1. Implement an endpoint which will be used to fetch all shift records from the **question_one_shifts** table. The results of this fetch will be used in **Question #3**.
   a. You will need to fetch all of the shift records from the **question_one_shifts** table and also include the facility names in the returned data as you will need this for **Question #3**

2. You will need to implement an endpoint which will be used to determine if two selected shifts exceed the maximum overlap threshold. The maximum overlap threshold is the maximum number of minutes that the end time of one shift can overlap with the start time of another shift. You will need to implement the following logic:
   a. You will need to calculate the total number of minutes that two shifts overlap. This will be used to compare against the maximum overlap thresholds defined below.
   b. If the two shifts have different facility_id, then the maximum overlap threshold is 0 (zero) minutes.
   c. If the two shifts have the same facility_id, then the maximum overlap threshold is 30 (thirty) minutes
   d. Your response should include the <u>total number of overlap minutes</u>, the <u>maximum overlap threshold</u>, and <u>whether or not the two shifts exceed overlap threshold</u>
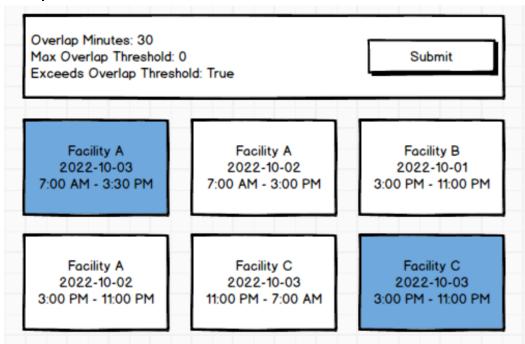
   e. **Example 1:**
      i. **Shift A**:
         {
           "facility_id" : 100,
           "shift_date" : "2022-10-01",
           "start_time" : "07:00:00",
           "end_time" : "15:00:00"
         }
      ii. **Shift B**:
         {
           "facility_id" : 101,
           "shift_date" : "2022-10-01",
           "start_time" : "15:00:00",
           "end_time" : "23:00:00"
         }
      iii. **Overlap Minutes = 0**
      iv. **Maximum Overlap Threshold = 0**
      v. **Exceeds Overlap Threshold = FALSE**

3. You will need to implement a front-end interface that will allow a user to select two shift boxes and click a button to compare the two shifts and then display information on the total overlapping minutes, the maximum overlap threshold for those shifts, and whether or not the two shifts exceed the overlap threshold.

   a. You will fetch all of the shifts records by using the endpoint you implemented in **Question #1.**

   b. You will need to render each of the shifts in its own box which will have the Facility Name, Shift Date, and Start Time and End Time.
      i. Start and End Times must be represented in 12-hour format (see example below)
      ii. When a user clicks on a box, that box should become highlighted to indicate that the shift has been selected
      iii. When the user clicks on a box that is already highlighted, it should deselect that shift and should no longer be highlighted
      iv. Maximum of 2 boxes can be selected at the same time
      v. The shift data should be centered in each of the boxes

   c. You will need to add a button which will be used to submit a request to compare whether or not the two selected shifts exceed the maximum overlap threshold using the endpoint you implemented in **Question #2** and display the returned data as shown in the example below.
      i. Must have 2 boxes selected in order to submit a comparison request

   d. In your video recording, please show the results of comparing the following shift pairs:
      i. 1st Comparison:
         ● [Facility A, 2022-10-01, 7:00 AM - 3:30 PM]
         ● [Facility A, 2022-10-01, 3:00 PM - 11:00 PM]
      ii. 2nd Comparison:
         ● [Facility A, 2022-10-03, 3:00 PM - 11:00 PM]
         ● [Facility A, 2022-10-03, 7:00 AM - 7:00 PM]
      iii. 3rd Comparison:
         ● [Facility B, 2022-10-02, 11:00 PM - 7:30 AM]
         ● [Facility A, 2022-10-03, 7:00 AM - 7:00 PM]
      iv. 4th Comparison:
         ● [Facility B, 2022-10-02, 11:00 PM - 7:30 AM]
         ● [Facility C, 2022-10-03, 3:00 PM - 11:30 PM]

e. **Example:**

Overlap Minutes: 30
Max Overlap Threshold: 0
Exceeds Overlap Threshold: True

| Submit |

Facility A 2022-10-03 7:00 AM - 3:30 PM	Facility A 2022-10-02 7:00 AM - 3:00 PM	Facility B 2022-10-01 3:00 PM - 11:00 PM
Facility A 2022-10-02 3:00 PM - 11:00 PM	Facility C 2022-10-03 11:00 PM - 7:00 AM	Facility C 2022-10-03 3:00 PM - 11:00 PM

*** More Questions Below ***

For **Questions #4, #5, and #6 (found <u>after</u> the tables below)** you will need to write a query that will fetch the requested information from the below tables. You should have already created and populated these tables in your local database. 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. <u>Please show the returned results for each of these queries in your video recording.</u>

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. Using the provided tables, write a query that will return the number of remaining spots that each facility has for each job type. The number of remaining spots is going to be the total number of nurses needed for each nurse type, minus the total number of nurses already hired for each nurse type. Order your results by ascending facility_id, and ascending nurse_type

5. 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 still get hired for. Each nurse can only be hired one time for each matching job and a job should only be counted towards the total if the nurse has not already been hired for that job and only if the job still has remaining spots. Order the results by the nurse_id in ascending order.

6. Using the same tables, write a query that will return the names of a target nurse's co-workers. A nurse's co-workers is defined as any nurse who is hired at any of the same facility_ids as the target nurse_id. In your recording, please show the results of searching for Anne's co-workers.