1. What is Web 3.0, and how is it different from Web 1.0 and Web 2.0?
   1. Web 1.0 Users can only retrieve and read the websites without any interactions.
   2. Web 2.0 users can interact and edit with websites, this is the current web as we know it, user-generated content and participation like social media websites like Facebook or X (was previously known as twitter)
   3. Web 3.0 is the possible next evolution of the world wide web. Web 3 will place strong emphasis on the decentralized applications and will most likely use blockchain technologies and make use of AI to empower a more intelligent and adaptive web.
   4. <https://www.techtarget.com/whatis/definition/Web-30>
2. What are the functional differences between the front end of a web application and its back end?
   1. The front-end of a web application is what the users directly interact which presents the functions of the webpage in a user-friendly way for the user to interact with.
   2. Back-end of a web applications handles all the logic and data processing like user logins or data storage to sending emails. Stuff the user viewing the front-end won’t see but can interact with via the front-end of the webpage.
   3. https://www.computerscience.org/bootcamps/resources/frontend-vs-backend/
3. In your own words, explain the process that takes place from when you type a URL into the address bar in your browser until you finally view the page you have requested. Include the HTTP request-response cycle in your answer and provide an example of the HTTP response and request messages. Watch the TED-Ed video entitled “What is the World Wide Web?” to help you understand this better.
   1. Firstly, the user provides the client with the URL (<https://www.test.com>) into the address bar.
   2. Next an HTTP Request is built to request the particular resource or to perform a specific action.

Example:

GET /text.html HTTP/1.1

Host: [www.test.com](http://www.test.com)

Connection: close

User-Agent: Chrome/128.0.6558.0

Accept-language: en

* 1. Next the server receives this request and uses it to build a HTTP Response that contains the requested information.

HTTP/1.1 200 OK

Connection close

Server Apache/2.2.3

Last-Modified: Tue, 7 July 2024 12:00 GMT+2

Content-Length: 10

Content-Type: text/html

* 1. If the response was successful the HTTP Response is sent to the user’s client to be rendered for display on the browser.