SQL CODING CHALLENGE -------- Assignment 2 ---------
CareerHub, The Job Board (SHRINIDHI.S.S)

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

```
create database careerhub;
use careerhub;


CREATE TABLE Companies (

CompanyID INT PRIMARY KEY,

CompanyName VARCHAR(20),

Location VARCHAR(20));

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));


CREATE TABLE Applicants (

ApplicantID INT PRIMARY KEY,

FirstName VARCHAR(255),
```

```
LastName VARCHAR(255),
Email VARCHAR(255),
Phone VARCHAR(20),
Resume TEXT);

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));

INSERT INTO Companies (CompanyID, CompanyName, Location) VALUES
(1, 'Company 1', 'New York'),
(2, 'Company 2', 'Georgia'),
(3, 'Company 3', 'Chicago'),
(4, 'Company 4', 'Paris'),
(5, 'Company 5', 'Canada');
INSERT INTO Jobs (JobID, CompanyID, JobTitle, JobDescription, JobLocation, Salary,
JobType, PostedDate) VALUES
(11, 1, 'Software Engineer', 'We are looking for a skilled and experienced software
engineer to join our team.', 'New York', 80000.00, 'Full-time', '2024-04-15 09:00:00'),
(22, 2, 'Marketing Specialist', 'Seeking a creative marketing specialist to develop and
implement marketing strategies.', 'Georgia', 70000.00, 'Full-time', '2024-04-16 10:30:00'),
(33, 3, 'Data Analyst', 'We are hiring a data analyst to analyze and interpret complex data
sets.', 'Chicago', 75000.00, 'WFH', '2024-04-17 11:45:00'),
```

(44, 4, 'UX/UI Designer', 'Join our team as a UX/UI designer to create engaging user experiences.', 'Paris', 85000.00, 'Part-time', '2024-04-18 13:15:00'),

(55, 5, 'Accountant', 'We are seeking an experienced accountant to manage financial transactions.', 'Canada', 70000.00, 'Full-time', '2024-04-19 14:45:00');

INSERT INTO Applicants (ApplicantID, FirstName, LastName, Email, Phone, Resume) VALUES

(101, 'Tim', 'David', 'timdavid@example.com', '123-456-7890', 'Experienced software engineer with expertise in Java, Python, and SQL.'),

(102, 'Tim', 'Brook', 'timbrook@example.com', '987-654-3210', 'Marketing specialist with 3 years of experience developing and executing digital marketing campaigns.'),

(103, 'Jos', 'Butler', 'josbutler@example.com', '456-789-0123', 'Data analyst with strong analytical skills and proficiency in statistical analysis tools'),

(104, 'Harry', 'Edward', 'harryedward@example.com', '321-654-0987', 'Creative UX/UI designer with a passion for user-centered design.'),

(105, 'Niall', 'Horon', 'niallhoron@example.com', '789-012-3456', 'Detail-oriented accountant with a CPA certification and 4 years of experience in financial accounting.');

INSERT INTO Applications (ApplicationID, JobID, ApplicantID, ApplicationDate, CoverLetter) VALUES

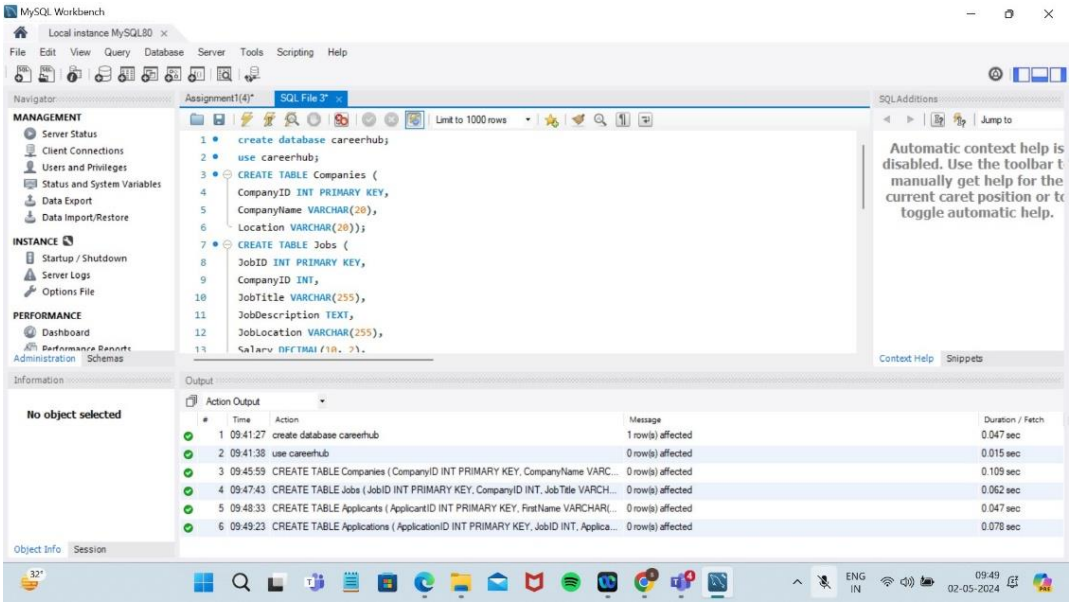
(1001, 11, 101, '2024-04-20 09:30:00', 'Dear Hiring Manager, I am excited to apply for the Software Engineer position at Example Company 1...'),

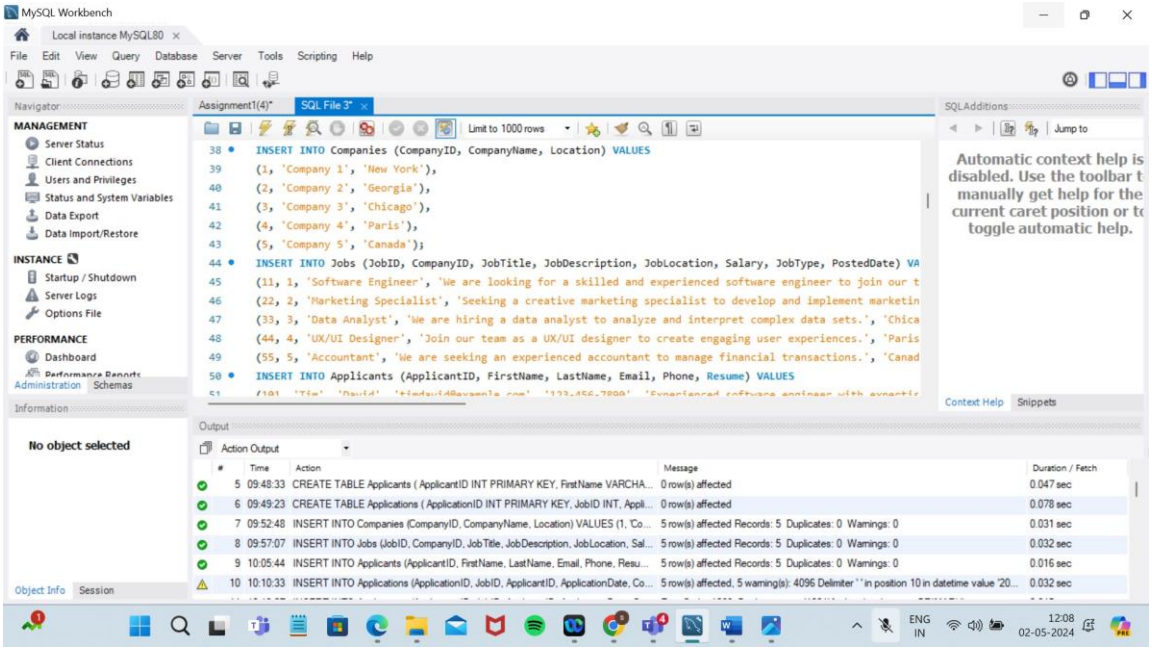
(1002, 22, 102, '2024-04-21 10:45:00', 'To Whom It May Concern, I am writing to express my interest in the Marketing Specialist position at Example Company 2...'),

(1003, 33, 103, '2024-04-22 11:00:00 ', 'Hello, I am applying for the Data Analyst position at Example Company 3. I believe my analytical skills and experience make me a strong candidate...'),

(1004, 44, 104, '2024-04-23 12:15:00', 'Dear Hiring Team, I am writing to apply for the UX/UI Designer position at Example Company 4. With a strong background in user experience design...'),

(1005, 55, 105, '2024-04-24 13:30:00 ', 'Dear Hiring Committee, I am excited to submit my application for the Accountant position at Example Company 5. With years of experience in financial management...');


MySQL Workbench
Local instance MySQL80
File Edit View Query Database Server Tools Scripting Help
Navigator
MANAGEMENT
Server Status
Client Connections
Users and Privileges
Status and System Variables
Data Export
Data Import/Restore
INSTANCE
Startup / Shutdown
Server Logs
Options File
PERFORMANCE
Dashboard
Administration Schemas
Information
No object selected
Object Info Session
Assignment1(4)* SQL File 3*
Limit to 1000 rows
1 create database careerhub;
2 use careerhub;
3 CREATE TABLE Companies (
4 CompanyID INT PRIMARY KEY,
5 CompanyName VARCHAR(20),
6 Location VARCHAR(20));
7 CREATE TABLE Jobs (
8 JobID INT PRIMARY KEY,
9 CompanyID INT,
10 JobTitle VARCHAR(255),
11 JobDescription TEXT,
12 JobLocation VARCHAR(255),
13 Salary DECIMAL(10, 2),
SQLAdditions
Jump to
Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or t toggle automatic help.
Context Help Snippets
Output
Action Output
Time Action Message Duration / Fetch
1 09:41:27 create database careerhub 1 row(s) affected 0.047 sec
2 09:41:38 use careerhub 0 row(s) affected 0.015 sec
3 09:45:59 CREATE TABLE Companies (CompanyID INT PRIMARY KEY, CompanyName VARC... 0 row(s) affected 0.109 sec
4 09:47:43 CREATE TABLE Jobs (JobID INT PRIMARY KEY, CompanyID INT, JobTitle VARCH... 0 row(s) affected 0.062 sec
5 09:48:33 CREATE TABLE Applicants (ApplicantID INT PRIMARY KEY, FirstName VARCHAR(... 0 row(s) affected 0.047 sec
6 09:49:23 CREATE TABLE Applications (ApplicationID INT PRIMARY KEY, JobID INT, Applica... 0 row(s) affected 0.078 sec
ENG IN
09:49 02-05-2024


MySQL Workbench
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Dashboard
Administration Schemas
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No object selected
Object Info Session
Assignment1(4)* SQL File 3*
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42 (4, 'Company 4', 'Paris'),
43 (5, 'Company 5', 'Canada');
44 INSERT INTO Jobs (JobID, CompanyID, JobTitle, JobDescription, JobLocation, Salary, JobType, PostedDate) VA
45 (11, 1, 'Software Engineer', 'We are looking for a skilled and experienced software engineer to join our t
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47 (33, 3, 'Data Analyst', 'We are hiring a data analyst to analyze and interpret complex data sets.', 'Chica
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49 (55, 5, 'Accountant', 'We are seeking an experienced accountant to manage financial transactions.', 'Canad
50 INSERT INTO Applicants (ApplicantID, FirstName, LastName, Email, Phone, Resume) VALUES
SQLAdditions
Jump to
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Context Help Snippets
Output
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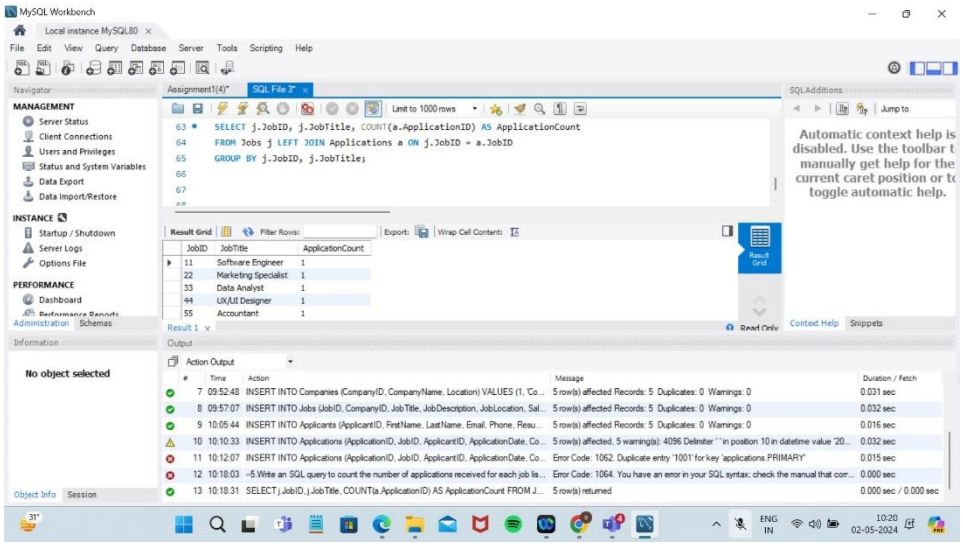
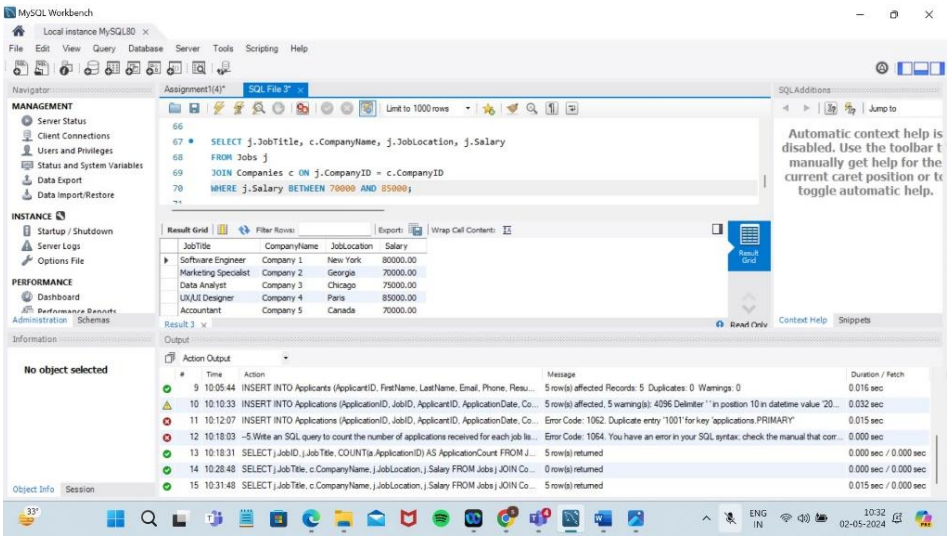
Time Action Message Duration / Fetch
5 09:48:33 CREATE TABLE Applicants (ApplicantID INT PRIMARY KEY, FirstName VARCHA... 0 row(s) affected 0.047 sec
6 09:49:23 CREATE TABLE Applications (ApplicationID INT PRIMARY KEY, JobID INT, Appli... 0 row(s) affected 0.078 sec
7 09:52:48 INSERT INTO Companies (CompanyID, CompanyName, Location) VALUES (1, 'Co... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.031 sec
8 09:57:07 INSERT INTO Jobs (JobID, CompanyID, JobTitle, JobDescription, JobLocation, Sal... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.032 sec
9 10:05:44 INSERT INTO Applicants (ApplicantID, FirstName, LastName, Email, Phone, Resu... 5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0 0.016 sec
10 10:10:33 INSERT INTO Applications (ApplicationID, JobID, ApplicantID, ApplicationDate, Co... 5 row(s) affected, 5 warning(s): 4096 Delimiter ' ' in position 10 in datetime value '20... 0.032 sec
ENG IN
12:08 02-05-2024

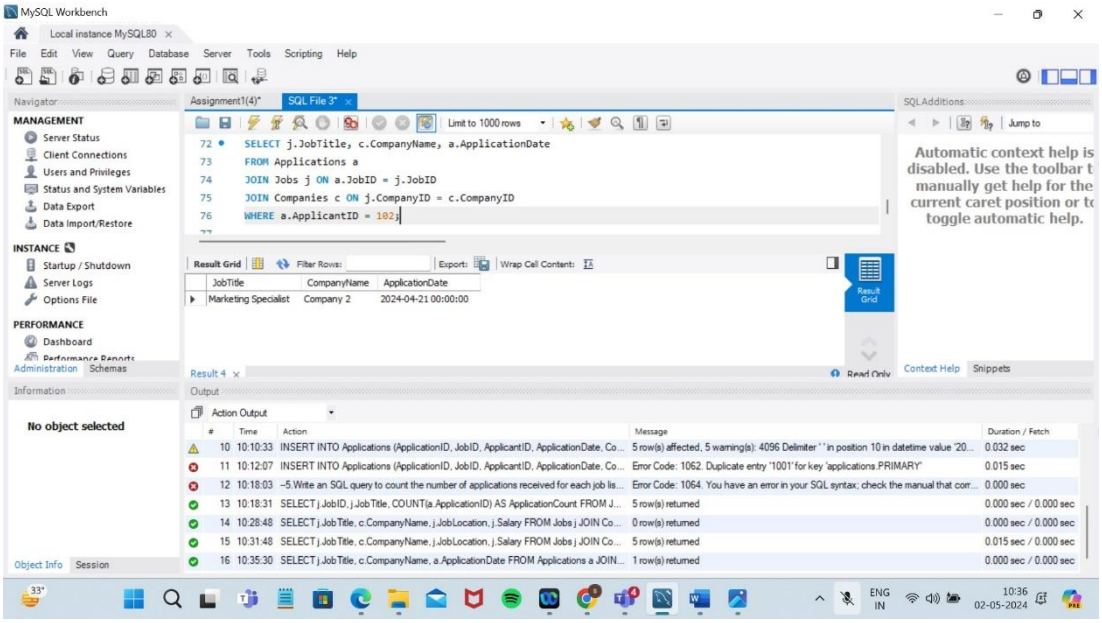
5. Write an SQL query to count the number of applications received for each job listing in the "Jobs" table. Display the job title and the corresponding application count. Ensure that it lists all jobs, even if they have no applications.



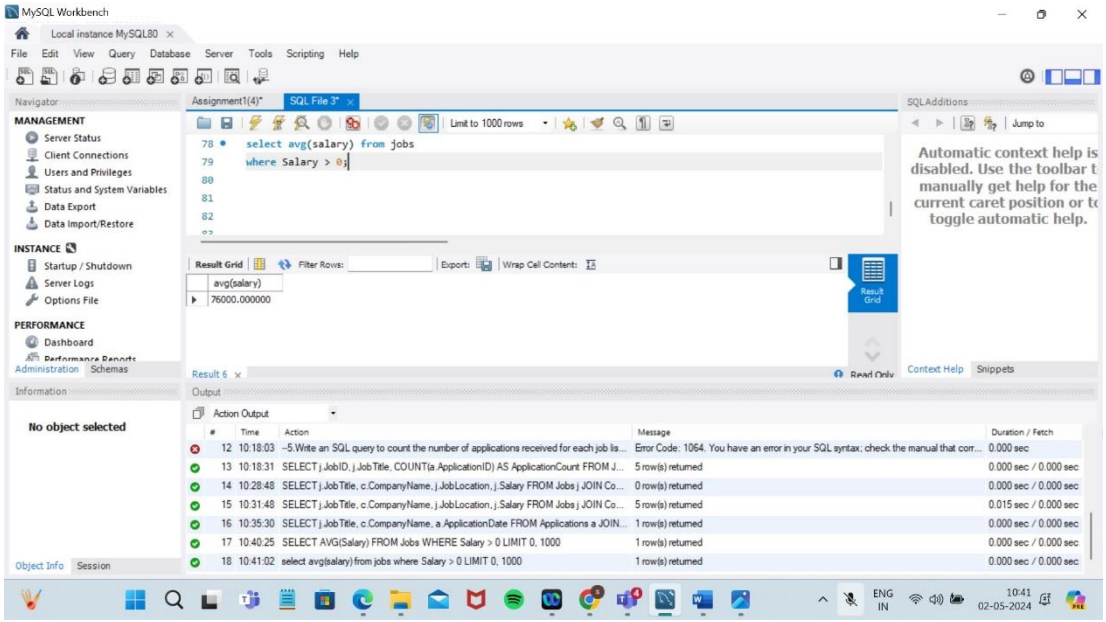
6. Develop an SQL query that retrieves job listings from the "Jobs" table within a specified salary range. Allow parameters for the minimum and maximum salary values. Display the job title, company name, location, and salary for each matching job.



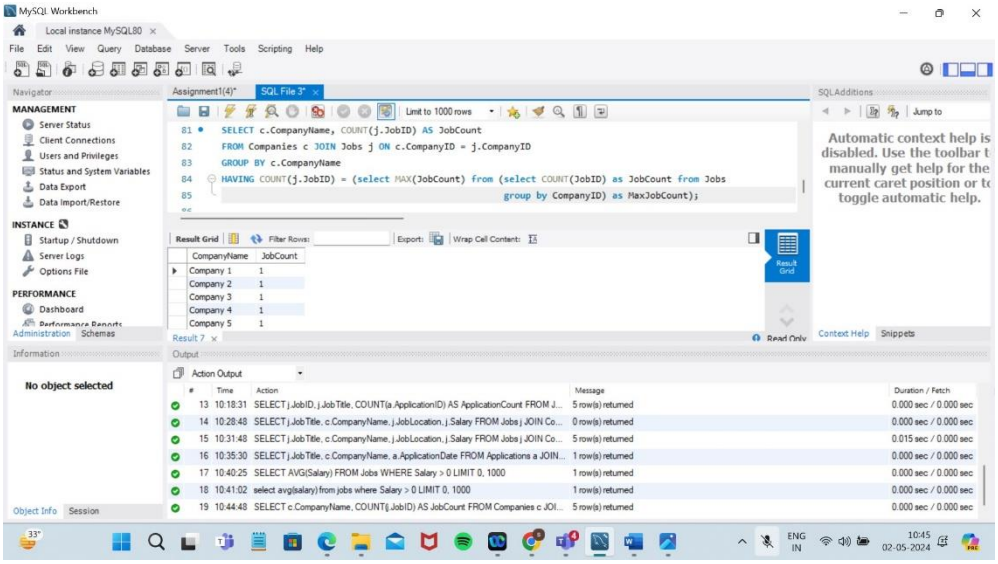
7. Write an SQL query that retrieves the job application history for a specific applicant. Allow a parameter for the ApplicantID, and return a result set with the job titles, company names, and application dates for all the jobs the applicant has applied to.



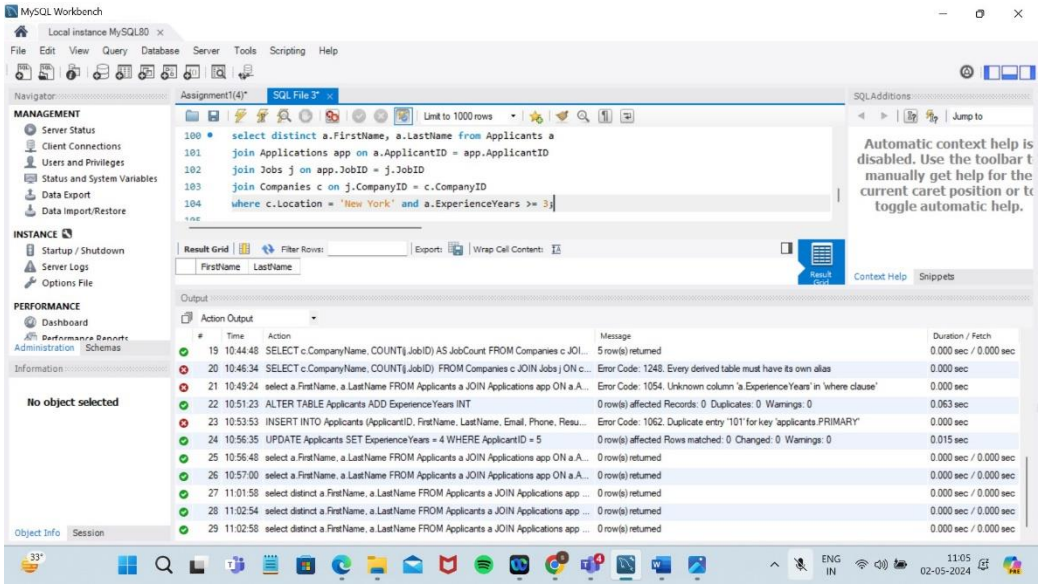
8. Create an SQL query that calculates and displays the average salary offered by all companies for job listings in the "Jobs" table. Ensure that the query filters out jobs with a salary of zero.



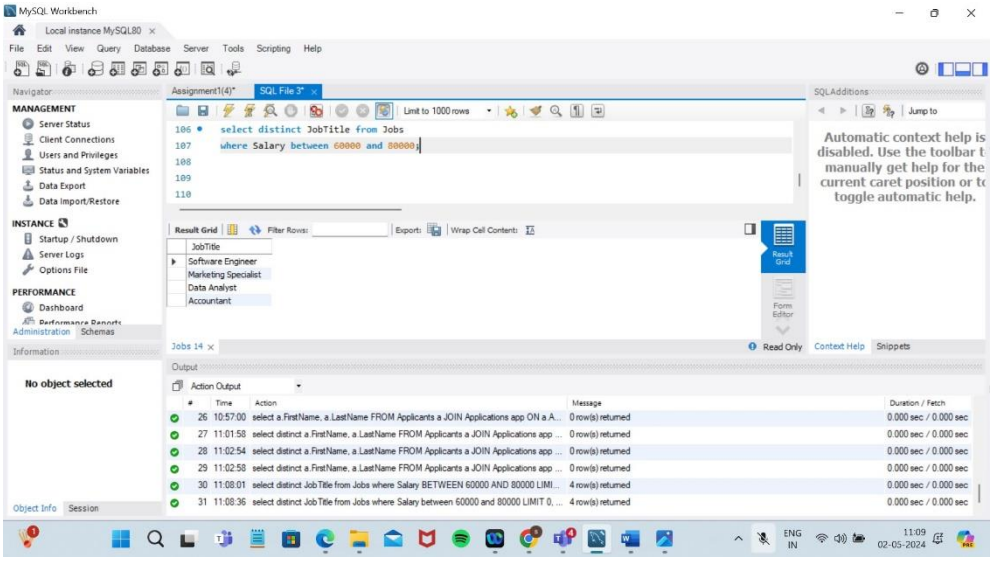
9. Write an SQL query to identify the company that has posted the most job listings. Display the company name along with the count of job listings they have posted. Handle ties if multiple companies have the same maximum count.



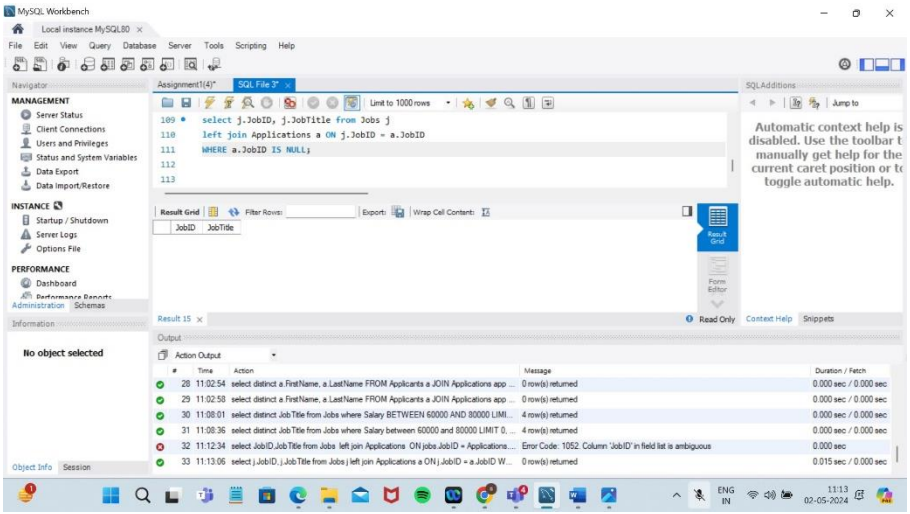
10. Find the applicants who have applied for positions in companies located in 'CityX' and have at least 3 years of experience.



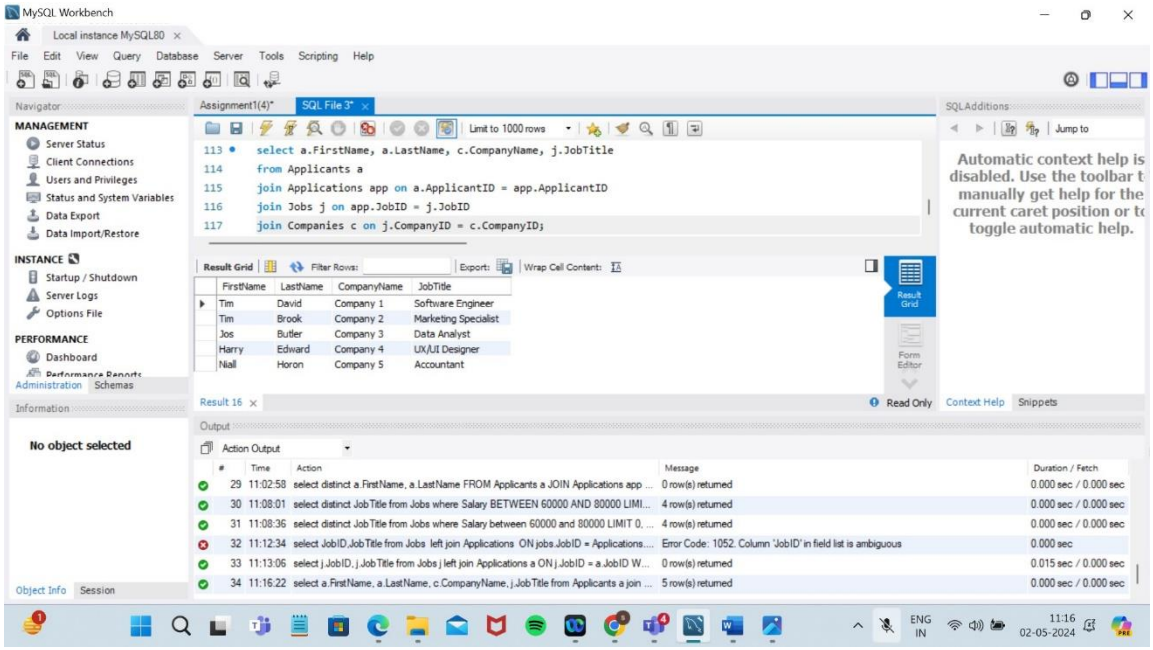
11. Retrieve a list of distinct job titles with salaries between $60,000 and $80,000.



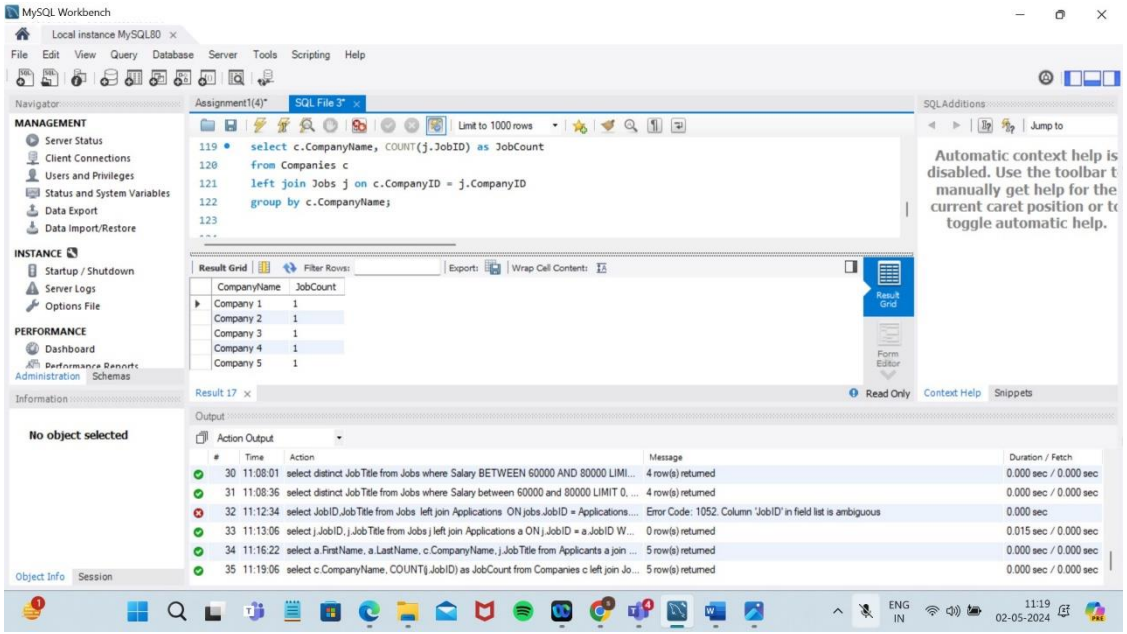
12. Find the jobs that have not received any applications.



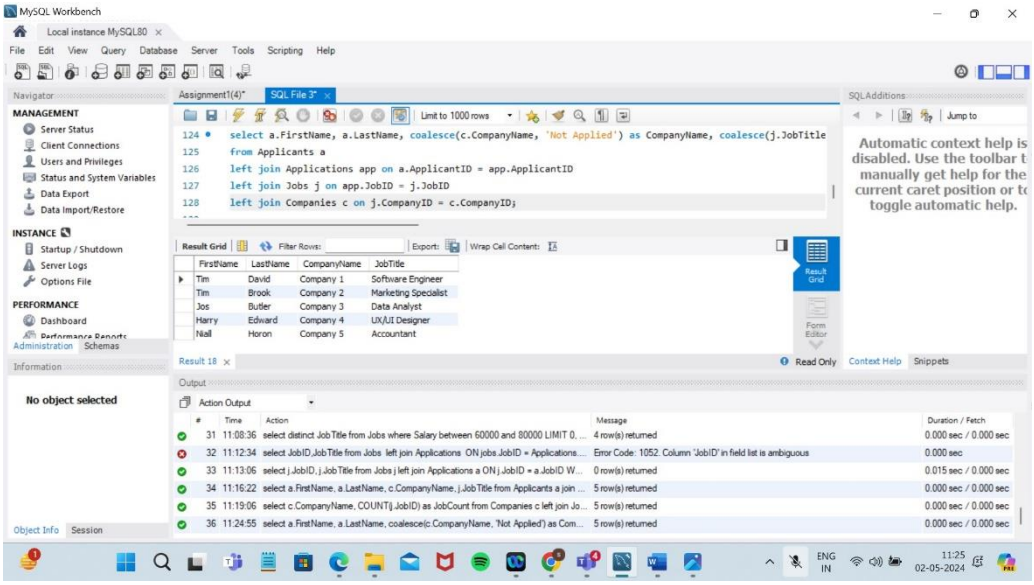
13. Retrieve a list of job applicants along with the companies they have applied to and the positions they have applied for.



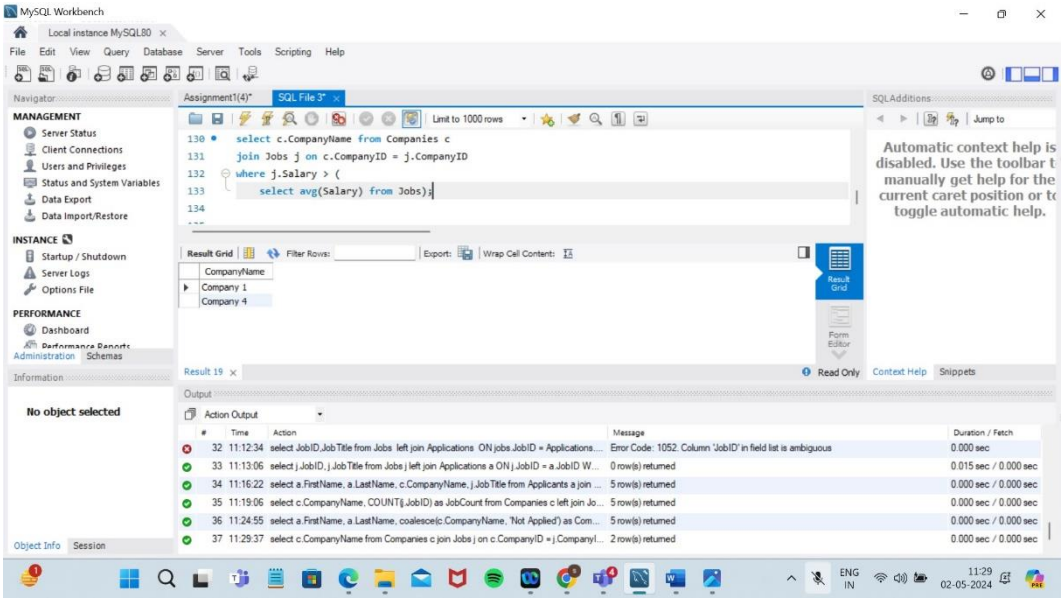
14. Retrieve a list of companies along with the count of jobs they have posted, even if they have not received any applications.



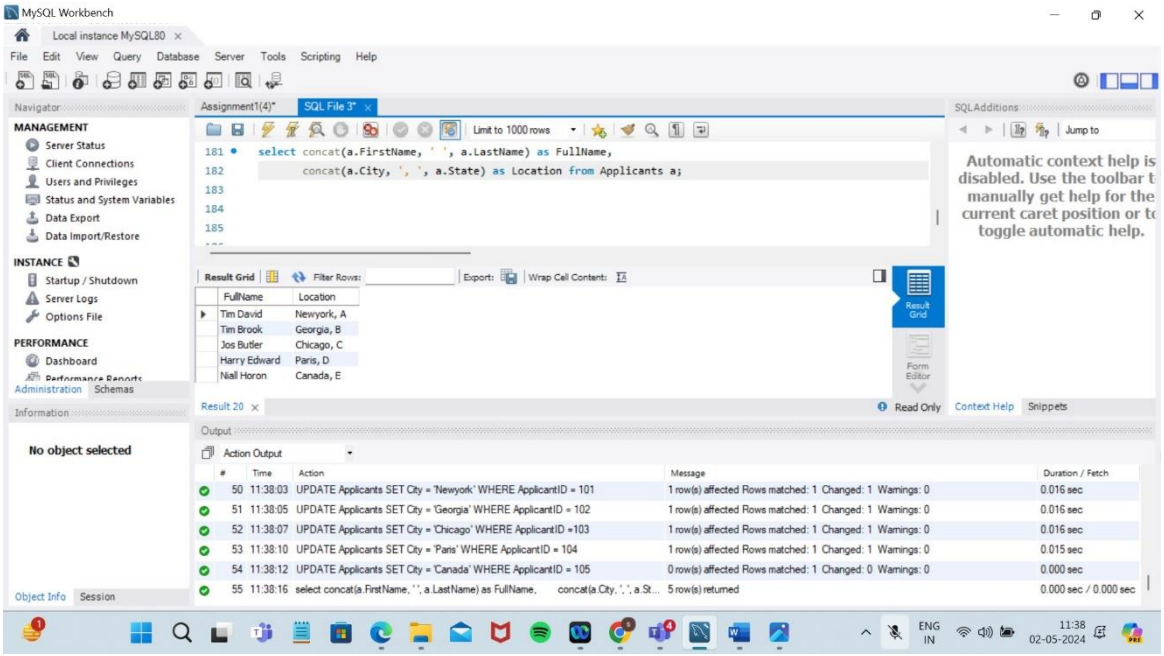
15. List all applicants along with the companies and positions they have applied for, including those who have not applied.



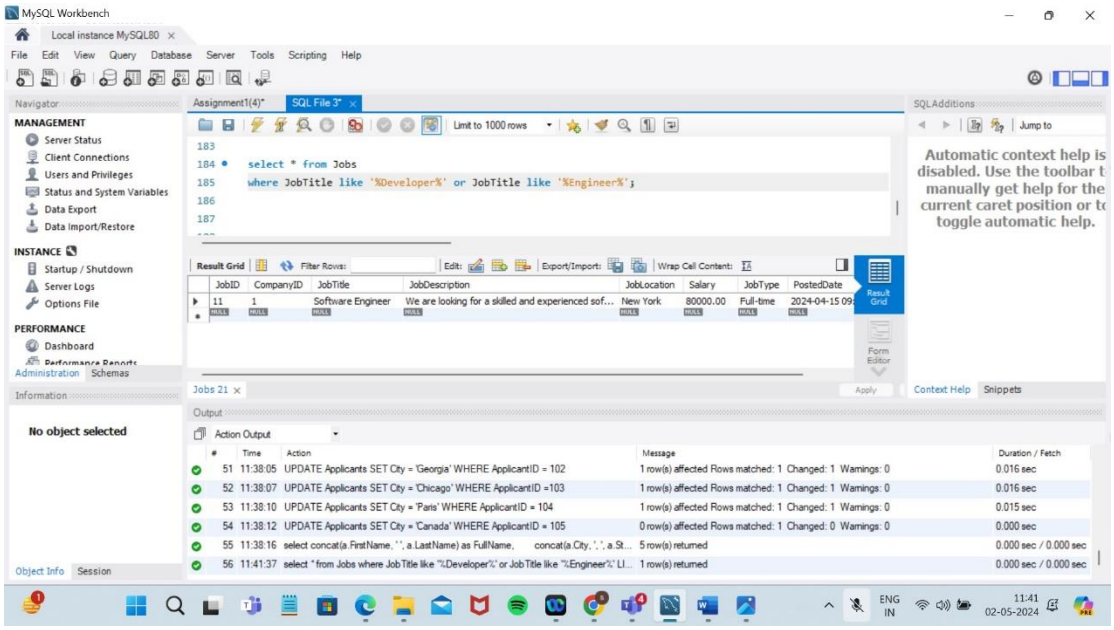
16. Find companies that have posted jobs with a salary higher than the average salary of all jobs.



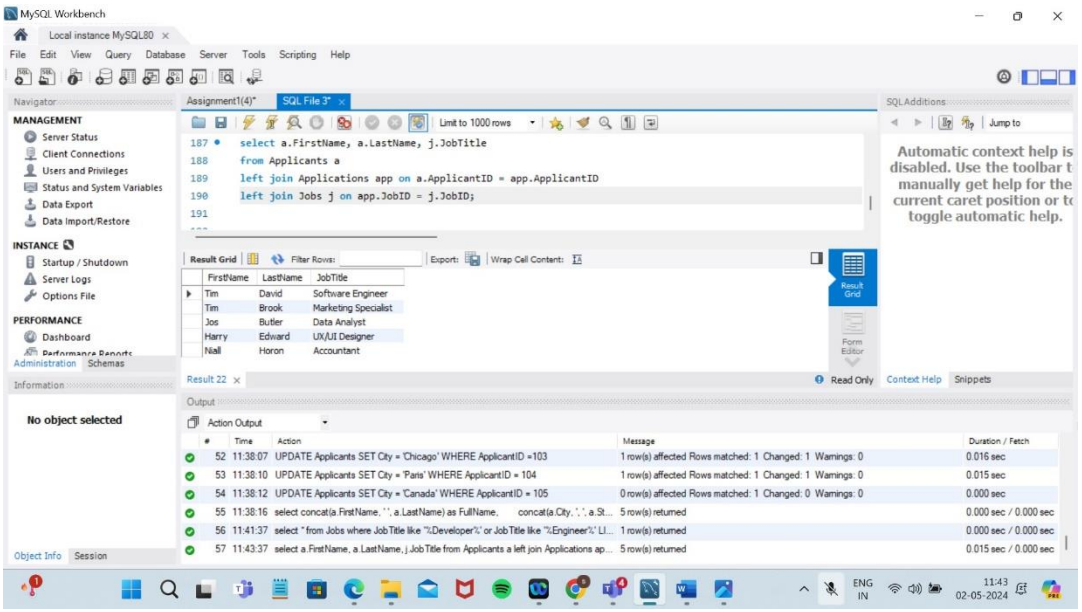
17. Display a list of applicants with their names and a concatenated string of their city and state.



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.



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.