

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl SQL+ Databases Tables Views Stored Procedures Functions

Navigator hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

SCHEMAS

Filter objects

currentaldb

cms

Tables

Views

Stored Procedures

Functions

college

hmbank

sakila

sisdb

sys

tbs

techshop

Administration Schemas

No object selected

/* Coding Challenges: CareerHub, The Job Board

Tasks:

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 IF NOT EXISTS CareerHubDB;

USE CareerHubDB;

CREATE TABLE IF NOT EXISTS Companies (

CompanyID INT PRIMARY KEY,

CompanyName VARCHAR(255),

Location VARCHAR(255)

);

INSERT INTO Companies (CompanyID, CompanyName, Location)

VALUES

(1, 'Tech Solutions Pvt Ltd', 'Bangalore'),

(2, 'Innovate IT Services', 'Mumbai'),

(3, 'Global Innovations Ltd', 'Delhi'),

(4, 'Data Analytics Co.', 'Hyderabad'),

Object Info Session Output

```
1 /* Coding Challenges: CareerHub, The Job Board
2 Tasks:
3 1. Provide a SQL script that initializes the database for the Job Board scenario "CareerHub".
4 2. Create tables for Companies, Jobs, Applicants and Applications.
5 3. Define appropriate primary keys, foreign keys, and constraints.
6 4. Ensure the script handles potential errors, such as if the database or tables already exist.*/
7
8
9
10 • CREATE DATABASE IF NOT EXISTS CareerHubDB;
11 • USE CareerHubDB;
12
13 • CREATE TABLE IF NOT EXISTS Companies (
14     CompanyID INT PRIMARY KEY,
15     CompanyName VARCHAR(255),
16     Location VARCHAR(255)
17 );
18 |
19 •     INSERT INTO Companies (CompanyID, CompanyName, Location)
20 VALUES
21     (1, 'Tech Solutions Pvt Ltd', 'Bangalore'),
22     (2, 'Innovate IT Services', 'Mumbai'),
23     (3, 'Global Innovations Ltd', 'Delhi'),
24     (4, 'Data Analytics Co.', 'Hyderabad'),
```

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SQl SQL Navigator hex 3(2) HEX 2 pthon sql 1* pthon sql 2* × sql 1 CC3* HEX 4 Hex 5

Filter objects

currentaldb
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Administration Schemas

No object selected

CREATE TABLE IF NOT EXISTS 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)

);

INSERT INTO Jobs (JobID, CompanyID, JobTitle, JobDescription, JobLocation, Salary, JobType, PostedDate)

VALUES

(1, 1, 'Software Developer', 'Developing cutting-edge software solutions.', 'Bangalore', 80000, 'Full-time', '2023-01-01'),
(2, 2, 'Data Analyst', 'Analyzing and interpreting complex data sets.', 'Mumbai', 60000, 'Full-time', '2023-01-05'),
(3, 3, 'Network Engineer', 'Designing and implementing network solutions.', 'Delhi', 75000, 'Contract', '2023-01-10'),
(4, 4, 'Data Scientist', 'Applying advanced statistical models to analyze data.', 'Hyderabad', 90000, 'Full-time', '2023-01-15'),
(5, 5, 'Education Consultant', 'Providing guidance on educational programs.', 'Chennai', 55000, 'Part-time', '2023-01-20'),
(6, 6, 'Healthcare Analyst', 'Analyzing healthcare data for insights.', 'Pune', 70000, 'Full-time', '2023-01-25'),

Object Info Session Output

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SQLEdit Schema Browser Database Object Navigator

hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

Filter objects

SCHEMAS

- currentalldb
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- college
- hmbank
- sakila
- sisdb
- sys
- tbs
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Administration Schemas

No object selected

CREATE TABLE IF NOT EXISTS Applicants (
 ApplicantID INT PRIMARY KEY,
 FirstName VARCHAR(255),
 LastName VARCHAR(255),
 Email VARCHAR(255),
 Phone VARCHAR(20),
 Resume TEXT
);
INSERT INTO Applicants (ApplicantID, FirstName, LastName, Email, Phone, Resume)
VALUES
 (1, 'Amit', 'Sharma', 'amit.sharma@email.com', '9876543210', 'Link to Amit\'s resume'),
 (2, 'Priya', 'Verma', 'priya.verma@email.com', '8765432109', 'Link to Priya\'s resume'),
 (3, 'Rahul', 'Gupta', 'rahul.gupta@email.com', '7654321098', 'Link to Rahul\'s resume'),
 (4, 'Neha', 'Singh', 'neha.singh@email.com', '6543210987', 'Link to Neha\'s resume'),
 (5, 'Ananya', 'Das', 'ananya.das@email.com', '5432109876', 'Link to Ananya\'s resume'),
 (6, 'Vikram', 'Yadav', 'vikram.yadav@email.com', '4321098765', 'Link to Vikram\'s resume'),
 (7, 'Sneha', 'Joshi', 'sneha.joshi@email.com', '3210987654', 'Link to Sneha\'s resume'),
 (8, 'Raj', 'Patel', 'raj.patel@email.com', '2109876543', 'Link to Raj\'s resume'),
 (9, 'Isha', 'Malhotra', 'isha.malhotra@email.com', '1098765432', 'Link to Isha\'s resume'),
 (10, 'Karan', 'Saxena', 'karan.saxena@email.com', '9876543210', 'Link to Karan\'s resume');

Object Info Session Output

MySQL Workbench

Local instance MySQL80 ×

File Edit View Query Database Server Tools Scripting Help

SQLEdit Schema Browser Reports Job History

Navigator

SCHEMAS

Filter objects

currentaldb
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Administration Schemas

No object selected

hex 3(2) HEX 2 pthon sql 1* pthon sql 2* × sql 1 CC3* HEX 4 Hex 5

Limit to 1000 rows

75 (9, 'Isha', 'Malhotra', 'isha.malhotra@email.com', '1098765432', 'Link to Isha\'s resume'),
76 (10, 'Karan', 'Saxena', 'karan.saxena@email.com', '9876543210', 'Link to Karan\'s resume');

77

78 • CREATE TABLE IF NOT EXISTS Applications (

79 ApplicationID INT PRIMARY KEY,
80 JobID INT,
81 ApplicantID INT,
82 ApplicationDate DATETIME,
83 CoverLetter TEXT,
84 FOREIGN KEY (JobID) REFERENCES Jobs(JobID),
85 FOREIGN KEY (ApplicantID) REFERENCES Applicants(ApplicantID)
86);

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

89 (1, 1, 1, '2023-01-02', 'I am excited about the opportunity to contribute to your software development team.'),
90 (2, 2, 2, '2023-01-06', 'I have a strong background in data analysis and a keen eye for detail.'),
91 (3, 3, 3, '2023-01-11', 'I am experienced in designing and managing complex network infrastructures.'),
92 (4, 4, 4, '2023-01-16', 'My expertise in data science can bring valuable insights to your organization.'),
93 (5, 5, 5, '2023-01-21', 'I am passionate about education and have experience in educational consulting.'),
94 (6, 6, 6, '2023-01-26', 'My analytical skills can contribute to the improvement of healthcare services.'),
95 (7, 7, 7, '2023-02-02', 'I have a proven track record in financial management and reporting.'),
96 (8, 8, 8, '2023-02-06', 'I am committed to developing sustainable and innovative energy solutions.'),
97 (9, 9, 9, '2023-02-11', 'I bring creativity and a strong design sense to graphic design projects.'),
98 (10, 10, 10, '2023-02-16', 'I have experience coordinating logistics activities and ensuring smooth operations.');

Object Info Session Output

MySQL Workbench

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SQl SQL+ Databases Tables Views Stored Procedures Functions

Navigator

SCHEMAS

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Administration Schemas

No object selected

hex 3(2) HEX 2 python sql 1* python sql 2* x sql 1 CC3* HEX 4 Hex 5

101 -- Task 5: Count the number of applications received for each job listing
102 • SELECT J.JobID, J.JobTitle, COUNT(A.ApplicationID) AS ApplicationCount
103 FROM Jobs J
104 LEFT JOIN Applications A ON J.JobID = A.JobID
105 GROUP BY J.JobID, J.JobTitle;

Result Grid | Filter Rows: Export: Wrap Cell Content:

JobID	JobTitle	ApplicationCount
1	Software Developer	1
2	Data Analyst	1
3	Network Engineer	1
4	Data Scientist	1
5	Education Consultant	1
6	Healthcare Analyst	1
7	Finance Manager	1
8	Renewable Energy Engineer	1
9	Graphic Designer	1
10	Logistics Coordinator	1

Result 5 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
47	13:02:03	INSERT INTO Applications (ApplicationID, JobID, ApplicantID, ApplicationDate, CoverLetter, Status, InterviewDate, Interviewer, Notes)	10 row(s) affected Records: 10 Duplicates: 0 Warnings: 0	0.015 sec

Object Info Session

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl SQL+ Databases Tables Views Stored Procedures Functions

Navigator hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

SCHEMAS

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tbs
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Administration Schemas

No object selected

Result Grid | Filter Rows: Export: Wrap Cell Content:

JobTitle	CompanyName	JobLocation	Salary
Software Developer	Tech Solutions Pvt Ltd	Bangalore	80000.00
Data Analyst	Innovate IT Services	Mumbai	60000.00
Network Engineer	Global Innovations Ltd	Delhi	75000.00
Healthcare Analyst	HealthCare Systems	Pune	70000.00
Logistics Coordinator	Logistics Connect	Lucknow	60000.00

Result 6 x

Output

Action Output

#	Time	Action	Message	Duration / Fetch
48	13:02:09	SELECT J.JobID, J.JobTitle, COUNT(A.ApplicationID) AS ApplicationCount FROM Jo...	10 row(s) returned	0.000 sec / 0.000 sec

Object Info Session

Read Only

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl SQL+ Datasheet + HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

Navigator

SCHEMAS

Filter objects

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Administration Schemas

No object selected

Result Grid | Filter Rows: Export: Wrap Cell Content:

JobTitle	CompanyName	ApplicationDate
Software Developer	Tech Solutions Pvt Ltd	2023-01-02 00:00:00

Result 7 x

Output

Object Info Session Action Output

Read Only

Result Grid Form Editor Field Types Query Stats

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl SQL+ Text Editor HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

Navigator

SCHEMAS

Filter objects

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sakila
sisdb
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Administration Schemas

No object selected

Result Grid | Filter Rows: Export: Wrap Cell Content:

AverageSalary
72000.000000

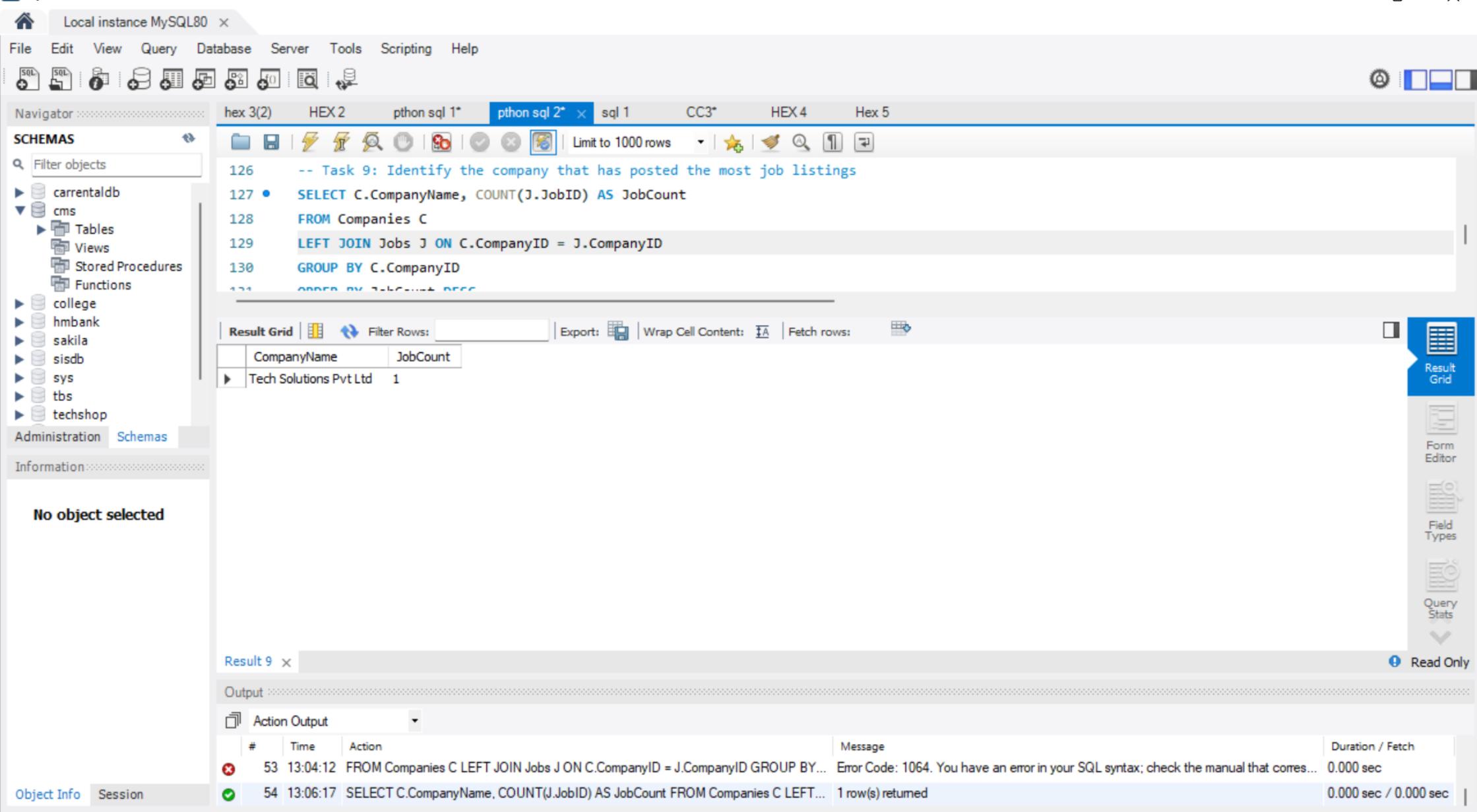
Result 8 x

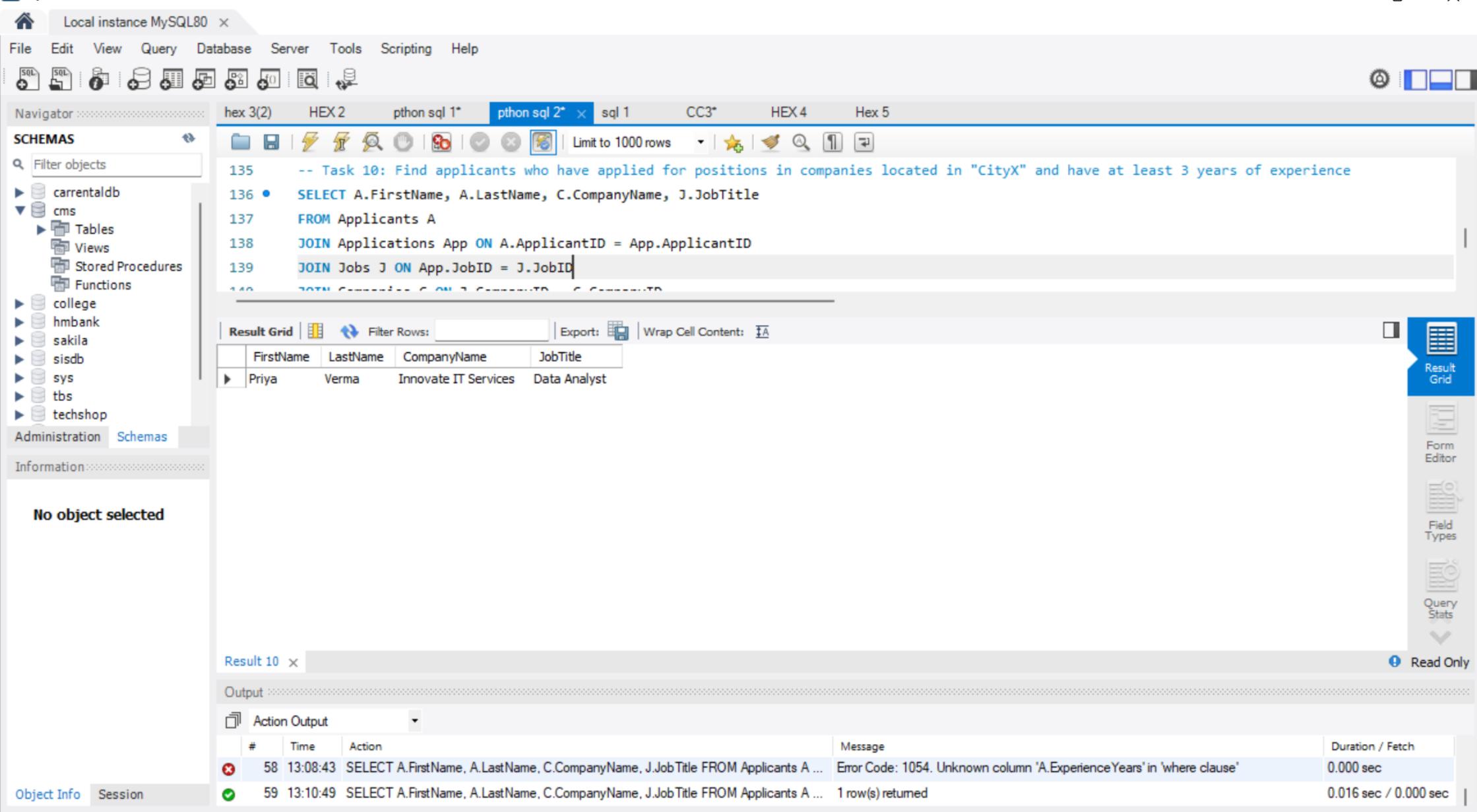
Output

Object Info Session Action Output

Read Only

Result Grid Form Editor Field Types Query Stats





MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl SQL+ Datasheet HEX CC3 HEX4 Hex5

Navigator

SCHEMAS

Filter objects

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sakila
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Administration Schemas

Information

No object selected

hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

142
143
144 -- Task 11: Retrieve distinct job titles with salaries between \$60,000 and \$80,000
145 • SELECT DISTINCT JobTitle, Salary
146 FROM Jobs
147 WHERE Salary BETWEEN 60000 AND 80000;
148

Result Grid | Filter Rows: Export: Wrap Cell Content:

JobTitle	Salary
Software Developer	80000.00
Data Analyst	60000.00
Network Engineer	75000.00
Healthcare Analyst	70000.00
Logistics Coordinator	60000.00

Result Grid Form Editor Field Types Query Stats Execution Plan

Jobs 11 x Read Only

Object Info Session Output

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl SQL+ Text Editor Hex Editor CC3 Hex4 Hex5

Navigator

SCHEMAS

Filter objects

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Administration Schemas

No object selected

hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

148
149 -- Task 12: Find jobs that have not received any applications
150 • SELECT J.JobTitle
151 FROM Jobs J
152 LEFT JOIN Applications A ON J.JobID = A.JobID
153 WHERE A.ApplicationID IS NULL;
154

Result Grid | Filter Rows: Export: Wrap Cell Content: JobTitle

Result 12 x Read Only

Object Info Session Output

Form Editor

Field Types

Query Stats

Execution Plan

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl DML DDL Scripts SQL Editor Hex Editor

Navigator

SCHEMAS

Filter objects

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Administration Schemas

No object selected

hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

-- Task 13: Retrieve a list of job applicants along with the companies and positions they have applied for

```
155 -- Task 13: Retrieve a list of job applicants along with the companies and positions they have applied for
156 • SELECT A.FirstName, A.LastName, C.CompanyName, J.JobTitle
157 FROM Applicants A
158 LEFT JOIN Applications AP ON A.ApplicantID = AP.ApplicantID
159 LEFT JOIN Jobs J ON AP.JobID = J.JobID
160 LEFT JOIN Companies C ON J.CompanyID = C.CompanyID;
161
```

Result Grid | Filter Rows: Export: Wrap Cell Content:

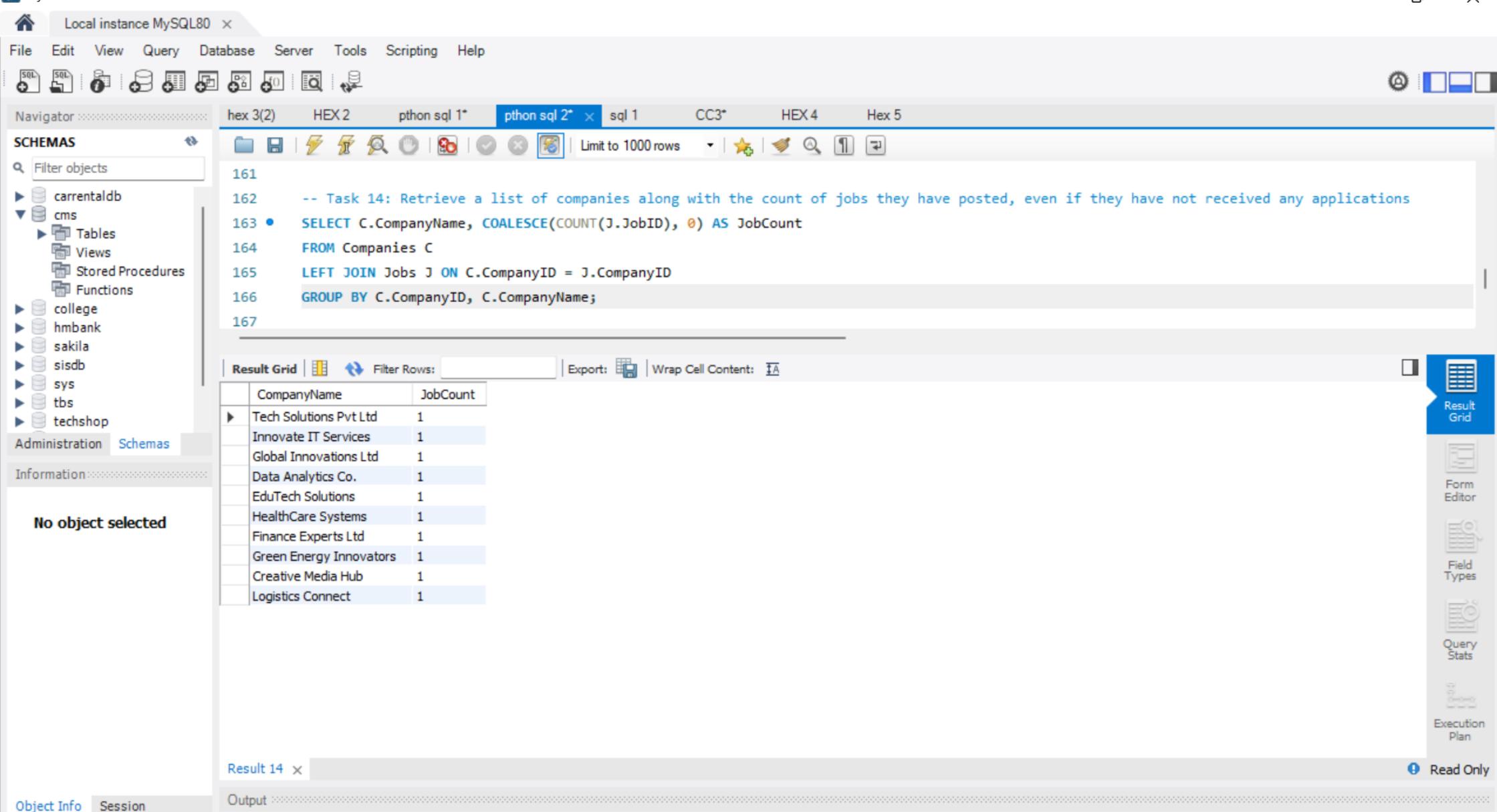
	FirstName	LastName	CompanyName	JobTitle
▶	Amit	Sharma	Tech Solutions Pvt Ltd	Software Developer
	Priya	Verma	Innovate IT Services	Data Analyst
	Rahul	Gupta	Global Innovations Ltd	Network Engineer
	Neha	Singh	Data Analytics Co.	Data Scientist
	Ananya	Das	EduTech Solutions	Education Consultant
	Vikram	Yadav	HealthCare Systems	Healthcare Analyst
	Sneha	Joshi	Finance Experts Ltd	Finance Manager
	Raj	Patel	Green Energy Innovators	Renewable Energy Engineer
	Isha	Malhotra	Creative Media Hub	Graphic Designer
	Karan	Saxena	Logistics Connect	Logistics Coordinator

Result 13 x

Object Info Session Output

Read Only

Result Grid Form Editor Field Types Query Stats Execution Plan



MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl DDL DML Scripts Hex CC3 HEX4 Hex5

Navigator

SCHEMAS

Filter objects

currentaldb
cms
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Functions
college
hmbank
sakila
sisdb
sys
tbs
techshop

Administration Schemas

No object selected

hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

168 -- Task 15: List all applicants along with the companies and positions they have applied for, including those who have not applied
169 • SELECT A.FirstName, A.LastName, C.CompanyName, J.JobTitle
170 FROM Applicants A
171 LEFT JOIN Applications App ON A.ApplicantID = App.ApplicantID
172 LEFT JOIN Jobs J ON App.JobID = J.JobID
173 LEFT JOIN Companies C ON J.CompanyID = C.CompanyID;
174

Result Grid | Filter Rows: Export: Wrap Cell Content:

	FirstName	LastName	CompanyName	JobTitle
▶	Amit	Sharma	Tech Solutions Pvt Ltd	Software Developer
	Priya	Verma	Innovate IT Services	Data Analyst
	Rahul	Gupta	Global Innovations Ltd	Network Engineer
	Neha	Singh	Data Analytics Co.	Data Scientist
	Ananya	Das	EduTech Solutions	Education Consultant
	Vikram	Yadav	HealthCare Systems	Healthcare Analyst
	Sneha	Joshi	Finance Experts Ltd	Finance Manager
	Raj	Patel	Green Energy Innovators	Renewable Energy Engineer
	Isha	Malhotra	Creative Media Hub	Graphic Designer
	Karan	Saxena	Logistics Connect	Logistics Coordinator

Result 17 x

Read Only

Object Info Session Output

Result Grid Form Editor Field Types Query Stats Execution Plan

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl SQL+ Datasheet Grid Text Hex Navigator

hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

Filter objects

SCHEMAS

- currentaldb
- cms
 - Tables
 - Views
 - Stored Procedures
 - Functions
- college
- hmbank
- sakila
- sisdb
- sys
- tbs
- techshop

Administration Schemas

No object selected

Result Grid | Filter Rows: Export: Wrap Cell Content:

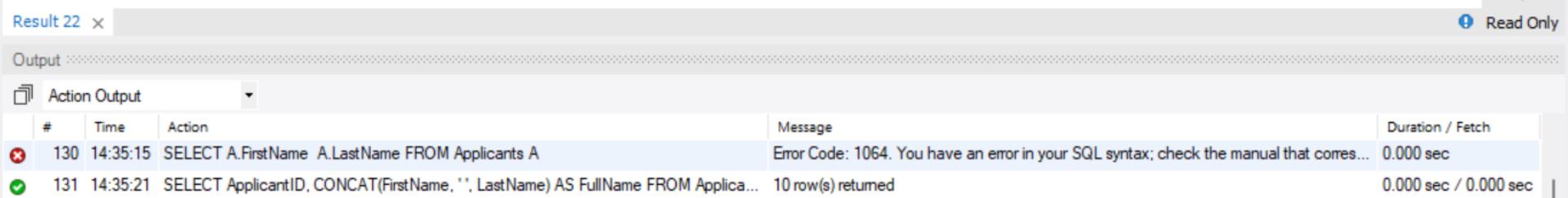
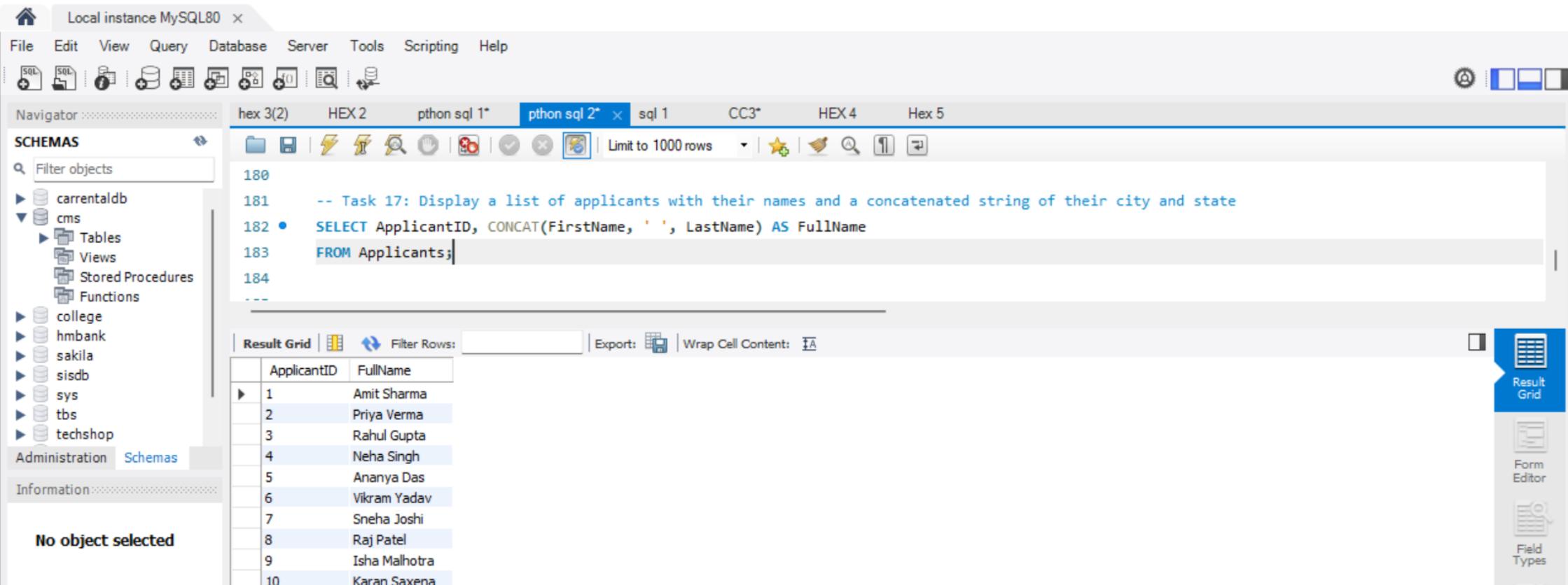
CompanyName
Tech Solutions Pvt Ltd
Global Innovations Ltd
Data Analytics Co.
Finance Experts Ltd
Green Energy Innovators

Result 18 x Read Only

Object Info Session Output

Result Grid Form Editor Field Types Query Stats Execution Plan

```
174
175    -- Task 16: Find companies that have posted jobs with a salary higher than the average salary of all jobs
176 •  SELECT DISTINCT C.CompanyName
177   FROM Companies C
178   JOIN Jobs J ON C.CompanyID = J.CompanyID
179   WHERE J.Salary > (SELECT AVG(Salary) FROM Jobs);
180
```



MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl DML DDL Scripts Hex CC3 HEX4 Hex5

Navigator hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

Filter objects

SCHEMAS

- currentaldb
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- college
- hmbank
- sakila
- sisdb
- sys
- tbs
- techshop

Administration Schemas

No object selected

Information

183 FROM Applicants A;

184

185 -- Task 18: Retrieve a list of jobs with titles containing either "Developer" or "Engineer"

186 • SELECT JobTitle

187 FROM Jobs

188 WHERE JobTitle LIKE '%Developer%' OR JobTitle LIKE '%Engineer%';

189

Result Grid | Filter Rows: Export: Wrap Cell Content:

JobTitle
Software Developer
Network Engineer
Renewable Energy Engineer

Result Grid

Form Editor

Field Types

Query Stats

Execution Plan

Jobs 19 x

Object Info Session Output

Read Only

MySQL Workbench

Local instance MySQL80 x

File Edit View Query Database Server Tools Scripting Help

SQl SQL+ Datasheet Grid Text Hex Navigator

hex 3(2) HEX 2 pthon sql 1* pthon sql 2* x sql 1 CC3* HEX 4 Hex 5

Filter objects

SCHEMAS

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- hmbank
- sakila
- sisdb
- sys
- tbs
- techshop

Administration Schemas

No object selected

Result Grid | Filter Rows: Export: Wrap Cell Content:

	FirstName	LastName	CompanyName	JobTitle
▶	Karan	Saxena	Tech Solutions Pvt Ltd	NULL
	Isha	Malhotra	Tech Solutions Pvt Ltd	NULL
	Raj	Patel	Tech Solutions Pvt Ltd	NULL
	Sneha	Joshi	Tech Solutions Pvt Ltd	NULL
	Vikram	Yadav	Tech Solutions Pvt Ltd	NULL
	Ananya	Das	Tech Solutions Pvt Ltd	NULL
	Neha	Singh	Tech Solutions Pvt Ltd	NULL
	Rahul	Gupta	Tech Solutions Pvt Ltd	NULL
	Priya	Verma	Tech Solutions Pvt Ltd	NULL
	Amit	Sharma	Tech Solutions Pvt Ltd	Software Developer
	Karan	Saxena	Innovate IT Services	NULL
	Isha	Malhotra	Innovate IT Services	NULL
	Raj	Patel	Innovate IT Services	NULL
	Sneha	Joshi	Innovate IT Services	NULL
	Vikram	Yadav	Innovate IT Services	NULL
	Ananya	Das	Innovate IT Services	NULL
	Neha	Singh	Innovate IT Services	NULL
	Rahul	Gupta	Innovate IT Services	NULL

Result 20 x

Object Info Session Output

Result Grid Form Editor Field Types Query Stats Execution Plan

Read Only

