

Objective: The purpose of this assignment is to get familiar with functions and header files.

Details:

Write a program that does the following:

- Asks the user for 3 integer values and stores them in three int variables
  - These values can be found however you wish but it should be consistent
- Shifts the values of the three int variables so that they are stored in increasing order (the smallest being in the first variable, middle in second, largest in third).
- Asks the user for a final integer value.
  - It should be consistent format-wise with how you asked for values previously
- The integer values you used previously will then be converted to the base of the final integer value entered and then printed out.
  - I.e. if the user entered 2 for the final value the previous numbers would be converted to and printed in binary. 8 would be octal, 16 would be hex, etc. 16 will be the highest base value you will have to worry about.
- For each of the two operations (`in_order_vars()` and `to_base_n()`) you should create a function to do that specific task. Functions don't necessarily need to be named as such, but they must be apt names that address a single option. You should determine what the parameters and return type of each function is yourself. You are welcome to use more functions if you want for your solution, but the two mentioned above, one for each main operation happening in the program, are the minimum necessary.
- All functions and/or defines that you use should be done in a header file that is then included in the program. So "header".h will contain the defines and functions and the main method of the c file will only import the header file, contain the menu selector of which option the user wants to select, and call functions that are defined in the header file.
- Chapter 9 in the book has some examples that may be helpful for this assignment.

Submit your source file (\*.c), header file (\*.h), and an output file (\*.txt) of the run for the assignment.

40 points