

What I learned – Interview Phase – Week 4

This was the last week of the phase, the main thing of the week was the second round of the Interviewmania activity and while that happen during the week, I got to learn from other subjects too.

Last week I got to be the interviewer in the Interviewmania activity, now this last week was my turn to be the interviewee, although last week was about technical questions, this time was about practical questions, so the interviewer is supposed to search a programming problem with different answers ranging from poor to excellent. As this turn, I was supposed to solve the problem, I mainly did coding problems through the week to practice before the day come. The problem that I was given was certainly easy, it was about finding pairs of numbers in an array separated by a given number. After the interview I think I made a few mistakes, first I did not understand the problem completely, so I started coding for a wrong answer (I got corrected when the interviewer noticed this). Then after I got an answer for the code, I was asked if I could improve it and I was not able to get the answer by myself, I got a hint of using hash maps, but at the end I was able to reach the optimal solution.

This week I learned about sorting algorithms, like merge sort, insertion sort, selection sort, shell sort and counting sort. Although I already knew about merge sort I have not seen yet how would it be coded, which helped me more to understand it. Insertion, selection and shell sort are very similar although it summarizes down with shell sort being the quickest of the three, I got surprised on how making small changes to an algorithm can make more efficient. The one I found more interesting was counting sort, as I got to learn about it while doing a coding problem, it works by creating an array to count the numbers so for every index write the count of the appearances of each number that are in the first array, then in the count array you sum the previous number with the current number so that it stores the count of the previous one, and finally you create a new array to relocate the numbers, the count array indicates the position where the number is going to be placed, after this you decrease by 1 the count in the count array, maybe is hard to understand at first but I though it is a clever algorithm. Now that I have been learning more about algorithms, I find them cool, as within a small amount of code you can produce powerful programs useful for a variety of input sizes.

I also started to investigate types of memory like RAM and ROM, which are the primary memory which respectively work for running programs and store programs that mainly used to boot the computer. Then I looked into how JS handles memory, how stack and heap allocation work, and also how memory leaks can happen which are parts are memory that are no longer used but you can't access them, and they are not being freed.

Every week I learn more about the coding world and how can it be a bit complicated, but if you start learning the basics you are able to learn how everything is connected and works internally.