

Fossil's Entry Test Guideline

For Senior level and above

Overview

Thank you for your interest in Fossil Vietnam!

Since you are applying for the Senior level and above, you are required to take a problem-solving test, and hopefully you found this document helpful.

Please note that the purpose of this test is **not** for assessing your knowledge/experience in your domain (*ie. iOS, Android, Web-based, etc.*). At Fossil, we believe that the ability to identify and solve the problems are vital for the Senior role.

At senior level, besides strong programming skills, we expect our team member to excel at problem solving and technical writing skills. He/she needs to be able to transfer the solutions throughly to other colleagues, including junior members.

In this test, you will be put in a tough situation where you are required to write a solution/technical document for your team, so they can work on the concrete implementation of the problem (*with many weird technical constraints, of course*).

You do not have any other way to communicate with your team except the document you are going to send out. So, it should be as detailed as possible, as easy to understand as possible that even junior members can confidently do it.

Don't forget that "A picture is worth a thousand words"!

Recommended materials

We would like to suggest that you should review major CS topics. For example:

- Random access & I/O handling functions in your preferred language.
- Binary file structure. These are some good stating points for your convenience: https://en.wikipedia.org/wiki/Binary_file & https://en.wikipedia.org/wiki/BMP_file_format (*you're welcome!*)
- Well-known data structures: Array, Matrix, Stack, Queue, Linked-list, Heap, Tree, Hash Table, etc. and how to store them on a file.

- Common algorithms: Sorting, Binary Search, Space Searching.
- Big O notation to estimate the complexity of an algorithm.
- Optimization technique for the processing time or for the storage.

Test duration

- We expect the document be sent back in 1 week since you received the test.
- You are allowed to extend the test duration as you need. It will not affect your performance. We value the quality of the delivered solution. So do your best!