

COP 3502 Summer 20 Section 2 Recitation Program #1

Alice in a Digital World

For each recitation program, in order to get full credit, you must submit your solution to open.kattis.com and get your solution accepted on all test cases. In addition, each one will have some separate requirements to submit. When submitting your work to Webcourses, please carefully read the corresponding directions document before submitting all of your files.

NOTE: Over the course of the semester, you must submit TWO out of the four recitation programs. It is expected that while you are in recitation, you start working on each of them. But, afterwards, you can choose which two to finish up.

What This Program Is Testing

This problem requires reading in upto 10^5 integers and solving a problem. Since this is a large amount of memory, my intention is for you to use dynamic memory allocation properly to read in this data. Full credit will only be given if data is being read in properly and freed properly.

Solving this problem doesn't require knowledge of a specific algorithm, but just require making a couple observations that I expect students in the class to be able to make, given some time.

Also, the most common solution might look like it takes too long to run, but it doesn't, so a key part of what I am looking for is for your explanation as to WHY your solution runs quickly.

What to Submit

Please submit the following:

- 1) Your source file, alice.c.
- 2) A screenshot of your solution's accepted status on Kattis.
- 3) A document where you explain WHY your solution runs fast, even though it is likely to have nested loops, where the outer loop looks like it could run 10^5 times and the inner loop(s) also look like they could run up to 10^5 times. Just give an intuitive explanation. No formal proof is necessary. This should just be a .doc, .docx, .pdf or .txt file.