ME 333
HW for Class 10

Chapter 3: Problems 3, 4, 5, 7, 9
Chapter 4: Problems 1, 2

Chapter 3
3.

a. Port B: bits 0-15
   Port C: bits 12-15
   Port D: bits 0-11
   Port E: bits 0-7
   Port F: bits 0-1, 3-5
   Port G: bits 2-3, 6-9
   Pin 60 corresponds to bit 0 of port E.

b. Bits 5-7, 11, 13-15, 17-31 are unimplemented.
   Bit 16: SS0 - Single Vector Shadow Register Set bit
   Bit 12: MVEC - Multiple Vector Configuration bit
   Bits 10-8: TPC<2:0> - Interrupt Proximity Timer Control bits
   Bit 4: INT4EP: External Interrupt 4 Edge Polarity Control bit
   Bit 3: INT3EP: External Interrupt 3 Edge Polarity Control bit
   Bit 2: INT2EP: External Interrupt 2 Edge Polarity Control bit
   Bit 1: INT1EP: External Interrupt 1 Edge Polarity Control bit
   Bit 0: INT0EP: External Interrupt 0 Edge Polarity Control bit

4. simplePIC.c
5. simplePIC.c

7. The processor.o file is much larger than the .hex file because processor.o contains the virtual memory addresses for all of the PIC32's SFRs. The .hex file doesn't need to have the information for all of the SFRs, just the ones that are actually used in the program, so the .hex file is smaller.

9.
```
TRISDSET = 0b00001100;
TRISDCLR = 0b00100010;
TRISDINV = 0b00010001;
```

Chapter 4

1. nu32dip.c
   Private: nothing
   Meant to be used in other C files:

- NU32DIP_Startup(void)
- NU32DIP_ReadUART1(char * string, int maxLength)
- NU32DIP_WriteUART1(const char * string)

2.

b. I put the definitions in helper.h and implemented them in helper.c so that helper can be used as a library.

c. I put the methods relating to input/output functions in io.c and methods relating to calculations in calculate.c. I made my header files to reflect these separate c files to keep them organized based on functionality.