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What were the greatest problems faced while re-engineering the algorithm in Fortran?

One of the greatest problems I faced is when I re-engineering the arithmetic if into tiered if. Especially from line 109 to line 150 in fireORIG.for file. Because of nested if statements, it's really hard to keep track of the logic decision. I end up writing a decision tree so I can visualize the decision process.

Another challenge is to remove arithmetic IF and GO TO statement within the for loop. It requires a lot of thinking and testing to re-engineering in correct way

What particular features make Fortran a good language ?

- The basic syntax of Fortran follows English and algebra, which make it very easy to read.
- All programming structures such as If, Do, Select Case are genuine block structures. This, I don't have to use begin-end or {-} pairs in order to group statements together into a block.
- Fortran has lots of useful generic precision intrinsic functions and built-in complex arithmetic
- Fortran compilers perform better optimization then C, and can be faster then C for heavy calculations.

Would it have been easier to write the program in a language such as C ?

Probably not, if this program is written in C, it requires pointers to pass the value by reference with just one function or lots of sub functions to return each value one by one.

Given your knowledge of programming, was Fortran easy to learn ?

Yes, I feel Fortran is very easy to learn