Coding Challenges:2 : CareerHub, The Job Board

Madiha Aimon Tappal

Create SQL Schema from the application, use the class attributes for table column names.

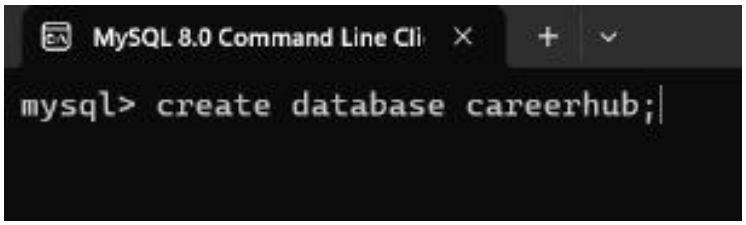


Table: Companies

Attributes:

- CompanyID (Primary Key, int): Unique identifier for each company.
- CompanyName (string): The name of the hiring company.
- Location (string): The location of the company.

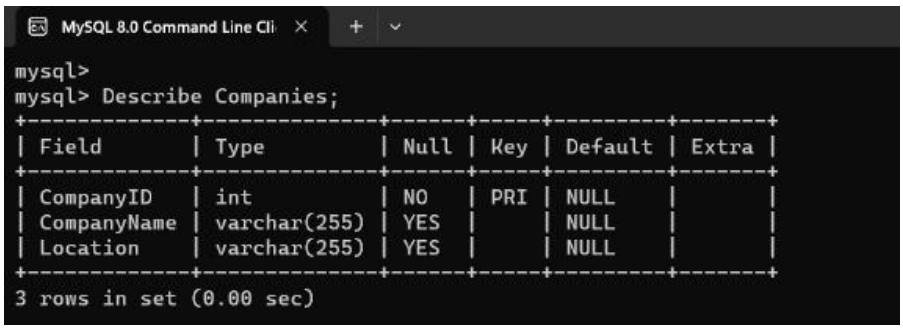
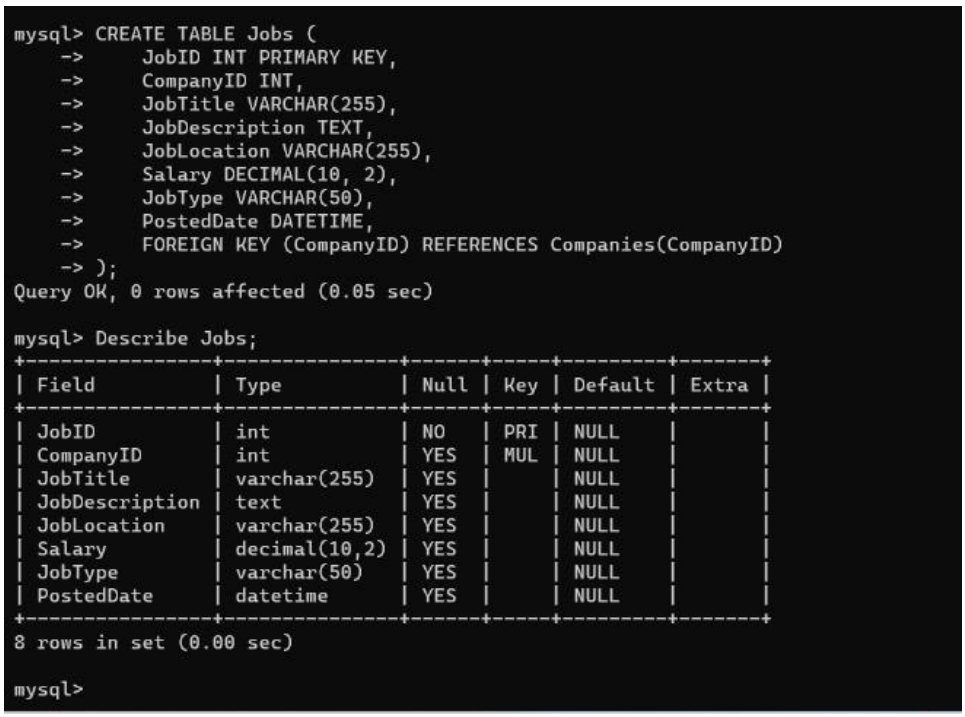


Table: Jobs

Attributes:

- JobID (Primary Key, int): Unique identifier for each job listing.
- CompanyID (Foreign Key, int): References the CompanyID of the hiring company.
- JobTitle (string): The title of the job.
- JobDescription (text): A detailed description of the job.
- JobLocation (string): The location where the job is based.
- Salary (decimal): The salary offered for the job.
- JobType (string): Type of job (e.g., Full-time, Part-time, Contract).
- PostedDate (datetime): Date and time when the job was posted.



```
mysql> CREATE TABLE Jobs (
    ->     JobID INT PRIMARY KEY,
    ->     CompanyID INT,
    ->     JobTitle VARCHAR(255),
    ->     JobDescription TEXT,
    ->     JobLocation VARCHAR(255),
    ->     Salary DECIMAL(10, 2),
    ->     JobType VARCHAR(50),
    ->     PostedDate DATETIME,
    ->     FOREIGN KEY (CompanyID) REFERENCES Companies(CompanyID)
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> Describe Jobs;
+----------------+---------------+------+-----+---------+-------+
| Field          | Type          | Null | Key | Default | Extra |
+----------------+---------------+------+-----+---------+-------+
| JobID          | int           | NO   | PRI | NULL    |       |
| CompanyID      | int           | YES  | MUL | NULL    |       |
| JobTitle       | varchar(255)  | YES  |     | NULL    |       |
| JobDescription | text          | YES  |     | NULL    |       |
| JobLocation    | varchar(255)  | YES  |     | NULL    |       |
| Salary         | decimal(10,2) | YES  |     | NULL    |       |
| JobType        | varchar(50)   | YES  |     | NULL    |       |
| PostedDate     | datetime      | YES  |     | NULL    |       |
+----------------+---------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql>
```

Table: Applicants

Attributes:

ApplicantID (Primary Key, int): Unique identifier for each applicant.

- FirstName (string): The first name of the applicant.
- LastName (string): The last name of the applicant.
- Email (string): The email address of the applicant.
- Phone (string): The phone number of the applicant.
- Resume (text): The applicant's resume or CV (text or file reference).

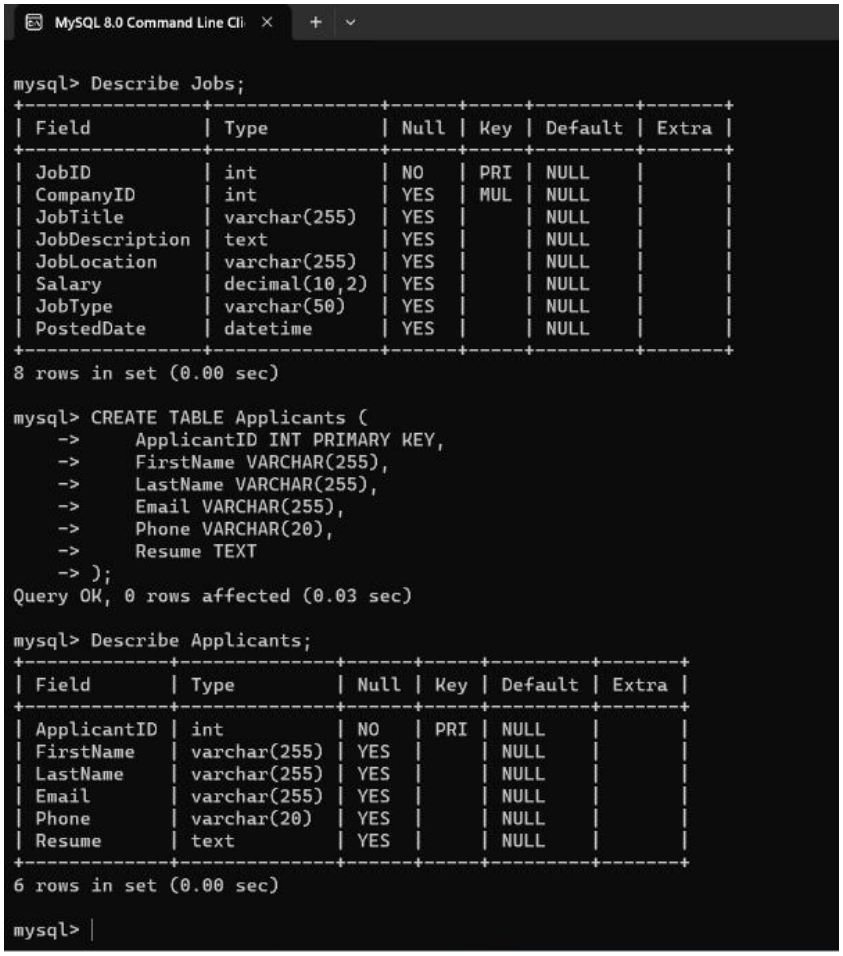
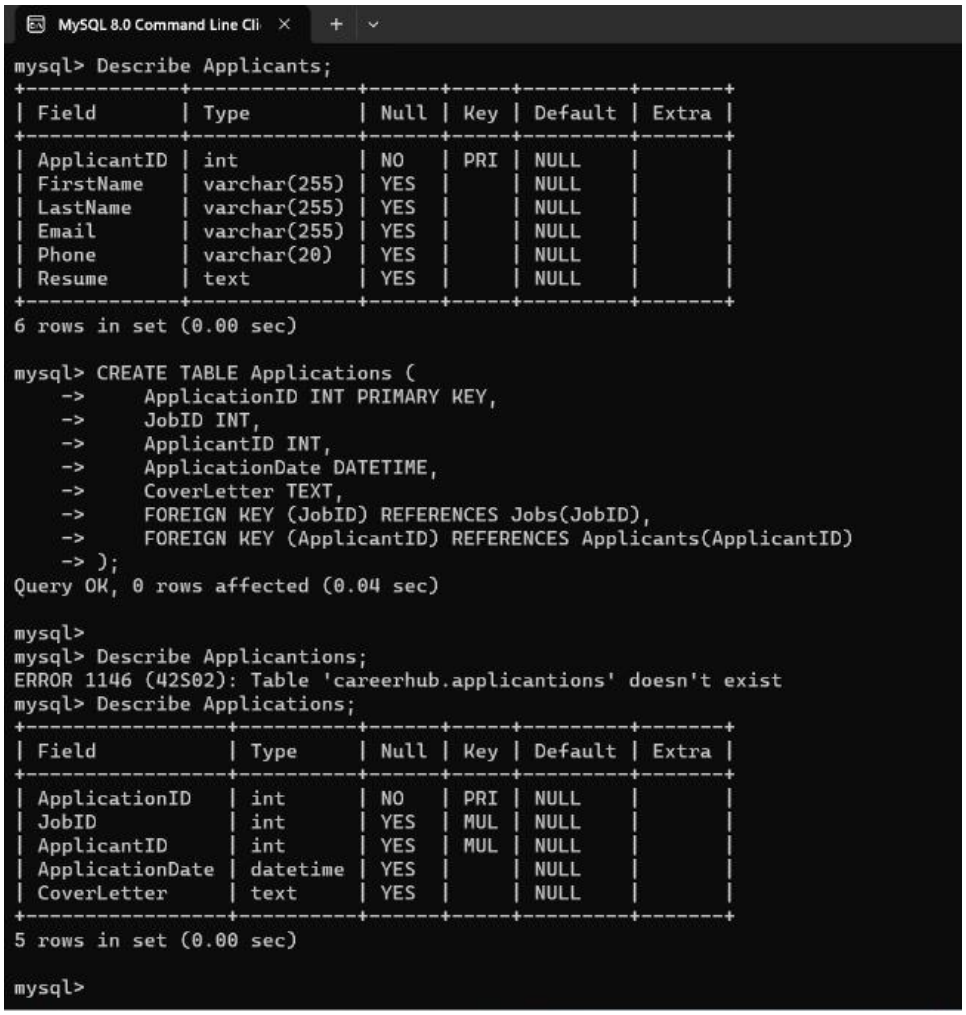


Table: Applications

Attributes:

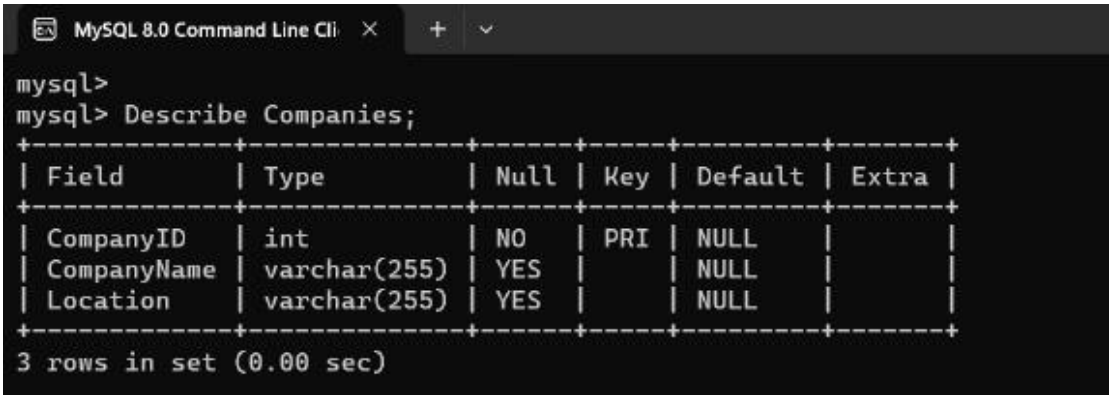
- ApplicationID (Primary Key, int): Unique identifier for each job application.
- JobID (Foreign Key, int): References the JobID of the job listing.
- ApplicantID (Foreign Key, int): References the ApplicantID of the applicant.
- ApplicationDate (datetime): Date and time when the application was submitted.
- CoverLetter (text): The applicant's cover letter for the specific job.



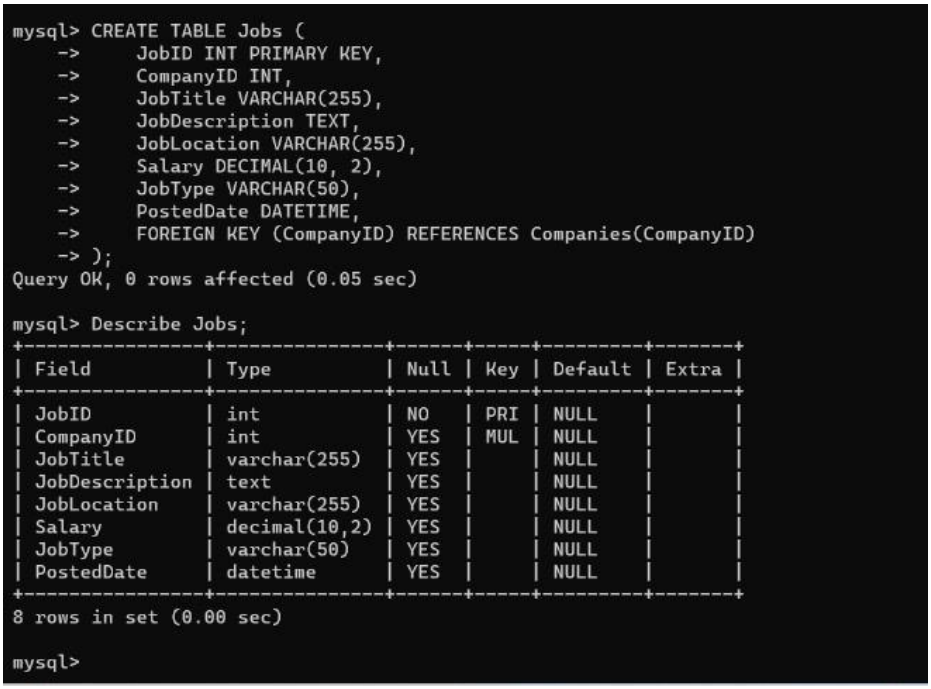
Task -1

1. Provide a SQL script that initializes the database for the Job Board scenario “CareerHub”.
   Jobs:

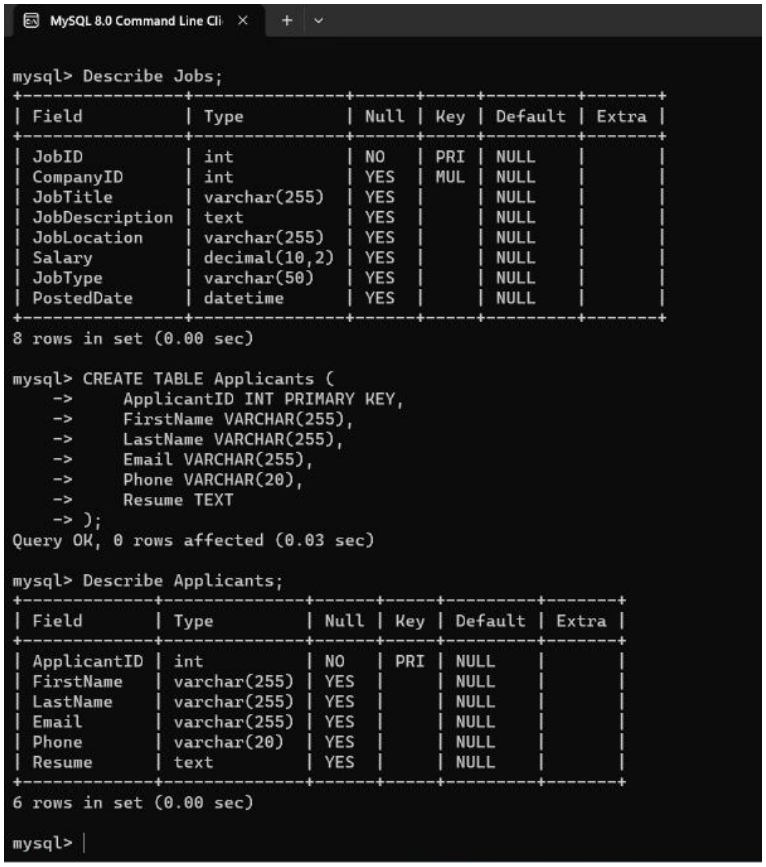
   Compaines:



   Jobs:

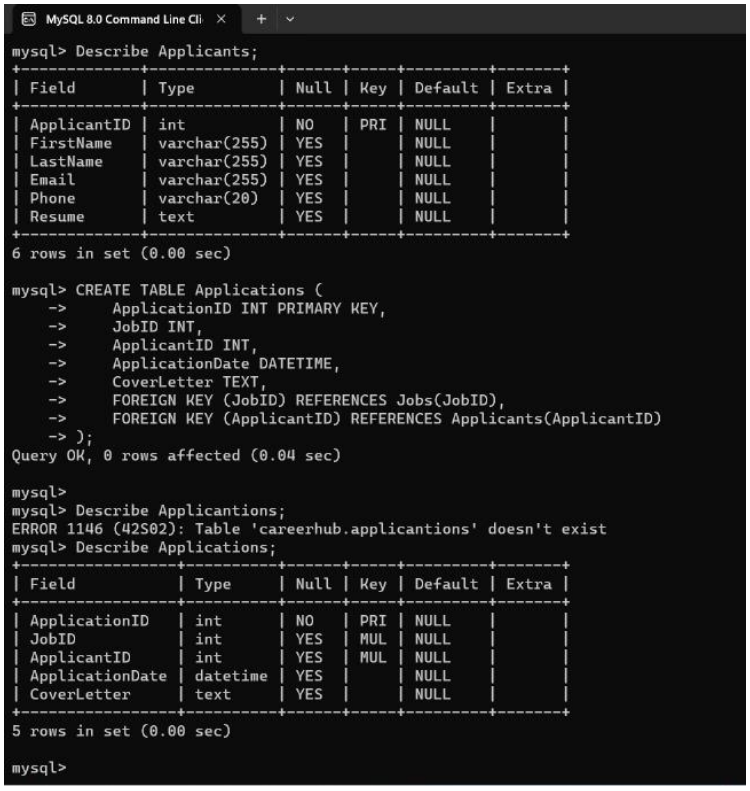


Applicants:



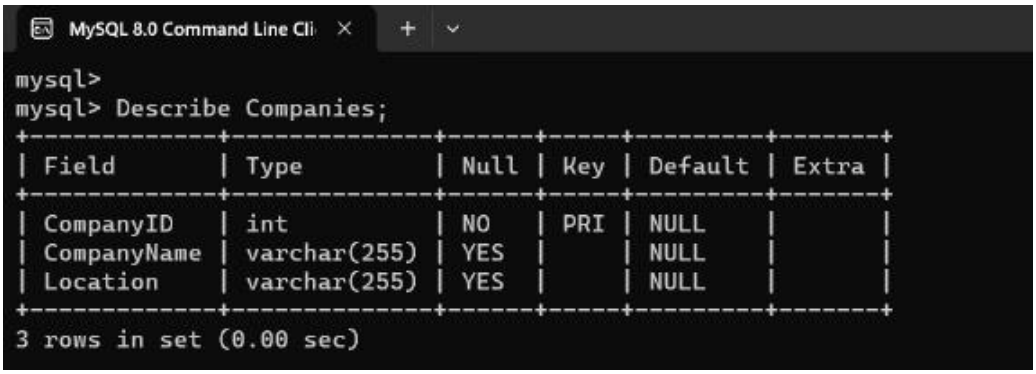
```
MySQL 8.0 Command Line Cli

mysql> Describe Jobs;
+-----------------+---------------+------+-----+---------+-------+
| Field           | Type          | Null | Key | Default | Extra |
+-----------------+---------------+------+-----+---------+-------+
| JobID           | int           | NO   | PRI | NULL    |       |
| CompanyID       | int           | YES  | MUL | NULL    |       |
| JobTitle        | varchar(255)  | YES  |     | NULL    |       |
| JobDescription  | text          | YES  |     | NULL    |       |
| JobLocation     | varchar(255)  | YES  |     | NULL    |       |
| Salary          | decimal(10,2) | YES  |     | NULL    |       |
| JobType         | varchar(50)   | YES  |     | NULL    |       |
| PostedDate      | datetime      | YES  |     | NULL    |       |
+-----------------+---------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql> CREATE TABLE Applicants (
    ->     ApplicantID INT PRIMARY KEY,
    ->     FirstName VARCHAR(255),
    ->     LastName VARCHAR(255),
    ->     Email VARCHAR(255),
    ->     Phone VARCHAR(20),
    ->     Resume TEXT
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql> Describe Applicants;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ApplicantID | int          | NO   | PRI | NULL    |       |
| FirstName   | varchar(255) | YES  |     | NULL    |       |
| LastName    | varchar(255) | YES  |     | NULL    |       |
| Email       | varchar(255) | YES  |     | NULL    |       |
| Phone       | varchar(20)  | YES  |     | NULL    |       |
| Resume      | text         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql>
```

Application:



```
MySQL 8.0 Command Line Cli

mysql> Describe Applicants;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ApplicantID | int          | NO   | PRI | NULL    |       |
| FirstName   | varchar(255) | YES  |     | NULL    |       |
| LastName    | varchar(255) | YES  |     | NULL    |       |
| Email       | varchar(255) | YES  |     | NULL    |       |
| Phone       | varchar(20)  | YES  |     | NULL    |       |
| Resume      | text         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql> CREATE TABLE Applications (
    ->     ApplicationID INT PRIMARY KEY,
    ->     JobID INT,
    ->     ApplicantID INT,
    ->     ApplicationDate DATETIME,
    ->     CoverLetter TEXT,
    ->     FOREIGN KEY (JobID) REFERENCES Jobs(JobID),
    ->     FOREIGN KEY (ApplicantID) REFERENCES Applicants(ApplicantID)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> Describe Applicantions;
ERROR 1146 (42S02): Table 'careerhub.applicantions' doesn't exist
mysql> Describe Applications;
+-----------------+----------+------+-----+---------+-------+
| Field           | Type     | Null | Key | Default | Extra |
+-----------------+----------+------+-----+---------+-------+
| ApplicationID   | int      | NO   | PRI | NULL    |       |
| JobID           | int      | YES  | MUL | NULL    |       |
| ApplicantID     | int      | YES  | MUL | NULL    |       |
| ApplicationDate | datetime | YES  |     | NULL    |       |
| CoverLetter     | text     | YES  |     | NULL    |       |
+-----------------+----------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

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

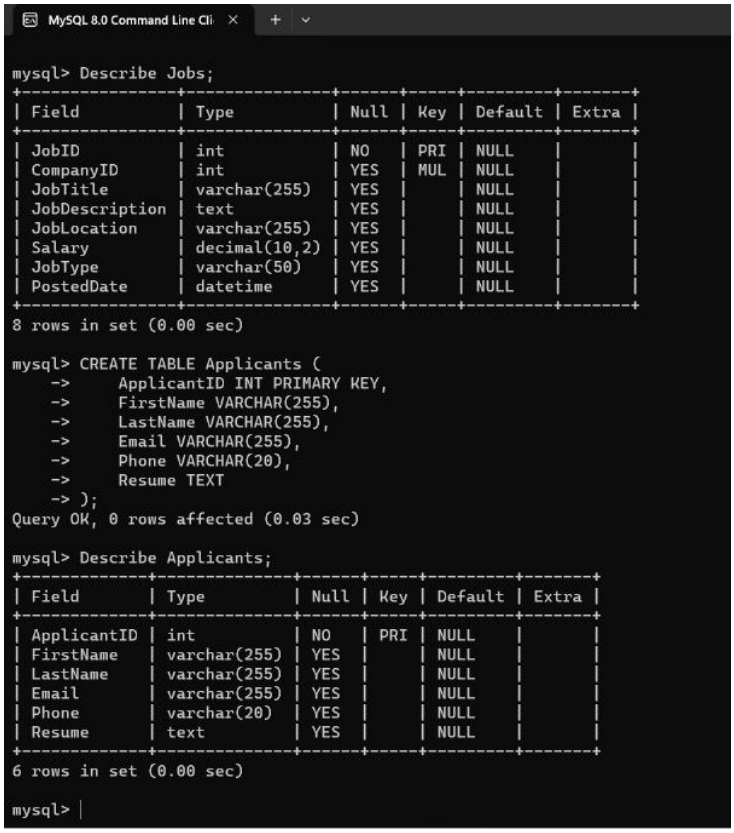


```
MySQL 8.0 Command Line Cli

mysql>
mysql> Describe Companies;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| CompanyID   | int          | NO   | PRI | NULL    |       |
| CompanyName | varchar(255) | YES  |     | NULL    |       |
| Location    | varchar(255) | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

   Jobs:

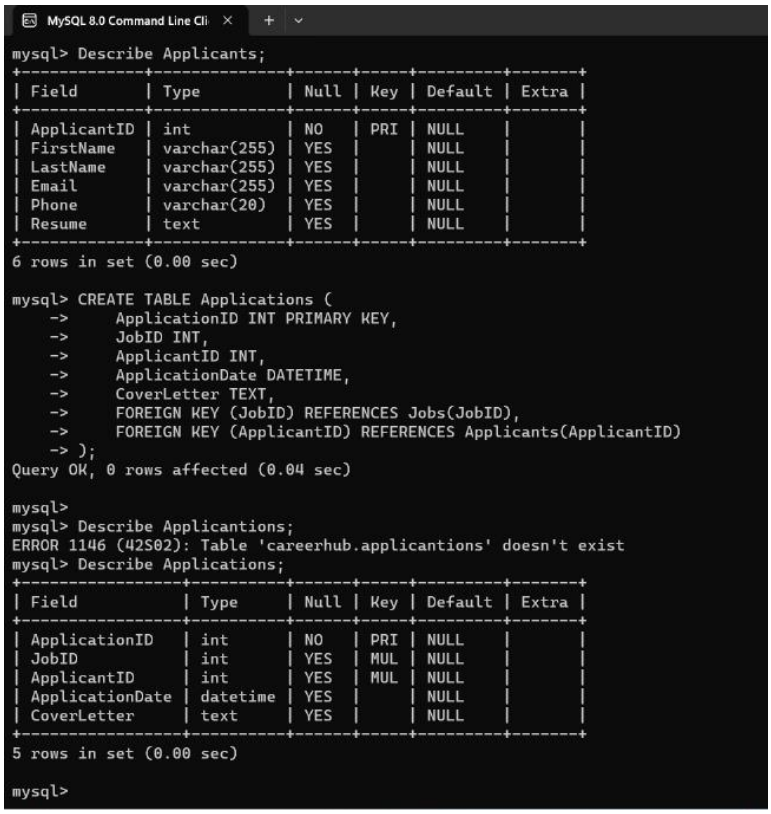
```
mysql> CREATE TABLE Jobs (
    ->     JobID INT PRIMARY KEY,
    ->     CompanyID INT,
    ->     JobTitle VARCHAR(255),
    ->     JobDescription TEXT,
    ->     JobLocation VARCHAR(255),
    ->     Salary DECIMAL(10, 2),
    ->     JobType VARCHAR(50),
    ->     PostedDate DATETIME,
    ->     FOREIGN KEY (CompanyID) REFERENCES Companies(CompanyID)
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> Describe Jobs;
+----------------+---------------+------+-----+---------+-------+
| Field          | Type          | Null | Key | Default | Extra |
+----------------+---------------+------+-----+---------+-------+
| JobID          | int           | NO   | PRI | NULL    |       |
| CompanyID      | int           | YES  | MUL | NULL    |       |
| JobTitle       | varchar(255)  | YES  |     | NULL    |       |
| JobDescription | text          | YES  |     | NULL    |       |
| JobLocation    | varchar(255)  | YES  |     | NULL    |       |
| Salary         | decimal(10,2) | YES  |     | NULL    |       |
| JobType        | varchar(50)   | YES  |     | NULL    |       |
| PostedDate     | datetime      | YES  |     | NULL    |       |
+----------------+---------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql>
```

Applicants:



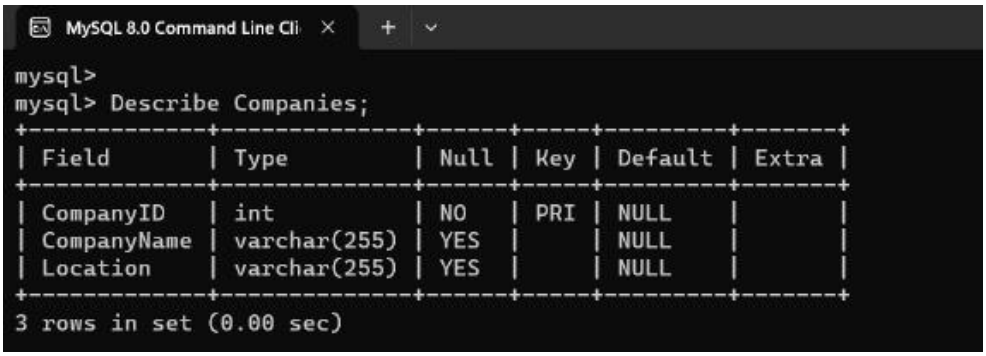
```
MySQL 8.0 Command Line Cli

mysql> Describe Jobs;
+-----------------+---------------+------+-----+---------+-------+
| Field           | Type          | Null | Key | Default | Extra |
+-----------------+---------------+------+-----+---------+-------+
| JobID           | int           | NO   | PRI | NULL    |       |
| CompanyID       | int           | YES  | MUL | NULL    |       |
| JobTitle        | varchar(255)  | YES  |     | NULL    |       |
| JobDescription  | text          | YES  |     | NULL    |       |
| JobLocation     | varchar(255)  | YES  |     | NULL    |       |
| Salary          | decimal(10,2) | YES  |     | NULL    |       |
| JobType         | varchar(50)   | YES  |     | NULL    |       |
| PostedDate      | datetime      | YES  |     | NULL    |       |
+-----------------+---------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql> CREATE TABLE Applicants (
    ->     ApplicantID INT PRIMARY KEY,
    ->     FirstName VARCHAR(255),
    ->     LastName VARCHAR(255),
    ->     Email VARCHAR(255),
    ->     Phone VARCHAR(20),
    ->     Resume TEXT
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql> Describe Applicants;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ApplicantID | int          | NO   | PRI | NULL    |       |
| FirstName   | varchar(255) | YES  |     | NULL    |       |
| LastName    | varchar(255) | YES  |     | NULL    |       |
| Email       | varchar(255) | YES  |     | NULL    |       |
| Phone       | varchar(20)  | YES  |     | NULL    |       |
| Resume      | text         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql>
```

Applications:



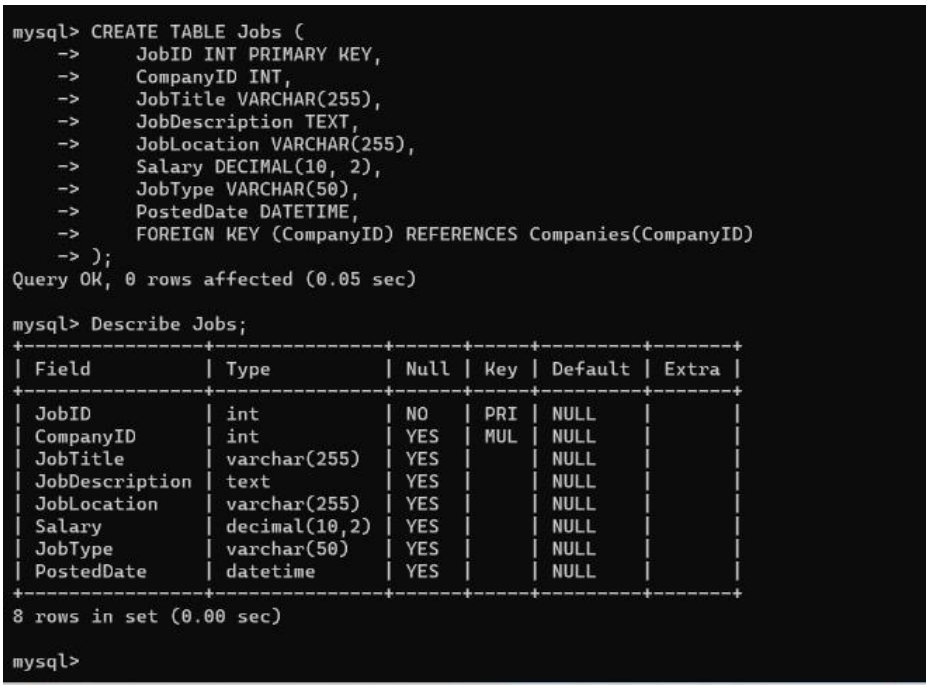
```
MySQL 8.0 Command Line Cli

mysql> Describe Applicants;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ApplicantID | int          | NO   | PRI | NULL    |       |
| FirstName   | varchar(255) | YES  |     | NULL    |       |
| LastName    | varchar(255) | YES  |     | NULL    |       |
| Email       | varchar(255) | YES  |     | NULL    |       |
| Phone       | varchar(20)  | YES  |     | NULL    |       |
| Resume      | text         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql> CREATE TABLE Applications (
    ->     ApplicationID INT PRIMARY KEY,
    ->     JobID INT,
    ->     ApplicantID INT,
    ->     ApplicationDate DATETIME,
    ->     CoverLetter TEXT,
    ->     FOREIGN KEY (JobID) REFERENCES Jobs(JobID),
    ->     FOREIGN KEY (ApplicantID) REFERENCES Applicants(ApplicantID)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> Describe Applicantions;
ERROR 1146 (42S02): Table 'careerhub.applicantions' doesn't exist
mysql> Describe Applications;
+-----------------+----------+------+-----+---------+-------+
| Field           | Type     | Null | Key | Default | Extra |
+-----------------+----------+------+-----+---------+-------+
| ApplicationID   | int      | NO   | PRI | NULL    |       |
| JobID           | int      | YES  | MUL | NULL    |       |
| ApplicantID     | int      | YES  | MUL | NULL    |       |
| ApplicationDate | datetime | YES  |     | NULL    |       |
| CoverLetter     | text     | YES  |     | NULL    |       |
+-----------------+----------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

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



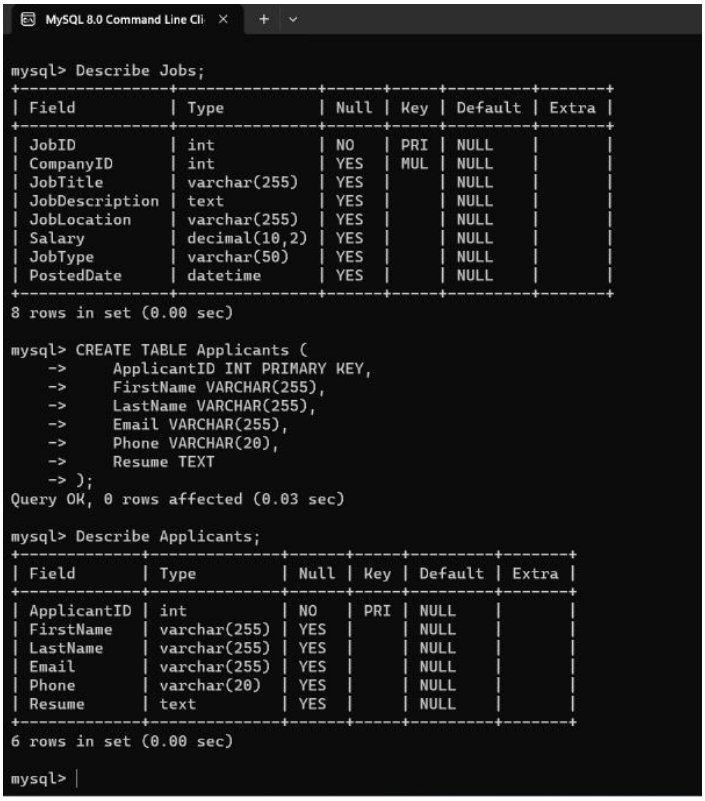
```
MySQL 8.0 Command Line Cli

mysql>
mysql> Describe Companies;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| CompanyID   | int          | NO   | PRI | NULL    |       |
| CompanyName | varchar(255) | YES  |     | NULL    |       |
| Location    | varchar(255) | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

   Jobs:



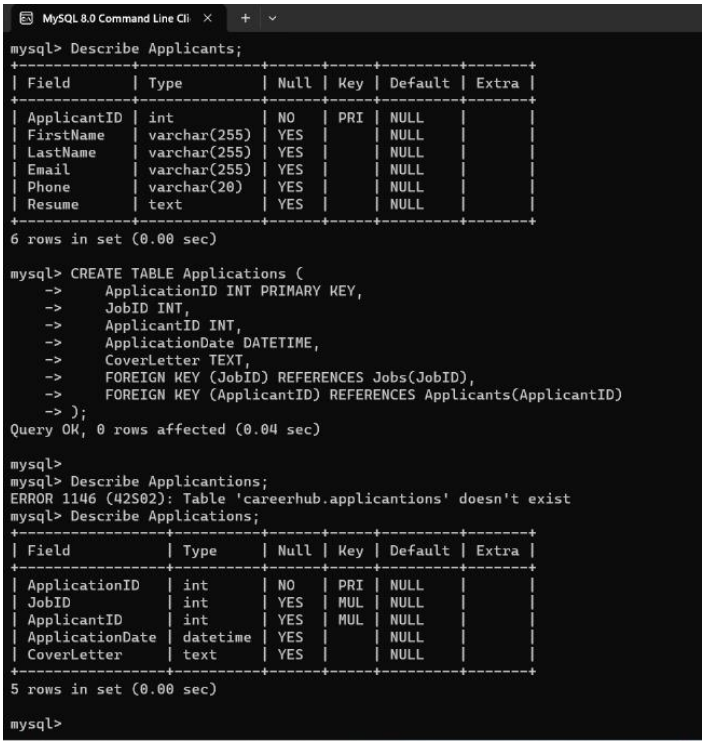
```
mysql> CREATE TABLE Jobs (
    ->     JobID INT PRIMARY KEY,
    ->     CompanyID INT,
    ->     JobTitle VARCHAR(255),
    ->     JobDescription TEXT,
    ->     JobLocation VARCHAR(255),
    ->     Salary DECIMAL(10, 2),
    ->     JobType VARCHAR(50),
    ->     PostedDate DATETIME,
    ->     FOREIGN KEY (CompanyID) REFERENCES Companies(CompanyID)
    -> );
Query OK, 0 rows affected (0.05 sec)

mysql> Describe Jobs;
+----------------+--------------+------+-----+---------+-------+
| Field          | Type         | Null | Key | Default | Extra |
+----------------+--------------+------+-----+---------+-------+
| JobID          | int          | NO   | PRI | NULL    |       |
| CompanyID      | int          | YES  | MUL | NULL    |       |
| JobTitle       | varchar(255) | YES  |     | NULL    |       |
| JobDescription | text         | YES  |     | NULL    |       |
| JobLocation    | varchar(255) | YES  |     | NULL    |       |
| Salary         | decimal(10,2)| YES  |     | NULL    |       |
| JobType        | varchar(50)  | YES  |     | NULL    |       |
| PostedDate     | datetime     | YES  |     | NULL    |       |
+----------------+--------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql>
```

Applicants:



```
MySQL 8.0 Command Line Cli

mysql> Describe Jobs;
+----------------+---------------+------+-----+---------+-------+
| Field          | Type          | Null | Key | Default | Extra |
+----------------+---------------+------+-----+---------+-------+
| JobID          | int           | NO   | PRI | NULL    |       |
| CompanyID      | int           | YES  | MUL | NULL    |       |
| JobTitle       | varchar(255)  | YES  |     | NULL    |       |
| JobDescription | text          | YES  |     | NULL    |       |
| JobLocation    | varchar(255)  | YES  |     | NULL    |       |
| Salary         | decimal(10,2) | YES  |     | NULL    |       |
| JobType        | varchar(50)   | YES  |     | NULL    |       |
| PostedDate     | datetime      | YES  |     | NULL    |       |
+----------------+---------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql> CREATE TABLE Applicants (
    ->     ApplicantID INT PRIMARY KEY,
    ->     FirstName VARCHAR(255),
    ->     LastName VARCHAR(255),
    ->     Email VARCHAR(255),
    ->     Phone VARCHAR(20),
    ->     Resume TEXT
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql> Describe Applicants;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ApplicantID | int          | NO   | PRI | NULL    |       |
| FirstName   | varchar(255) | YES  |     | NULL    |       |
| LastName    | varchar(255) | YES  |     | NULL    |       |
| Email       | varchar(255) | YES  |     | NULL    |       |
| Phone       | varchar(20)  | YES  |     | NULL    |       |
| Resume      | text         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql>
```

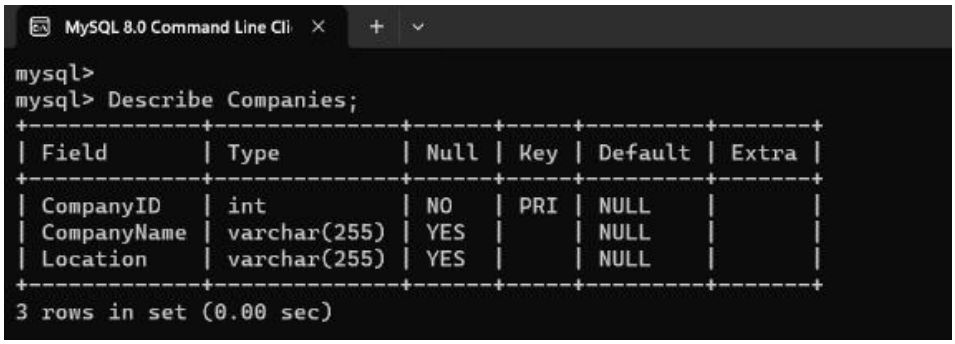
Applications:



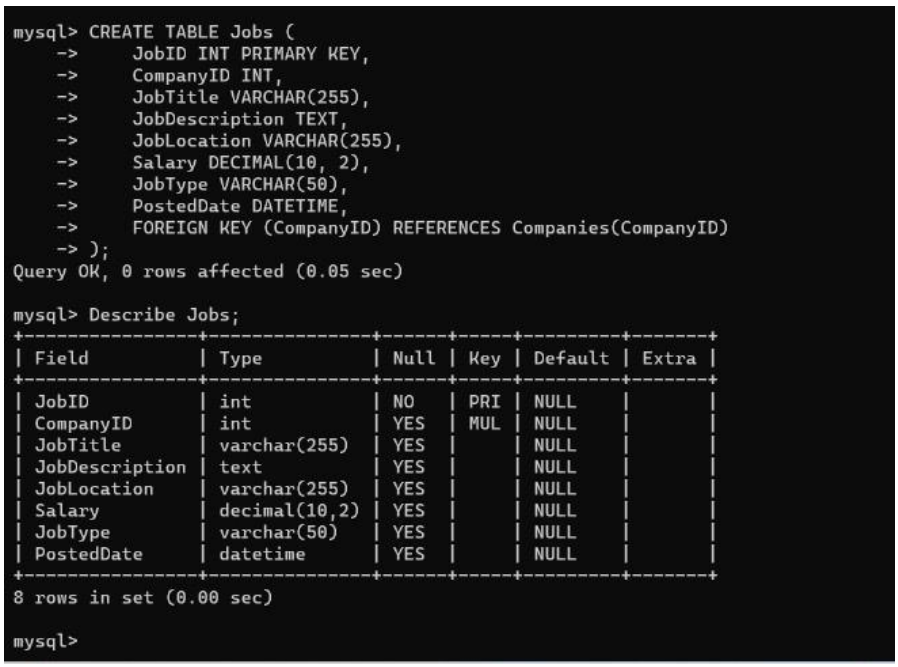
```
MySQL 8.0 Command Line Cli

mysql> Describe Applicants;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ApplicantID | int          | NO   | PRI | NULL    |       |
| FirstName   | varchar(255) | YES  |     | NULL    |       |
| LastName    | varchar(255) | YES  |     | NULL    |       |
| Email       | varchar(255) | YES  |     | NULL    |       |
| Phone       | varchar(20)  | YES  |     | NULL    |       |
| Resume      | text         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql> CREATE TABLE Applications (
    ->     ApplicationID INT PRIMARY KEY,
    ->     JobID INT,
    ->     ApplicantID INT,
    ->     ApplicationDate DATETIME,
    ->     CoverLetter TEXT,
    ->     FOREIGN KEY (JobID) REFERENCES Jobs(JobID),
    ->     FOREIGN KEY (ApplicantID) REFERENCES Applicants(ApplicantID)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> Describe Applicantions;
ERROR 1146 (42S02): Table 'careerhub.applicantions' doesn't exist
mysql> Describe Applications;
+-----------------+----------+------+-----+---------+-------+
| Field           | Type     | Null | Key | Default | Extra |
+-----------------+----------+------+-----+---------+-------+
| ApplicationID   | int      | NO   | PRI | NULL    |       |
| JobID           | int      | YES  | MUL | NULL    |       |
| ApplicantID     | int      | YES  | MUL | NULL    |       |
| ApplicationDate | datetime | YES  |     | NULL    |       |
| CoverLetter     | text     | YES  |     | NULL    |       |
+-----------------+----------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

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

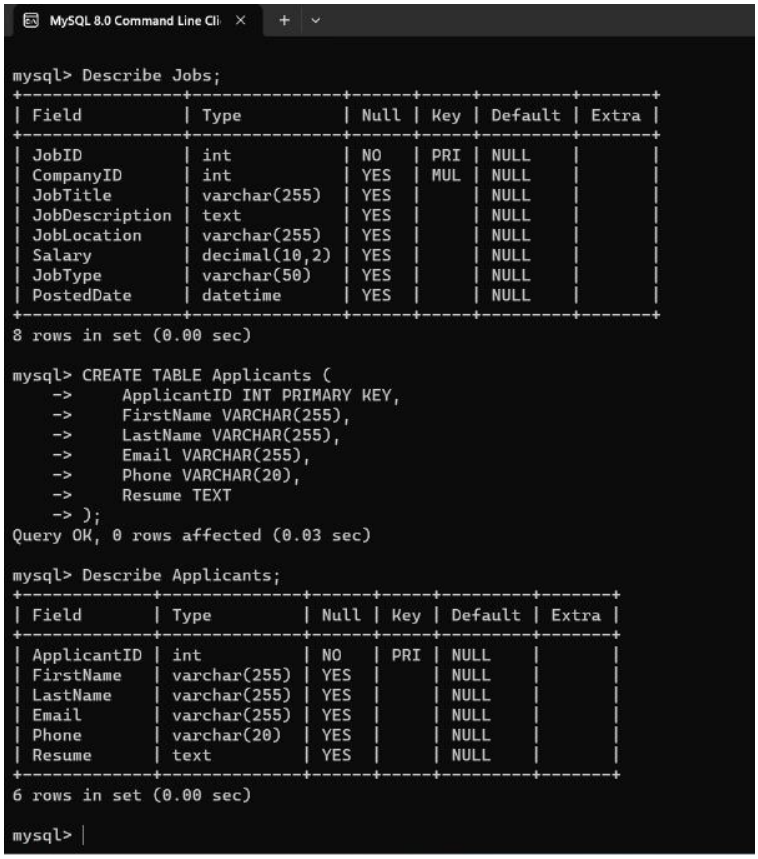
Companies:



Jobs:

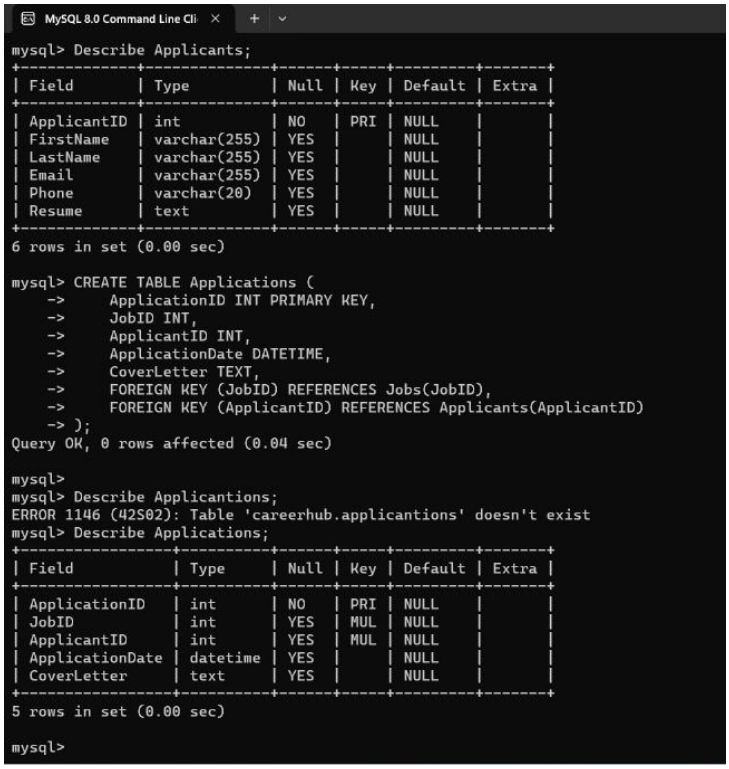


Applicants:



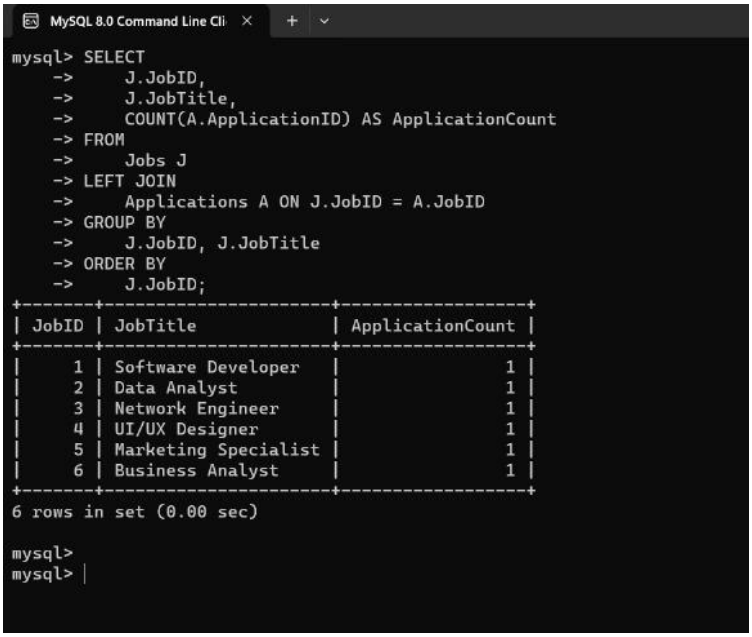
```
MySQL 8.0 Command Line Cli

mysql> Describe Jobs;
+-----------------+---------------+------+-----+---------+-------+
| Field           | Type          | Null | Key | Default | Extra |
+-----------------+---------------+------+-----+---------+-------+
| JobID           | int           | NO   | PRI | NULL    |       |
| CompanyID       | int           | YES  | MUL | NULL    |       |
| JobTitle        | varchar(255)  | YES  |     | NULL    |       |
| JobDescription  | text          | YES  |     | NULL    |       |
| JobLocation     | varchar(255)  | YES  |     | NULL    |       |
| Salary          | decimal(10,2) | YES  |     | NULL    |       |
| JobType         | varchar(50)   | YES  |     | NULL    |       |
| PostedDate      | datetime      | YES  |     | NULL    |       |
+-----------------+---------------+------+-----+---------+-------+
8 rows in set (0.00 sec)

mysql> CREATE TABLE Applicants (
    ->     ApplicantID INT PRIMARY KEY,
    ->     FirstName VARCHAR(255),
    ->     LastName VARCHAR(255),
    ->     Email VARCHAR(255),
    ->     Phone VARCHAR(20),
    ->     Resume TEXT
    -> );
Query OK, 0 rows affected (0.03 sec)

mysql> Describe Applicants;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ApplicantID | int          | NO   | PRI | NULL    |       |
| FirstName   | varchar(255) | YES  |     | NULL    |       |
| LastName    | varchar(255) | YES  |     | NULL    |       |
| Email       | varchar(255) | YES  |     | NULL    |       |
| Phone       | varchar(20)  | YES  |     | NULL    |       |
| Resume      | text         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql>
```

Applications:



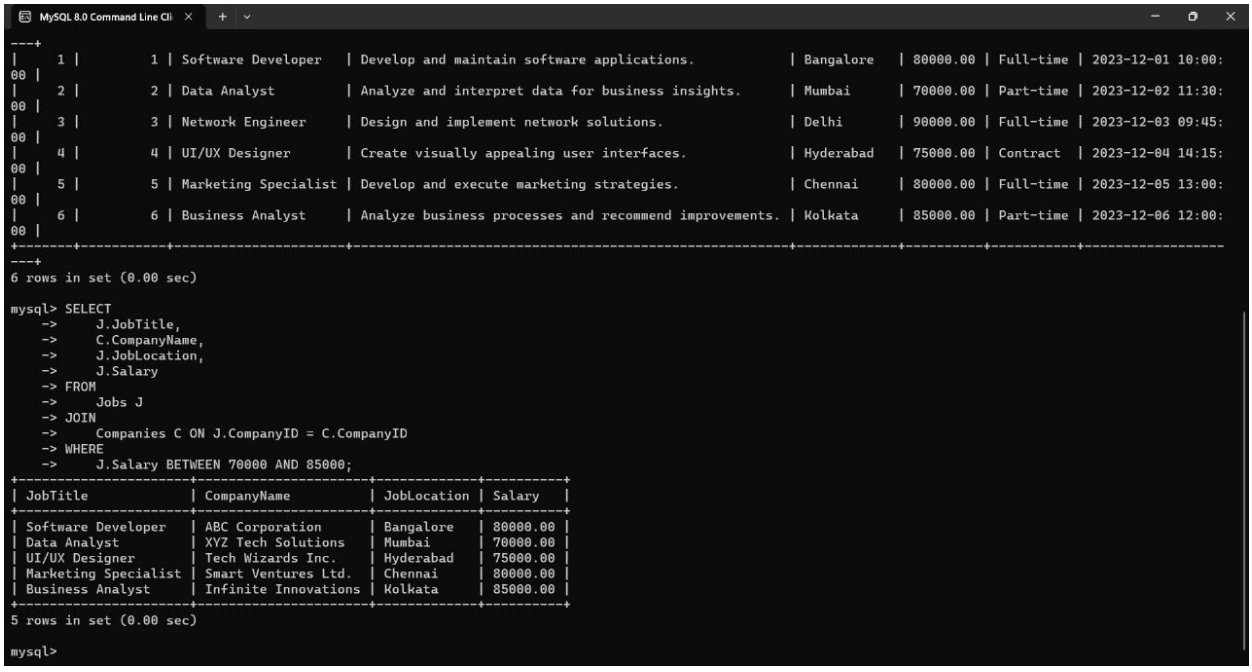
```
MySQL 8.0 Command Line Cli

mysql> Describe Applicants;
+-------------+--------------+------+-----+---------+-------+
| Field       | Type         | Null | Key | Default | Extra |
+-------------+--------------+------+-----+---------+-------+
| ApplicantID | int          | NO   | PRI | NULL    |       |
| FirstName   | varchar(255) | YES  |     | NULL    |       |
| LastName    | varchar(255) | YES  |     | NULL    |       |
| Email       | varchar(255) | YES  |     | NULL    |       |
| Phone       | varchar(20)  | YES  |     | NULL    |       |
| Resume      | text         | YES  |     | NULL    |       |
+-------------+--------------+------+-----+---------+-------+
6 rows in set (0.00 sec)

mysql> CREATE TABLE Applications (
    ->     ApplicationID INT PRIMARY KEY,
    ->     JobID INT,
    ->     ApplicantID INT,
    ->     ApplicationDate DATETIME,
    ->     CoverLetter TEXT,
    ->     FOREIGN KEY (JobID) REFERENCES Jobs(JobID),
    ->     FOREIGN KEY (ApplicantID) REFERENCES Applicants(ApplicantID)
    -> );
Query OK, 0 rows affected (0.04 sec)

mysql>
mysql> Describe Applicantions;
ERROR 1146 (42S02): Table 'careerhub.applicantions' doesn't exist
mysql> Describe Applications;
+-----------------+----------+------+-----+---------+-------+
| Field           | Type     | Null | Key | Default | Extra |
+-----------------+----------+------+-----+---------+-------+
| ApplicationID   | int      | NO   | PRI | NULL    |       |
| JobID           | int      | YES  | MUL | NULL    |       |
| ApplicantID     | int      | YES  | MUL | NULL    |       |
| ApplicationDate | datetime | YES  |     | NULL    |       |
| CoverLetter     | text     | YES  |     | NULL    |       |
+-----------------+----------+------+-----+---------+-------+
5 rows in set (0.00 sec)

mysql>
```

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.



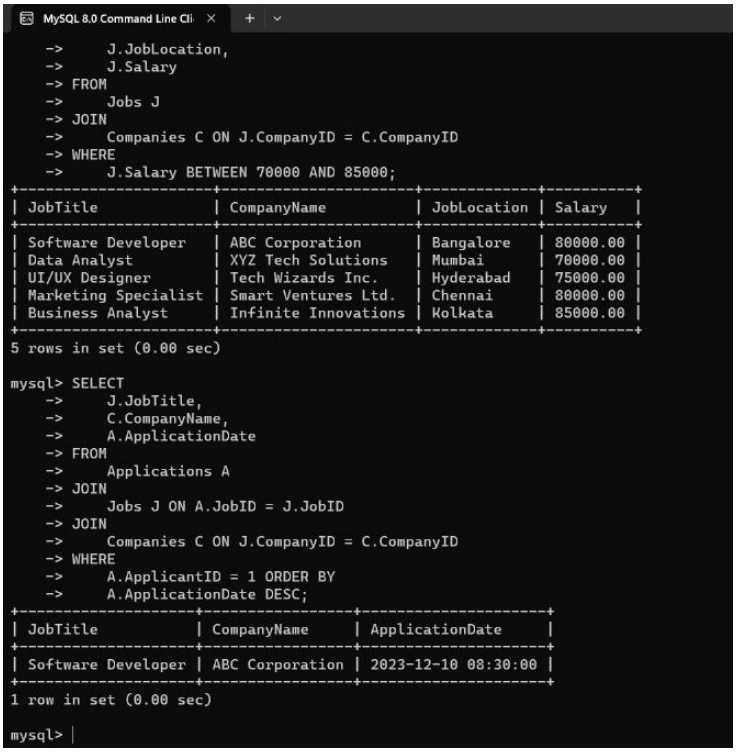
```
MySQL 8.0 Command Line Cli

mysql> SELECT
    ->     J.JobID,
    ->     J.JobTitle,
    ->     COUNT(A.ApplicationID) AS ApplicationCount
    -> FROM
    ->     Jobs J
    -> LEFT JOIN
    ->     Applications A ON J.JobID = A.JobID
    -> GROUP BY
    ->     J.JobID, J.JobTitle
    -> ORDER BY
    ->     J.JobID;
+-------+----------------------+------------------+
| JobID | JobTitle             | ApplicationCount |
+-------+----------------------+------------------+
|     1 | Software Developer   |                1 |
|     2 | Data Analyst         |                1 |
|     3 | Network Engineer     |                1 |
|     4 | UI/UX Designer       |                1 |
|     5 | Marketing Specialist |                1 |
|     6 | Business Analyst     |                1 |
+-------+----------------------+------------------+
6 rows in set (0.00 sec)

mysql>
mysql>
```

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.



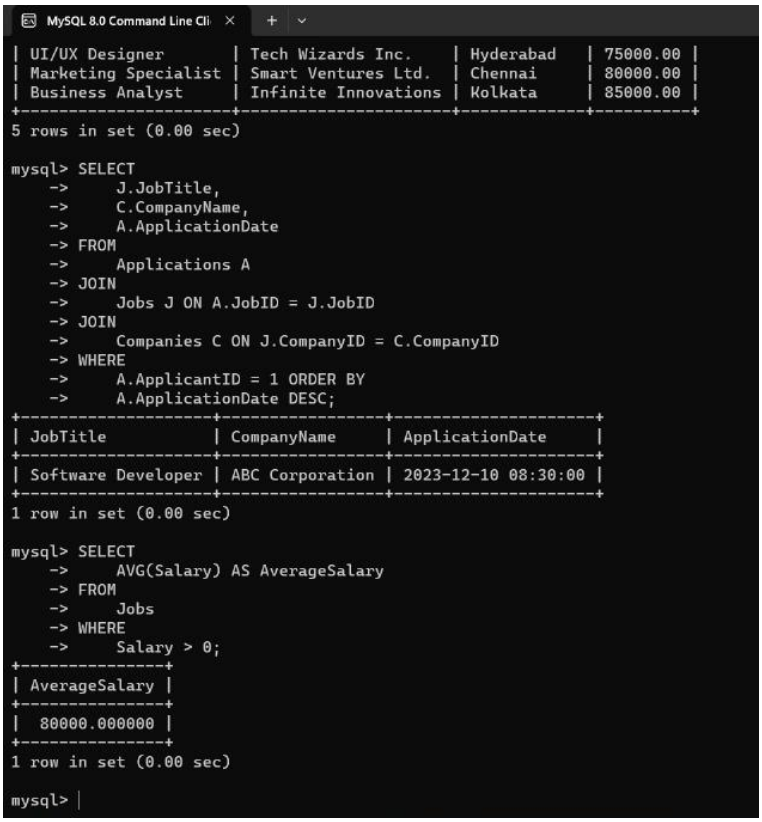
```
MySQL 8.0 Command Line Cli

---+
|     1 |         1 | Software Developer   | Develop and maintain software applications.           | Bangalore   | 80000.00 | Full-time | 2023-12-01 10:00:
00 |
|     2 |         2 | Data Analyst         | Analyze and interpret data for business insights.     | Mumbai      | 70000.00 | Part-time | 2023-12-02 11:30:
00 |
|     3 |         3 | Network Engineer     | Design and implement network solutions.               | Delhi       | 90000.00 | Full-time | 2023-12-03 09:45:
00 |
|     4 |         4 | UI/UX Designer       | Create visually appealing user interfaces.            | Hyderabad   | 75000.00 | Contract  | 2023-12-04 14:15:
00 |
|     5 |         5 | Marketing Specialist | Develop and execute marketing strategies.             | Chennai     | 80000.00 | Full-time | 2023-12-05 13:00:
00 |
|     6 |         6 | Business Analyst     | Analyze business processes and recommend improvements. | Kolkata     | 85000.00 | Part-time | 2023-12-06 12:00:
00 |
+-------+-----------+----------------------+-------------------------------------------------------+-------------+----------+-----------+-----------------
---+
6 rows in set (0.00 sec)

mysql> SELECT
    ->     J.JobTitle,
    ->     C.CompanyName,
    ->     J.JobLocation,
    ->     J.Salary
    -> FROM
    ->     Jobs J
    -> JOIN
    ->     Companies C ON J.CompanyID = C.CompanyID
    -> WHERE
    ->     J.Salary BETWEEN 70000 AND 85000;
+----------------------+----------------------+-------------+----------+
| JobTitle             | CompanyName          | JobLocation | Salary   |
+----------------------+----------------------+-------------+----------+
| Software Developer   | ABC Corporation      | Bangalore   | 80000.00 |
| Data Analyst         | XYZ Tech Solutions   | Mumbai      | 70000.00 |
| UI/UX Designer       | Tech Wizards Inc.    | Hyderabad   | 75000.00 |
| Marketing Specialist | Smart Ventures Ltd.  | Chennai     | 80000.00 |
| Business Analyst     | Infinite Innovations | Kolkata     | 85000.00 |
+----------------------+----------------------+-------------+----------+
5 rows in set (0.00 sec)

mysql>
```

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.



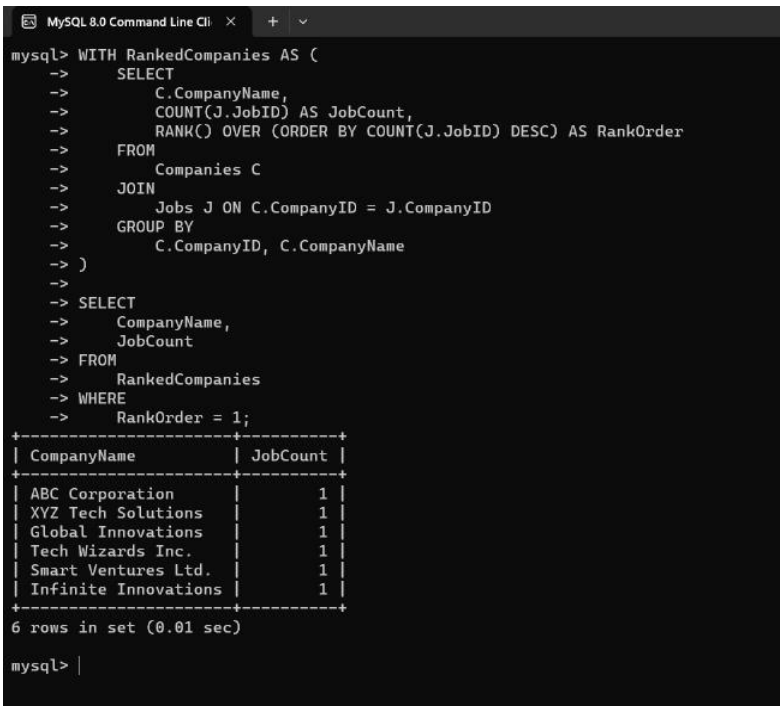
```
MySQL 8.0 Command Line Cli
    ->     J.JobLocation,
    ->     J.Salary
    -> FROM
    ->     Jobs J
    -> JOIN
    ->     Companies C ON J.CompanyID = C.CompanyID
    -> WHERE
    ->     J.Salary BETWEEN 70000 AND 85000;
+----------------------+----------------------+-------------+----------+
| JobTitle             | CompanyName          | JobLocation | Salary   |
+----------------------+----------------------+-------------+----------+
| Software Developer   | ABC Corporation      | Bangalore   | 80000.00 |
| Data Analyst         | XYZ Tech Solutions   | Mumbai      | 70000.00 |
| UI/UX Designer       | Tech Wizards Inc.    | Hyderabad   | 75000.00 |
| Marketing Specialist | Smart Ventures Ltd.  | Chennai     | 80000.00 |
| Business Analyst     | Infinite Innovations | Kolkata     | 85000.00 |
+----------------------+----------------------+-------------+----------+
5 rows in set (0.00 sec)

mysql> SELECT
    ->     J.JobTitle,
    ->     C.CompanyName,
    ->     A.ApplicationDate
    -> FROM
    ->     Applications A
    -> JOIN
    ->     Jobs J ON A.JobID = J.JobID
    -> JOIN
    ->     Companies C ON J.CompanyID = C.CompanyID
    -> WHERE
    ->     A.ApplicantID = 1 ORDER BY
    ->     A.ApplicationDate DESC;
+--------------------+-----------------+---------------------+
| JobTitle           | CompanyName     | ApplicationDate     |
+--------------------+-----------------+---------------------+
| Software Developer | ABC Corporation | 2023-12-10 08:30:00 |
+--------------------+-----------------+---------------------+
1 row in set (0.00 sec)

mysql>
```

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.



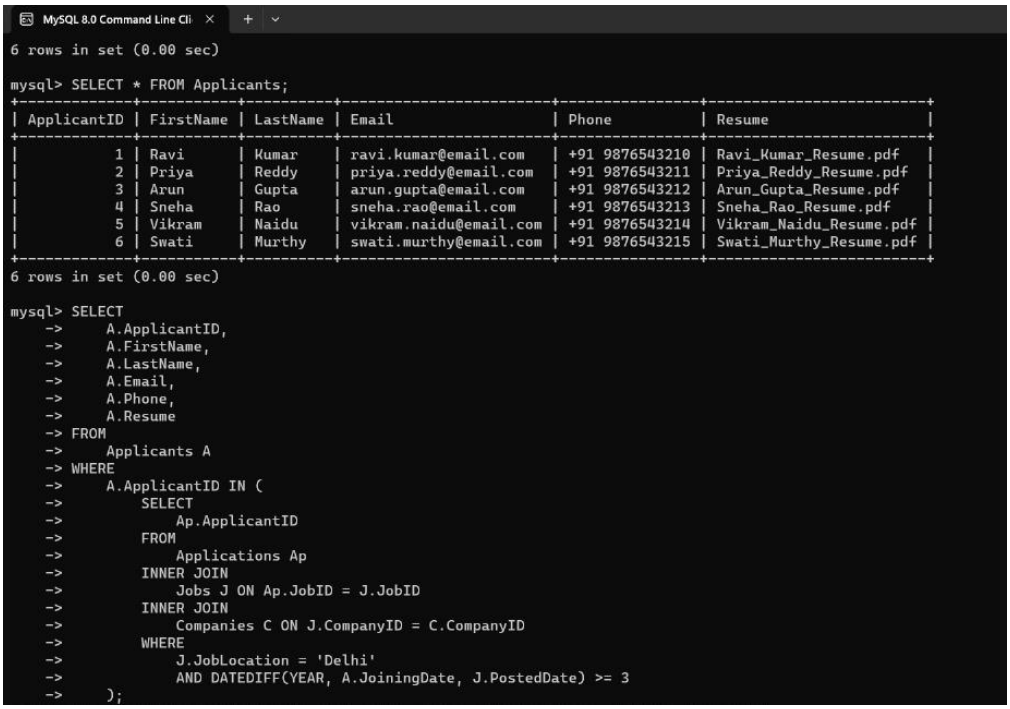
```
MySQL 8.0 Command Line Cli
| UI/UX Designer       | Tech Wizards Inc.    | Hyderabad   | 75000.00 |
| Marketing Specialist | Smart Ventures Ltd.  | Chennai     | 80000.00 |
| Business Analyst     | Infinite Innovations | Kolkata     | 85000.00 |
+----------------------+----------------------+-------------+----------+
5 rows in set (0.00 sec)

mysql> SELECT
    ->     J.JobTitle,
    ->     C.CompanyName,
    ->     A.ApplicationDate
    -> FROM
    ->     Applications A
    -> JOIN
    ->     Jobs J ON A.JobID = J.JobID
    -> JOIN
    ->     Companies C ON J.CompanyID = C.CompanyID
    -> WHERE
    ->     A.ApplicantID = 1 ORDER BY
    ->     A.ApplicationDate DESC;
+--------------------+-----------------+---------------------+
| JobTitle           | CompanyName     | ApplicationDate     |
+--------------------+-----------------+---------------------+
| Software Developer | ABC Corporation | 2023-12-10 08:30:00 |
+--------------------+-----------------+---------------------+
1 row in set (0.00 sec)

mysql> SELECT
    ->     AVG(Salary) AS AverageSalary
    -> FROM
    ->     Jobs
    -> WHERE
    ->     Salary > 0;
+---------------+
| AverageSalary |
+---------------+
|  80000.000000 |
+---------------+
1 row in set (0.00 sec)

mysql>
```

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.



```
MySQL 8.0 Command Line Cli

mysql> WITH RankedCompanies AS (
    ->     SELECT
    ->         C.CompanyName,
    ->         COUNT(J.JobID) AS JobCount,
    ->         RANK() OVER (ORDER BY COUNT(J.JobID) DESC) AS RankOrder
    ->     FROM
    ->         Companies C
    ->     JOIN
    ->         Jobs J ON C.CompanyID = J.CompanyID
    ->     GROUP BY
    ->         C.CompanyID, C.CompanyName
    -> )
    ->
    -> SELECT
    ->     CompanyName,
    ->     JobCount
    -> FROM
    ->     RankedCompanies
    -> WHERE
    ->     RankOrder = 1;
+----------------------+----------+
| CompanyName          | JobCount |
+----------------------+----------+
| ABC Corporation      |        1 |
| XYZ Tech Solutions   |        1 |
| Global Innovations   |        1 |
| Tech Wizards Inc.    |        1 |
| Smart Ventures Ltd.  |        1 |
| Infinite Innovations |        1 |
+----------------------+----------+
6 rows in set (0.01 sec)

mysql>
```

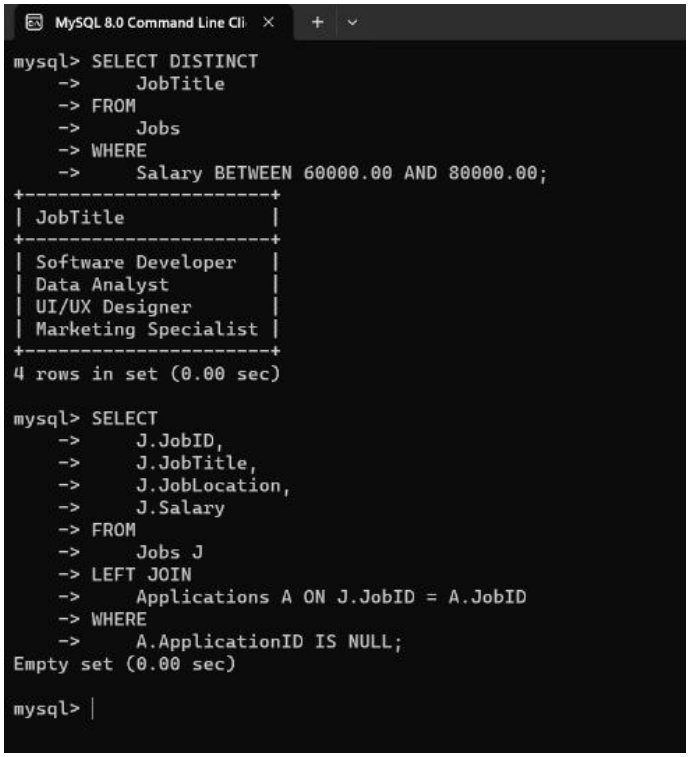
10. Find the applicants who have applied for positions in companies located in 'CityX' and have at least 3 years of experience.



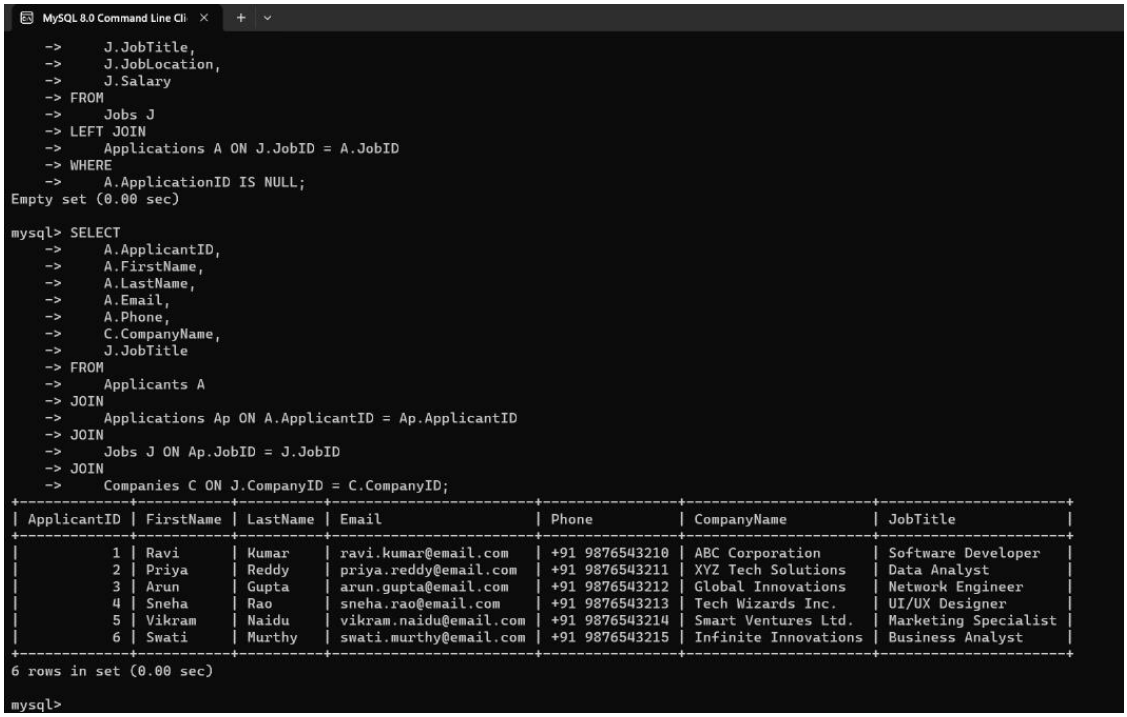
```
MySQL 8.0 Command Line Cli

6 rows in set (0.00 sec)

mysql> SELECT * FROM Applicants;
+-------------+-----------+----------+-----------------------+---------------+-------------------------+
| ApplicantID | FirstName | LastName | Email                 | Phone         | Resume                  |
+-------------+-----------+----------+-----------------------+---------------+-------------------------+
|           1 | Ravi      | Kumar    | ravi.kumar@email.com  | +91 9876543210 | Ravi_Kumar_Resume.pdf  |
|           2 | Priya     | Reddy    | priya.reddy@email.com | +91 9876543211 | Priya_Reddy_Resume.pdf |
|           3 | Arun      | Gupta    | arun.gupta@email.com  | +91 9876543212 | Arun_Gupta_Resume.pdf  |
|           4 | Sneha     | Rao      | sneha.rao@email.com   | +91 9876543213 | Sneha_Rao_Resume.pdf   |
|           5 | Vikram    | Naidu    | vikram.naidu@email.com | +91 9876543214 | Vikram_Naidu_Resume.pdf |
|           6 | Swati     | Murthy   | swati.murthy@email.com | +91 9876543215 | Swati_Murthy_Resume.pdf |
+-------------+-----------+----------+-----------------------+---------------+-------------------------+
6 rows in set (0.00 sec)

mysql> SELECT
    ->     A.ApplicantID,
    ->     A.FirstName,
    ->     A.LastName,
    ->     A.Email,
    ->     A.Phone,
    ->     A.Resume
    -> FROM
    ->     Applicants A
    -> WHERE
    ->     A.ApplicantID IN (
    ->         SELECT
    ->             Ap.ApplicantID
    ->         FROM
    ->             Applications Ap
    ->         INNER JOIN
    ->             Jobs J ON Ap.JobID = J.JobID
    ->         INNER JOIN
    ->             Companies C ON J.CompanyID = C.CompanyID
    ->         WHERE
    ->             J.JobLocation = 'Delhi'
    ->             AND DATEDIFF(YEAR, A.JoiningDate, J.PostedDate) >= 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.

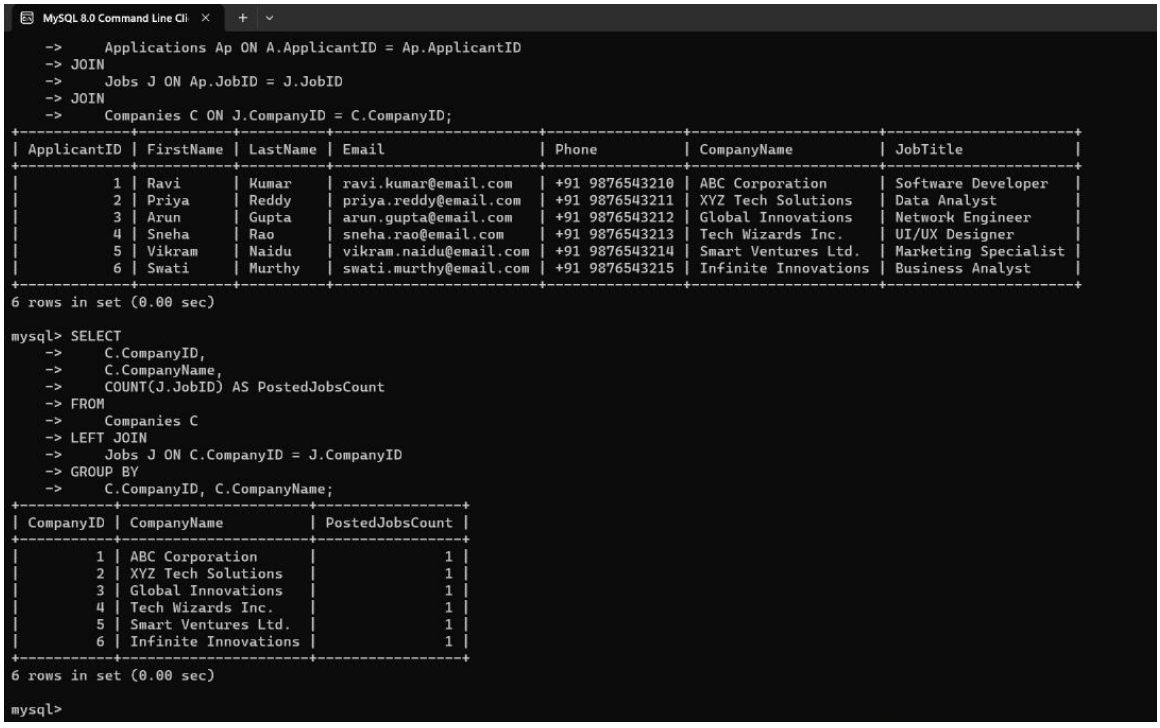


13. Retrieve a list of job applicants along with the companies they have applied to and the positions they have applied for.



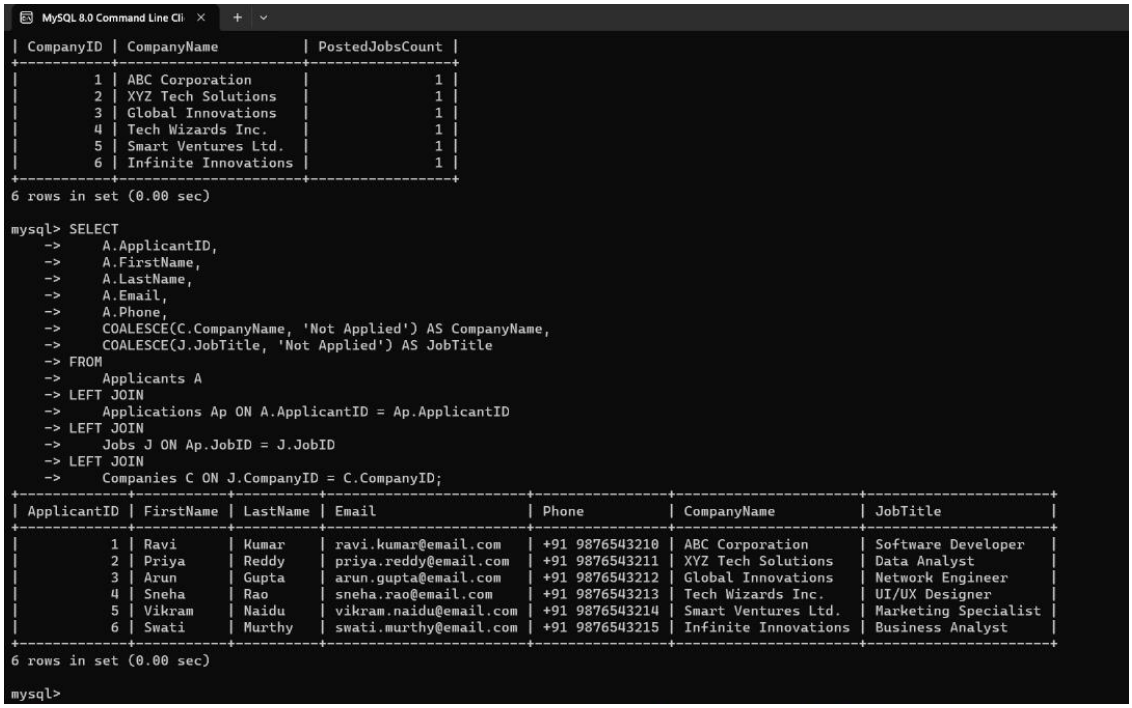
```
MySQL 8.0 Command Line Cli
    ->     J.JobTitle,
    ->     J.JobLocation,
    ->     J.Salary
    -> FROM
    ->     Jobs J
    -> LEFT JOIN
    ->     Applications A ON J.JobID = A.JobID
    -> WHERE
    ->     A.ApplicationID IS NULL;
Empty set (0.00 sec)

mysql> SELECT
    ->     A.ApplicantID,
    ->     A.FirstName,
    ->     A.LastName,
    ->     A.Email,
    ->     A.Phone,
    ->     C.CompanyName,
    ->     J.JobTitle
    -> FROM
    ->     Applicants A
    -> JOIN
    ->     Applications Ap ON A.ApplicantID = Ap.ApplicantID
    -> JOIN
    ->     Jobs J ON Ap.JobID = J.JobID
    -> JOIN
    ->     Companies C ON J.CompanyID = C.CompanyID;
+-------------+-----------+----------+-----------------------+---------------+---------------------+----------------------+
| ApplicantID | FirstName | LastName | Email                 | Phone         | CompanyName         | JobTitle             |
+-------------+-----------+----------+-----------------------+---------------+---------------------+----------------------+
|           1 | Ravi      | Kumar    | ravi.kumar@email.com  | +91 9876543210 | ABC Corporation     | Software Developer   |
|           2 | Priya     | Reddy    | priya.reddy@email.com | +91 9876543211 | XYZ Tech Solutions  | Data Analyst         |
|           3 | Arun      | Gupta    | arun.gupta@email.com  | +91 9876543212 | Global Innovations  | Network Engineer     |
|           4 | Sneha     | Rao      | sneha.rao@email.com   | +91 9876543213 | Tech Wizards Inc.   | UI/UX Designer       |
|           5 | Vikram    | Naidu    | vikram.naidu@email.com | +91 9876543214 | Smart Ventures Ltd. | Marketing Specialist |
|           6 | Swati     | Murthy   | swati.murthy@email.com | +91 9876543215 | Infinite Innovations | Business Analyst     |
+-------------+-----------+----------+-----------------------+---------------+---------------------+----------------------+
6 rows in set (0.00 sec)

mysql>
```

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



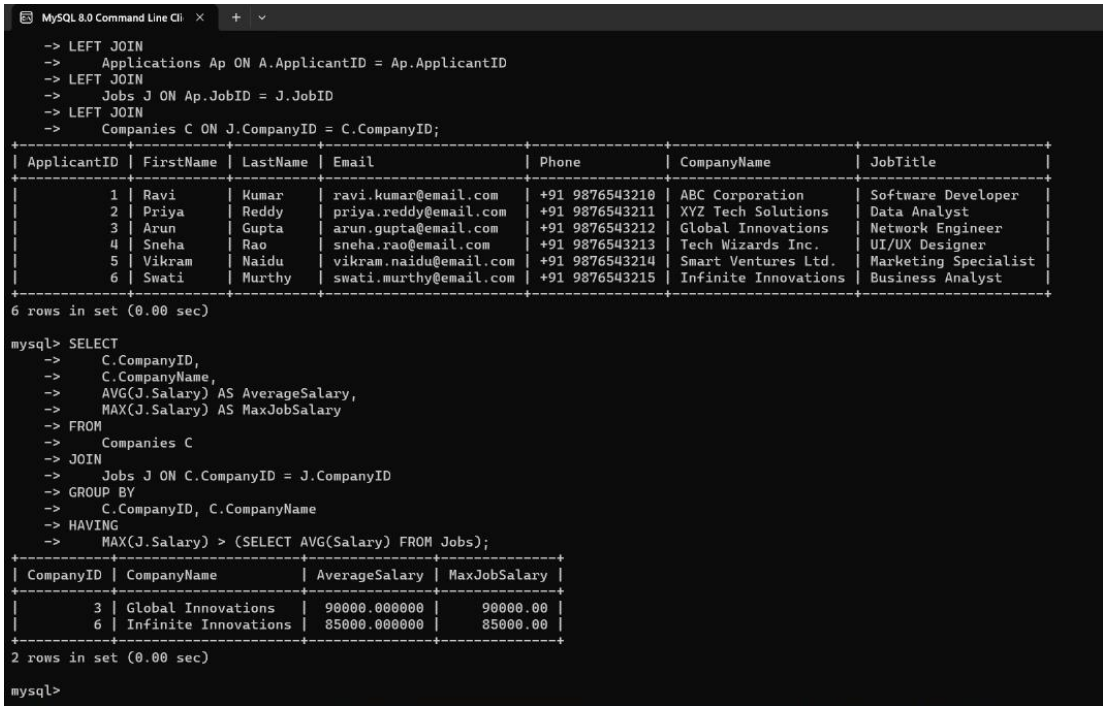
```
MySQL 8.0 Command Line Cli
    ->     Applications Ap ON A.ApplicantID = Ap.ApplicantID
    -> JOIN
    ->     Jobs J ON Ap.JobID = J.JobID
    -> JOIN
    ->     Companies C ON J.CompanyID = C.CompanyID;
+-------------+-----------+----------+-----------------------+---------------+---------------------+----------------------+
| ApplicantID | FirstName | LastName | Email                 | Phone         | CompanyName         | JobTitle             |
+-------------+-----------+----------+-----------------------+---------------+---------------------+----------------------+
|           1 | Ravi      | Kumar    | ravi.kumar@email.com  | +91 9876543210 | ABC Corporation     | Software Developer   |
|           2 | Priya     | Reddy    | priya.reddy@email.com | +91 9876543211 | XYZ Tech Solutions  | Data Analyst         |
|           3 | Arun      | Gupta    | arun.gupta@email.com  | +91 9876543212 | Global Innovations  | Network Engineer     |
|           4 | Sneha     | Rao      | sneha.rao@email.com   | +91 9876543213 | Tech Wizards Inc.   | UI/UX Designer       |
|           5 | Vikram    | Naidu    | vikram.naidu@email.com | +91 9876543214 | Smart Ventures Ltd. | Marketing Specialist |
|           6 | Swati     | Murthy   | swati.murthy@email.com | +91 9876543215 | Infinite Innovations | Business Analyst     |
+-------------+-----------+----------+-----------------------+---------------+---------------------+----------------------+
6 rows in set (0.00 sec)

mysql> SELECT
    ->     C.CompanyID,
    ->     C.CompanyName,
    ->     COUNT(J.JobID) AS PostedJobsCount
    -> FROM
    ->     Companies C
    -> LEFT JOIN
    ->     Jobs J ON C.CompanyID = J.CompanyID
    -> GROUP BY
    ->     C.CompanyID, C.CompanyName;
+-----------+---------------------+-----------------+
| CompanyID | CompanyName         | PostedJobsCount |
+-----------+---------------------+-----------------+
|         1 | ABC Corporation     |               1 |
|         2 | XYZ Tech Solutions  |               1 |
|         3 | Global Innovations  |               1 |
|         4 | Tech Wizards Inc.   |               1 |
|         5 | Smart Ventures Ltd. |               1 |
|         6 | Infinite Innovations |               1 |
+-----------+---------------------+-----------------+
6 rows in set (0.00 sec)

mysql>
```

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



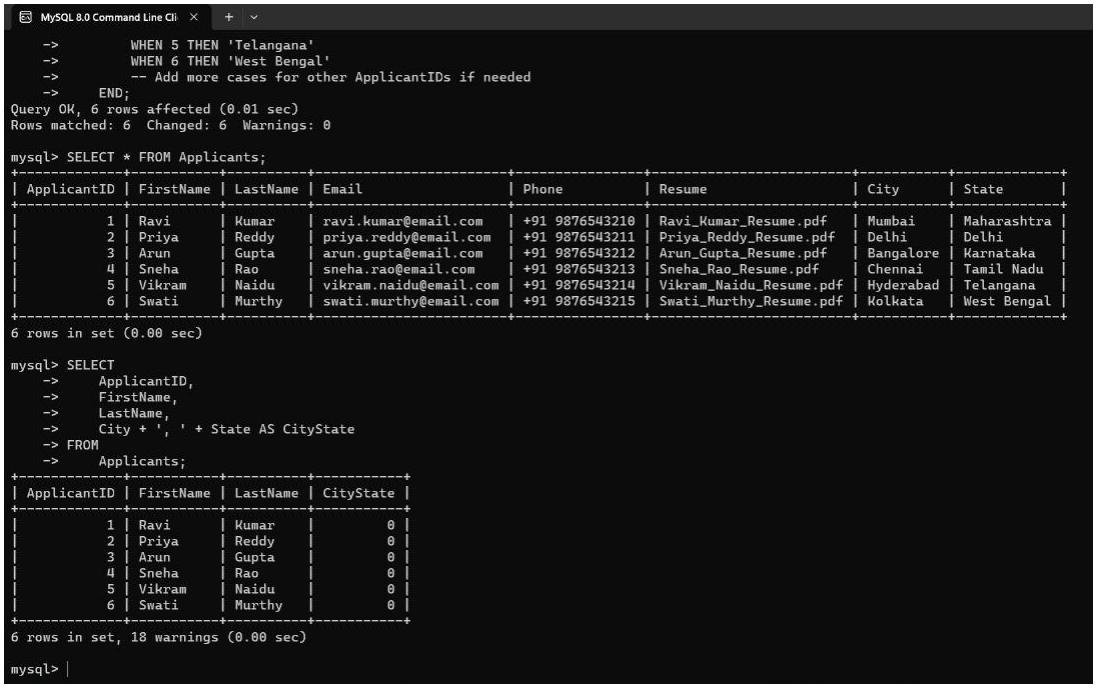
```
MySQL 8.0 Command Line Cli

| CompanyID | CompanyName          | PostedJobsCount |
+-----------+----------------------+-----------------+
|         1 | ABC Corporation      |               1 |
|         2 | XYZ Tech Solutions   |               1 |
|         3 | Global Innovations   |               1 |
|         4 | Tech Wizards Inc.    |               1 |
|         5 | Smart Ventures Ltd.  |               1 |
|         6 | Infinite Innovations |               1 |
+-----------+----------------------+-----------------+
6 rows in set (0.00 sec)

mysql> SELECT
    ->     A.ApplicantID,
    ->     A.FirstName,
    ->     A.LastName,
    ->     A.Email,
    ->     A.Phone,
    ->     COALESCE(C.CompanyName, 'Not Applied') AS CompanyName,
    ->     COALESCE(J.JobTitle, 'Not Applied') AS JobTitle
    -> FROM
    ->     Applicants A
    -> LEFT JOIN
    ->     Applications Ap ON A.ApplicantID = Ap.ApplicantID
    -> LEFT JOIN
    ->     Jobs J ON Ap.JobID = J.JobID
    -> LEFT JOIN
    ->     Companies C ON J.CompanyID = C.CompanyID;
+-------------+-----------+----------+-----------------------+----------------+----------------------+----------------------+
| ApplicantID | FirstName | LastName | Email                 | Phone          | CompanyName          | JobTitle             |
+-------------+-----------+----------+-----------------------+----------------+----------------------+----------------------+
|           1 | Ravi      | Kumar    | ravi.kumar@email.com  | +91 9876543210 | ABC Corporation      | Software Developer   |
|           2 | Priya     | Reddy    | priya.reddy@email.com | +91 9876543211 | XYZ Tech Solutions   | Data Analyst         |
|           3 | Arun      | Gupta    | arun.gupta@email.com  | +91 9876543212 | Global Innovations   | Network Engineer     |
|           4 | Sneha     | Rao      | sneha.rao@email.com   | +91 9876543213 | Tech Wizards Inc.    | UI/UX Designer       |
|           5 | Vikram    | Naidu    | vikram.naidu@email.com| +91 9876543214 | Smart Ventures Ltd.  | Marketing Specialist |
|           6 | Swati     | Murthy   | swati.murthy@email.com| +91 9876543215 | Infinite Innovations | Business Analyst     |
+-------------+-----------+----------+-----------------------+----------------+----------------------+----------------------+
6 rows in set (0.00 sec)

mysql>
```

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



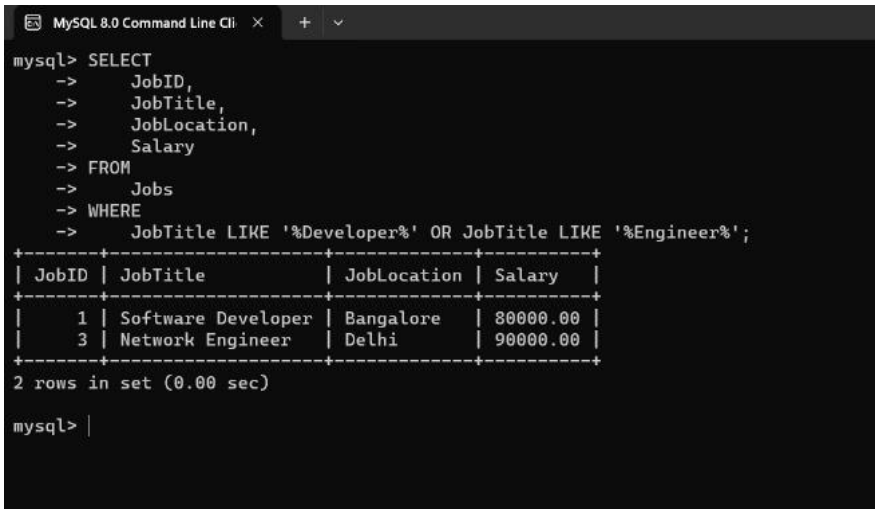
```
MySQL 8.0 Command Line Cli

    -> LEFT JOIN
    ->     Applications Ap ON A.ApplicantID = Ap.ApplicantID
    -> LEFT JOIN
    ->     Jobs J ON Ap.JobID = J.JobID
    -> LEFT JOIN
    ->     Companies C ON J.CompanyID = C.CompanyID;
+-------------+-----------+----------+-----------------------+----------------+----------------------+----------------------+
| ApplicantID | FirstName | LastName | Email                 | Phone          | CompanyName          | JobTitle             |
+-------------+-----------+----------+-----------------------+----------------+----------------------+----------------------+
|           1 | Ravi      | Kumar    | ravi.kumar@email.com  | +91 9876543210 | ABC Corporation      | Software Developer   |
|           2 | Priya     | Reddy    | priya.reddy@email.com | +91 9876543211 | XYZ Tech Solutions   | Data Analyst         |
|           3 | Arun      | Gupta    | arun.gupta@email.com  | +91 9876543212 | Global Innovations   | Network Engineer     |
|           4 | Sneha     | Rao      | sneha.rao@email.com   | +91 9876543213 | Tech Wizards Inc.    | UI/UX Designer       |
|           5 | Vikram    | Naidu    | vikram.naidu@email.com| +91 9876543214 | Smart Ventures Ltd.  | Marketing Specialist |
|           6 | Swati     | Murthy   | swati.murthy@email.com| +91 9876543215 | Infinite Innovations | Business Analyst     |
+-------------+-----------+----------+-----------------------+----------------+----------------------+----------------------+
6 rows in set (0.00 sec)

mysql> SELECT
    ->     C.CompanyID,
    ->     C.CompanyName,
    ->     AVG(J.Salary) AS AverageSalary,
    ->     MAX(J.Salary) AS MaxJobSalary
    -> FROM
    ->     Companies C
    -> JOIN
    ->     Jobs J ON C.CompanyID = J.CompanyID
    -> GROUP BY
    ->     C.CompanyID, C.CompanyName
    -> HAVING
    ->     MAX(J.Salary) > (SELECT AVG(Salary) FROM Jobs);
+-----------+----------------------+---------------+--------------+
| CompanyID | CompanyName          | AverageSalary | MaxJobSalary |
+-----------+----------------------+---------------+--------------+
|         3 | Global Innovations   |  90000.000000 |     90000.00 |
|         6 | Infinite Innovations |  85000.000000 |     85000.00 |
+-----------+----------------------+---------------+--------------+
2 rows in set (0.00 sec)

mysql>
```

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



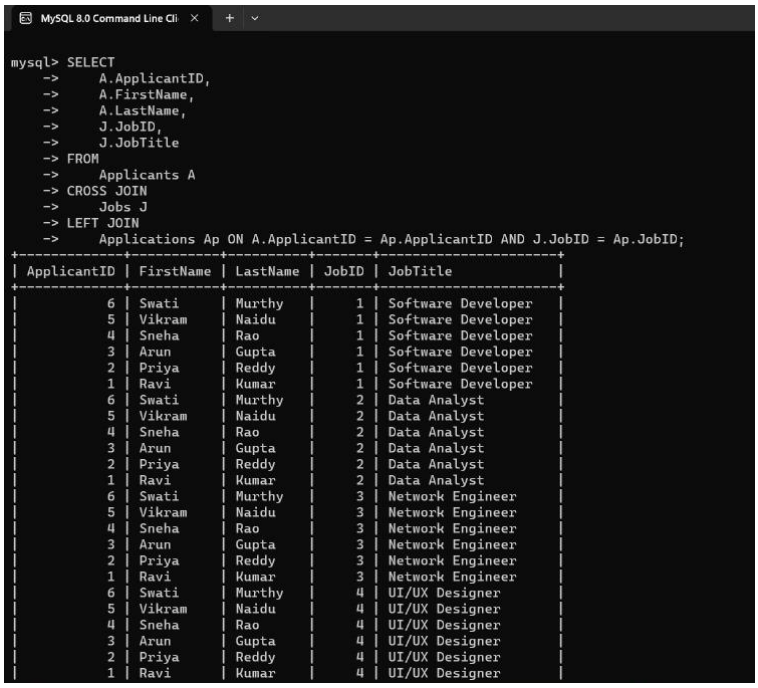
```
MySQL 8.0 Command Line Cli
    ->         WHEN 5 THEN 'Telangana'
    ->         WHEN 6 THEN 'West Bengal'
    ->         -- Add more cases for other ApplicantIDs if needed
    ->     END;
Query OK, 6 rows affected (0.01 sec)
Rows matched: 6  Changed: 6  Warnings: 0

mysql> SELECT * FROM Applicants;
+-------------+-----------+----------+-----------------------+----------------+-------------------------+-----------+-------------+
| ApplicantID | FirstName | LastName | Email                 | Phone          | Resume                  | City      | State       |
+-------------+-----------+----------+-----------------------+----------------+-------------------------+-----------+-------------+
|           1 | Ravi      | Kumar    | ravi.kumar@email.com  | +91 9876543210 | Ravi_Kumar_Resume.pdf   | Mumbai    | Maharashtra |
|           2 | Priya     | Reddy    | priya.reddy@email.com | +91 9876543211 | Priya_Reddy_Resume.pdf  | Delhi     | Delhi       |
|           3 | Arun      | Gupta    | arun.gupta@email.com  | +91 9876543212 | Arun_Gupta_Resume.pdf   | Bangalore | Karnataka   |
|           4 | Sneha     | Rao      | sneha.rao@email.com   | +91 9876543213 | Sneha_Rao_Resume.pdf    | Chennai   | Tamil Nadu  |
|           5 | Vikram    | Naidu    | vikram.naidu@email.com| +91 9876543214 | Vikram_Naidu_Resume.pdf | Hyderabad | Telangana   |
|           6 | Swati     | Murthy   | swati.murthy@email.com| +91 9876543215 | Swati_Murthy_Resume.pdf | Kolkata   | West Bengal |
+-------------+-----------+----------+-----------------------+----------------+-------------------------+-----------+-------------+
6 rows in set (0.00 sec)

mysql> SELECT
    ->     ApplicantID,
    ->     FirstName,
    ->     LastName,
    ->     City + ', ' + State AS CityState
    -> FROM
    ->     Applicants;
+-------------+-----------+----------+-----------+
| ApplicantID | FirstName | LastName | CityState |
+-------------+-----------+----------+-----------+
|           1 | Ravi      | Kumar    |         0 |
|           2 | Priya     | Reddy    |         0 |
|           3 | Arun      | Gupta    |         0 |
|           4 | Sneha     | Rao      |         0 |
|           5 | Vikram    | Naidu    |         0 |
|           6 | Swati     | Murthy   |         0 |
+-------------+-----------+----------+-----------+
6 rows in set, 18 warnings (0.00 sec)

mysql>
```

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

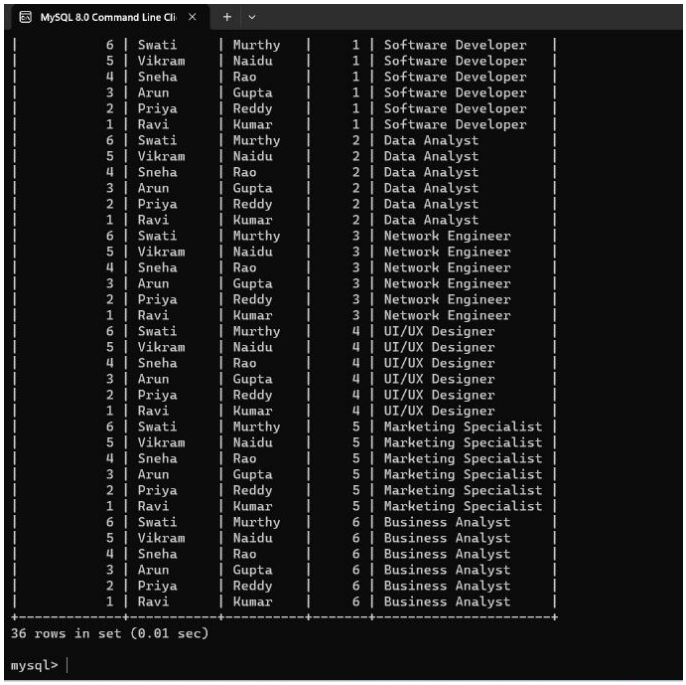


```
MySQL 8.0 Command Line Cli
mysql> SELECT
    ->     JobID,
    ->     JobTitle,
    ->     JobLocation,
    ->     Salary
    -> FROM
    ->     Jobs
    -> WHERE
    ->     JobTitle LIKE '%Developer%' OR JobTitle LIKE '%Engineer%';
+-------+--------------------+-------------+----------+
| JobID | JobTitle           | JobLocation | Salary   |
+-------+--------------------+-------------+----------+
|     1 | Software Developer | Bangalore   | 80000.00 |
|     3 | Network Engineer   | Delhi       | 90000.00 |
+-------+--------------------+-------------+----------+
2 rows in set (0.00 sec)

mysql>
```

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



```
MySQL 8.0 Command Line Cli

mysql> SELECT
    ->     A.ApplicantID,
    ->     A.FirstName,
    ->     A.LastName,
    ->     J.JobID,
    ->     J.JobTitle
    -> FROM
    ->     Applicants A
    -> CROSS JOIN
    ->     Jobs J
    -> LEFT JOIN
    ->     Applications Ap ON A.ApplicantID = Ap.ApplicantID AND J.JobID = Ap.JobID;
+-------------+-----------+----------+-------+----------------------+
| ApplicantID | FirstName | LastName | JobID | JobTitle             |
+-------------+-----------+----------+-------+----------------------+
|           6 | Swati     | Murthy   |     1 | Software Developer   |
|           5 | Vikram    | Naidu    |     1 | Software Developer   |
|           4 | Sneha     | Rao      |     1 | Software Developer   |
|           3 | Arun      | Gupta    |     1 | Software Developer   |
|           2 | Priya     | Reddy    |     1 | Software Developer   |
|           1 | Ravi      | Kumar    |     1 | Software Developer   |
|           6 | Swati     | Murthy   |     2 | Data Analyst         |
|           5 | Vikram    | Naidu    |     2 | Data Analyst         |
|           4 | Sneha     | Rao      |     2 | Data Analyst         |
|           3 | Arun      | Gupta    |     2 | Data Analyst         |
|           2 | Priya     | Reddy    |     2 | Data Analyst         |
|           1 | Ravi      | Kumar    |     2 | Data Analyst         |
|           6 | Swati     | Murthy   |     3 | Network Engineer     |
|           5 | Vikram    | Naidu    |     3 | Network Engineer     |
|           4 | Sneha     | Rao      |     3 | Network Engineer     |
|           3 | Arun      | Gupta    |     3 | Network Engineer     |
|           2 | Priya     | Reddy    |     3 | Network Engineer     |
|           1 | Ravi      | Kumar    |     3 | Network Engineer     |
|           6 | Swati     | Murthy   |     4 | UI/UX Designer       |
|           5 | Vikram    | Naidu    |     4 | UI/UX Designer       |
|           4 | Sneha     | Rao      |     4 | UI/UX Designer       |
|           3 | Arun      | Gupta    |     4 | UI/UX Designer       |
|           2 | Priya     | Reddy    |     4 | UI/UX Designer       |
|           1 | Ravi      | Kumar    |     4 | UI/UX Designer       |
```



```
MySQL 8.0 Command Line Cli

|           6 | Swati     | Murthy   |     1 | Software Developer   |
|           5 | Vikram    | Naidu    |     1 | Software Developer   |
|           4 | Sneha     | Rao      |     1 | Software Developer   |
|           3 | Arun      | Gupta    |     1 | Software Developer   |
|           2 | Priya     | Reddy    |     1 | Software Developer   |
|           1 | Ravi      | Kumar    |     1 | Software Developer   |
|           6 | Swati     | Murthy   |     2 | Data Analyst         |
|           5 | Vikram    | Naidu    |     2 | Data Analyst         |
|           4 | Sneha     | Rao      |     2 | Data Analyst         |
|           3 | Arun      | Gupta    |     2 | Data Analyst         |
|           2 | Priya     | Reddy    |     2 | Data Analyst         |
|           1 | Ravi      | Kumar    |     2 | Data Analyst         |
|           6 | Swati     | Murthy   |     3 | Network Engineer     |
|           5 | Vikram    | Naidu    |     3 | Network Engineer     |
|           4 | Sneha     | Rao      |     3 | Network Engineer     |
|           3 | Arun      | Gupta    |     3 | Network Engineer     |
|           2 | Priya     | Reddy    |     3 | Network Engineer     |
|           1 | Ravi      | Kumar    |     3 | Network Engineer     |
|           6 | Swati     | Murthy   |     4 | UI/UX Designer       |
|           5 | Vikram    | Naidu    |     4 | UI/UX Designer       |
|           4 | Sneha     | Rao      |     4 | UI/UX Designer       |
|           3 | Arun      | Gupta    |     4 | UI/UX Designer       |
|           2 | Priya     | Reddy    |     4 | UI/UX Designer       |
|           1 | Ravi      | Kumar    |     4 | UI/UX Designer       |
|           6 | Swati     | Murthy   |     5 | Marketing Specialist |
|           5 | Vikram    | Naidu    |     5 | Marketing Specialist |
|           4 | Sneha     | Rao      |     5 | Marketing Specialist |
|           3 | Arun      | Gupta    |     5 | Marketing Specialist |
|           2 | Priya     | Reddy    |     5 | Marketing Specialist |
|           1 | Ravi      | Kumar    |     5 | Marketing Specialist |
|           6 | Swati     | Murthy   |     6 | Business Analyst     |
|           5 | Vikram    | Naidu    |     6 | Business Analyst     |
|           4 | Sneha     | Rao      |     6 | Business Analyst     |
|           3 | Arun      | Gupta    |     6 | Business Analyst     |
|           2 | Priya     | Reddy    |     6 | Business Analyst     |
|           1 | Ravi      | Kumar    |     6 | Business Analyst     |
+-------------+-----------+----------+-------+----------------------+
36 rows in set (0.01 sec)

mysql>
```

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