Style

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Basics

The text in Fortran has to follow a certain structure to be a valid Fortran program:

```
        program circle
        real r, area
c This program reads a real number r and prints
c the area of a circle with radius r.
        write (*,*) 'Give␣radius␣r:'
        read (*,*) r
        area = 3.14159*r*r
        write(*,*) 'Area=', area
        stop
        end
```

The lines that begin with a "c" are *comments* and have no purpose other than to make the program more readable for humans. Fortran is not case sensitive.

Program Organization

A Fortran program generally consists of a main program (or driver) and possible several subprograms (procedures or subroutines). For now we will place all the statements in the main program; subprograms will be treated later. The structure of a main program is:

```
        program name

        declarations

        statements

        stop
        end
```

The `stop` statement is optional and may seem superfluous since the program will stop when it reaches the end anyway, but it is recommended to always terminate a program with the `stop` statement to emphasize that the execution flow stops there.

Note: You cannot have a variable with the same name as the program.

Column Position Rules

Fortran 77 is *not* a free-format language, but has a very strict set of rules for how the source code should be formatted. The most important rules are the column position rules:

```
Col.1: Blank, or a "c' or "*" for comments
Col.1-5: Statement label (optional)
Col.6: Continuation of previous line (optional)
Col.7-72: Statements
Col.73-80: Sequence number (optional, rarely used today)
```

Most lines in a Fortran 77 program star with 6 blanks and ends before column 72, i.e. only the statement field is used.