Running Xfoil on Athena

Add code locker to your path:

   % add 16_d0006

This can be put in your .cshrc.mine file to avoid typing every session.

Start Xfoil:

   % xfoilexec

Or, start Xfoil with optional airfoil filename:

   % xfoilexec airfoil_file

Typical XFOIL session keyboard inputs

Notes:
 * Commands are shown in uppercase, but are not case-sensitive
 * Comments are shown in parentheses
 * Blank lines below are only for easier reading -- they are not
Enter's!
 * A command with its argument(s) ommitted will result in an input
prompt
 * A "?" command will always show the command menu at any Xfoil level

LOAD airfoil_file (skip this if airfoil_file argument is given to
xfoilexec)

NACA 0010   (create NACA airfoil if airfoil_file is not used)

OPER   (enter OPER menu)
?   (show full OPER menu; command below are from this
menu)

A   5   (specify alpha; can also type full command ALFA)
ASEQ 0 8 2   (specify alpha sequence 0 2 4 6 8)
CPV   (make spiffy Cp vector plot of last point computed, 8
deg)
CPX   (make usual Cp(x) plot again)
HARD   (write current plot to PostScript file plot.ps;
optional)
CPWR filename   (write Cp(x) distribution to file)

P   (turn on polar 1 accumulation toggle, can also type
PACC)
<Enter>   (decline writing to polar save file)
<Enter>   (decline writing to polar dump file)
ASEQ 0 14 1   (specify alpha sequence 0 1 2 ... 14)
PLIS 1   (list polar 1 results on screen, optional)
P   (turn off polar 1 accumulation toggle)

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U    1e6           (turn on viscous toggle, with Reynolds No.; can also
type VISC)
A    5             (specify alpha)
CL   0.4           (specify CL ;  corresponding alpha is computed)

P                  (turn on polar 2 accumulation toggle)
<Enter>            (decline writing to polar save file)
<Enter>            (decline writing to polar dump file)
INIT               (initialize boundary layers, since next alpha=0
                      is very different from last-computed alpha=5 )
ASEQ 0 10 0.2      (specify alpha sequence 0.0 0.2 0.4 ... 10 )
PP                 (plot stored polars 1 and 2; polar 1 is inviscid, 2
is viscous)
ASEQ 10.2 15 0.2   (specify alpha sequence 10.2 10.4 ... 15 ; this
extends polar 2)
PP                 (plot stored polars again)
HARD               (write current plot to PostScript file plot.ps;
optional)
P                  (turn off polar 2 accumulation)

PSUM               (summary listing of stored polars)

PWRT 1             (write polar 1 to a save file)
 filename_1        (give polar save filename)
PWRT 2             (write polar 2 to a save file)
 filename_2        (give polar save filename)

<Enter>            (go back to main Xfoil menu)
QUIT               (exit program)


Note: If you ^C out of Xfoil rather than use QUIT, the Postscript file
        may not be terminated properly and may be unprintable.


Back at the Athena prompt:

 % ghostview plot.ps        (preview plot.ps file; optional)
 % lpr -h -Pprinter plot.ps   (print plot.ps file)
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