Chapter 8

Porting Code to Other Microcontrollers

The programs we have done so far have used the PIC18F1220 and we started off by using the header of Figure 3.6 redrawn below.

THE HEADER CODE

```
1.    // Name.c by DW Smith, dd/mm/yyyy
2.    #include <p18f1220.h>
3.    #pragma config WDT=OFF, OSC=INTIO2, PWRT=ON, LVP=OFF, MCLRE=OFF

4.    #include <delays.h>
5.
6.    void main (void)
7.    {
8.          //SET UP
9.          // OSCCON defaults to 31 kHz. So no need to alter it.
10.         ADCON1=0×7F;//all IO are digital or 0b01111111 in binary
11.         TRISA=0b11111111;       //sets PORTA as all inputs
12.         PORTA=0b00000000;       //turns off PORTA outputs
13.         TRISB=0b00000000;       //sets PORTB as all outputs
14.         PORTB=0b00000000;       //turns off PORTB outputs, good start position
15.
16.   while (1)
17.       {
18.
19.
20.
21.       }
22.   }
```

We can easily transfer previous programs to other microcontrollers.

Suppose we wish to use another PIC18F chip. Say the PIC18F2420, this is a 28 pin device which has 25 I/O available on PORTS A,B,C, and E (1 I/O).

- Line1 in the header would still be valid.
- Line2 would of course need to be changed to #include <p18F2420.h>.
- Line3 is still valid, we require the same functions and they are declared in line2, but check for the correct config syntax for your chip in

C18_Config_Settings. If you have the wrong syntax they would show as errors when you build your project.

- Line4 is still required as our program may still need delays.
- The main function declared in line 6 and written between the brackets of lines 7 and 22 are still required.
- Lines 8 and 9 are required.
- Line 10 requires altering to configure the A/D inputs for your chip. See: Microcontrollers with more A/D inputs in Chapter 6.
- Lines 11–14 are still required and extra lines to include PORTC and PORTE would also be required.
- The while loop between lines 16 and 22 is still required.

After modifying the header just write your program as you did before. You can copy and paste code from previous programs and include header files as required.

If you run out of memory space, 2 k, on the 18F1220 you can easily move to the 18F2410 with 8 k of program memory.