# Java Keywords with Brief Explanation

## Data Types

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| Keyword | Explanation |
| byte | 8-bit integer data type. |
| short | 16-bit integer data type. |
| int | 32-bit integer data type. |
| long | 64-bit integer data type. |
| float | 32-bit floating-point data type. |
| double | 64-bit floating-point data type. |
| char | 16-bit Unicode character data type. |
| boolean | Holds true or false values. |

## Control Flow

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| Keyword | Explanation |
| if | Executes a block if a condition is true. |
| else | Executes an alternative block if condition is false. |
| switch | Selects one of many code blocks to execute. |
| case | Defines a block within a switch. |
| default | Defines a fallback block in a switch. |
| for | Loop that repeats code a set number of times. |
| while | Loop that runs while a condition is true. |
| do | Executes a loop body before checking the condition. |
| break | Exits from a loop or switch statement. |
| continue | Skips current loop iteration and continues with next. |
| return | Exits a method and optionally returns a value. |

## Modifiers

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| Keyword | Explanation |
| public | Accessible from anywhere. |
| private | Accessible only within the same class. |
| protected | Accessible within same package or subclasses. |
| static | Belongs to the class, not to objects. |
| final | Used to declare constants, prevent inheritance or method overriding. |
| abstract | Defines abstract classes or methods without implementation. |
| synchronized | Ensures that only one thread can access a method/block at a time. |
| volatile | Tells JVM that a variable’s value may be changed by multiple threads. |
| transient | Skips a field during serialization. |
| native | Declares a method implemented in native (non-Java) code. |
| strictfp | Ensures consistent floating-point calculations across platforms. |

## Object-Oriented

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| Keyword | Explanation |
| class | Defines a class. |
| interface | Defines an interface (a contract for classes). |
| extends | Inherits from a parent class. |
| implements | Implements an interface. |
| this | Refers to the current object. |
| super | Refers to the parent class. |
| new | Creates a new object. |
| instanceof | Tests whether an object is an instance of a class/interface. |
| enum | Defines a set of constant values. |

## Exception Handling

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| Keyword | Explanation |
| try | Defines a block to test for errors. |
| catch | Handles exceptions thrown by try. |
| finally | Executes code after try/catch, regardless of outcome. |
| throw | Throws an exception manually. |
| throws | Declares exceptions that a method can throw. |

## Packages & Imports

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| Keyword | Explanation |
| package | Groups related classes and interfaces. |
| import | Imports other packages or classes. |

## Memory Management

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| Keyword | Explanation |
| new | Allocates memory for an object. |
| null | Represents a reference that points to nothing. |

## Access & Control

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| Keyword | Explanation |
| void | Specifies a method has no return value. |
| const | Reserved (not used in Java). |
| goto | Reserved (not used in Java). |

## Other Useful Keywords

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| Keyword | Explanation |
| assert | Tests assumptions during debugging. |
| var | Infers variable type automatically (Java 10+). |
| yield | Used to return a value from a switch expression (Java 14+). |
| record | Declares an immutable data class (Java 16+). |
| sealed | Restricts which classes can extend or implement a class/interface (Java 17+). |
| permits | Works with sealed to specify allowed subclasses (Java 17+). |

✅ Total Keywords in Java (as of Java 17): 67