For the MSP symbolic and absolute addressing are very similar.

Having var1 in the .data area .data

var1 .word 0x0F1F

SYMBOLIC ADDRESSING mov var1,R7

ABSOLUTE ADDRESSING mov &var1,R7

Enter the following short program into code composer:

nop

nop

nop

nop

nop

mov var1,R7

nop

nop

nop

nop

nop

mov &var1,R8

nop

nop

nop

nop

nop

end jmp end

.data

var1 .word 0x0F1F

Assemble you program and run it. In the debug window bring up the memory window starting at address 0xC000 (or where you program code starts).

Create a report that has a graphic of the debug window with the memory window.

Answer in text the following:

1) What is the 16 bit machine coding for the nop instruction?

2) What is the machine encoding for a mov instruction symbolic mode?

3) What is the value of the word following this? This is the offset from the program counter and when added to the program counter provides the address of the operand. Add this value to the program counter and what is the value?

4) What is the machine encoding for a mov instruction absolute mode?

5) What is the value of the word (16 bits) following this?

6) Bring up memory at 0x0200, the data area. What is the address of var1?

7) Write a short description of how the address of the operand is generated for both of these addressing modes.