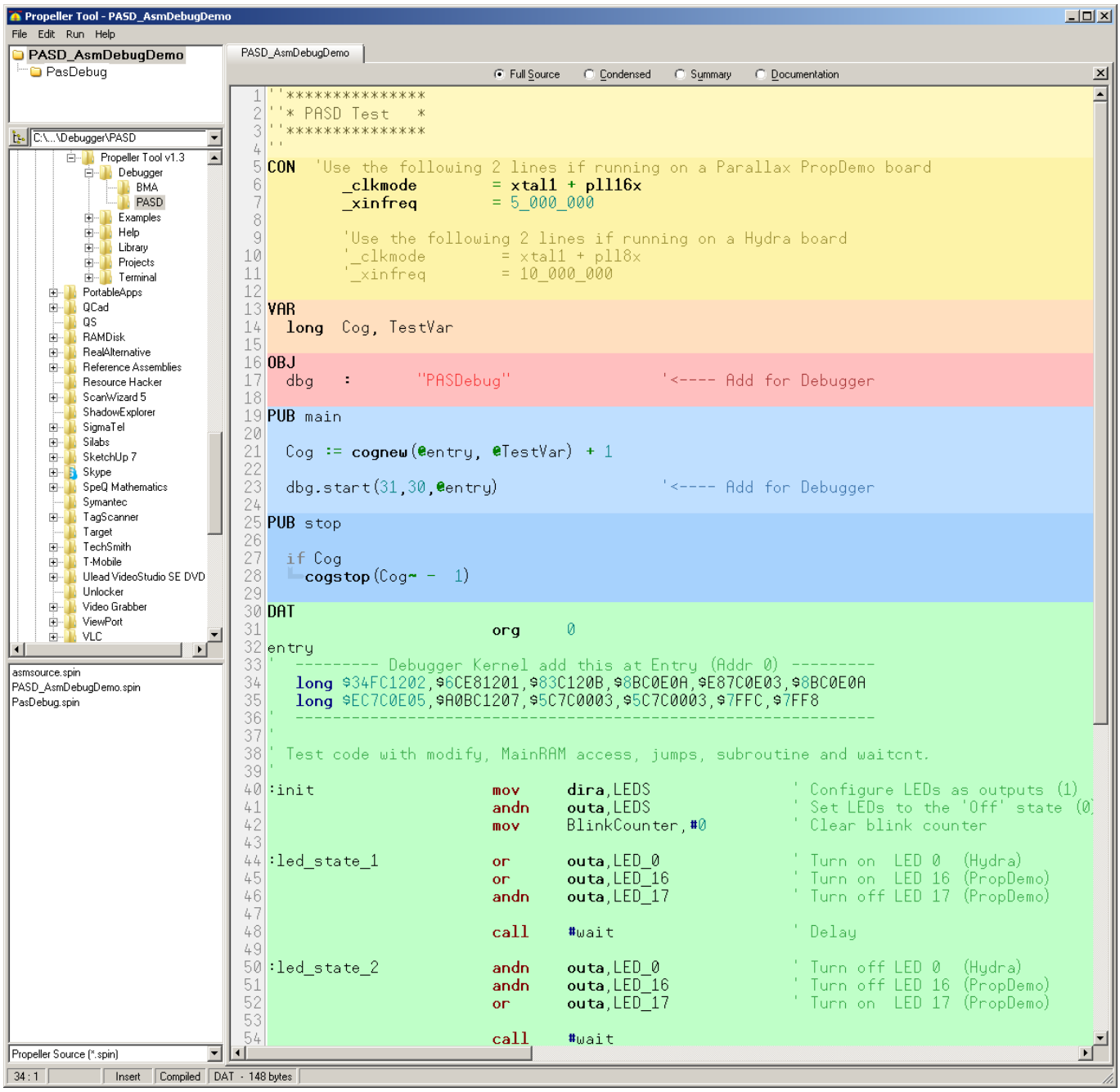
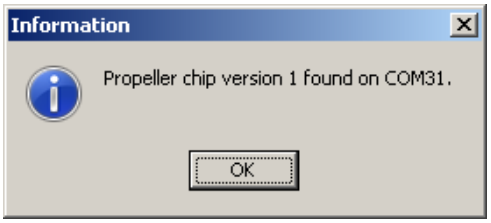
Open the file `PASD_AsmDebugDemo` from the folder where PASD.zip was unpacked with the. **Propeller Tool**



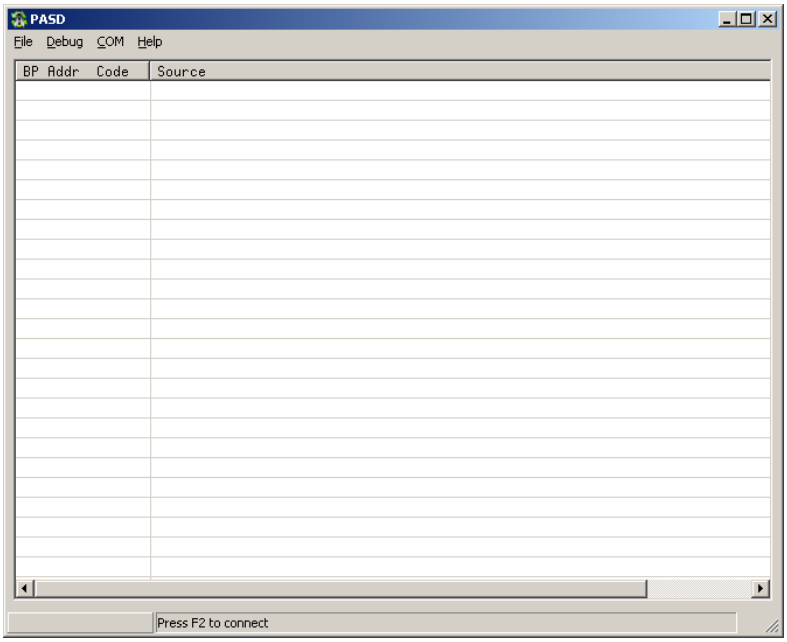

```
''***************
''* PASD Test   *
''***************
''
CON  'Use the following 2 lines if running on a Parallax PropDemo board
        _clkmode        = xtal1 + pll16x
        _xinfreq        = 5_000_000

        'Use the following 2 lines if running on a Hydra board
        '_clkmode        = xtal1 + pll8x
        '_xinfreq        = 10_000_000

VAR
  long  Cog, TestVar

OBJ
  dbg   :       "PASDebug"              '<---- Add for Debugger

PUB main

  Cog := cognew(@entry, @TestVar) + 1

  dbg.start(31,30,@entry)               '<---- Add for Debugger

PUB stop

  if Cog
    cogstop(Cog~ - 1)

DAT
                        org     0
entry
'  -------- Debugger Kernel add this at Entry (Addr 0) ---------
   long $34FC1202,$6CE81201,$83C120B,$8BC0E0A,$E87C0E03,$8BC0E0A
   long $EC7C0E05,$A0BC1207,$5C7C0003,$5C7C0003,$7FFC,$7FF8
'  -----------------------------------------------------------
'
' Test code with modify, MainRAM access, jumps, subroutine and waitcnt.
'
:init                   mov     dira,LEDS               ' Configure LEDs as outputs (1)
                        andn    outa,LEDS               ' Set LEDs to the 'Off' state (0)
                        mov     BlinkCounter,#0         ' Clear blink counter

:led_state_1            or      outa,LED_0              ' Turn on  LED 0  (Hydra)
                        or      outa,LED_16             ' Turn on  LED 16 (PropDemo)
                        andn    outa,LED_17             ' Turn off LED 17 (PropDemo)

                        call    #wait                   ' Delay

:led_state_2            andn    outa,LED_0              ' Turn off LED 0  (Hydra)
                        andn    outa,LED_16             ' Turn off LED 16 (PropDemo)
                        or      outa,LED_17             ' Turn on  LED 17 (PropDemo)

                        call    #wait
```

If you don't know the portnumber press F7. The following window will apear

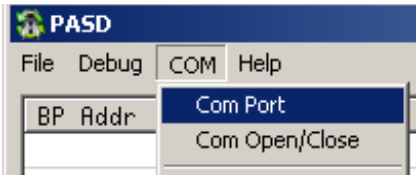


mentioning the portnumber.

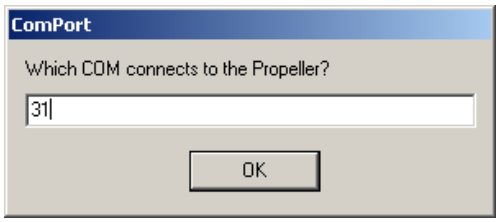
Start the file PASD.exe
the window below appears



next step is to setup the comport



Enter the COM-Port-number

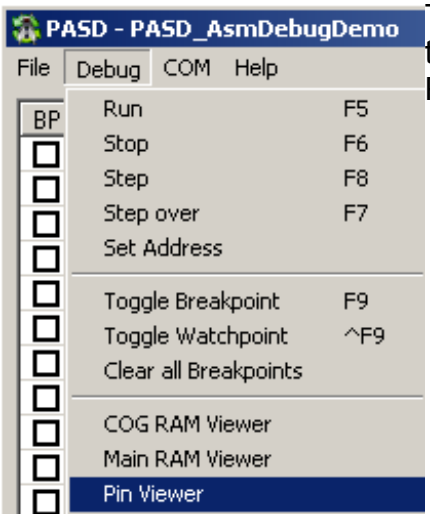


The propellertool must be still opened with the file that should be debugged.

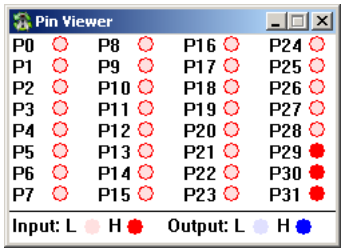
Press F11. This will do several things automatically for you.

Switching back to the propellertool. Loading the code into the propeller-RAM

Copying the PASM-code into the PASD-window



The PASD-demo-code does switch on/off some LEDs connected to IO-Pins. To see the changes on the IO-pins switch on the PIN-Viewer-Window

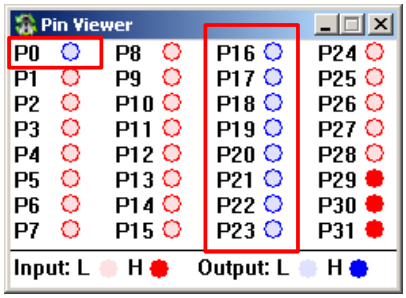


Now if the PASD-mainwindow and the Pin Viewer window are active press F8 to single-step through the code. This means each time you press F8 one PASM-command is executed.

After the first PASM-command is executed

```
00C A0BFEC20 :init                    mov     dira,LEDS                ' Configure LEDs as outputs (1)
```

The IO-pins 16-23 are configured as outputs. You can recognize this through the blue color




```
00C A0BFEC20 :init                    mov     dira,LEDS                ' Configure LEDs as outputs (1)
```

LEDS is a a preset long in the COG-RAM wichi can be found at the end of the PASM-code

```
LEDS                    long    $00FF_0001      ' Bits 16-23 are PropDemo board leds.  Bit 0 is Hydra LED.
```

The Hex-number `$00FF_0001` corresponds with the IO-pins 16-23 the “FF“

and IO-pin 0 (the “1“)

This means the command “MOV“ moves the value of COG-RAM labeled with LEDS to the DIRA-register. The command is called mov but the value also stays in the long labeled “LEDS“

Press F8 until the codeline

```
00F 68BFE821 :led_state_1             or      outa,LED_0               ' Turn on  LED 0  (Hydra)
```

is executed. Now IO-pin P0 is switched to high indicated by the filled circle in the PIN-Viewer.

The command “or“ is the logical or.