SON, exible, dynamic, convenient egex, confit "interpreted Python, R, **Javascript** "managed" Java, C#, Scala "native" C, C+, fast, powerful, "close to the metal" machine code, ssembly Human-readable source The Butterfly

Source compiles to generic bytecode that another process (JVM or .NET) interprets.

compiles directly into

CPU instructions.

- garbage collected
- dynamically optimized

runtime but functions,

bytes, and the OS

nothing exists at

• OS sees your.exe

OS sees

java -jar your. jar

Managed runtime steps through source one line at a time.

- no distinction between compile-time and runtime
  - OS sees python your.py