Feature	C	C++	Java	Python	Rust
Paradigms	Procedural	Procedural, OOP, Generic Programming	OOP, Generic Programming		
Type Checking	Weak and Statically Typed (Casting)	Weak and Loosely Typed (Casting)	Strong and Statically Typed	Strongly and Dynamically Typed	Strong and Statically Typed
Encapsulation (Data Hiding)	No	Yes; private; protected; friend	Yes; protected private	No (semantics is to use double underscore but does not truly provide data hiding)	
Abstraction	No	Yes	Yes	Yes	
Polymorphism	No	Yes	Yes	Yes	
Inheritance	No	Multiple Class Inheritance	Single class inheritance, multiple interface implementation	Multiple Inheritance	
Form of Compiled Source Code	Executable Native Code	Executable Native Code	Java Byte Code	Python Byte Code	
Memory Management	Manual	Manual	Automatically Managed, using a garbage collector	Automatically Managed, using a garbage collector	
Pointers	Used	Used	No pointers, references used instead	No	
Preprocessors	Yes #Define and #Include	Yes #Define and #Include	No	No	
String Type	Char arrays	Char arrays and Strings	Objects		
Complex Data Types	Structures, Unions	Structures Unions	Classes		
Operator Overloading		Yes	No		
Headers	.h	.h, .hpp			
Files	.c	.c, .cpp	.java	.py and .pyc	
Platform	dependent	dependent	Independent	Independent	
Compiler/Interpreter?	Compiler	Compiler	Compiler and interpreter JVM	Interpreter	
GoTo Statement?	Yes	Yes	No	no	
Virtual Keyword	No	Yes	No	No	

Destructor	No	Yes	No (uses garbage collector)	Yes __del__() but not commonly used as it uses a garbage collector	
Constructor		Yes	Yes	Yes __init__()	