CS 313 Databases and Information Systems Lab

Assignment – 4 Rahul Raj (200010044)

1. CREATE USER 'universityDB0044'@'localhost' IDENTIFIED BY 'Raj@8923';

```
mysql> create user 'universityDB0044'@'localhost' identified by 'Raj@8923';
Query OK, 0 rows affected (6.70 sec)
```

```
mysql> grant all privileges on university.* to 'universityDB0044'@'localhost';
Query OK, 0 rows affected (0.77 sec)
```

2. CREATE DATABASE university;

```
geniusraj@geniusraj-Nitro-AN517-51:~$ sudo mysql -u universityDB0044 -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \g.
Your MySQL connection id is 10
Server version: 8.0.30-0ubuntu0.22.04.1 (Ubuntu)

Copyright (c) 2000, 2022, Oracle and/or its affiliates.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql>
```

3. USE university;

```
mysql> use university;
Database changed
```

4. source ./Downloads/Assignment4/DDL.sql;

```
mysql> source ./Downloads/Assignment4/DDL.sql;
Query OK, 0 rows affected (0.04 sec)

Query OK, 0 rows affected (0.02 sec)

Query OK, 0 rows affected (0.03 sec)

Query OK, 0 rows affected (0.02 sec)

Query OK, 0 rows affected (0.03 sec)

Query OK, 0 rows affected (0.03 sec)

Query OK, 0 rows affected (0.03 sec)

Query OK, 0 rows affected (0.02 sec)

Query OK, 0 rows affected (0.02 sec)

Query OK, 0 rows affected (0.03 sec)

Query OK, 0 rows affected (0.03 sec)

Query OK, 0 rows affected (0.01 sec)
```

5. source ./Downloads/Assignment4/InsertValues.sql;

```
mysql> source ./Downloads/Assignment4/InsertValues.sql;
Query OK, 0 rows affected (0.00 sec)

Query OK, 0 rows affected (0.01 sec)

Query OK, 0 rows affected (0.00 sec)
```

6. Information Schema of each table:

```
mysql> select table_name, column_name, data_type
    -> from information schema.columns
    -> where table_name = 'advisor';
 TABLE NAME | COLUMN NAME | DATA TYPE |
 advisor | s ID
                          | varchar
                         | varchar
 advisor | i ID
2 rows in set (0.00 sec)
mysql> show tables;
| Tables_in_university |
advisor
| classroom
course
 department
 instructor
 ргегед
 section
 student
 takes
 teaches
| time slot
11 rows in set (0.00 sec)
mysql> select table name, column name, data type from information schema.column
s where table name = 'classroom';
| TABLE_NAME | COLUMN_NAME | DATA_TYPE |
 classroom | building | varchar
| classroom | room_number | varchar
 classroom | capacity | decimal
3 rows in set (0.00 sec)
```

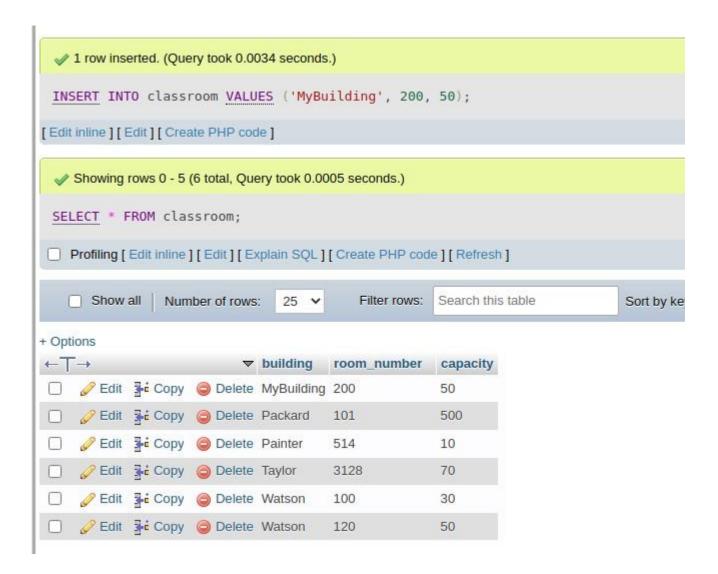
```
mysql> select table_name, column_name, data_type from information_schema.column
s where table_name = 'course';
  TABLE_NAME | COLUMN_NAME | DATA_TYPE
             | course_id
  course
                             varchar
              title
                             varchar
  course
  course
             | dept_name
                            | varchar
             | credits
  course
                            | decimal
4 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type from information_schema.column
s where table name = 'department';
  TABLE_NAME | COLUMN_NAME | DATA_TYPE
  department | dept name
                             varchar
  department | building
                            | varchar
  department | budget
                            | decimal
3 rows in set (0.01 sec)
mysql> select table_name, column_name, data_type from information_schema.column
s where table_name = 'instructor';
  TABLE NAME | COLUMN NAME | DATA TYPE
  instructor | ID
                             varchar
  instructor | name
                             varchar
  instructor | dept_name
                             varchar
  instructor | salary
                            | decimal
  rows in set (0.00 sec)
```

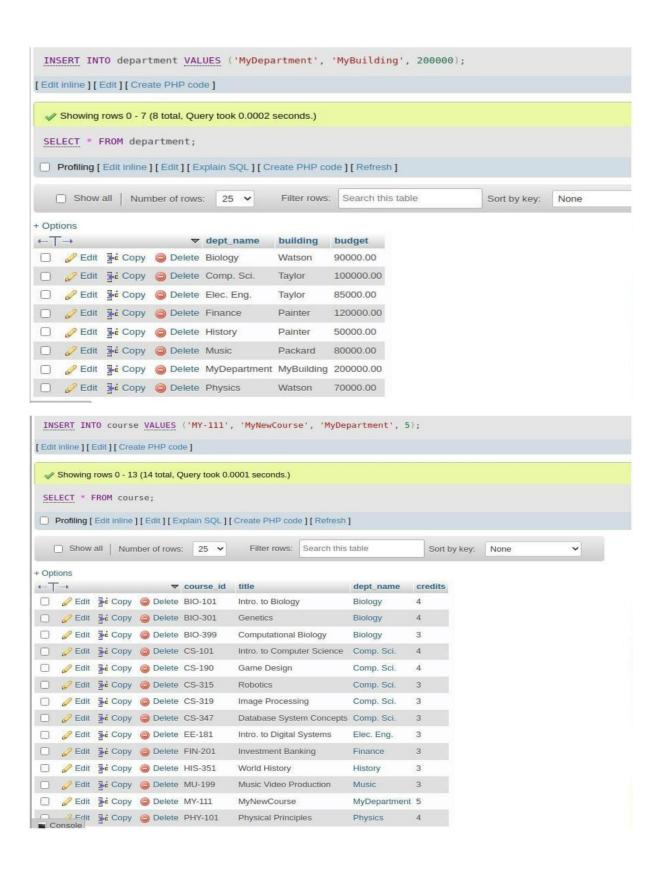
```
mysql> select table_name, column_name, data_type from information_schema.column
s where table_name = 'prereq';
 TABLE_NAME | COLUMN_NAME | DATA_TYPE |
             | course_id
                          varchar
                           varchar
  prered
             | prereq_id
2 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type from information_schema.column
s where table name = 'section';
  TABLE_NAME | COLUMN_NAME | DATA_TYPE
            | course id | varchar
  section
 section
            sec_id
                           varchar
 section | semester
section | year
section | building
                          varchar
                           | decimal
           | building
                           varchar
  section
            | room number | varchar
  section | time_slot_id | varchar
7 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type from information_schema.column
s where table_name = 'student';
 TABLE_NAME | COLUMN_NAME | DATA_TYPE
  student
            ID
                           varchar
             name
  student
                          | varchar
            | dept_name
  student
                          | varchar
  student
          | tot cred
                         decimal
```

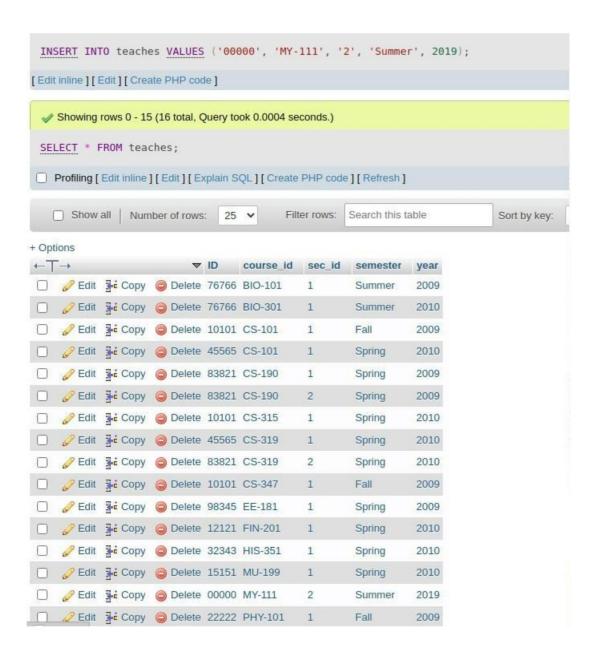
rows in set (0.00 sec)

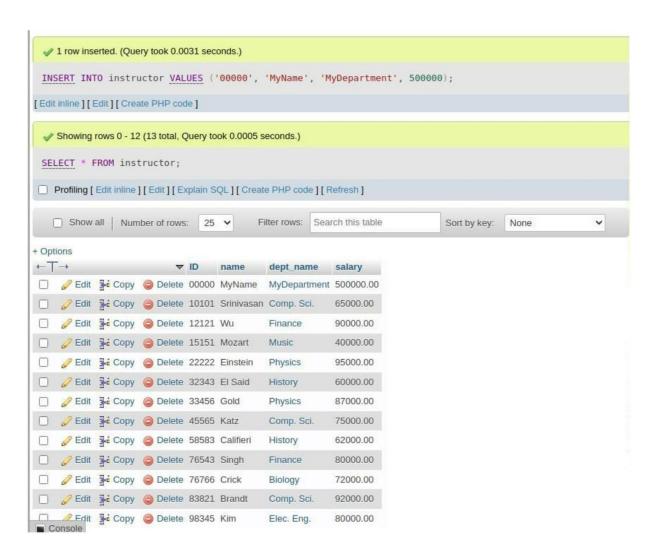
```
mysql> select table_name, column_name, data_type from information_schema.column
s where table name = 'takes':
| TABLE_NAME | COLUMN_NAME | DATA_TYPE |
            ID
 takes
                          | varchar
            | course_id | varchar
 takes
            | sec_id
 takes
                          | varchar
 takes
            | semester | varchar
 takes
            year
                          | decimal
 takes | grade | varchar
6 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type from information_schema.column
s where table_name = 'teaches';
| TABLE_NAME | COLUMN_NAME | DATA_TYPE |
 teaches | ID
                          | varchar
| teaches | course_id | varchar
| teaches | sec_id | varchar
teaches
            semester
                          | varchar
 teaches | year
                          | decimal
5 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type from information_schema.column
s where table_name = 'time_slot';
 TABLE_NAME | COLUMN_NAME | DATA_TYPE |
| time_slot | time_slot_id | varchar
 time_slot | day
                           | varchar
 time_slot | start_hr
time_slot | start_min
time_slot | end_hr
                           | decimal
                           | decimal
                           | decimal
 time_slot | end_min | decimal
 rows in set (0.00 sec)
```

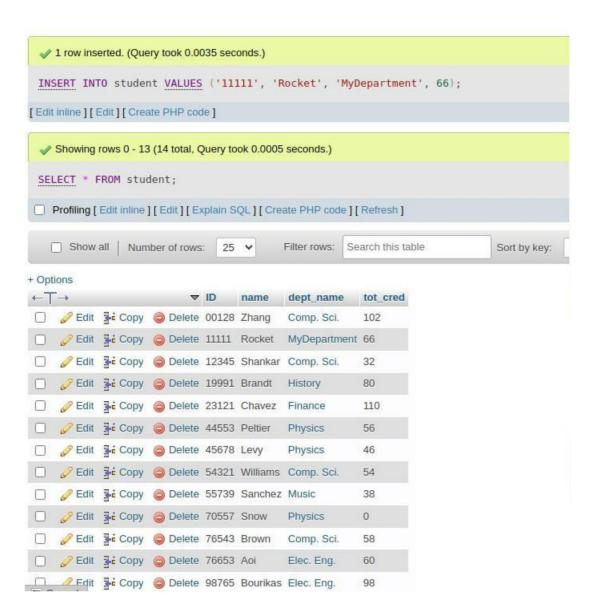
7. Run a select and insert query on each table:

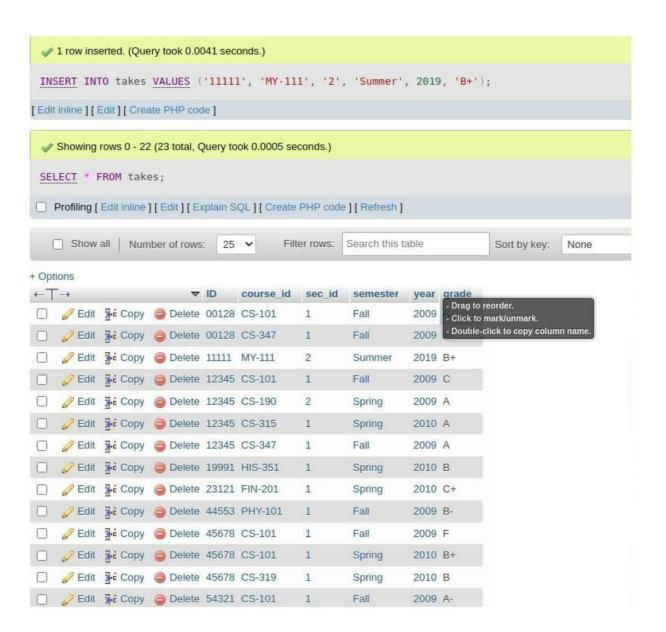




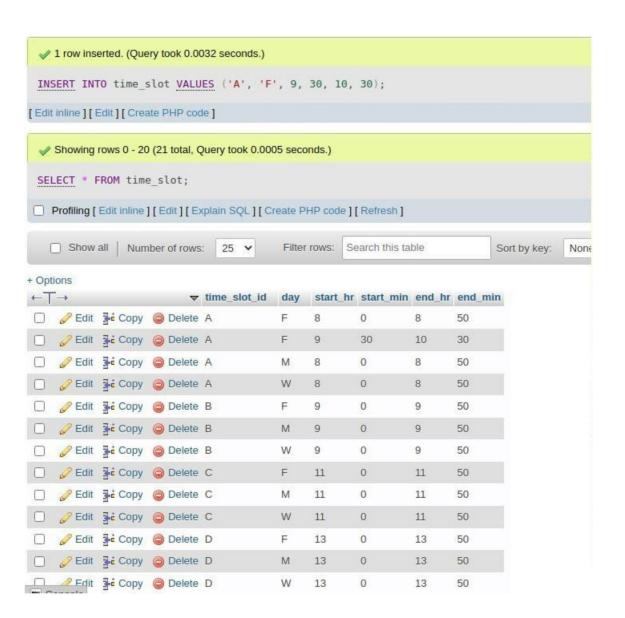


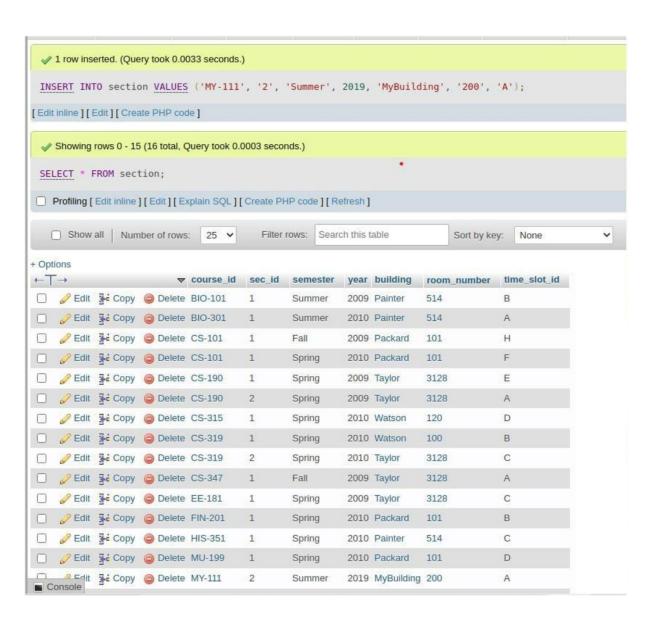














(ii)

```
2 rows inserted. (Query took 0.0106 seconds.)
         INSERT INTO course VALUES ('CS-333', 'Advanced Databases Lab', 'Comp. Sci.', 3), ('CS-303',
          'Intro to Databases', 'Comp. Sci.', 6);
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   [ Edit inline ] [ Edit ] [ Create PHP cod
          Showing rows 0 - 15 (16 total, Query took 0.0006 seconds.)
         SELECT * FROM course;
                                                                                                                                                                                                                                                                     Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refres
                                                                                                                                                                                                        25 🕶
                     Show all
                                                                                                      Number of rows:
                                                                                                                                                                                                                                                                         Filter rows:
                                                                                                                                                                                                                                                                                                                                            Search this table
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sort by key:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    None
+ Options
 \leftarrow T \rightarrow
                                                                                                                                                                                                                                                                    title

▼ course_id

                                                                                                                                                                                                                                                                                                                                                                                                                   dept_name
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    credits

Ø Edit 

Graph Copy 

Open Delete BIO-101

Ope
                                                                                                                                                                                                                                                                    Intro. to Biology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4
                                                                                                                                                                                                                                                                                                                                                                                                                  Biology
                                4
                                                                                                                                                                                                                                                                    Genetics
                                                                                                                                                                                                                                                                                                                                                                                                                  Biology

    Ø Edit 
    ♣
    Copy 
    Ø Delete BIO-399

                                                                                                                                                                                                                                                                    Computational Biology
                                                                                                                                                                                                                                                                                                                                                                                                                  Biology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3

Ø Edit 

Graduate Copy 

Ø Delete CS-101

                                                                                                                                                                                                                                                                     Intro. to Computer Science
                                                                                                                                                                                                                                                                                                                                                                                                                 Comp. Sci.

Ø Edit 
→ Copy 

O Delete CS-190

                                                                                                                                                                                                                                                                     Game Design
                                                                                                                                                                                                                                                                                                                                                                                                                  Comp. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4
                              Ø Edit ¾ Copy ⊚ Delete CS-303
                                                                                                                                                                                                                                                                     Intro to Databases
                                                                                                                                                                                                                                                                                                                                                                                                                  Comp. Sci.

Ø Edit 

Graduation Copy 

Open Delete CS-315

Open Delete C
                                                                                                                                                                                                                                                                    Robotics
                                                                                                                                                                                                                                                                                                                                                                                                                  Comp. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3
                              Image Processing
                                                                                                                                                                                                                                                                                                                                                                                                                  Comp. Sci.

Ø Edit 
☐ Copy 
⑥ Delete CS-333

                                                                                                                                                                                                                                                                    Advanced Databases Lab
                                                                                                                                                                                                                                                                                                                                                                                                                  Comp. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3
                              Ø Edit ¾ Copy 			 ○ Delete CS-347
                                                                                                                                                                                                                                                                     Database System Concepts Comp. Sci.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3

⊘ Edit ♣ Copy 
⊜ Delete EE-181

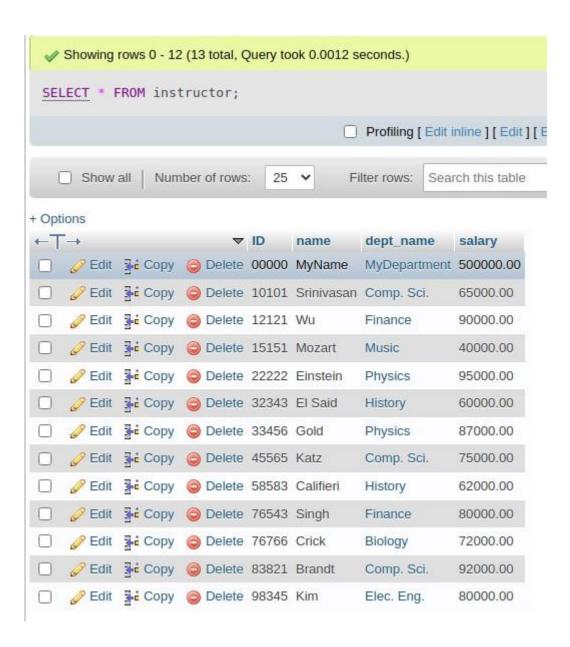
                                                                                                                                                                                                                                                                    Intro. to Digital Systems
                                                                                                                                                                                                                                                                                                                                                                                                                  Elec. Eng.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3

Ø Edit 

Graph Copy 

O Delete FIN-201

O 
                                                                                                                                                                                                                                                                    Investment Banking
                                                                                                                                                                                                                                                                                                                                                                                                                  Finance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3
                                Edit  Copy  Delete HIS-351
                                                                                                                                                                                                                                                                    World History
                                                                                                                                                                                                                                                                                                                                                                                                                   History
```



MySQL returned an empty result set (i	i.e. zero rows). (Query took 0.0014 seconds.)
	(ID) as num_students FROM course JOIN takes USING (course_id) WHERE ar = 2007 AND semester = 'Fall' GROUP BY course_id, title HAVING rse_id ASC;
	Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]
course_id title num_students	
Query results operations	
Create view	
	5