4.1: Mather

Write a program that reads a floating point number from the user, and returns the sine, cosine, and tangent of that number.

\[ \sin(x), \cos(x), \text{ and } \tan(x) \] are all defined in math.h; you should include this library in your code.

If you have time, recall from your readings the format specifiers to printf for floating point values. Print the value to two significant figures. (See p. 74)

Comment it appropriately. Compile it and test it. When you have it working, ask the Instructor or TA to check you off. If you finish quickly, try to help those around you.

4.2: Functioner

Write a program that reads two integer values, and prints a list of the squares of the integers between the inputs, inclusive. For example, if the user enters 3 and 5, the program prints 9, 16, 25. Make sure the first integer is less than or equal to the second, if not print an error message.

Sample output is below:

Lower Bound: 3
Upper Bound: 5
Squares: 9 16 25

Write a function \textit{square} which takes one argument, an integer, and squares it. Return the squared value. Use this function in the above program.

Add additional functions to get a bound from the user, and to compute and print the output information. It is common, and preferred, for main to be nothing more than a series of function calls, and perform no work. Construct your main function this way.