Bravo Care Technical Interview

Total Time Provided: 1 Hour
Please read the **README.md** file before you begin, you will need to input your name in that file prior to starting. The times listed at the start of each question below are just recommendations on how you might possibly expect to allocate your time. You are free to spend more or less time on each question as long as you finish all the questions within the 1 hour time limit.

1. **[5 min]** Implement an endpoint which will be used to fetch all facility records from the **facilities** table. The returned response should include both the facility ID and the facility name for all facilities.
   a. You will need to write a raw query and use sequelize to fetch the facility records from the **facilities** table.
   b. The **facilities** table has the following structure:

facility_id	facility_name
100	Facility A
101	Facility B
102	Facility C

2. **[15 min]** You will need to implement an endpoint which will be used to determine the hiring priorities of nurses for a specific facility. The endpoint will need to calculate each nurse's hiring priority score, and then return a list of nurse IDs which have been sorted in order of highest to lowest priority score
   a. You will need to write a query to fetch relevant entries from the ***clinician_work_history*** table which you will use to calculate hiring priority scores.
   b. Priority Scoring Logic to Implement:
      i. All nurse priority scores for every facility ID will start from 0 (zero).
      ii. For each entry where ***worked_shift == true***, the associated nurse's hiring priority score for the associated facility ID should be ***increased by 1 point***.
      iii. For each entry where ***call_out == true***, the associated nurse's hiring priority score for the associated facility ID should be ***decreased by 3 points***.
      iv. For each entry where ***no_call_no_show == true***, the associated nurse's hiring priority score for ALL facility IDs should be ***decreased by 5 points***.
      v. If two or more nurses have the same hiring priority score, sort those nurses in descending nurse_id order

   c. **Example:**
      i. Example Facilities:
         - {"facility_id": 100, "facility_name": "Facility A"}
         - {"facility_id": 101, "facility_name": "Facility B"}
         - {"facility_id": 102, "facility_name": "Facility C"}

ii. **Example Work History:**

[
{“facility_id": 100, "nurse_id": 1, "worked_shift": true, "call_out": false, "no_call_no_show": false},
{"facility_id": 100, "nurse_id": 2, "worked_shift": true, "call_out": false, "no_call_no_show": false},
{"facility_id": 101, "nurse_id": 2, "worked_shift": true, "call_out": false, "no_call_no_show": false},
{"facility_id": 100, "nurse_id": 3, "worked_shift": true, "call_out": false, "no_call_no_show": false},
{"facility_id": 102, "nurse_id": 2, "worked_shift": false, "call_out": false, "no_call_no_show": true}
]

iii. **Example Selected Facility:** Facility A

iv. **Example Hiring Priority Scores:**

- [Nurse_ID_1] => (+ 1)
- [Nurse_ID_2] => (– 4)
- [Nurse_ID_3] => (+ 1)

v. **Example Returned Sorting Order:** [3, 1, 2]

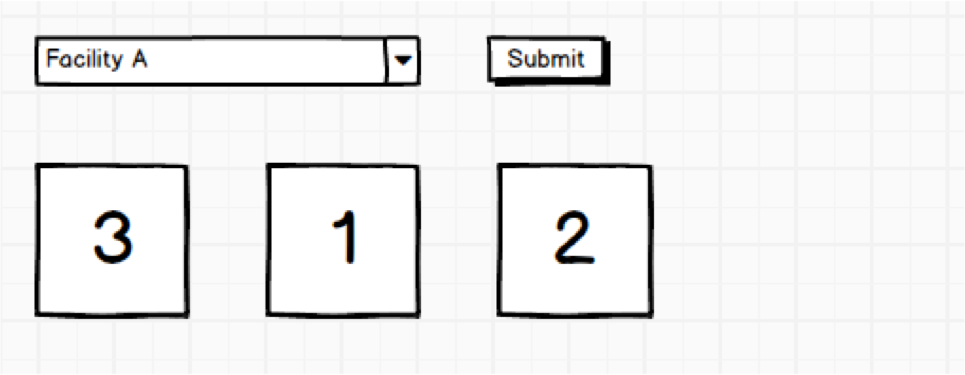
3. **[10 min]** You will need to implement a front-end interface that will allow a user to select an option from a dropdown list of all facility names and render the nurse IDs in order of highest to lowest hiring priority score for the selected facility.

   a. You will fetch the list of all facility names to include in the dropdown list using the endpoint you implemented in **Question #1**

   b. You will need to add a button which will be used to submit a request to fetch the nurse hiring priorities using the endpoint you implemented in **Question #2**

   c. You will need to render the IDs of the nurses in the hiring priority order that was returned. Render each returned Nurse ID as a separate bordered div, from left-to-right, with each nurse ID vertically and horizontally centered within its own div.

   d. **Example:**



*** More Questions Below ***

For **Questions #4, #5, and #6 (found after the tables below)** you will need to write a query that will fetch the requested information from the tables provided below. You will need to add three buttons ["**Execute Q4 Query**", "**Execute Q5 Query**", "**Execute Q6 Query**"] which will each be responsible for executing one of those queries and the results of the query should be logged into the console.

Table Name: nurses

nurse_id	nurse_name	nurse_type
1000	Kevin	CNA
1001	Anne	CNA
1002	Abby	RN
1003	John	LPN
1004	Thomas	LPN
1005	Sam	CNA
1006	Wesley	RN
1007	Adam	CNA
1008	Cory	RN
1009	Robert	LPN
1010	Mark	LPN

Table Name: facilities

facility_id	facility_name
100	Facility A
101	Facility B
102	Facility C

Table Name: jobs

job_id	facility_id	nurse_type_needed	total_number_nurses_needed
200	100	RN	1
201	101	LPN	1
202	100	CNA	2
203	102	LPN	2
204	102	RN	2
205	100	RN	3
206	101	LPN	2
207	101	CNA	1
208	100	RN	1
209	102	CNA	4
210	102	LPN	3

Table Name: nurse_hired_jobs

job_id	nurse_id
200	1006
201	1003
202	1007
206	1003
203	1004
204	1008
205	1008
206	1010
207	1005
208	1006
209	1001
204	1006
210	1004

4. **[10 min]** Using the provided tables, write a query that will return the number of remaining spots each job has. The remaining number of spots will be equal to the total number of nurses needed minus the number of nurses that are already hired for that job. Order the results by the job_id in ascending order

5. **[10 min]** Using the same tables, write a query that will return the nurse's ID, nurse's name, the nurse type, and the total number of jobs that each nurse can possibly still get hired for. Each nurse can only be hired one time for each matching job and if the nurse is already hired for a job, that job should not count towards the total. If a job id is already completely filled, that job should also not count towards the total. Order the results by the nurse_id in ascending order.

6. **[10 min]** Using the same tables, write a query that will return the name of each facility and the name of the nurse that has been hired for the most number of shifts at each of those facilities. Order the results by the facility_name in ascending order