CareerHub, The Job Board

1. Provide a SQL script that initializes the database for the Job Board scenario "CareerHub".

2. Create tables for Companies, Jobs, Applicants and Applications.

```
1 ● ○ CREATE TABLE Companies(
           CompanyID INT PRIMARY KEY,
 3
           CompanyName VARCHAR(255),
 4
           Location VARCHAR(255)
 5
       );
 6
 7 • ⊖ CREATE TABLE Jobs(
 8
           JobID INT PRIMARY KEY,
9
           CompanyID INT,
           JobTitle VARCHAR(255),
10
           JobDescription VARCHAR(255),
11
           JobLocation VARCHAR(255),
12
13
           Salary DECIMAL,
           JobType VARCHAR(255),
14
15
           PostedDate DATETIME,
           FOREIGN KEY (CompanyID) REFERENCES Companies(CompanyID)
17
       );
18
19 • ⊖ CREATE TABLE Applicants (
20
           ApplicantID INT PRIMARY KEY,
21
           FirstName VARCHAR(255),
22
           LastName VARCHAR(255),
23
           Email VARCHAR(255),
           Phone VARCHAR(255),
24
25
           Resume TEXT
26
      ٠);
```

```
28 • ⊖ CREATE TABLE Applications (
29
               ApplicationID INT PRIMARY KEY,
30
               JobID INT,
31
               ApplicantID INT,
               ApplicationDate DATETIME,
32
33
               CoverLetter TEXT,
34
               FOREIGN KEY (JobID) REFERENCES Jobs(JobID),
               FOREIGN KEY (ApplicantID) REFERENCES Applicants(ApplicantID)
35
36
          );
  4 02:42:32 CREATE TABLE Companies (CompanyID INT PRIMARY KEY, CompanyName VARCHAR(255), Location V... 0 row(s) affected
   5 02:42:33 CREATE TABLE Jobs (JobID INT PRIMARY KEY, CompanyID INT, JobTitle VARCHAR(255), JobDescri... 0 row(s) affected
  6 02:42:33 CREATE TABLE Applicants ( ApplicantID INT PRIMARY KEY, FirstName VARCHAR(255), LastName VARCHA... 0 row(s) affected
   7 02:42:33 CREATE TABLE Applications ( Application ID INT PRIMARY KEY, JobID INT, Applicant ID INT, Applicati... 0 row(s) affected
```

3. Define appropriate primary keys, foreign keys, and constraints.

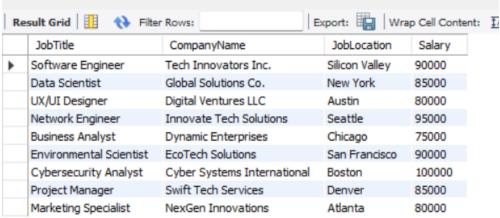
Did it in 2nd Question

4. Ensure the script handles potential errors, such as if the database or tables already exist.

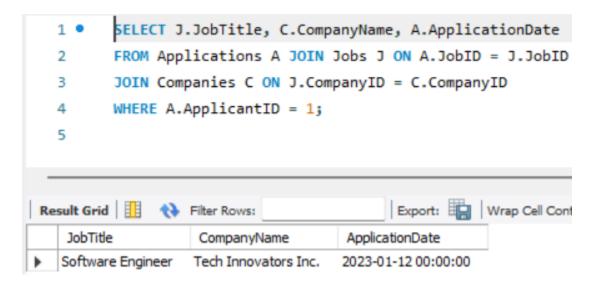
5. Write an SQL query to count the number of applications received for each job listing in the "Jobs" table. Display the job title and the corresponding application count. Ensure that it lists all jobs, even if they have no applications.

6. Develop an SQL query that retrieves job listings from the "Jobs" table within a specified salary range. Allow parameters for the minimum and maximum salary values. Display the job title, company name, location, and salary for each matching job.

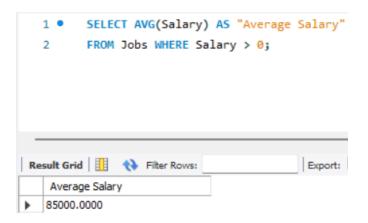
```
SELECT J.JobTitle, C.CompanyName, J.JobLocation, J.Salary
FROM Jobs J
JOIN Companies C ON J.CompanyID = C.CompanyID
WHERE J.Salary BETWEEN 75000 AND 100000;
```



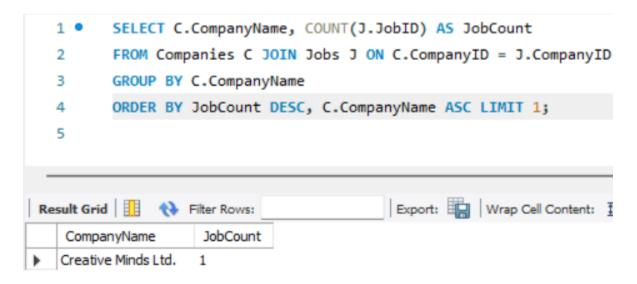
7. Write an SQL query that retrieves the job application history for a specific applicant. Allow a parameter for the ApplicantID, and return a result set with the job titles, company names, and application dates for all the jobs the applicant has applied to.



8. Create an SQL query that calculates and displays the average salary offered by all companies for job listings in the "Jobs" table. Ensure that the query filters out jobs with a salary of zero.



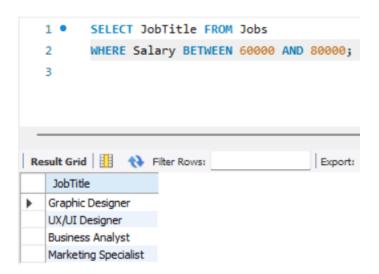
Write an SQL query to identify the company that has posted the most job listings. Display the company name along with the count of job listings they have posted. Handle ties if multiple companies have the same maximum count.



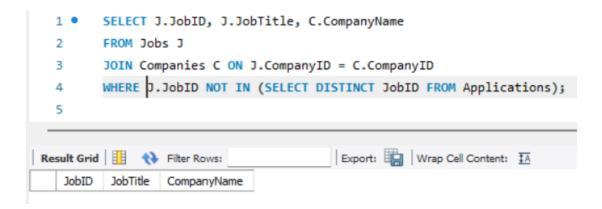
10. Find the applicants who have applied for positions in companies located in 'CityX' and have at least 3 years of experience.

```
1 • SELECT AP.ApplicantID, AP.FirstName, AP.LastName
2 FROM Jobs J JOIN Applications A ON J.JobID = A.JobID
3 JOIN Applicants AP ON A.ApplicantID = AP.ApplicantID
4 WHERE J.JobLocation = "Austin" AND AP.Experience >= 3;
```

11. Retrieve a list of distinct job titles with salaries between \$60,000 and \$80,000.



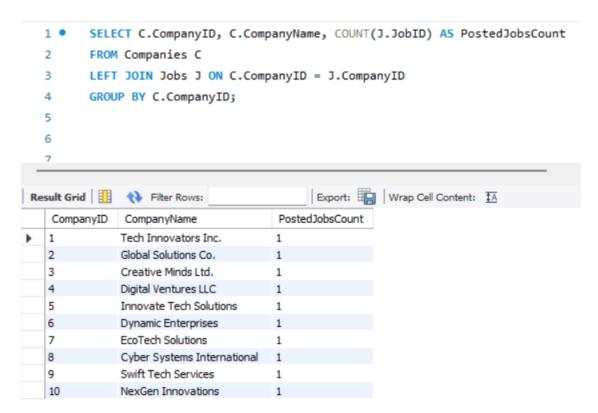
12. Find the jobs that have not received any applications.



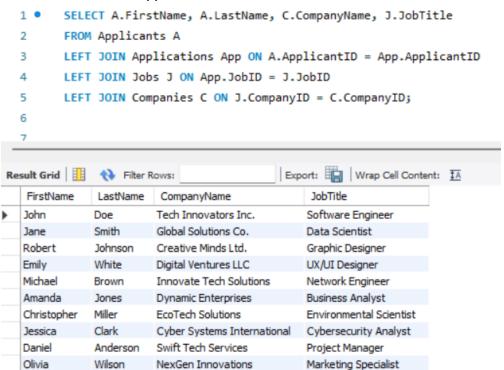
13. Retrieve a list of job applicants along with the companies they have applied to and the positions they have applied for.

```
1 •
          SELECT A.FirstName, A.LastName, C.CompanyName, J.JobTitle
  2
          FROM Applicants A
          LEFT JOIN Applications App ON A.ApplicantID = App.ApplicantID
  3
          LEFT JOIN Jobs J ON App.JobID = J.JobID
  4
  5
          LEFT JOIN Companies C ON J.CompanyID = C.CompanyID;
  6
                                                Export: Wrap Cell Content: IA
JobTitle
   FirstName
                LastName
                           CompanyName
                          Tech Innovators Inc.
                                                     Software Engineer
  John
               Doe
               Smith
   Jane
                          Global Solutions Co.
                                                    Data Scientist
   Robert
               Johnson
                          Creative Minds Ltd.
                                                     Graphic Designer
  Emily
               White
                          Digital Ventures LLC
                                                    UX/UI Designer
   Michael
               Brown
                          Innovate Tech Solutions
                                                    Network Engineer
   Amanda
                                                    Business Analyst
               Jones
                          Dynamic Enterprises
               Miller
   Christopher
                          EcoTech Solutions
                                                    Environmental Scientist
   Jessica
               Clark
                          Cyber Systems International
                                                    Cybersecurity Analyst
  Daniel
               Anderson
                          Swift Tech Services
                                                    Project Manager
   Olivia
                                                    Marketing Specialist
               Wilson
                          NexGen Innovations
```

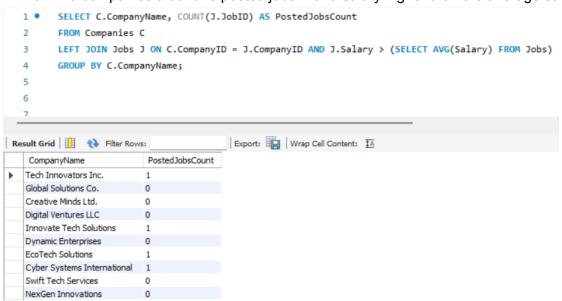
14. Retrieve a list of companies along with the count of jobs they have posted, even if they have not received any applications.



15. List all applicants along with the companies and positions they have applied for, including those who have not applied.



16. Find companies that have posted jobs with a salary higher than the average salary of all jobs.



17. Display a list of applicants with their names and a concatenated string of their city and state.

```
1 • SELECT A.FirstName, A.LastName, CONCAT(A.City, ', ', A.State) AS CityState
2 FROM Applicants A;
```

18. Retrieve a list of jobs with titles containing either 'Developer' or 'Engineer'.

19. Retrieve a list of applicants and the jobs they have applied for, including those who have not applied and jobs without applicants.

(To Do)

20. List all combinations of applicants and companies where the company is in a specific city and the applicant has more than 2 years of experience. For example: city=Chennai

```
1 • SELECT * FROM Applicants
2 CROSS JOIN Companies
3 WHERE Applicants.experience > 3 AND Companies.Location = "Chennai";
```