

COMPARISON OF OBJECT-ORIENTED PROGRAMMING LANGUAGES

LANGUAGE	MULTIPLE INHERITANCE	METHOD CONFLICT HANDLING	DIAMOND PROBLEM HANDLING	PRIMARY USE CASES	EXAMPLE SYNTAX
Ruby	✗ Not Supported	Uses mixins and modules	Avoids by not supporting multiple inheritance	Web development, scripting	<code>module MyModule; end</code>
Python	✓ Supported	Uses Method Resolution Order (MRO)	Resolves with C3 Linearization (MRO)	Data Science, AI, Web Development	<code>class A: pass</code>
Java	✗ Not Supported for Classes	Supports multiple inheritance via interfaces	Interfaces avoid state conflicts, requiring explicit resolution	Enterprise applications, Android Development	<code>interface MyInterface {}</code>
C++	✓ Supported	Uses virtual inheritance to resolve conflicts	Virtual base classes help avoid duplication issues	Game development, System programming	<code>class A : virtual public B {}</code>
C#	✗ Not Supported for Classes	Supports multiple interfaces	Explicit method implementation prevents conflicts	Windows applications, Game Development	<code>interface IMyInterface {}</code>