

remedial software engineering kick-off!

ESE2025

here we feature a series of exercises to get started!

1. find the largest integer from a given array of integers
 - a. write the pseudocode first (input: an integer array (of unique integers); output: an integer)
 - b. run some thought experiments on your pseudocode, try regular cases and extreme cases (what if the array is empty? what if some of the integers are the same?)
 - c. once you are confident, write your algorithm in C syntax
 - d. next, write your algorithm as a proper C function, passing in the array using a pointer; what do you also need to pass in to your C function?
2. bubble sort an array of integers
 - a. write the pseudocode
 - b. try some cases
 - c. convert to C
 - d. write the function

notes on pseudocode

- don't just admire it! use it...
- you use it to anticipate deficiencies in your logic (and any resulting software)
- cases to consider:
 - regular cases (nominal situations, relatively easy to think of)
 - extreme cases (at the limits of sizes and inputs, for example)
 - absurd cases (when things are not OK outside the programming context)