Running time for the same algorithm in different programming languages



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The algorithm was run in the next four languages: Python, Rust, Java and C.

As we can see in the next graph, python is the slower one by a lot, this is the easiest to program in, but his performance is affected by this.

Gráfico

Descripción generada automáticamente

1N = 1024

This can be because well for each interpreter we can have at most one thread running at a time and a thread is operating on a single CPU core. So that means that even if we create a ton of different threads in our Python program, we can only be using one CPU core, we know a Java program or a C program could be using all eight or could be using all four which is obviously going to lead to you know a 4Xincrease in speed now we can get around this in Python by using something called multiprocessing.

Gráfico

Descripción generada automáticamente

N = 2000

As we can see, python running time increases way more than the other languages when N increases, being N the square matrix size