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Fortran:

The features that made Fortran great in comparison to some of the languages I used(python, c#, c) were, the distinction between a function and subroutine, Minimal pointers/memory management, Declaring variables, Input/output and speed. I will get more into detail though starting at the most interesting one.

The next thing I would like to talk about is declaring variables both in a function and in a subroutine. Variables can easily be declared in an explicit type by calling the name of the type, two colons and finally the name of the variable.. This is in my opinion much better than an implicit variable(Python) as this reduces the scope of errors that could occur in the real world. However, the truly unique feature of Fortran is specifying which function/subroutine arguments get used as input, get used as output and which ones that do both. This is truly ingenious and goes hand in hand with its great memory management by again reducing the scope of errors that could occur. Making it a lot easier to program and a lot harder to make mistakes.

In no way would C been easier to use than Fortran. While C is a great language, Fortran provides close to the same amount of power with half of the work. As said before the lack of memory management makes working in Fortran much easier. Also, the fact that you don't have to worry about getting information in and out of your subroutines was a pleasure to work with. I didn’t even have to worry about accidentally assigning a variable that's used in another function.

ADA:

All in all Ada language would be much better for longer and more complicated programs. A short program like this is probably best suited for something like Java. In reality you are never going to test the upper reaches of this algorithm so speed is not really necessary. Java already has a stack implemented in its standard library so that's half the work already done for you. Honestly, there was not too much that stood out to me in terms of the language helping in the creation of this algorithm. Most languages do the same thing Ada does but better.(Ex. Fortran and it’s in and out subroutine variables)

In all honest opinion I absolutely hate ADA though. Almost more than COBOL.

Authors note: I have an event to go to so here is the non bullshit thoughts on this project. Also I am graduating.

C:

I no longer like C. C is not my friend anymore. Fortran has become my speed language of choice. Fortran does almost everything C does but easier.

Python:

Not great for integer math due to implicit types. However it is great for prototyping which is what I used it for. Also, python is really slow because implicit typing and it being a scripting language.

Was there any difference in accuracy?

I outputted all the files and there was zero difference between all of the programs. However, initially python kept things in real numbers which screwed up the program. To solve this I type casted all critical areas.