Lab 8 - NodeJS

Important Notes:

- Third party libraries like ExpressJS are not allowed
- **Submission format:** Zip both client and server folders into a zip file named <RollNumber>.zip
  Structure (For reference)
  <RollNumber>.zip
  ------ client
  ---------- index.html
  ---------- <other files>
  ------ server
  ---------- server.js
  ---------- service.js
  ---------- <other files>

Tasks:

Server (50):

Here the goal is to create a web server, implement 2 functions and call one of the functions depending on the query params

- Create a folder called server
- Inside this folder, create a file called **service.js**
- Read the json data from the file named data.json. This file contains a JSON object consisting of student names and their list of marks (Out of 100). All the list will have the same length
- Create the following functions
    - GetHighestMarks: This function should take the data (as mentioned above) and return the name of the student with the highest total **(10)**.
    - GetSubjectiToppers: This function should accept an index i as an argument, get the ith mark (0 indexed) for every student and return an array sorted according to their marks in non-decreasing order **(15)**
- Export these functions, for them to be imported in our next file.
- Create a file named **server.js** in the same folder
- Create a http server listening on port 8080 and set the content type header to application/json **(3)**
- Using query string, control which one of above function gets called using the field name **query**
    - If query is 1, GetHighestMarks is called **(Eg: http://localhost:8080/?query=1) (10)**
    - If query is 2, GetSubject2Toppers is called, if this is the case, it should accept another field named **index** which is the index to be passed as a parameter to the same function **(Eg: http://localhost:8080/?query=2&index=1) (10)**
    - If any other value, return **"Invalid query" (2)**
- Upon calling one of the routes, return the response back to the client.

Client (Ungraded. For practice only)
- Create a file named index.html
- Using ajax/fetch call the routes of the above server (Hint: You might want to enable CORS in server)
- Create 2 buttons, one for each function and an input box that accepts argument for 2nd function
- On clicking the 1st button (Get highest), just populate the result in a div
- On clicking the 2nd button (Get ith index), the results should be populated in a table under the same div
- **Example output**

| 2 | Get Highest | Get ith index |

Melody	50
Clint	50
Virginie	50
Enrico	50
Ulises	50
Levi	50
Zoey	50
Kristopher	50
Carolyn	51
Jess	51
Lenora	51
Santiago	51
Jacey	51
Alexanne	51
Adrain	51
Arne	51