


Aspect	Java Compiler	Java Interpreter
Purpose	Translates Java source code into bytecode	Executes bytecode line by line at runtime
Stage of Execution	Compile-time	Runtime
Input	Java source code (<code>.java</code> files)	Compiled bytecode (<code>.class</code> files)
Output	Bytecode (<code>.class</code> files)	Machine-specific code
Error Handling	Catches and reports syntax errors before execution	Handles runtime errors (e.g., exceptions)
Execution Method	Converts entire source code to bytecode at once	Executes bytecode line by line
Tool	<code>javac</code> (Java compiler)	<code>java</code> (JVM interpreter)
Platform Independence	Produces platform-independent bytecode	Executes platform-specific machine code
Performance	Faster, since bytecode is precompiled	Slower, as it executes line by line
Platform Specific	No (Generates platform-independent bytecode) 	Yes (JVM is platform-specific)