

# **Parsing Fortran Source Code with Python**

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When people reading large Fortran source code, they will see lots of include, use (module), call (subroutine), and functions. It will be very useful and convenient to allow one click to view the called subroutines, the include files, or the used modules. A Python parsing program was developed to process the Fortran source code to produce HTML files. Which will allow people to browse the source code. All include files, use modules, and subroutine calls will have a hyper-link, and can be viewed with a click. A calling tree was also built, and with one click, people can also find where the current subroutine was used.

Some diagnose information was also provided, such as repeat used modules, not-used variables, and source of variables. So the program can be used not only for browse the source code, but also a source code refactory tool.

This program has been applied to the Weather Research and Forecasting (WRF) model, and we will demonstrate how to share and browse the Python parsed WRF source code.