Chapter 4 - Conditional Execution

For each program below, turn in hardcopy of the source code and hardcopy of output from each requested data value along with the completed peer review sheet.

1. Write a program which will print the binary equivalent for a number between 0 and 255. If the input is in the proper range, print the 8 bit unsigned binary representation. If the input is out of range, print an error message. Your output should be similar to:

   _____
   Input a value between 0 and 255:   200
   The unsigned binary equivalent is: 1100 1000

   Input a value between 0 and 255:   300
   ERROR! Input value of 300 is out of range for this program.

   You can design this program using a series of if statements. We will work on the design together in lab. (We will rewrite this program using a loop in chapter 5.)

   Run your program enough times to produce the output for the following numbers:
   200, 63, 255, 1, 7, 144, -1, and 320.

2. Write a program as instructed in your textbook on page 224, #20. Display a menu along with meaningful instructions. Ask the user for the distance in feet. (Accept floating point values for feet; don't restrict the distance to integers only.) Your output should be stated precisely and in a complete sentence. Give your distance with one place after the decimal, and your answer (in seconds) with 4 places after the decimal. For example:

   ```
   Through water, sound waves travel 1000.0 feet in .2041 seconds.
   ```

   Be sure to validate the input as instructed in the problem.

   Correct answer examples:

	Air	*Water*	*Steel*
feet	1000	1000	1000
seconds	.9091	.2041	.0610

   Turn in output for all media at 5.7 feet and at 32000 feet. (You can run your program 6 times to gather this output or you can use a loop, looking ahead to chapter 5.)

   Don't forget the completed Peer Review Sheet!!