Durham College DATA1202: Data Analysis Tools

Assignment#1 (Data Storage)

Name: Chinedu Onyeka

Due Date: 6 Oct 2021

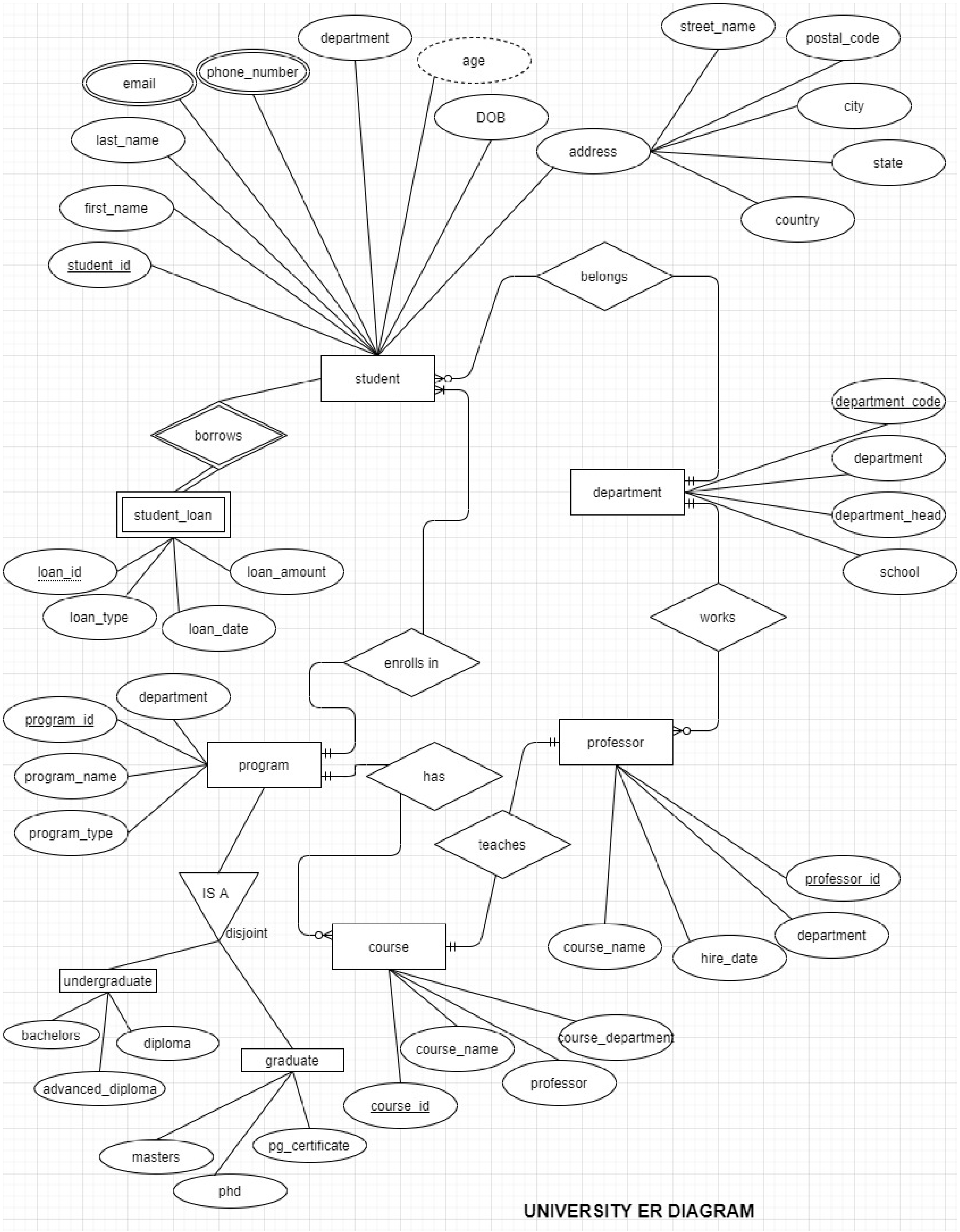
Part-A (10 points)

Create an ER Diagram for an **Airport OR Hospital OR University OR Bank**.

1. Identify atleast 5 entity in the ER Diagram
2. Identify atleast one weak entity.
3. Identify atleast 3 attributes for each entity.
4. Identify atleast one attribute that is:
   Composite
   Multivalued attribute
   Derived attribute
5. Represent all the key(primary) attributes by suitable notations/symbol.
6. Represent the Cardinality and Modality using Crow's foot notation.
7. Identify atleast one specialization/generalization.

Solution:

Part A: ER diagram of a university.



UNIVERSITY ER DIAGRAM

Rubrics for Part-A

1. All the above-mentioned criteria are satisfied. (4 points)
2. Appropriate symbols are used in the ER Diagram. (2 points)
3. ER Diagram is specific and consistent with the Functional Requirements of the chosen domain. (1 Point)
4. ER Diagram presented without ambiguity and gives a complete picture of the selected domain. (2 Points)
5. Overall neatness. (1 Point)

Part-B (10 points)

Convert the following ER Diagram (Figure 1) into a database schema in implement it in SQLite db Browser. Add atleast two records in each of the table.

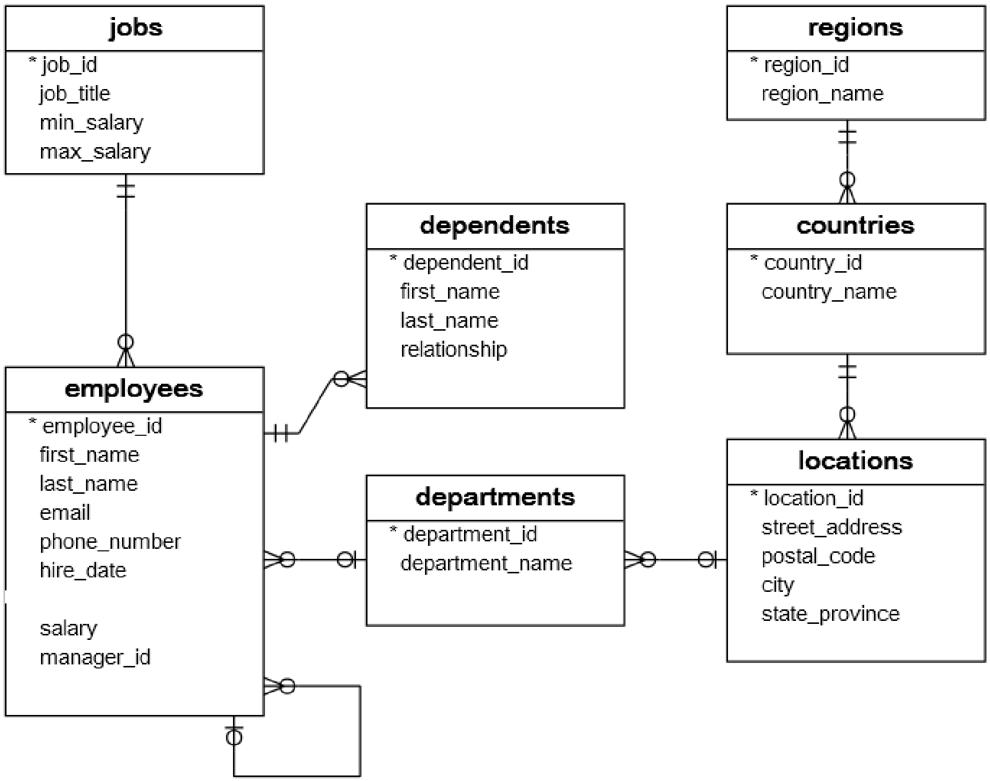


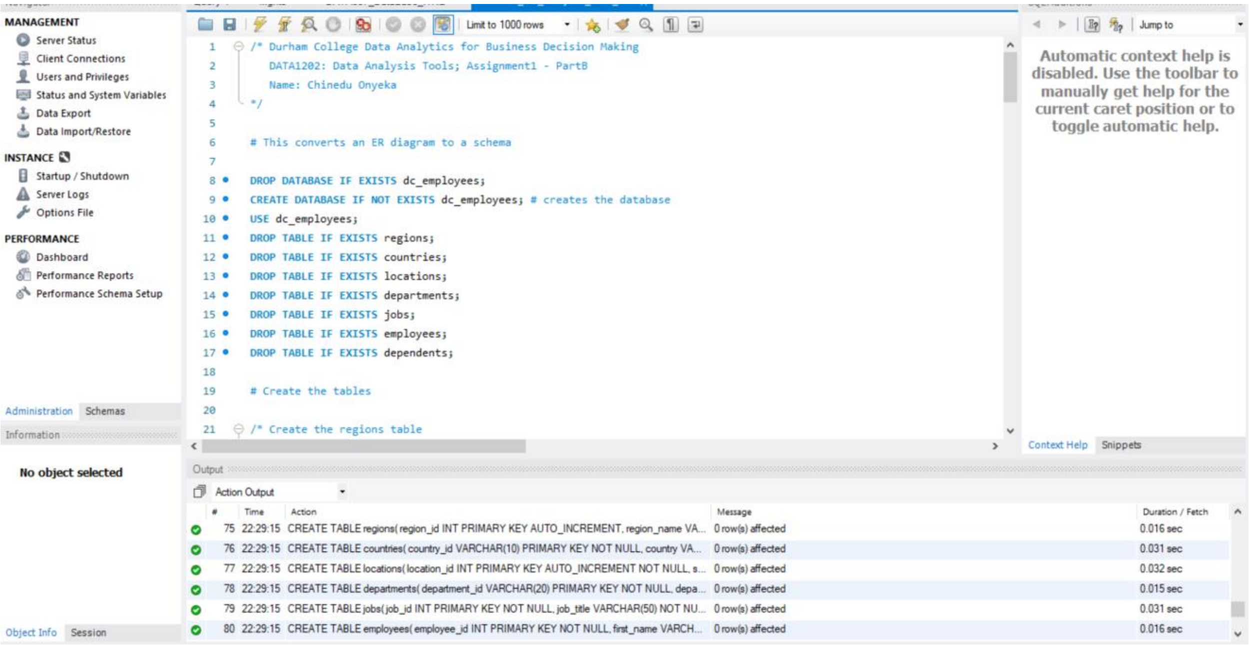
Figure-1

Rubrics for Part-B

1. All the above-mentioned entities and attributes are implemented. Student have submitted the evaluation in the format specified. (2 points)
2. Atleast two records are added into each of the table. (2 points)
3. Overall correctness of the Implementation including specification of Primary key, Foreign Key, Data Type and other constraints added. (4 points)
4. Student research about Recursive relationship and how it is implemented in the database. (2 points)

Note: The sql code for this part (Part B) can be found here

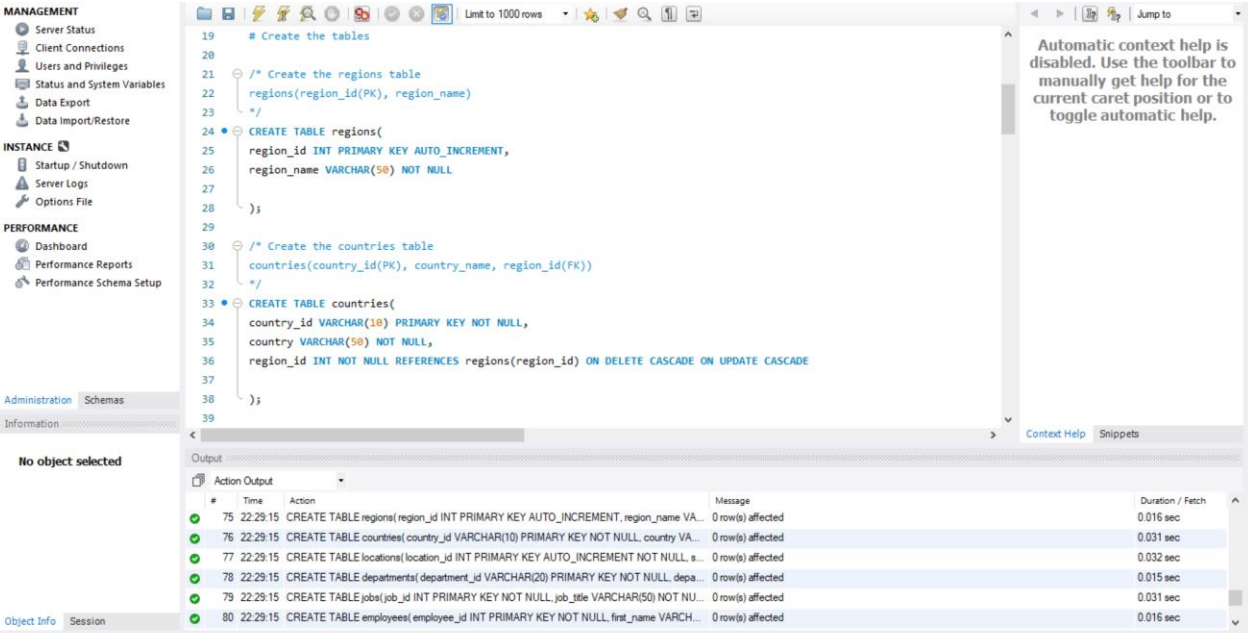
Screenshot 1 (Create the database and drop all pre-existing tables)



```
/* Durham College Data Analytics for Business Decision Making
   DATA1202: Data Analysis Tools; Assignment1 - PartB
   Name: Chinedu Onyeka
*/

# This converts an ER diagram to a schema

DROP DATABASE IF EXISTS dc_employees;
CREATE DATABASE IF NOT EXISTS dc_employees; # creates the database
USE dc_employees;
DROP TABLE IF EXISTS regions;
DROP TABLE IF EXISTS countries;
DROP TABLE IF EXISTS locations;
DROP TABLE IF EXISTS departments;
DROP TABLE IF EXISTS jobs;
DROP TABLE IF EXISTS employees;
DROP TABLE IF EXISTS dependents;

# Create the tables

/* Create the regions table
```

```
 #   Time      Action                                                                              Message              Duration / Fetch
 75  22:29:15  CREATE TABLE regions( region_id INT PRIMARY KEY AUTO_INCREMENT, region_name VA...  0 row(s) affected    0.016 sec
 76  22:29:15  CREATE TABLE countries( country_id VARCHAR(10) PRIMARY KEY NOT NULL, country VA...   0 row(s) affected    0.031 sec
 77  22:29:15  CREATE TABLE locations( location_id INT PRIMARY KEY AUTO_INCREMENT NOT NULL, s...   0 row(s) affected    0.032 sec
 78  22:29:15  CREATE TABLE departments( department_id VARCHAR(20) PRIMARY KEY NOT NULL, depa...   0 row(s) affected    0.015 sec
 79  22:29:15  CREATE TABLE jobs( job_id INT PRIMARY KEY NOT NULL, job_title VARCHAR(50) NOT NU...  0 row(s) affected    0.031 sec
 80  22:29:15  CREATE TABLE employees( employee_id INT PRIMARY KEY NOT NULL, first_name VARCH...    0 row(s) affected    0.016 sec
```

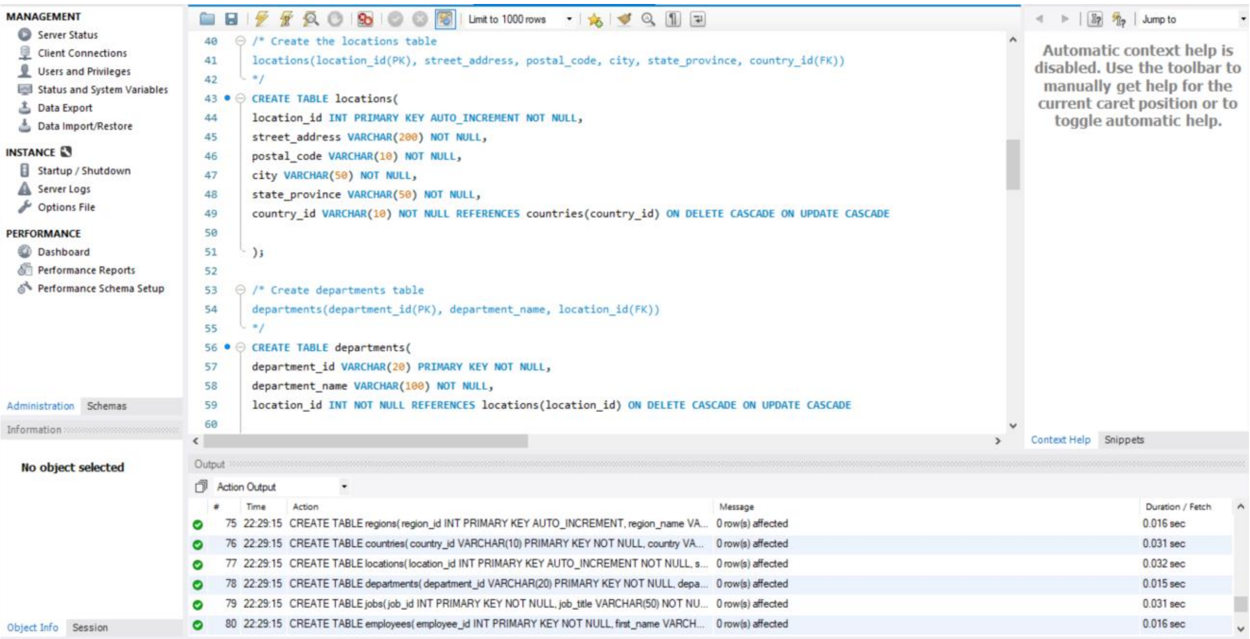
Screenshot 2 (Create the regions and countries table)



```
# Create the tables

/* Create the regions table
regions(region_id(PK), region_name)
*/
CREATE TABLE regions(
region_id INT PRIMARY KEY AUTO_INCREMENT,
region_name VARCHAR(50) NOT NULL

);

/* Create the countries table
countries(country_id(PK), country_name, region_id(FK))
*/
CREATE TABLE countries(
country_id VARCHAR(10) PRIMARY KEY NOT NULL,
country VARCHAR(50) NOT NULL,
region_id INT NOT NULL REFERENCES regions(region_id) ON DELETE CASCADE ON UPDATE CASCADE

);
```

```
 #   Time      Action                                                                              Message              Duration / Fetch
 75  22:29:15  CREATE TABLE regions( region_id INT PRIMARY KEY AUTO_INCREMENT, region_name VA...  0 row(s) affected    0.016 sec
 76  22:29:15  CREATE TABLE countries( country_id VARCHAR(10) PRIMARY KEY NOT NULL, country VA...   0 row(s) affected    0.031 sec
 77  22:29:15  CREATE TABLE locations( location_id INT PRIMARY KEY AUTO_INCREMENT NOT NULL, s...   0 row(s) affected    0.032 sec
 78  22:29:15  CREATE TABLE departments( department_id VARCHAR(20) PRIMARY KEY NOT NULL, depa...   0 row(s) affected    0.015 sec
 79  22:29:15  CREATE TABLE jobs( job_id INT PRIMARY KEY NOT NULL, job_title VARCHAR(50) NOT NU...  0 row(s) affected    0.031 sec
 80  22:29:15  CREATE TABLE employees( employee_id INT PRIMARY KEY NOT NULL, first_name VARCH...    0 row(s) affected    0.016 sec
```

Screenshot 3 (Create the locations and departments table)



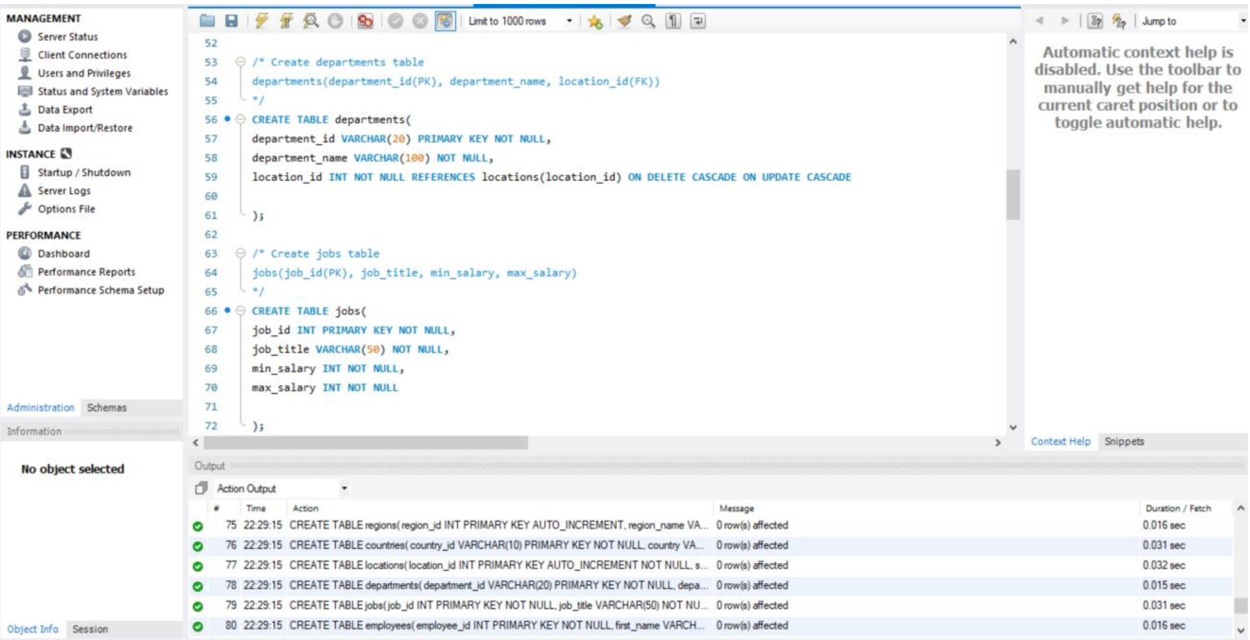
```
/* Create the locations table
locations(location_id(PK), street_address, postal_code, city, state_province, country_id(FK))
*/
CREATE TABLE locations(
location_id INT PRIMARY KEY AUTO_INCREMENT NOT NULL,
street_address VARCHAR(200) NOT NULL,
postal_code VARCHAR(10) NOT NULL,
city VARCHAR(50) NOT NULL,
state_province VARCHAR(50) NOT NULL,
country_id VARCHAR(10) NOT NULL REFERENCES countries(country_id) ON DELETE CASCADE ON UPDATE CASCADE

);

/* Create departments table
departments(department_id(PK), department_name, location_id(FK))
*/
CREATE TABLE departments(
department_id VARCHAR(20) PRIMARY KEY NOT NULL,
department_name VARCHAR(100) NOT NULL,
location_id INT NOT NULL REFERENCES locations(location_id) ON DELETE CASCADE ON UPDATE CASCADE

```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

No object selected

#	Time	Action	Message	Duration / Fetch
75	22:29:15	CREATE TABLE regions(region_id INT PRIMARY KEY AUTO_INCREMENT, region_name VA...	0 row(s) affected	0.016 sec
76	22:29:15	CREATE TABLE countries(country_id VARCHAR(10) PRIMARY KEY NOT NULL, country VA...	0 row(s) affected	0.031 sec
77	22:29:15	CREATE TABLE locations(location_id INT PRIMARY KEY AUTO_INCREMENT NOT NULL, s...	0 row(s) affected	0.032 sec
78	22:29:15	CREATE TABLE departments(department_id VARCHAR(20) PRIMARY KEY NOT NULL, depa...	0 row(s) affected	0.015 sec
79	22:29:15	CREATE TABLE jobs(job_id INT PRIMARY KEY NOT NULL, job_title VARCHAR(50) NOT NU...	0 row(s) affected	0.031 sec
80	22:29:15	CREATE TABLE employees(employee_id INT PRIMARY KEY NOT NULL, first_name VARCH...	0 row(s) affected	0.016 sec

Screenshot 4 (Create the jobs table)



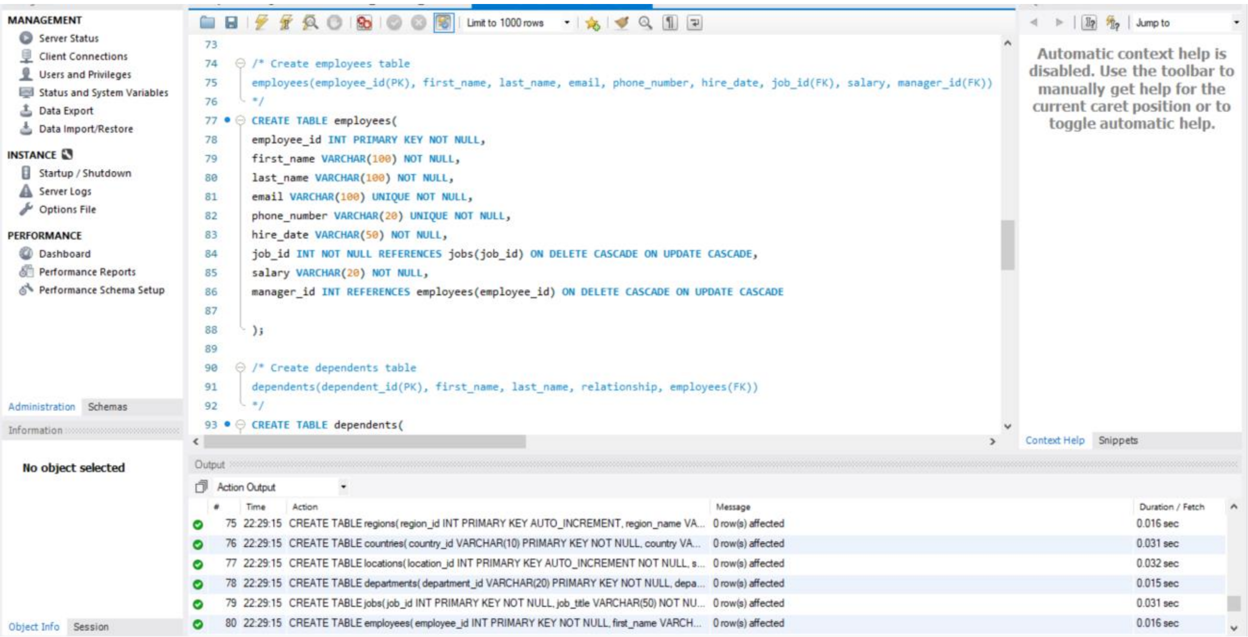
```

/* Create departments table
departments(department_id(PK), department_name, location_id(FK))
*/
CREATE TABLE departments(
department_id VARCHAR(20) PRIMARY KEY NOT NULL,
department_name VARCHAR(100) NOT NULL,
location_id INT NOT NULL REFERENCES locations(location_id) ON DELETE CASCADE ON UPDATE CASCADE

);

/* Create jobs table
jobs(job_id(PK), job_title, min_salary, max_salary)
*/
CREATE TABLE jobs(
job_id INT PRIMARY KEY NOT NULL,
job_title VARCHAR(50) NOT NULL,
min_salary INT NOT NULL,
max_salary INT NOT NULL

);
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

No object selected

#	Time	Action	Message	Duration / Fetch
75	22:29:15	CREATE TABLE regions(region_id INT PRIMARY KEY AUTO_INCREMENT, region_name VA...	0 row(s) affected	0.016 sec
76	22:29:15	CREATE TABLE countries(country_id VARCHAR(10) PRIMARY KEY NOT NULL, country VA...	0 row(s) affected	0.031 sec
77	22:29:15	CREATE TABLE locations(location_id INT PRIMARY KEY AUTO_INCREMENT NOT NULL, s...	0 row(s) affected	0.032 sec
78	22:29:15	CREATE TABLE departments(department_id VARCHAR(20) PRIMARY KEY NOT NULL, depa...	0 row(s) affected	0.015 sec
79	22:29:15	CREATE TABLE jobs(job_id INT PRIMARY KEY NOT NULL, job_title VARCHAR(50) NOT NU...	0 row(s) affected	0.031 sec
80	22:29:15	CREATE TABLE employees(employee_id INT PRIMARY KEY NOT NULL, first_name VARCH...	0 row(s) affected	0.016 sec

Screenshot 5 (Create the employees table)



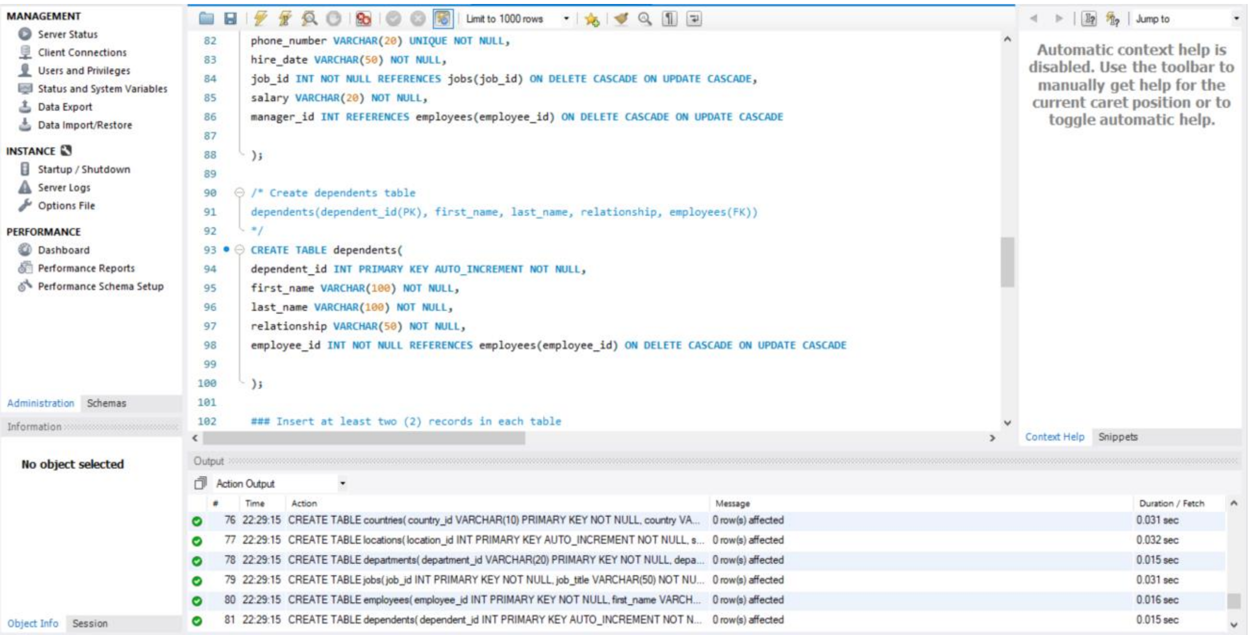
```

/* Create employees table
employees(employee_id(PK), first_name, last_name, email, phone_number, hire_date, job_id(FK), salary, manager_id(FK))
*/
CREATE TABLE employees(
employee_id INT PRIMARY KEY NOT NULL,
first_name VARCHAR(100) NOT NULL,
last_name VARCHAR(100) NOT NULL,
email VARCHAR(100) UNIQUE NOT NULL,
phone_number VARCHAR(20) UNIQUE NOT NULL,
hire_date VARCHAR(50) NOT NULL,
job_id INT NOT NULL REFERENCES jobs(job_id) ON DELETE CASCADE ON UPDATE CASCADE,
salary VARCHAR(20) NOT NULL,
manager_id INT REFERENCES employees(employee_id) ON DELETE CASCADE ON UPDATE CASCADE

);

/* Create dependents table
dependents(dependent_id(PK), first_name, last_name, relationship, employees(FK))
*/
CREATE TABLE dependents(
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

No object selected

	#	Time	Action	Message	Duration / Fetch
✓	75	22:29:15	CREATE TABLE regions(region_id INT PRIMARY KEY AUTO_INCREMENT, region_name VA...	0 row(s) affected	0.016 sec
✓	76	22:29:15	CREATE TABLE countries(country_id VARCHAR(10) PRIMARY KEY NOT NULL, country VA...	0 row(s) affected	0.031 sec
✓	77	22:29:15	CREATE TABLE locations(location_id INT PRIMARY KEY AUTO_INCREMENT NOT NULL, s...	0 row(s) affected	0.032 sec
✓	78	22:29:15	CREATE TABLE departments(department_id VARCHAR(20) PRIMARY KEY NOT NULL, depa...	0 row(s) affected	0.015 sec
✓	79	22:29:15	CREATE TABLE jobs(job_id INT PRIMARY KEY NOT NULL, job_title VARCHAR(50) NOT NU...	0 row(s) affected	0.031 sec
✓	80	22:29:15	CREATE TABLE employees(employee_id INT PRIMARY KEY NOT NULL, first_name VARCH...	0 row(s) affected	0.016 sec

Screenshot 6 (Create the dependents table)



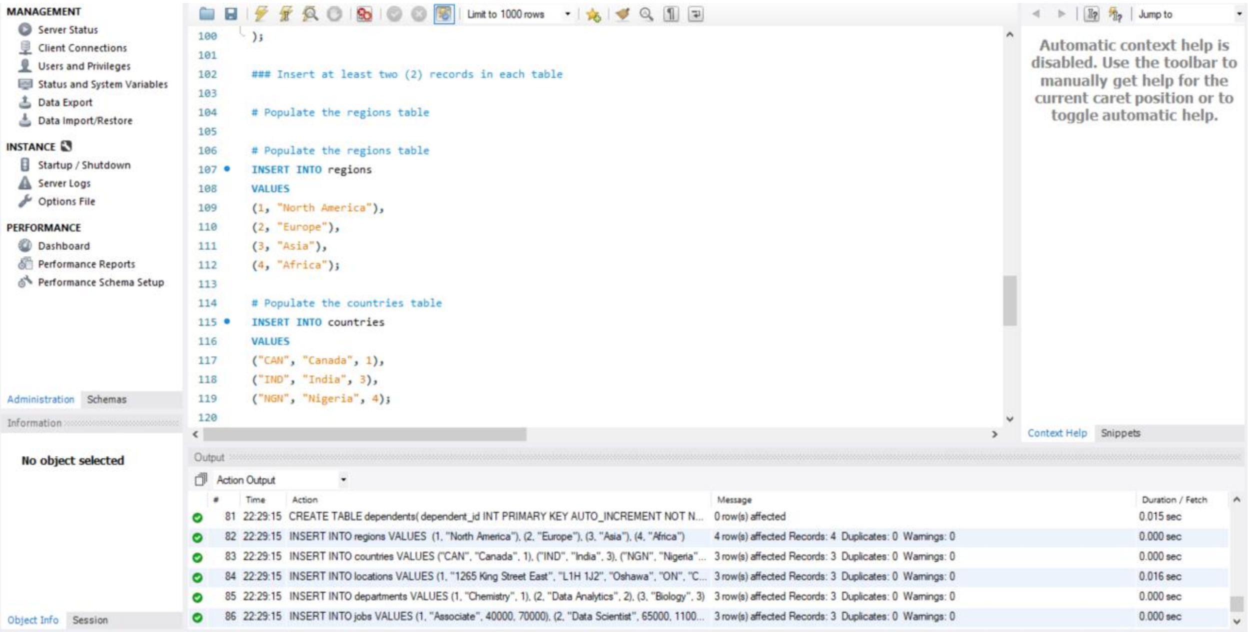
```
phone_number VARCHAR(20) UNIQUE NOT NULL,
hire_date VARCHAR(50) NOT NULL,
job_id INT NOT NULL REFERENCES jobs(job_id) ON DELETE CASCADE ON UPDATE CASCADE,
salary VARCHAR(20) NOT NULL,
manager_id INT REFERENCES employees(employee_id) ON DELETE CASCADE ON UPDATE CASCADE

);

/* Create dependents table
dependents(dependent_id(PK), first_name, last_name, relationship, employees(FK))
*/
CREATE TABLE dependents(
dependent_id INT PRIMARY KEY AUTO_INCREMENT NOT NULL,
first_name VARCHAR(100) NOT NULL,
last_name VARCHAR(100) NOT NULL,
relationship VARCHAR(50) NOT NULL,
employee_id INT NOT NULL REFERENCES employees(employee_id) ON DELETE CASCADE ON UPDATE CASCADE

);

### Insert at least two (2) records in each table
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

No object selected

	#	Time	Action	Message	Duration / Fetch
✓	76	22:29:15	CREATE TABLE countries(country_id VARCHAR(10) PRIMARY KEY NOT NULL, country VA...	0 row(s) affected	0.031 sec
✓	77	22:29:15	CREATE TABLE locations(location_id INT PRIMARY KEY AUTO_INCREMENT NOT NULL, s...	0 row(s) affected	0.032 sec
✓	78	22:29:15	CREATE TABLE departments(department_id VARCHAR(20) PRIMARY KEY NOT NULL, depa...	0 row(s) affected	0.015 sec
✓	79	22:29:15	CREATE TABLE jobs(job_id INT PRIMARY KEY NOT NULL, job_title VARCHAR(50) NOT NU...	0 row(s) affected	0.031 sec
✓	80	22:29:15	CREATE TABLE employees(employee_id INT PRIMARY KEY NOT NULL, first_name VARCH...	0 row(s) affected	0.016 sec
✓	81	22:29:15	CREATE TABLE dependents(dependent_id INT PRIMARY KEY AUTO_INCREMENT NOT N...	0 row(s) affected	0.015 sec

Screenshot 7 (Insert values into the regions and countries table)



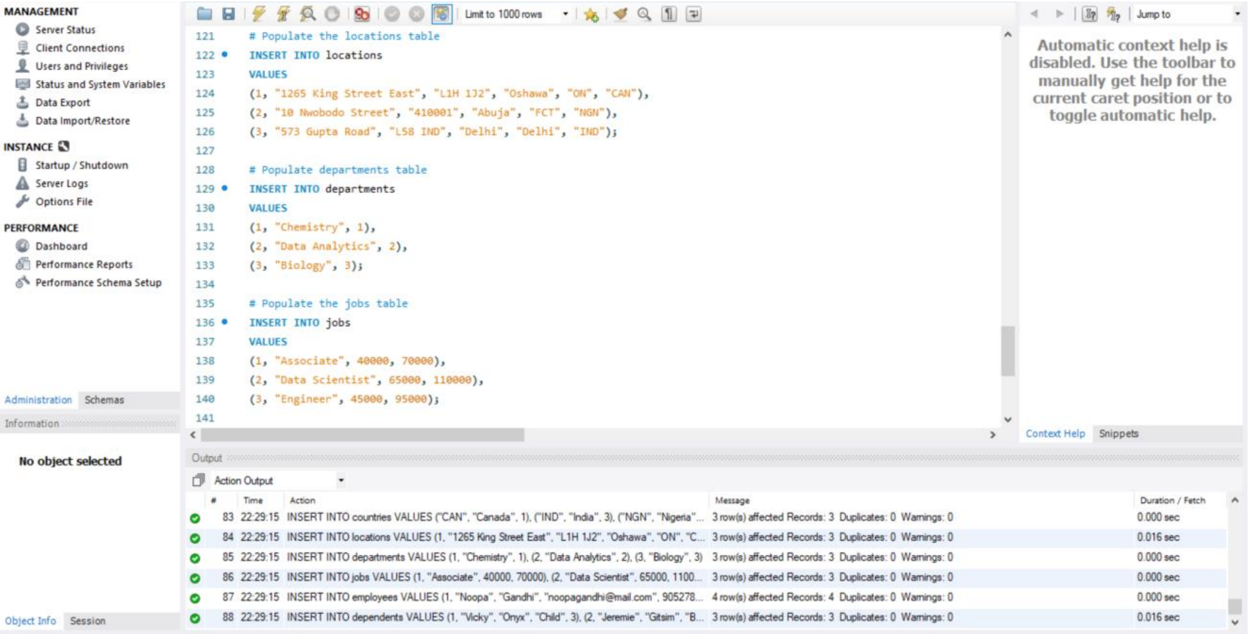
```sql
);

### Insert at least two (2) records in each table

# Populate the regions table

# Populate the regions table
INSERT INTO regions
VALUES
(1, "North America"),
(2, "Europe"),
(3, "Asia"),
(4, "Africa");

# Populate the countries table
INSERT INTO countries
VALUES
("CAN", "Canada", 1),
("IND", "India", 3),
("NGN", "Nigeria", 4);
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

No object selected

```
#   Time      Action                                                                           Message                                                     Duration / Fetch
81  22:29:15  CREATE TABLE dependents( dependent_id INT PRIMARY KEY AUTO_INCREMENT NOT N...      0 row(s) affected                                           0.015 sec
82  22:29:15  INSERT INTO regions VALUES  (1, "North America"), (2, "Europe"), (3, "Asia"), (4, "Africa")   4 row(s) affected Records: 4  Duplicates: 0  Warnings: 0   0.000 sec
83  22:29:15  INSERT INTO countries VALUES ("CAN", "Canada", 1), ("IND", "India", 3), ("NGN", "Nigeria"...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.000 sec
84  22:29:15  INSERT INTO locations VALUES (1, "1265 King Street East", "L1H 1J2", "Oshawa", "ON", "C...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.016 sec
85  22:29:15  INSERT INTO departments VALUES (1, "Chemistry", 1), (2, "Data Analytics", 2), (3, "Biology", 3)   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.000 sec
86  22:29:15  INSERT INTO jobs VALUES (1, "Associate", 40000, 70000), (2, "Data Scientist", 65000, 1100...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.000 sec
```

Screenshot 8 (Insert values into the locations, departments, and jobs table)



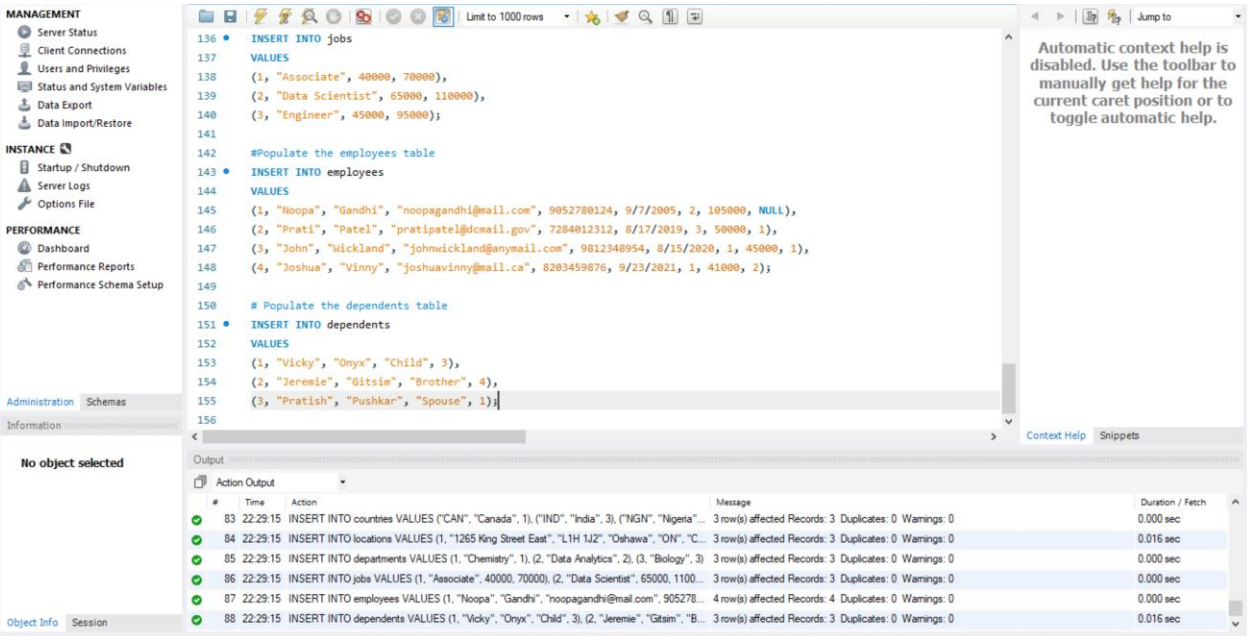
```sql
# Populate the locations table
INSERT INTO locations
VALUES
(1, "1265 King Street East", "L1H 1J2", "Oshawa", "ON", "CAN"),
(2, "10 Nwobodo Street", "410001", "Abuja", "FCT", "NGN"),
(3, "573 Gupta Road", "L58 IND", "Delhi", "Delhi", "IND");

# Populate departments table
INSERT INTO departments
VALUES
(1, "Chemistry", 1),
(2, "Data Analytics", 2),
(3, "Biology", 3);

# Populate the jobs table
INSERT INTO jobs
VALUES
(1, "Associate", 40000, 70000),
(2, "Data Scientist", 65000, 110000),
(3, "Engineer", 45000, 95000);
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

No object selected

```
#   Time      Action                                                                           Message                                                     Duration / Fetch
83  22:29:15  INSERT INTO countries VALUES ("CAN", "Canada", 1), ("IND", "India", 3), ("NGN", "Nigeria"...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.000 sec
84  22:29:15  INSERT INTO locations VALUES (1, "1265 King Street East", "L1H 1J2", "Oshawa", "ON", "C...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.016 sec
85  22:29:15  INSERT INTO departments VALUES (1, "Chemistry", 1), (2, "Data Analytics", 2), (3, "Biology", 3)   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.000 sec
86  22:29:15  INSERT INTO jobs VALUES (1, "Associate", 40000, 70000), (2, "Data Scientist", 65000, 1100...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.000 sec
87  22:29:15  INSERT INTO employees VALUES (1, "Noopa", "Gandhi", "noopagandhi@mail.com", 905278...     4 row(s) affected Records: 4  Duplicates: 0  Warnings: 0   0.000 sec
88  22:29:15  INSERT INTO dependents VALUES (1, "Vicky", "Onyx", "Child", 3), (2, "Jeremie", "Gitsim", "B...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.016 sec
```

Screenshot 9 (Insert values into the employees and dependents table)

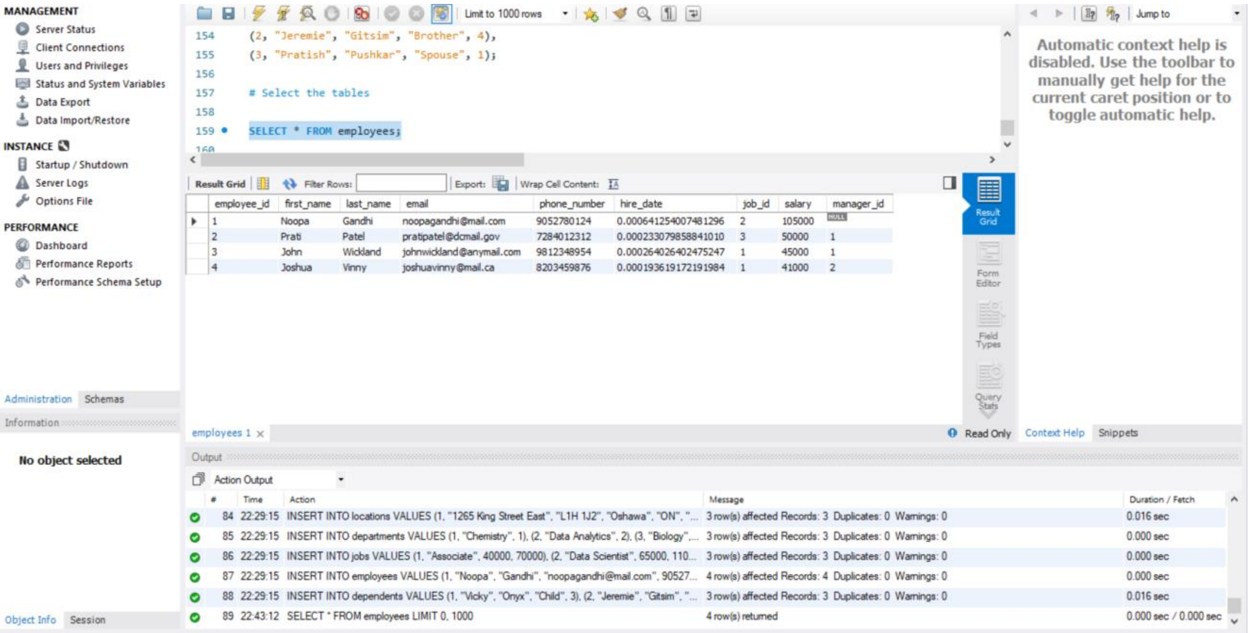


Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

```
INSERT INTO jobs
VALUES
(1, "Associate", 40000, 70000),
(2, "Data Scientist", 65000, 110000),
(3, "Engineer", 45000, 95000);

#Populate the employees table
INSERT INTO employees
VALUES
(1, "Noopa", "Gandhi", "noopagandhi@mail.com", 9052780124, 9/7/2005, 2, 105000, NULL),
(2, "Prati", "Patel", "pratipatel@dcmail.gov", 7284012312, 8/17/2019, 3, 50000, 1),
(3, "John", "Wickland", "johnwickland@anymail.com", 9812348954, 8/15/2020, 1, 45000, 1),
(4, "Joshua", "Vinny", "joshuavinny@mail.ca", 8203459876, 9/23/2021, 1, 41000, 2);

# Populate the dependents table
INSERT INTO dependents
VALUES
(1, "Vicky", "Onyx", "Child", 3),
(2, "Jeremie", "Gitsim", "Brother", 4),
(3, "Pratish", "Pushkar", "Spouse", 1);
```

```
#   Time      Action                                                                                   Message                                                      Duration / Fetch
83  22:29:15  INSERT INTO countries VALUES ("CAN", "Canada", 1), ("IND", "India", 3), ("NGN", "Nigeria"...  3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.000 sec
84  22:29:15  INSERT INTO locations VALUES (1, "1265 King Street East", "L1H 1J2", "Oshawa", "ON", "C...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.016 sec
85  22:29:15  INSERT INTO departments VALUES (1, "Chemistry", 1), (2, "Data Analytics", 2), (3, "Biology", 3)  3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.000 sec
86  22:29:15  INSERT INTO jobs VALUES (1, "Associate", 40000, 70000), (2, "Data Scientist", 65000, 1100...  3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.000 sec
87  22:29:15  INSERT INTO employees VALUES (1, "Noopa", "Gandhi", "noopagandhi@mail.com", 905278...      4 row(s) affected Records: 4  Duplicates: 0  Warnings: 0  0.000 sec
88  22:29:15  INSERT INTO dependents VALUES (1, "Vicky", "Onyx", "Child", 3), (2, "Jeremie", "Gitsim", "B...  3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.016 sec
```

Screenshot 10 (Select Statement: Select all columns from employees table)



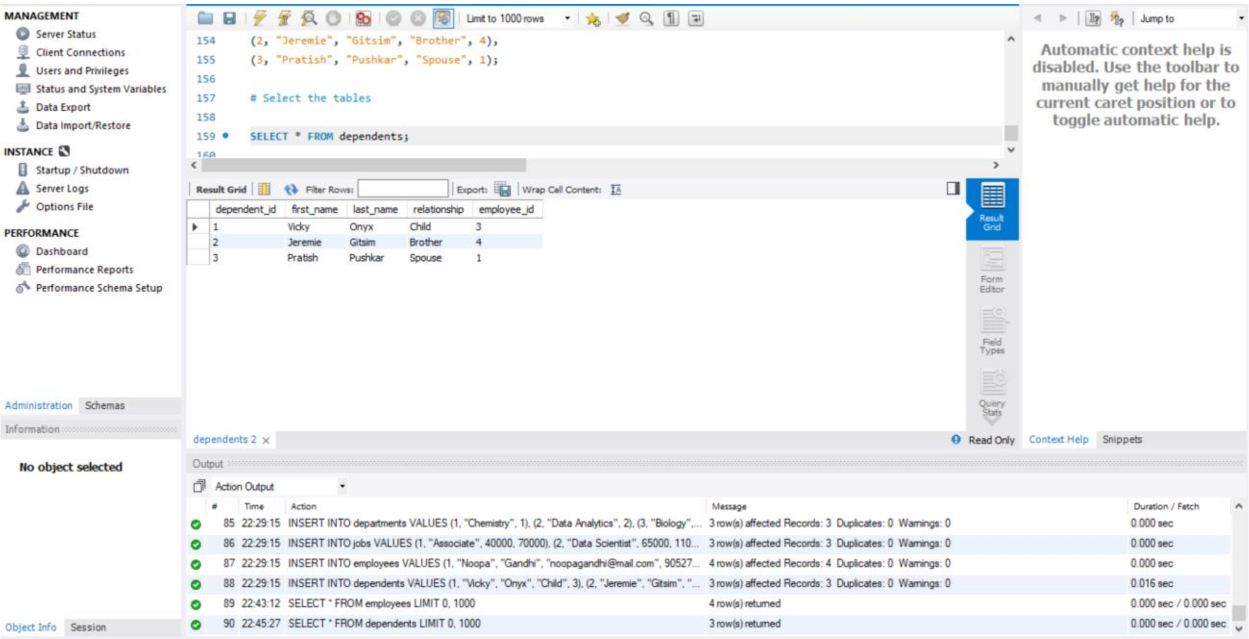
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

```
(2, "Jeremie", "Gitsim", "Brother", 4),
(3, "Pratish", "Pushkar", "Spouse", 1);

# Select the tables

SELECT * FROM employees;
```

employee_id	first_name	last_name	email	phone_number	hire_date	job_id	salary	manager_id
1	Noopa	Gandhi	noopagandhi@mail.com	9052780124	0.000641254007481296	2	105000	NULL
2	Prati	Patel	pratipatel@dcmail.gov	7284012312	0.000233079858841010	3	50000	1
3	John	Wickland	johnwickland@anymail.com	9812348954	0.000264026402475247	1	45000	1
4	Joshua	Vinny	joshuavinny@mail.ca	8203459876	0.000193619172191984	1	41000	2

```
#   Time      Action                                                                                   Message                                                      Duration / Fetch
84  22:29:15  INSERT INTO locations VALUES (1, "1265 King Street East", "L1H 1J2", "Oshawa", "ON", "...    3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.016 sec
85  22:29:15  INSERT INTO departments VALUES (1, "Chemistry", 1), (2, "Data Analytics", 2), (3, "Biology",...  3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.000 sec
86  22:29:15  INSERT INTO jobs VALUES (1, "Associate", 40000, 70000), (2, "Data Scientist", 65000, 110...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.000 sec
87  22:29:15  INSERT INTO employees VALUES (1, "Noopa", "Gandhi", "noopagandhi@mail.com", 90527...       4 row(s) affected Records: 4  Duplicates: 0  Warnings: 0  0.000 sec
88  22:29:15  INSERT INTO dependents VALUES (1, "Vicky", "Onyx", "Child", 3), (2, "Jeremie", "Gitsim", "...  3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.016 sec
89  22:43:12  SELECT * FROM employees LIMIT 0, 1000                                                    4 row(s) returned                                            0.000 sec / 0.000 sec
```

Screenshot 11 (Select Statement: Select all columns from dependents table)

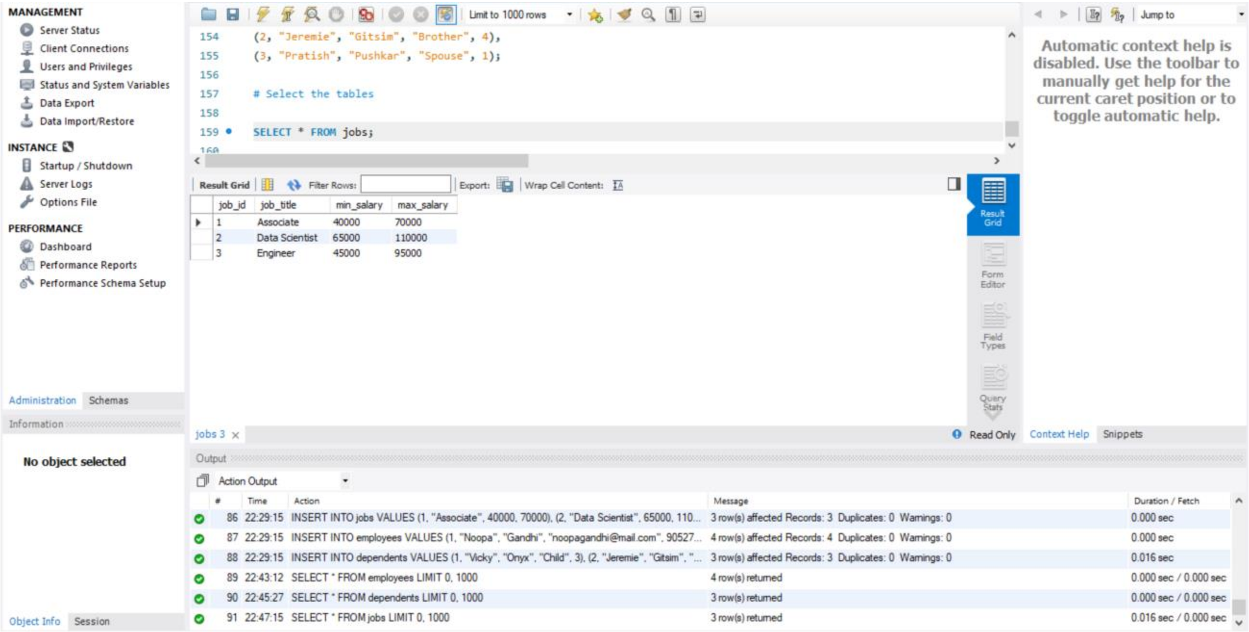


```
    (2, "Jeremie", "Gitsim", "Brother", 4),
    (3, "Pratish", "Pushkar", "Spouse", 1);

# Select the tables

SELECT * FROM dependents;
```

dependent_id	first_name	last_name	relationship	employee_id
1	Vicky	Onyx	Child	3
2	Jeremie	Gitsim	Brother	4
3	Pratish	Pushkar	Spouse	1

```
#   Time      Action                                                                                  Message                                                      Duration / Fetch
85  22:29:15  INSERT INTO departments VALUES (1, "Chemistry", 1), (2, "Data Analytics", 2), (3, "Biology",...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.000 sec
86  22:29:15  INSERT INTO jobs VALUES (1, "Associate", 40000, 70000), (2, "Data Scientist", 65000, 110...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.000 sec
87  22:29:15  INSERT INTO employees VALUES (1, "Noopa", "Gandhi", "noopagandhi@mail.com", 90527...   4 row(s) affected Records: 4  Duplicates: 0  Warnings: 0   0.000 sec
88  22:29:15  INSERT INTO dependents VALUES (1, "Vicky", "Onyx", "Child", 3), (2, "Jeremie", "Gitsim", "...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.016 sec
89  22:43:12  SELECT * FROM employees LIMIT 0, 1000                                                   4 row(s) returned                                            0.000 sec / 0.000 sec
90  22:45:27  SELECT * FROM dependents LIMIT 0, 1000                                                  3 row(s) returned                                            0.000 sec / 0.000 sec
```

Screenshot 12 (Select Statement: Select all columns from jobs table)

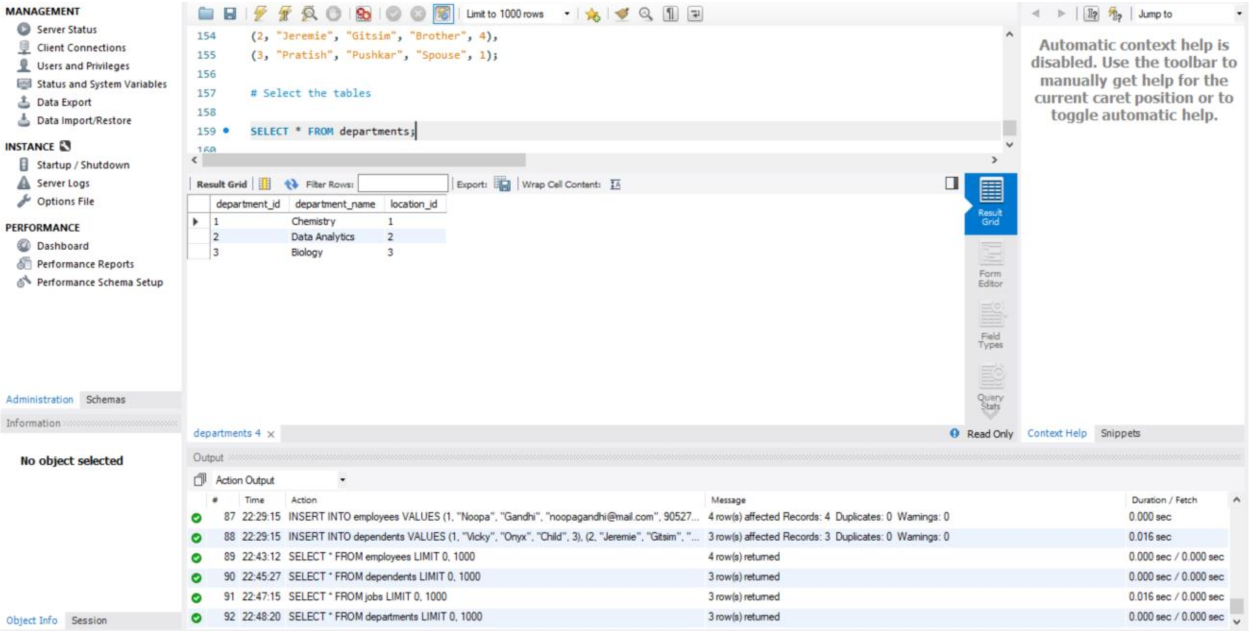


```
    (2, "Jeremie", "Gitsim", "Brother", 4),
    (3, "Pratish", "Pushkar", "Spouse", 1);

# Select the tables

SELECT * FROM jobs;
```

job_id	job_title	min_salary	max_salary
1	Associate	40000	70000
2	Data Scientist	65000	110000
3	Engineer	45000	95000

```
#   Time      Action                                                                                  Message                                                      Duration / Fetch
86  22:29:15  INSERT INTO jobs VALUES (1, "Associate", 40000, 70000), (2, "Data Scientist", 65000, 110...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.000 sec
87  22:29:15  INSERT INTO employees VALUES (1, "Noopa", "Gandhi", "noopagandhi@mail.com", 90527...   4 row(s) affected Records: 4  Duplicates: 0  Warnings: 0   0.000 sec
88  22:29:15  INSERT INTO dependents VALUES (1, "Vicky", "Onyx", "Child", 3), (2, "Jeremie", "Gitsim", "...   3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0   0.016 sec
89  22:43:12  SELECT * FROM employees LIMIT 0, 1000                                                   4 row(s) returned                                            0.000 sec / 0.000 sec
90  22:45:27  SELECT * FROM dependents LIMIT 0, 1000                                                  3 row(s) returned                                            0.000 sec / 0.000 sec
91  22:47:15  SELECT * FROM jobs LIMIT 0, 1000                                                        3 row(s) returned                                            0.016 sec / 0.000 sec
```

Screenshot 13 (Select Statement: Select all columns from departments table)



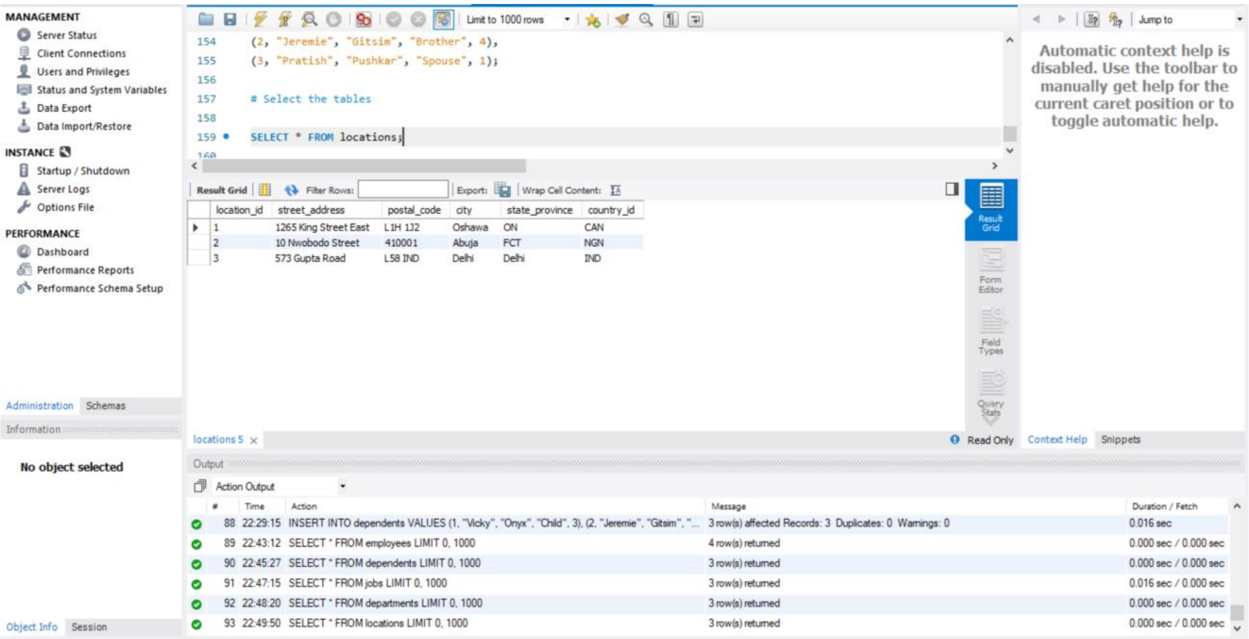
```
    (2, "Jeremie", "Gitsim", "Brother", 4),
    (3, "Pratish", "Pushkar", "Spouse", 1);

# Select the tables

SELECT * FROM departments;
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

department_id	department_name	location_id
1	Chemistry	1
2	Data Analytics	2
3	Biology	3

```
#   Time      Action                                                                    Message                                                  Duration / Fetch
87  22:29:15  INSERT INTO employees VALUES (1, "Noopa", "Gandhi", "noopagandhi@mail.com", 90527...  4 row(s) affected Records: 4  Duplicates: 0  Warnings: 0  0.000 sec
88  22:29:15  INSERT INTO dependents VALUES (1, "Vicky", "Onyx", "Child", 3), (2, "Jeremie", "Gitsim", "...  3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.016 sec
89  22:43:12  SELECT * FROM employees LIMIT 0, 1000                                     4 row(s) returned                                        0.000 sec / 0.000 sec
90  22:45:27  SELECT * FROM dependents LIMIT 0, 1000                                    3 row(s) returned                                        0.000 sec / 0.000 sec
91  22:47:15  SELECT * FROM jobs LIMIT 0, 1000                                          3 row(s) returned                                        0.016 sec / 0.000 sec
92  22:48:20  SELECT * FROM departments LIMIT 0, 1000                                   3 row(s) returned                                        0.000 sec / 0.000 sec
```

Screenshot 14 (Select Statement: Select all columns from locations table)



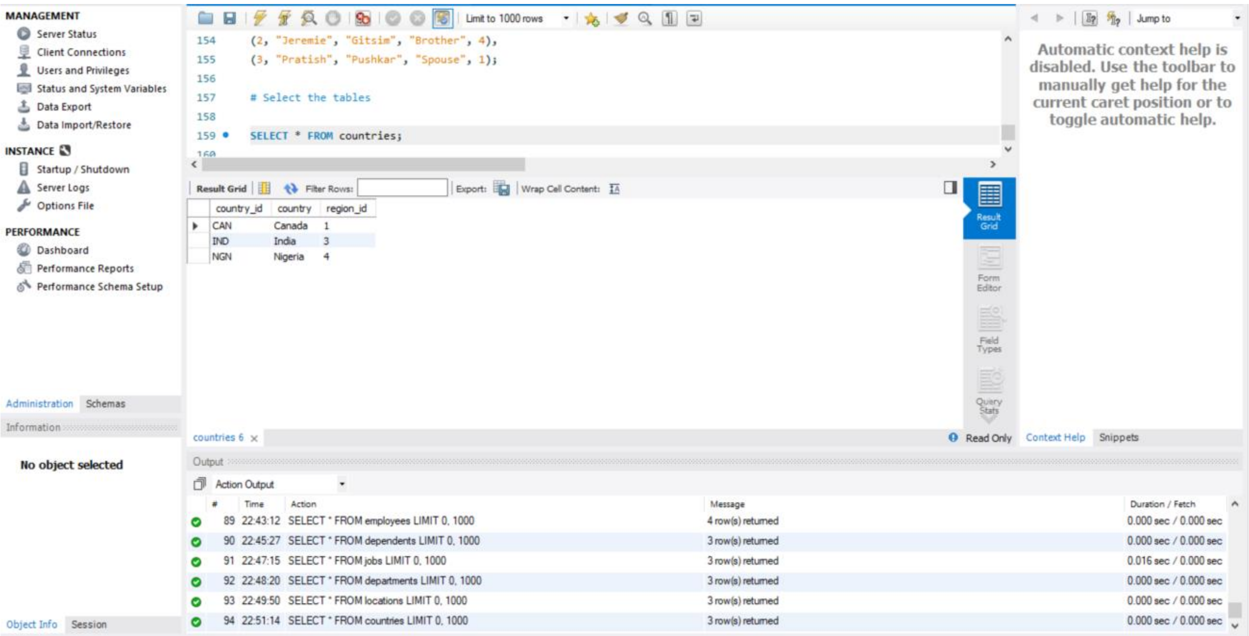
```
    (2, "Jeremie", "Gitsim", "Brother", 4),
    (3, "Pratish", "Pushkar", "Spouse", 1);

# Select the tables

SELECT * FROM locations;
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

location_id	street_address	postal_code	city	state_province	country_id
1	1265 King Street East	L1H 1J2	Oshawa	ON	CAN
2	10 Nwobodo Street	410001	Abuja	FCT	NGN
3	573 Gupta Road	L58 IND	Delhi	Delhi	IND

```
#   Time      Action                                                                    Message                                                  Duration / Fetch
88  22:29:15  INSERT INTO dependents VALUES (1, "Vicky", "Onyx", "Child", 3), (2, "Jeremie", "Gitsim", "...  3 row(s) affected Records: 3  Duplicates: 0  Warnings: 0  0.016 sec
89  22:43:12  SELECT * FROM employees LIMIT 0, 1000                                     4 row(s) returned                                        0.000 sec / 0.000 sec
90  22:45:27  SELECT * FROM dependents LIMIT 0, 1000                                    3 row(s) returned                                        0.000 sec / 0.000 sec
91  22:47:15  SELECT * FROM jobs LIMIT 0, 1000                                          3 row(s) returned                                        0.016 sec / 0.000 sec
92  22:48:20  SELECT * FROM departments LIMIT 0, 1000                                   3 row(s) returned                                        0.000 sec / 0.000 sec
93  22:49:50  SELECT * FROM locations LIMIT 0, 1000                                     3 row(s) returned                                        0.000 sec / 0.000 sec
```

Screenshot 15 (Select Statement: Select all columns from countries table)



```
    (2, "Jeremie", "Gitsim", "Brother", 4),
    (3, "Pratish", "Pushkar", "Spouse", 1);

    # Select the tables

    SELECT * FROM countries;
```

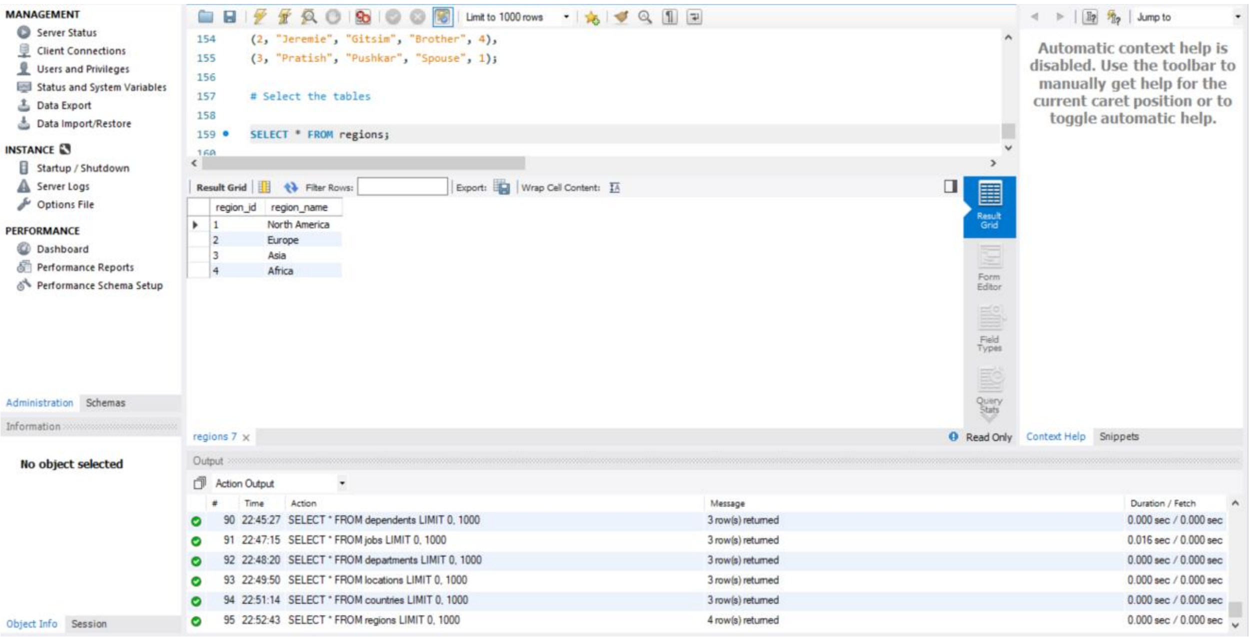
Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

No object selected

country_id	country	region_id
CAN	Canada	1
IND	India	3
NGN	Nigeria	4

```
  #   Time      Action                                      Message            Duration / Fetch
✓ 89  22:43:12  SELECT * FROM employees LIMIT 0, 1000       4 row(s) returned  0.000 sec / 0.000 sec
✓ 90  22:45:27  SELECT * FROM dependents LIMIT 0, 1000      3 row(s) returned  0.000 sec / 0.000 sec
✓ 91  22:47:15  SELECT * FROM jobs LIMIT 0, 1000            3 row(s) returned  0.016 sec / 0.000 sec
✓ 92  22:48:20  SELECT * FROM departments LIMIT 0, 1000     3 row(s) returned  0.000 sec / 0.000 sec
✓ 93  22:49:50  SELECT * FROM locations LIMIT 0, 1000       3 row(s) returned  0.000 sec / 0.000 sec
✓ 94  22:51:14  SELECT * FROM countries LIMIT 0, 1000       3 row(s) returned  0.000 sec / 0.000 sec
```

Screenshot 16 (Select Statement: Select all columns from regions table)



```
    (2, "Jeremie", "Gitsim", "Brother", 4),
    (3, "Pratish", "Pushkar", "Spouse", 1);

    # Select the tables

    SELECT * FROM regions;
```

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

No object selected

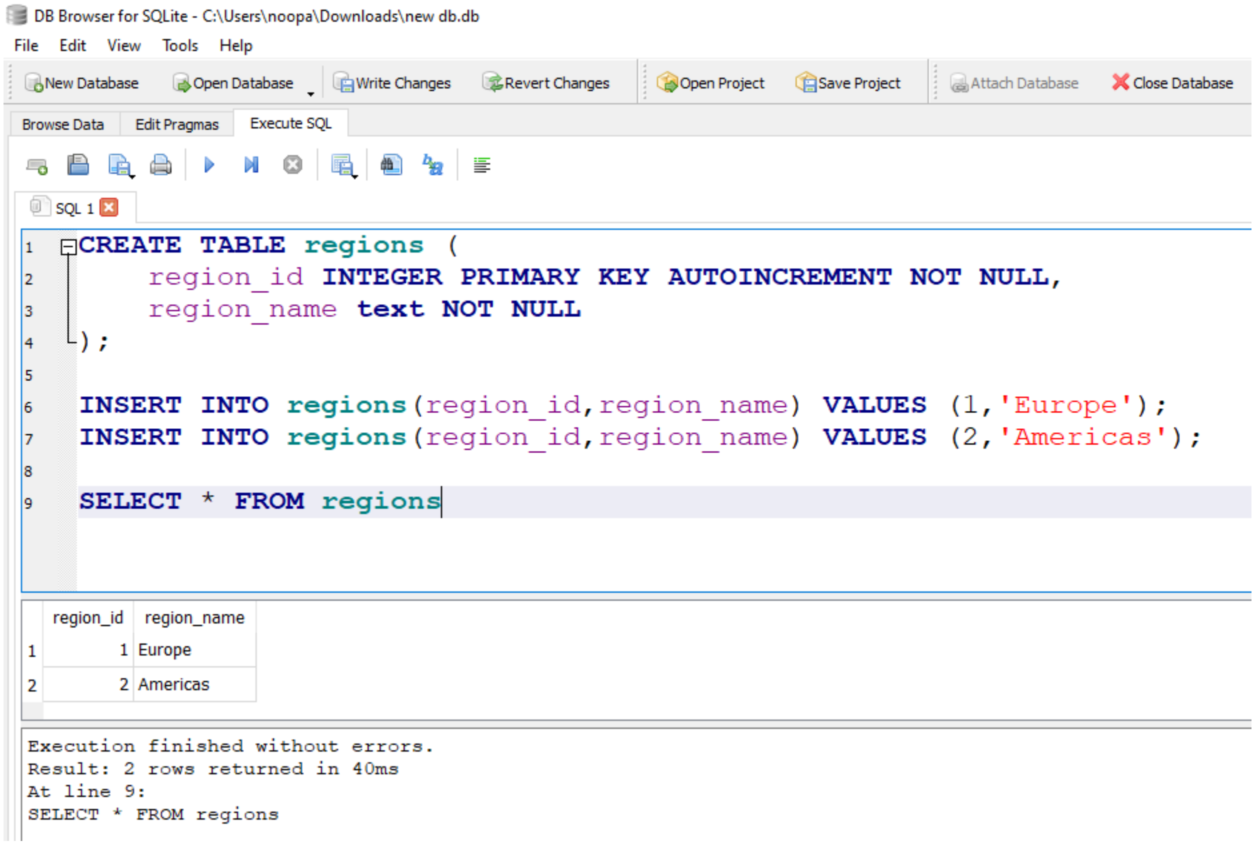
region_id	region_name
1	North America
2	Europe
3	Asia
4	Africa

```
  #   Time      Action                                      Message            Duration / Fetch
✓ 90  22:45:27  SELECT * FROM dependents LIMIT 0, 1000      3 row(s) returned  0.000 sec / 0.000 sec
✓ 91  22:47:15  SELECT * FROM jobs LIMIT 0, 1000            3 row(s) returned  0.016 sec / 0.000 sec
✓ 92  22:48:20  SELECT * FROM departments LIMIT 0, 1000     3 row(s) returned  0.000 sec / 0.000 sec
✓ 93  22:49:50  SELECT * FROM locations LIMIT 0, 1000       3 row(s) returned  0.000 sec / 0.000 sec
✓ 94  22:51:14  SELECT * FROM countries LIMIT 0, 1000       3 row(s) returned  0.000 sec / 0.000 sec
✓ 95  22:52:43  SELECT * FROM regions LIMIT 0, 1000         4 row(s) returned  0.000 sec / 0.000 sec
```

Submission Format:

A single word document including Part-A and Part-B. For **Part A** students can draw the ER diagram on a paper with pen or use the tool https://app.diagrams.net/

For **Part-B** the screen shots of all the constructed table have to be provided as given below. Every table screenshot has to be provided as below



```sql
CREATE TABLE regions (
	region_id INTEGER PRIMARY KEY AUTOINCREMENT NOT NULL,
	region_name text NOT NULL
);

INSERT INTO regions(region_id,region_name) VALUES (1,'Europe');
INSERT INTO regions(region_id,region_name) VALUES (2,'Americas');

SELECT * FROM regions
```

	region_id	region_name
1	1	Europe
2	2	Americas

```
Execution finished without errors.
Result: 2 rows returned in 40ms
At line 9:
SELECT * FROM regions
```

The database created ie the .db file for Part-B should also be submitted.

Note:

Any kind of violation of academic integrity including copying other students work and copying answers directly from Internet will automatically lead to the assignment to be graded as zero.

The facility for the submission of late assignments is up to a maximum of 72 hours after the assignment due date. All allowed late submissions will be assessed a penalty of 25% of the total possible grade for the assignment.