ELE408 Lab Demo

How to use MCF5208 Evaluation Board?
Hardware used in the lab

- Motorola ColdFire MCF5208EVB
- PC as a dumb terminal (COM1)
- Meterman for Power Measurement
- Cables
The Software used in the lab

1. The notepad software is used to edit programs

2. The MS-DOS Prompt is used to compile programs

3. The Hyper Terminal is used to communicate with the 5208 board

4. ColdFire cross compiler
Hooking up hardware

- Connect COM1 of PC to Terminal connector on MCF5208EVB;
- Apply power to the board.
Running the dumb terminal

1. On Windows XP, Start -> All Programs -> Accessories -> Communications->HyperTerminal

2. Input connection name
Set the "Connect using" to COM1
Set COM1 Properties

- Bits per second: 115200;
- Data bits: 8;
- Parity: None;
- Stop bits: 1;
- Flow control: off
Hard Reset MCF5208EVB

By pushing the reset button at the left-bottom of the board.
Writing your codes

- Use any text editor you like.
- Save your code as filename.s.
dBug and Cross Compiler

Assembly syntax
Immediate data
#$FD12 in dBug mode
#0xFD12 in compiler mode
Register
D0,A0 in dBug
%D0,%A0 in compiler mode (with prefix ‘%’)

Using the cross compiler

1. Input the command `m68k-elf-as -m5200 filename.s` to compile your *.s file to a.out file.

2. Input the command `m68k-elf-objcopy -Osrec a.out filename.srec` to compile a.out file to *.srec file which can be read by the 5208 board.
Download your code

In dBug prompt of Hyper Terminal, type in ‘dl 40020000’ where “40020000” is the memory location storing your program.
Download your code

Transfer -> Send Text Files
Select your SREC file to download
Run your code

After downloading the file, use GO 40020000 or use GT or TRACE to run the program.
Run the Demo program

1. Use “rm” command to change the pc register to 40020000, which is the beginning address of the program.
Run the Demo program

2. Use the TRACE feature to single-step through the program.
Wrap up

After doing the lab we need you to:
• Log off Windows XP;
• Power off the board.
References

1. Motorola ColdFire MCF5208 Processor -- MCF5208 User’s Manual
2. MCF5208 Reference Manual
Try the Demo program

```
move.l #0xFFFFFFFF, %d0
move.w #0x3000, %d0
add.l #0xFFFF0000, %d0
movea.w #0x3000, %a0
movea.w #0x4000, %a1
```

The commands to be used:
```
m68k-elf-as -m5200 filename.s
m68k-elf-objcopy -Osrec a.out filename.srec
rm
Trace 1
```