

First Name:
Current Occupation:
Email:
Discord Handle:
Date:

The following questionnaire is designed to assess the way you obtain and retain information (in theory and in practice). Creativity in the answers is welcome.

Non-technical (2 Questions)

Q1. Tell us about a time when you learned something on your own. (300 words max.)

It might help you to think about the following while answering:

- How did you find the resources?
- What were the challenges?
- What would have made it easier?

As long as your answer shows your approach to learning, do not fret about answering each sub-question.

Q2. Tell us how you retain information that you have learned. (300 words max.)

The mentors agree that we tend to forget what we have learned in the past. Going into the program, we would like to know how you would keep track of things you have learned and things you would like to explore further.

Instead of a text response, you may also choose to send us a picture/screenshot of your notes on a particular topic you have learned (about computers or otherwise) or send links to your blog/vlog.

Do not fret about the form of submission as long as it shows the way you track your own knowledge-base. (example: a picture of a page from your notebook does not have a disadvantage over a blog submission from another application.)

Technical (2 Questions)

>>> 2023 Note: We are experimenting with some newer questions for the technical part.
>>> As such, instead of the two questions listed on this section, you are also welcome
>>> to do any ONE of the three questions listed on the **Experimental** section
>>> listed at the bottom and skip the questions in this section altogether.

Capture the Flag (CTF) is a competition that puts together a set of security puzzles that you can solve to get points. Here's an excellent [introduction to CTF](#) by LiveOverflow. You do not need to know everything in the video, just a sense of what a CTF is.

Headover to [CTFTIME.org](#). The site hosts information about CTFs happening around the world, the challenges designed for those CTFs and the solutions after the CTF is over.

Pick any challenge (one) from [CTFTIME.org](#). Readup on the challenge and its solution (also called a write-up).

Q1. In your own words, summarize the challenge and its solution.

It might help to think about the following while answering:

- Name/Category/Link of the challenge
- What did the authors of the challenge want participants to learn/notice
- What did you learn in the process
- What are ideas you are still unclear about in the challenge

Do not worry about the sophistication of the challenge you pick or not knowing everything in the solution. Just walk us through your thought-process/understanding.

Nmap is a tool commonly used to map a network and find vulnerable hosts. An output from nmap looks like the following:

```
Starting Nmap 7.80 ( https://nmap.org ) at 2020-02-22 13:26 EST
NSE: Loaded 151 scripts for scanning.
NSE: Script Pre-scanning.
Initiating NSE at 13:26
Completed NSE at 13:26, 0.00s elapsed
Initiating Ping Scan at 13:26
Scanning localhost (127.0.0.1) [2 ports]
Completed Ping Scan at 13:26, 0.00s elapsed (1 total hosts)
Initiating Connect Scan at 13:26
Scanning localhost (127.0.0.1) [65535 ports]
Discovered open port 4330/tcp on 127.0.0.1
Discovered open port 9050/tcp on 127.0.0.1
Discovered open port 902/tcp on 127.0.0.1
Discovered open port 631/tcp on 127.0.0.1
Discovered open port 4000/tcp on 127.0.0.1
Discovered open port 43435/tcp on 127.0.0.1
Discovered open port 18083/tcp on 127.0.0.1
Discovered open port 44321/tcp on 127.0.0.1
Discovered open port 44322/tcp on 127.0.0.1
Discovered open port 43291/tcp on 127.0.0.1
```

Q2. Write a program in a programming language of your choice that takes the above output (in a file or as a string) and prints out the port numbers separated by a comma. The final output would be

4330, 9050, 902, 631, 4000, 43435, 18083, 44321, 44322, 43291

Do not be alarmed if you do not know what port numbers are. Just a program that looks at the input as above and prints out the port numbers.

Optional (1 Question)

Q. Tell us about something you have always wanted to learn but haven't figured out yet. We will talk about it during the interview and see if we can get you resources to figure it out.
