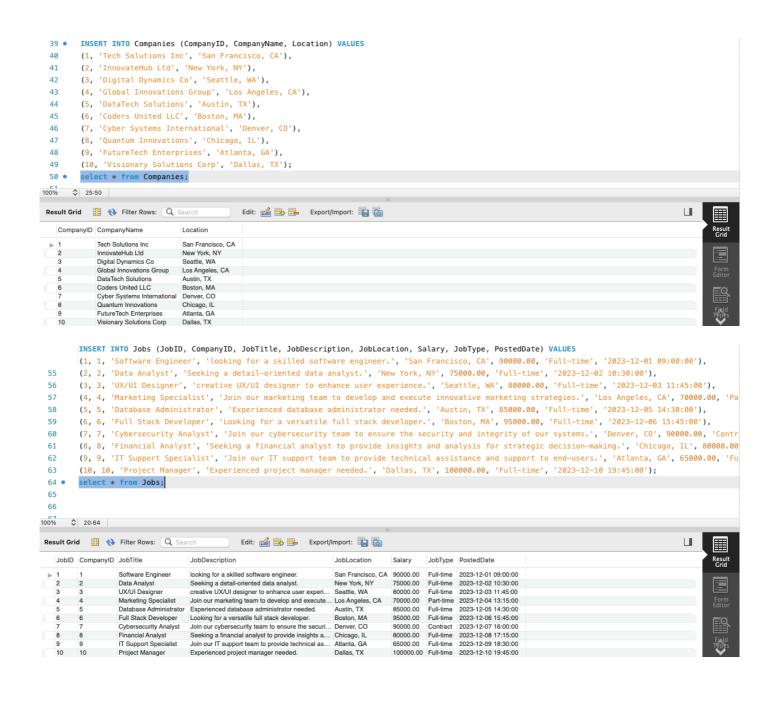# Coding Challenges:2

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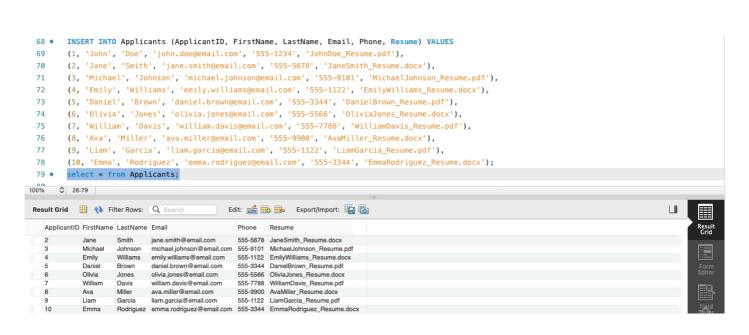
1.Provide a SQL script that initializes the database for the Job Board scenario "CareerHub".

```sql
2 •  create database if not exists CareerHub;
3 •  use CareerHub;
4
```

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

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

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

```sql
 4 • ⊖ CREATE TABLE if not exists Companies (
 5          CompanyID INT PRIMARY KEY,
 6          CompanyName VARCHAR(255),
 7          Location VARCHAR(255)
 8      );
 9
10 • ⊖ CREATE TABLE if not exists Jobs (
11          JobID INT PRIMARY KEY,
12          CompanyID INT,
13          JobTitle VARCHAR(255),
14          JobDescription TEXT,
15          JobLocation VARCHAR(255),
16          Salary DECIMAL(10, 2),
17          JobType VARCHAR(50),
18          PostedDate DATETIME,
19          FOREIGN KEY (CompanyID) REFERENCES Companies(CompanyID)
20      );
21 • ⊖ CREATE TABLE Applicants (
22          ApplicantID INT PRIMARY KEY,
23          FirstName VARCHAR(255),
24          LastName VARCHAR(255),
25          Email VARCHAR(255),
26          Phone VARCHAR(20),
27          Resume TEXT
28      );

29 • ⊖ CREATE TABLE Applications (
30          ApplicationID INT PRIMARY KEY,
31          JobID INT,
32          ApplicantID INT,
33          ApplicationDate DATETIME,
34          CoverLetter TEXT,
35          FOREIGN KEY (JobID) REFERENCES Jobs(JobID),
36          FOREIGN KEY (ApplicantID) REFERENCES Applicants(ApplicantID)
37      );
```

```sql
39 •  INSERT INTO Companies (CompanyID, CompanyName, Location) VALUES
40     (1, 'Tech Solutions Inc', 'San Francisco, CA'),
41     (2, 'InnovateHub Ltd', 'New York, NY'),
42     (3, 'Digital Dynamics Co', 'Seattle, WA'),
43     (4, 'Global Innovations Group', 'Los Angeles, CA'),
44     (5, 'DataTech Solutions', 'Austin, TX'),
45     (6, 'Coders United LLC', 'Boston, MA'),
46     (7, 'Cyber Systems International', 'Denver, CO'),
47     (8, 'Quantum Innovations', 'Chicago, IL'),
48     (9, 'FutureTech Enterprises', 'Atlanta, GA'),
49     (10, 'Visionary Solutions Corp', 'Dallas, TX');
50 •  select * from Companies;
```

100%  ◇  25:50

**Result Grid** | Filter Rows: Search | Edit: | Export/Import: |

| CompanyID | CompanyName | Location |
|---|---|---|
| 1 | Tech Solutions Inc | San Francisco, CA |
| 2 | InnovateHub Ltd | New York, NY |
| 3 | Digital Dynamics Co | Seattle, WA |
| 4 | Global Innovations Group | Los Angeles, CA |
| 5 | DataTech Solutions | Austin, TX |
| 6 | Coders United LLC | Boston, MA |
| 7 | Cyber Systems International | Denver, CO |
| 8 | Quantum Innovations | Chicago, IL |
| 9 | FutureTech Enterprises | Atlanta, GA |
| 10 | Visionary Solutions Corp | Dallas, TX |

```sql
    INSERT INTO Jobs (JobID, CompanyID, JobTitle, JobDescription, JobLocation, Salary, JobType, PostedDate) VALUES
    (1, 1, 'Software Engineer', 'looking for a skilled software engineer.', 'San Francisco, CA', 90000.00, 'Full-time', '2023-12-01 09:00:00'),
55  (2, 2, 'Data Analyst', 'Seeking a detail-oriented data analyst.', 'New York, NY', 75000.00, 'Full-time', '2023-12-02 10:30:00'),
56  (3, 3, 'UX/UI Designer', 'creative UX/UI designer to enhance user experience.', 'Seattle, WA', 80000.00, 'Full-time', '2023-12-03 11:45:00'),
57  (4, 4, 'Marketing Specialist', 'Join our marketing team to develop and execute innovative marketing strategies.', 'Los Angeles, CA', 70000.00, 'Pa
58  (5, 5, 'Database Administrator', 'Experienced database administrator needed.', 'Austin, TX', 85000.00, 'Full-time', '2023-12-05 14:30:00'),
59  (6, 6, 'Full Stack Developer', 'Looking for a versatile full stack developer.', 'Boston, MA', 95000.00, 'Full-time', '2023-12-06 15:45:00'),
60  (7, 7, 'Cybersecurity Analyst', 'Join our cybersecurity team to ensure the security and integrity of our systems.', 'Denver, CO', 90000.00, 'Contr
61  (8, 8, 'Financial Analyst', 'Seeking a financial analyst to provide insights and analysis for strategic decision-making.', 'Chicago, IL', 80000.00
62  (9, 9, 'IT Support Specialist', 'Join our IT support team to provide technical assistance and support to end-users.', 'Atlanta, GA', 65000.00, 'Fu
63  (10, 10, 'Project Manager', 'Experienced project manager needed.', 'Dallas, TX', 100000.00, 'Full-time', '2023-12-10 19:45:00');
64 •  select * from Jobs;
65
66
```

100%  ◇  20:64

**Result Grid** | Filter Rows: Search | Edit: | Export/Import: |

| JobID | CompanyID | JobTitle | JobDescription | JobLocation | Salary | JobType | PostedDate |
|---|---|---|---|---|---|---|---|
| 1 | 1 | Software Engineer | looking for a skilled software engineer. | San Francisco, CA | 90000.00 | Full-time | 2023-12-01 09:00:00 |
| 2 | 2 | Data Analyst | Seeking a detail-oriented data analyst. | New York, NY | 75000.00 | Full-time | 2023-12-02 10:30:00 |
| 3 | 3 | UX/UI Designer | creative UX/UI designer to enhance user experi... | Seattle, WA | 80000.00 | Full-time | 2023-12-03 11:45:00 |
| 4 | 4 | Marketing Specialist | Join our marketing team to develop and execute... | Los Angeles, CA | 70000.00 | Part-time | 2023-12-04 13:15:00 |
| 5 | 5 | Database Administrator | Experienced database administrator needed. | Austin, TX | 85000.00 | Full-time | 2023-12-05 14:30:00 |
| 6 | 6 | Full Stack Developer | Looking for a versatile full stack developer. | Boston, MA | 95000.00 | Full-time | 2023-12-06 15:45:00 |
| 7 | 7 | Cybersecurity Analyst | Join our cybersecurity team to ensure the securi... | Denver, CO | 90000.00 | Contract | 2023-12-07 16:00:00 |
| 8 | 8 | Financial Analyst | Seeking a financial analyst to provide insights a... | Chicago, IL | 80000.00 | Full-time | 2023-12-08 17:15:00 |
| 9 | 9 | IT Support Specialist | Join our IT support team to provide technical as... | Atlanta, GA | 65000.00 | Full-time | 2023-12-09 18:30:00 |
| 10 | 10 | Project Manager | Experienced project manager needed. | Dallas, TX | 100000.00 | Full-time | 2023-12-10 19:45:00 |

```sql
68 •  INSERT INTO Applicants (ApplicantID, FirstName, LastName, Email, Phone, Resume) VALUES
69     (1, 'John', 'Doe', 'john.doe@email.com', '555-1234', 'JohnDoe_Resume.pdf'),
70     (2, 'Jane', 'Smith', 'jane.smith@email.com', '555-5678', 'JaneSmith_Resume.docx'),
71     (3, 'Michael', 'Johnson', 'michael.johnson@email.com', '555-9101', 'MichaelJohnson_Resume.pdf'),
72     (4, 'Emily', 'Williams', 'emily.williams@email.com', '555-1122', 'EmilyWilliams_Resume.docx'),
73     (5, 'Daniel', 'Brown', 'daniel.brown@email.com', '555-3344', 'DanielBrown_Resume.pdf'),
74     (6, 'Olivia', 'Jones', 'olivia.jones@email.com', '555-5566', 'OliviaJones_Resume.docx'),
75     (7, 'William', 'Davis', 'william.davis@email.com', '555-7788', 'WilliamDavis_Resume.pdf'),
76     (8, 'Ava', 'Miller', 'ava.miller@email.com', '555-9900', 'AvaMiller_Resume.docx'),
77     (9, 'Liam', 'Garcia', 'liam.garcia@email.com', '555-1122', 'LiamGarcia_Resume.pdf'),
78     (10, 'Emma', 'Rodriguez', 'emma.rodriguez@email.com', '555-3344', 'EmmaRodriguez_Resume.docx');
79 •  select * from Applicants;
```

100%  ◇  26:79

**Result Grid** | Filter Rows: Search | Edit: | Export/Import: |

| ApplicantID | FirstName | LastName | Email | Phone | Resume |
|---|---|---|---|---|---|
| 2 | Jane | Smith | jane.smith@email.com | 555-5678 | JaneSmith_Resume.docx |
| 3 | Michael | Johnson | michael.johnson@email.com | 555-9101 | MichaelJohnson_Resume.pdf |
| 4 | Emily | Williams | emily.williams@email.com | 555-1122 | EmilyWilliams_Resume.docx |
| 5 | Daniel | Brown | daniel.brown@email.com | 555-3344 | DanielBrown_Resume.pdf |
| 6 | Olivia | Jones | olivia.jones@email.com | 555-5566 | OliviaJones_Resume.docx |
| 7 | William | Davis | william.davis@email.com | 555-7788 | WilliamDavis_Resume.pdf |
| 8 | Ava | Miller | ava.miller@email.com | 555-9900 | AvaMiller_Resume.docx |
| 9 | Liam | Garcia | liam.garcia@email.com | 555-1122 | LiamGarcia_Resume.pdf |
| 10 | Emma | Rodriguez | emma.rodriguez@email.com | 555-3344 | EmmaRodriguez_Resume.docx |

```
82 ●    INSERT INTO Applications (ApplicationID, JobID, ApplicantID, ApplicationDate, CoverLetter) VALUES
83       (1, 1, 1, '2023-12-15 08:30:00', 'I am excited to apply for the Software Engineer position at Tech Solutions Inc.'),
84       (2, 2, 2, '2023-12-15 09:45:00', 'I am a data analyst with a strong background in data interpretation and reporting.'),
85       (3, 3, 3, '2023-12-15 10:30:00', 'As a UX/UI designer, I am eager to contribute my creativity to Digital Dynamics Co.'),
86       (4, 4, 4, '2023-12-15 11:15:00', 'I am interested in the Marketing Specialist role and believe my skills align with your needs.'),
87       (5, 5, 5, '2023-12-15 12:00:00', 'I am an experienced Database Administrator interested in joining DataTech Solutions.'),
88       (6, 6, 6, '2023-12-15 12:45:00', 'I am a full stack developer with expertise in both front-end and back-end technologies.'),
89       (7, 7, 7, '2023-12-15 13:30:00', 'I am applying for the Cybersecurity Analyst position and am committed to ensuring system security.'),
90       (8, 8, 8, '2023-12-15 14:15:00', 'I am a financial analyst with a keen eye for detail and a passion for strategic analysis.'),
91       (9, 9, 9, '2023-12-15 15:00:00', 'I am interested in the IT Support Specialist role and am ready to provide technical assistance.'),
92       (10, 10, 10, '2023-12-15 15:45:00', 'As a project manager, I am excited about the opportunity to oversee and coordinate project activities.');
93 ●    select * from Applications;
```

| ApplicationID | JobID | ApplicantID | ApplicationDate | CoverLetter |
|---|---|---|---|---|
| 1 | 1 | 1 | 2023-12-15 08:30:00 | I am excited to apply for the Software Engineer… |
| 2 | 2 | 2 | 2023-12-15 09:45:00 | I am a data analyst with a strong background in… |
| 3 | 3 | 3 | 2023-12-15 10:30:00 | As a UX/UI designer, I am eager to contribute m… |
| 4 | 4 | 4 | 2023-12-15 11:15:00 | I am interested in the Marketing Specialist role a… |
| 5 | 5 | 5 | 2023-12-15 12:00:00 | I am an experienced Database Administrator int… |
| 6 | 6 | 6 | 2023-12-15 12:45:00 | I am a full stack developer with expertise in both… |
| 7 | 7 | 7 | 2023-12-15 13:30:00 | I am applying for the Cybersecurity Analyst posit… |
| 8 | 8 | 8 | 2023-12-15 14:15:00 | I am a financial analyst with a keen eye for detai… |
| 9 | 9 | 9 | 2023-12-15 15:00:00 | I am interested in the IT Support Specialist role… |
| 10 | 10 | 10 | 2023-12-15 15:45:00 | As a project manager, I am excited about the op… |

Applications 13

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.

```
98 ●    SELECT
99          J.JobID,
100         J.JobTitle,
101         COUNT(A.ApplicationID) AS ApplicationCount
102     FROM Jobs J
103     LEFT JOIN Applications A ON J.JobID = A.JobID
104     GROUP BY J.JobID, J.JobTitle
105     ORDER BY J.JobID;
106
```

| JobID | JobTitle | ApplicationCou... |
|---|---|---|
| 1 | Software Engineer | 1 |
| 2 | Data Analyst | 1 |
| 3 | UX/UI Designer | 1 |
| 4 | Marketing Specialist | 1 |
| 5 | Database Administrator | 1 |
| 6 | Full Stack Developer | 1 |
| 7 | Cybersecurity Analyst | 1 |
| 8 | Financial Analyst | 1 |
| 9 | IT Support Specialist | 1 |
| 10 | Project Manager | 1 |

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.

```
109 ●    SELECT J.JobTitle, C.CompanyName, J.JobLocation, J.Salary
110      FROM Jobs J
111      JOIN Companies C ON J.CompanyID = C.CompanyID
112      WHERE J.Salary BETWEEN 50000 AND 70000;
```

| JobTitle | CompanyName | JobLocation | Salary |
|---|---|---|---|
| Marketing Specialist | Global Innovations Group | Los Angeles, CA | 70000.00 |
| IT Support Specialist | FutureTech Enterprises | Atlanta, GA | 65000.00 |

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.

```
117 •   SELECT J.JobTitle, C.CompanyName, A.ApplicationDate
118     FROM Applications A
119     JOIN Jobs J ON A.JobID = J.JobID
120     JOIN Companies C ON J.CompanyID = C.CompanyID
121     WHERE A.ApplicantID =2
122     ORDER BY A.ApplicationDate DESC;
123
```
100%    33:122

Result Grid | Filter Rows: Search    Export:

| JobTitle | CompanyName | ApplicationDate |
|----------|-------------|-----------------|
| Data Analyst | InnovateHub Ltd | 2023-12-15 09:45:00 |

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.

```
125 •   SELECT AVG(Salary) AS AverageSalary
126     FROM Jobs
127     WHERE Salary > 0;
```
100%    18:127

Result Grid | Filter Rows: Search    Export:

| AverageSalary |
|---------------|
| 83000.000000 |

9.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.

```
129 •   SELECT C.CompanyName, COUNT(J.JobID) AS JobCount
130     FROM Companies C
131     JOIN Jobs J ON C.CompanyID = J.CompanyID
132     GROUP BY C.CompanyID, C.CompanyName
133     ORDER BY JobCount DESC
134     LIMIT 1;
```
100%    9:134

Result Grid | Filter Rows: Search    Export:    Fetch rows:

| CompanyName | JobCount |
|-------------|----------|
| Tech Solutions Inc | 1 |

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

```
137 •   SELECT A.ApplicantID, A.FirstName, A.LastName, A.Email, A.Phone, A.Resume
138     FROM Applicants A
139     JOIN Applications Ap ON A.ApplicantID = Ap.ApplicantID
140     JOIN Jobs J ON Ap.JobID = J.JobID
141     JOIN Companies C ON J.CompanyID = C.CompanyID
142     WHERE C.Location = 'Dallas, TX';
```
100%    33:142

Result Grid | Filter Rows: Search    Export:

| ApplicantID | FirstName | LastName | Email | Phone | Resume |
|-------------|-----------|----------|-------|-------|--------|
| 10 | Emma | Rodriguez | emma.rodriguez@email.com | 555-3344 | EmmaRodriguez_Resume.docx |

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

```sql
145 •  SELECT DISTINCT JobTitle,Salary
146    FROM Jobs
147    WHERE Salary BETWEEN 60000 AND 80000;
148
149
```
100%    38:147

Result Grid | Filter Rows: Search | Export:

| JobTitle | Salary |
|----------|--------|
| Data Analyst | 75000.00 |
| UX/UI Designer | 80000.00 |
| Marketing Specialist | 70000.00 |
| Financial Analyst | 80000.00 |
| IT Support Specialist | 65000.00 |

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

```sql
149 •  SELECT J.JobID, J.JobTitle, J.JobDescription, J.JobLocation, J.Salary,
150        J.JobType, J.PostedDate
151    FROM Jobs J
152    LEFT JOIN Applications A ON J.JobID = A.JobID
153    WHERE A.ApplicationID IS NULL;
154
```
100%    31:153

Result Grid | Filter Rows: Search | Export:

| JobID | JobTitle | JobDescripti... | JobLocation | Salary | JobType | PostedDate |
|-------|----------|-----------------|-------------|--------|---------|------------|

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

```sql
155 •  SELECT A.ApplicantID, A.FirstName, A.LastName, A.Email, A.Phone,
156        J.JobTitle, C.CompanyName, J.JobLocation, J.Salary, J.JobType, J.PostedDate
157    FROM Applicants A
158    JOIN Applications Ap ON A.ApplicantID = Ap.ApplicantID
159    JOIN Jobs J ON Ap.JobID = J.JobID
160    JOIN Companies C ON J.CompanyID = C.CompanyID;
161
```
100%    47:160

Result Grid | Filter Rows: Search | Export:

| ApplicantID | FirstName | LastName | Email | Phone | JobTitle | CompanyName | JobLocation | Salary | JobType | PostedDate |
|-------------|-----------|----------|-------|-------|----------|-------------|-------------|--------|---------|------------|
| 1 | John | Doe | john.doe@email.com | 555-1234 | Software Engineer | Tech Solutions Inc | San Francisco, CA | 90000.00 | Full-time | 2023-12-01 09:00:00 |
| 2 | Jane | Smith | jane.smith@email.com | 555-5678 | Data Analyst | InnovateHub Ltd | New York, NY | 75000.00 | Full-time | 2023-12-02 10:30:00 |
| 3 | Michael | Johnson | michael.johnson@email.com | 555-9101 | UX/UI Designer | Digital Dynamics Co | Seattle, WA | 80000.00 | Full-time | 2023-12-03 11:45:00 |
| 4 | Emily | Williams | emily.williams@email.com | 555-1122 | Marketing Specialist | Global Innovations Group | Los Angeles, CA | 70000.00 | Part-time | 2023-12-04 13:15:00 |
| 5 | Daniel | Brown | daniel.brown@email.com | 555-3344 | Database Administrator | DataTech Solutions | Austin, TX | 85000.00 | Full-time | 2023-12-05 14:30:00 |
| 6 | Olivia | Jones | olivia.jones@email.com | 555-5566 | Full Stack Developer | Coders United LLC | Boston, MA | 95000.00 | Full-time | 2023-12-06 15:45:00 |
| 7 | William | Davis | william.davis@email.com | 555-7788 | Cybersecurity Analyst | Cyber Systems International | Denver, CO | 90000.00 | Contract | 2023-12-07 16:00:00 |
| 8 | Ava | Miller | ava.miller@email.com | 555-9900 | Financial Analyst | Quantum Innovations | Chicago, IL | 80000.00 | Full-time | 2023-12-08 17:15:00 |
| 9 | Liam | Garcia | liam.garcia@email.com | 555-1122 | IT Support Specialist | FutureTech Enterprises | Atlanta, GA | 65000.00 | Full-time | 2023-12-09 18:30:00 |
| 10 | Emma | Rodriguez | emma.rodriguez@email.com | 555-3344 | Project Manager | Visionary Solutions Corp | Dallas, TX | 100000.00 | Full-time | 2023-12-10 19:45:00 |

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

```sql
164 •  SELECT C.CompanyID, C.CompanyName, COUNT(J.JobID) AS JobCount
165    FROM Companies C
166    LEFT JOIN Jobs J ON C.CompanyID = J.CompanyID
167    LEFT JOIN Applications A ON J.JobID = A.JobID
168    GROUP BY C.CompanyID, C.CompanyName
169    ORDER BY JobCount DESC;
170    |
```

100%    1:170

**Result Grid** | Filter Rows: Q Search    Export:

| CompanyID | CompanyName | JobCount |
|---|---|---|
| 1 | Tech Solutions Inc | 1 |
| 2 | InnovateHub Ltd | 1 |
| 3 | Digital Dynamics Co | 1 |
| 4 | Global Innovations Group | 1 |
| 5 | DataTech Solutions | 1 |
| 6 | Coders United LLC | 1 |
| 7 | Cyber Systems International | 1 |
| 8 | Quantum Innovations | 1 |
| 9 | FutureTech Enterprises | 1 |
| 10 | Visionary Solutions Corp | 1 |

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

```sql
174 •  SELECT A.ApplicantID, A.FirstName, A.LastName, A.Email,
175         A.Phone, J.JobTitle,C.CompanyName
176    FROM Applicants A
177    CROSS JOIN Jobs J
178    CROSS JOIN Companies C
179    LEFT JOIN Applications Ap ON A.ApplicantID = Ap.ApplicantID AND J.JobID = Ap.JobID
180    LEFT JOIN Companies C2 ON J.CompanyID = C2.CompanyID
181    WHERE
182        (Ap.ApplicantID IS NOT NULL AND C2.CompanyID IS NOT NULL)
183        OR (Ap.ApplicantID IS NULL AND C2.CompanyID IS NULL);
```

100%    58:183

**Result Grid** | Filter Rows: Q Search    Export:

| ApplicantID | FirstName | LastName | Email | Phone | JobTitle | CompanyName |
|---|---|---|---|---|---|---|
| 10 | Emma | Rodriguez | emma.rodriguez@email.com | 555-3344 | Project Manager | Tech Solutions Inc |
| 9 | Liam | Garcia | liam.garcia@email.com | 555-1122 | IT Support Specialist | Tech Solutions Inc |
| 8 | Ava | Miller | ava.miller@email.com | 555-9900 | Financial Analyst | Tech Solutions Inc |
| 7 | William | Davis | william.davis@email.com | 555-7788 | Cybersecurity Analyst | Tech Solutions Inc |
| 6 | Olivia | Jones | olivia.jones@email.com | 555-5566 | Full Stack Developer | Tech Solutions Inc |
| 5 | Daniel | Brown | daniel.brown@email.com | 555-3344 | Database Administrator | Tech Solutions Inc |
| 4 | Emily | Williams | emily.williams@email.com | 555-1122 | Marketing Specialist | Tech Solutions Inc |
| 3 | Michael | Johnson | michael.johnson@email.com | 555-9101 | UX/UI Designer | Tech Solutions Inc |
| 2 | Jane | Smith | jane.smith@email.com | 555-5678 | Data Analyst | Tech Solutions Inc |
| 1 | John | Doe | john.doe@email.com | 555-1234 | Software Engineer | Tech Solutions Inc |

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

```sql
186 •  SELECT DISTINCT C.CompanyID, C.CompanyName
187    FROM Companies C
188    JOIN Jobs J ON C.CompanyID = J.CompanyID
189    WHERE J.Salary > (SELECT AVG(Salary) FROM Jobs);
```

100%    1:190

**Result Grid** | Filter Rows: Q Search    Export:

| CompanyID | CompanyName |
|---|---|
| 1 | Tech Solutions Inc |
| 5 | DataTech Solutions |
| 6 | Coders United LLC |
| 7 | Cyber Systems International |
| 10 | Visionary Solutions Corp |

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

```sql
192    |
193 •  SELECT ApplicantID, FirstName, LastName,
194         CONCAT(City, ', ', State) AS CityState
195    FROM Applicants;
196
197
```

100%    1:192

Action Output

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

```sql
198  SELECT *
199  FROM Jobs
200  WHERE JobTitle LIKE '%Developer%' OR JobTitle LIKE '%Engineer%';
```

| JobID | CompanyID | JobTitle | JobDescription | JobLocation | Salary | JobType | PostedDate |
|---|---|---|---|---|---|---|---|
| 1 | 1 | Software Engineer | looking for a skilled software engineer. | San Francisco, CA | 90000.00 | Full-time | 2023-12-01 09:00:00 |
| 6 | 6 | Full Stack Developer | Looking for a versatile full stack developer. | Boston, MA | 95000.00 | Full-time | 2023-12-06 15:45:00 |

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

```sql
203  SELECT A.ApplicantID, A.FirstName, A.LastName,
204      J.JobID,J.JobTitle
205  FROM Applicants A
206  CROSS JOIN Jobs J
207  LEFT JOIN Applications Ap ON A.ApplicantID = Ap.ApplicantID AND J.JobID = Ap.JobID
208  WHERE Ap.ApplicationID IS NOT NULL
209      OR (A.ApplicantID IS NULL AND Ap.ApplicationID IS NULL);
```

| ApplicantID | FirstName | LastName | JobID | JobTitle |
|---|---|---|---|---|
| 1 | John | Doe | 1 | Software Engineer |
| 2 | Jane | Smith | 2 | Data Analyst |
| 3 | Michael | Johnson | 3 | UX/UI Designer |
| 4 | Emily | Williams | 4 | Marketing Specialist |
| 5 | Daniel | Brown | 5 | Database Administrator |
| 6 | Olivia | Jones | 6 | Full Stack Developer |
| 7 | William | Davis | 7 | Cybersecurity Analyst |
| 8 | Ava | Miller | 8 | Financial Analyst |
| 9 | Liam | Garcia | 9 | IT Support Specialist |
| 10 | Emma | Rodriguez | 10 | Project Manager |

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

```sql
211  SELECT A.ApplicantID, A.FirstName, A.LastName, A.Email,
212      A.Phone, A.Resume, C.CompanyID, C.CompanyName, C.Location
213  FROM Applicants A
214  CROSS JOIN Companies C
215  WHERE C.Location = 'Boston, MA';
```

| ApplicantID | FirstName | LastName | Email | Phone | Resume | CompanyID | CompanyName | Location |
|---|---|---|---|---|---|---|---|---|
| 1 | John | Doe | john.doe@email.com | 555-1234 | JohnDoe_Resume.pdf | 6 | Coders United LLC | Boston, MA |
| 2 | Jane | Smith | jane.smith@email.com | 555-5678 | JaneSmith_Resume.docx | 6 | Coders United LLC | Boston, MA |
| 3 | Michael | Johnson | michael.johnson@email.com | 555-9101 | MichaelJohnson_Resume.pdf | 6 | Coders United LLC | Boston, MA |
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