Parallel Python Using MPI4Py

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Performance & Python

Python is an interpreted language
- No binary executable is created
- Interpreter executes source code line-by-line
- Instructions are executed *naively*
  - exactly as you wrote them
  - In the order you wrote them
  - no inherent vectorization

Compiled languages are different
- A binary executable is created
- Instructions are executed *holistically*
  - Same outcome as naive approach
  - Compiler-assisted optimization & vectorization
  - Implementation differs between compilers