Quick Start Guide for ARM tools (SDT 2.02u)

Note: these tools are slightly older than the tools used in the ECAD lab and present a slightly different interface.

Download tools from ARM's website
> http://www.arm.com/hr.ns4/html/SDT202u

Set PATH and ARMLIB environment variables, *e.g.*
> PATH=C:\ARM202U\BIN
> ARMLIB=C:\ARM202U\LIB

(you'll can to do this in SETTINGS -> CONTROL PANEL -> SYSTEM -> ADVANCED -> ENVIRONMENT VARIABLES, under windows 2000 and XP)

Type '**APM**' at command prompt to launch the project manager

OPTIONS->DIRECTORIES
> Enter paths for bin and lib directories

Create a new folder 'myproject' to hold your files

PROJECT->NEW
> Select your 'myproject' directory
> Enter 'simple' as project name

FILE->NEW
> Enter the 'hello world' example (listed on the next page)

FILE->SAVE AS (or CTRL-S)
> Save file as 'simple.s'

(now select your SIMPLE project window, otherwise the project menu options will be greyed out)

PROJECT->EDIT
> Add simple.s to your project 'simple'

PROJECT->BUILD

PROJECT->DEBUG

When debugger appears press GO button to run program
or step-into button to step through each instruction one at a time

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; a simple program for the free ARM tools
; SWI calls for the tools used in the ECAD lab are different
; to the ones used in this environment

            AREA simple, CODE, READONLY

SWI_WriteC EQU 0x00
SWI_Exit   EQU 0x11

            ENTRY

            ADR  r1, text
loop        LDRB r0, [r1]
            CMP  r0, #0
            SWINE SWI_WriteC
            ADD  r1, r1, #1
            BNE  loop

            SWI SWI_Exit

text        DCB "Hello World\n",0
            END
```

When using the debugger you can single step through your program and view the contents of the memory and registers as you go.

The most useful options under the VIEW menu are

> **VIEW -> REGISTERS -> USER MODE**
> **VIEW -> MEMORY**

And

> **VIEW -> DISSAMBLEY**

You may view the registers, memory and your original assembler source in the debugger window simultaneously by resizing each window.