**List of Java Keywords and Their Uses**

Below is a categorized list with short, clear explanations for each.

**1️⃣ Data Type Keywords**

| **Keyword** | **Use** |
| --- | --- |
| byte | Defines an 8-bit integer variable. |
| short | Defines a 16-bit integer variable. |
| int | Defines a 32-bit integer variable. |
| long | Defines a 64-bit integer variable. |
| float | Defines a 32-bit floating-point variable. |
| double | Defines a 64-bit floating-point variable. |
| char | Stores a single Unicode character (16-bit). |
| boolean | Holds true or false values. |
| void | Specifies that a method does not return a value. |

**2️⃣ Control Flow Keywords**

| **Keyword** | **Use** |
| --- | --- |
| if | Tests a condition — executes a block if true. |
| else | Executes when the if condition is false. |
| switch | Executes one block of code among many choices. |
| case | Defines a branch in a switch statement. |
| default | Defines the block in a switch that runs if no case matches. |
| while | Runs a loop while a condition is true. |
| do | Runs a loop once, then repeats while a condition is true. |
| for | Defines a counting loop. |
| break | Exits from a loop or switch block. |
| continue | Skips the current iteration and continues with the next. |
| return | Sends a value back from a method (or ends the method). |
| yield | Returns a value from a switch expression (since Java 14). |

**3️⃣ Access and Modifiers**

| **Keyword** | **Use** |
| --- | --- |
| public | Visible to all classes everywhere. |
| private | Accessible only within the same class. |
| protected | Accessible within package and subclasses. |
| static | Belongs to the class, not to instances. |
| final | Marks variables as constant, methods as unchangeable, or classes as non-extendable. |
| abstract | Used to declare a class or method that must be implemented by subclasses. |
| synchronized | Used to control thread access to a method or block. |
| volatile | Indicates that a variable may change unexpectedly, ensuring visibility between threads. |
| transient | Prevents a field from being serialized. |

**4️⃣ Class, Object, and Inheritance Keywords**

| **Keyword** | **Use** |
| --- | --- |
| class | Defines a new class. |
| interface | Defines an interface (a contract for classes). |
| extends | Indicates a class inherits from a superclass. |
| implements | Specifies that a class implements an interface. |
| this | Refers to the current object. |
| super | Refers to the parent class or constructor. |
| new | Creates new objects. |
| instanceof | Tests whether an object is an instance of a specific class or subclass. |
| enum | Defines a set of named constants. |
| record | Defines a compact class for immutable data (introduced in Java 16). |

**5️⃣ Exception and Error Handling**

| **Keyword** | **Use** |
| --- | --- |
| try | Defines a block of code to test for errors. |
| catch | Defines a block of code to handle an exception. |
| finally | Block that always executes after try/catch, used for cleanup. |
| throw | Used to throw an exception manually. |
| throws | Declares exceptions that a method might throw. |

**6️⃣ Package and Import Keywords**

| **Keyword** | **Use** |
| --- | --- |
| package | Defines a namespace for classes. |
| import | Allows use of classes from other packages. |

**7️⃣ Variable and Reference Keywords**

| **Keyword** | **Use** |
| --- | --- |
| null | Represents the absence of a value or object reference. |
| var | Allows local variable type inference (since Java 10). |
| const | Reserved but **not used** in Java (for future use). |
| goto | Reserved but **not used** in Java. |

**8️⃣ Concurrency (Thread) Keywords**

| **Keyword** | **Use** |
| --- | --- |
| synchronized | Ensures only one thread accesses a method/block at a time. |
| volatile | Ensures visibility of changes to variables across threads. |

**9️⃣ Miscellaneous Keywords**

| **Keyword** | **Use** |
| --- | --- |
| assert | Tests assumptions in code — used for debugging. |
| native | Specifies a method is implemented in native (non-Java) code, e.g., C/C++. |
| strictfp | Ensures consistent floating-point calculations across platforms. |
| default | Provides a default implementation in interfaces (since Java 8). |

**🔟 Module System (since Java 9)**

| **Keyword** | **Use** |
| --- | --- |
| module | Declares a module (a group of packages). |
| open | Makes a module open for reflection. |
| opens | Exposes specific packages for reflection. |
| requires | States a dependency on another module. |
| exports | Makes a package available to other modules. |
| uses | Declares a service used by the module. |
| provides | Declares a service implementation provided by the module. |
| with | Used with provides to specify the implementation class. |