Preprocessing Fortran with CoCo

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Welcome

Outline

- History of CoCo

- Standard Features

- The Set File

- Extensions
  - predefined macros
  - macros
  - assert
  - text / copy

History of CoCo

- was originally standardized as part 3 of the Fortran standard
- was recently withdrawn
- but I implemented it before it was withdrawn
- I added some extensions
- written in standard Fortran 2008

Standard Features

- include 'file-name'
- if(...)then / else if(...)then / else / end if
- all variables are declared either integer or logical
- usual Fortran operators (+, -, *, / for integers, <, <=, ==, /=, >, >= between integers gives a logical result, and, or, eqv, neqv for logicals)
- message and stop directives

Set File

- set how to treat elided lines
  - delete, blank, shift0, shift1, shift3
  - shift3 may be undone
- set any other option that may be set from the command line
  - directories to search for includes, set key characters, marking subsequent input files, numbering lines as comments, disable set file copy, engage verbose operation, disable line wrapping, define integer or logical symbols

Macros

- use integer or logical as literal string
- predefined macros: file, line, date, time, coco version string, output file name, set file name, coco command line, log file name
- define a string
- define a string with argument substitution

Assert

- add text to test a condition and complain and quit if the condition is not met

Blocks: text / copy

- define a block of text
- may substitute arguments
- set kind, type, or other factor

Miscellaneous

- print symbol table
- print optional end of processing summary
- endfile
- document processing run
- list options

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Thank you