

Compiled & Interpreted

Computing

What happens between your source code and a running program.

Compiled ahead of time

- Translated to machine code before running
- C, C++, Rust, Go
- Errors caught at compile time
- Fast at run time
- Must be built per platform

Interpreted / JIT

- Translated while running
- Python, Ruby, JavaScript
- Errors surface at run time
- Slower start, then JIT can catch up
- Runs anywhere the runtime does

THE DIFFERENCE THAT MATTERS

Java and C# compile to bytecode, then JIT to machine code.

JavaScript is interpreted, then JIT-compiled for hot paths.

A type checker like TypeScript or mypy adds compile-time checking to an interpreted language without changing how it runs.