CS 313: Assignment 4

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September 2022

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```
mysql> create database university;
Query OK, 1 row affected (0.01 sec)
mysql> grant all privileges on university.* to 'universityDB0036'@'localhost';
Query OK, 0 rows affected (0.00 sec)
```

mysql> use university; Database changed

```
mysql> source DDL.sql
Query OK, 0 rows affected (0.02 \text{ sec})
Query OK, 0 rows affected (0.01 \text{ sec})
Query OK, 0 rows affected (0.01 sec)
Query OK, 0 rows affected (0.01 \text{ sec})
Query OK, 0 rows affected (0.01 sec)
mysql> show tables;
| Tables_in_university |
 advisor
 classroom
 course
 department
 instructor
 prereq
 section
 student
 takes
 teaches
 time_slot
11 rows in set (0.00 sec)
```

```
mysql> source InsertValues.sql
Query OK, 0 rows affected (0.01 sec)
Query OK, 0 rows affected (0.00 sec)
Query OK, 0 rows affected (0.01 sec)
Query OK, 0 rows affected (0.00 sec)
Query OK, 0 rows affected (0.00 sec)
Query OK, 0 rows affected (0.00 sec)
Query OK, 1 row affected (0.04 sec)
Query OK, 1 row affected (0.00 sec)
```

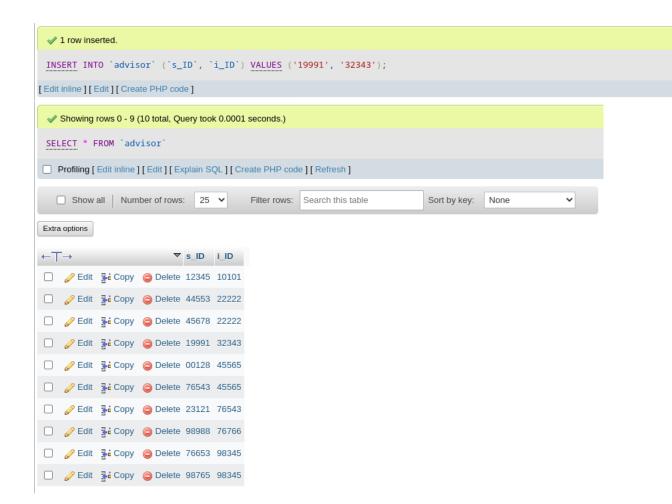
^{*} Output is cropped for the sake of space.

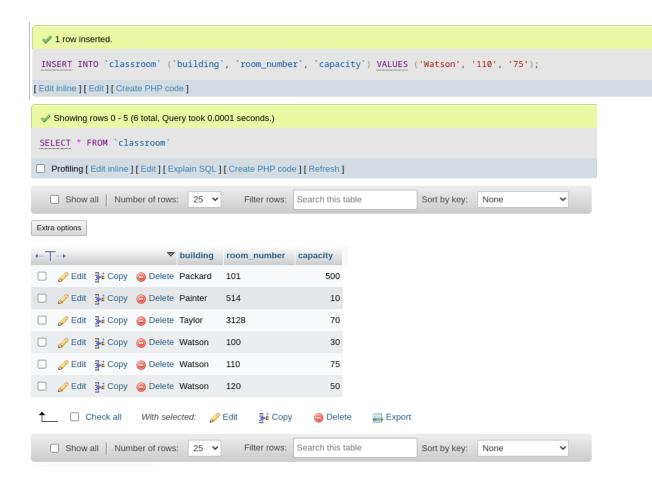
```
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'advisor';
TABLE_NAME | COLUMN_NAME | DATA_TYPE |
advisor
            | s_ID
                          | varchar
                         | varchar
 advisor
           | i_ID
2 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'classroom';
| TABLE_NAME | COLUMN_NAME | DATA_TYPE |
| classroom | building
| 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.columns
   -> where table_name = 'course';
TABLE_NAME | COLUMN_NAME | DATA_TYPE |
course
            | course_id
                          | varchar
            | title
 course
                           varchar
            | dept_name
 course
                          | varchar
 course
            | credits
                          | decimal
4 rows in set (0.00 sec)
```

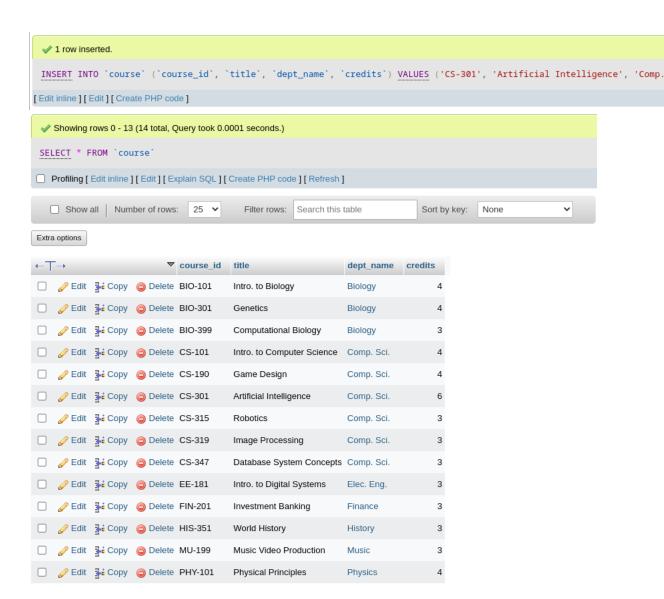
```
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'department';
  -----+
 TABLE_NAME | COLUMN_NAME | DATA_TYPE |
| department | dept_name
                        varchar
 department | building
                        | varchar
 department | budget | decimal
3 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'instructor';
| TABLE_NAME | COLUMN_NAME | DATA_TYPE |
| instructor | ID
                        | varchar
                       | varchar
 instructor | name
instructor | dept_name | varchar
| instructor | salary | decimal
4 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'prereq';
 TABLE_NAME | COLUMN_NAME | DATA_TYPE |
prereq
           | course_id
                        | varchar
 prereq_id | varchar
2 rows in set (0.00 sec)
```

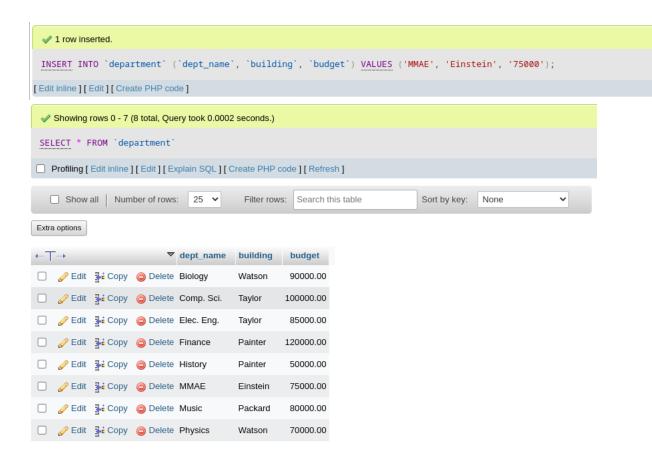
```
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'section';
 TABLE_NAME | COLUMN_NAME | DATA_TYPE |
            | course_id | varchar
 section
            sec_id
                         | varchar
 section
           semester
 section
                          | varchar
           | year
 section
                          | decimal
            | building | varchar
 section
            | room_number | varchar
 section
 section
           | time_slot_id | varchar
7 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'student';
 TABLE_NAME | COLUMN_NAME | DATA_TYPE |
            | ID
                         varchar
 student
 student
            name
                         | varchar
 student
            | dept_name
                         | varchar
 student
           | tot_cred
                         | decimal
4 rows in set (0.00 sec)
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'takes';
 TABLE_NAME | COLUMN_NAME | DATA_TYPE |
            | ID
                         varchar
 takes
                         | varchar
 takes
            | course_id
 takes
            | sec_id
                          | varchar
 takes
            semester
                           varchar
 takes
            | year
                         | decimal
            | grade
 takes
                          | varchar
6 rows in set (0.00 sec)
```

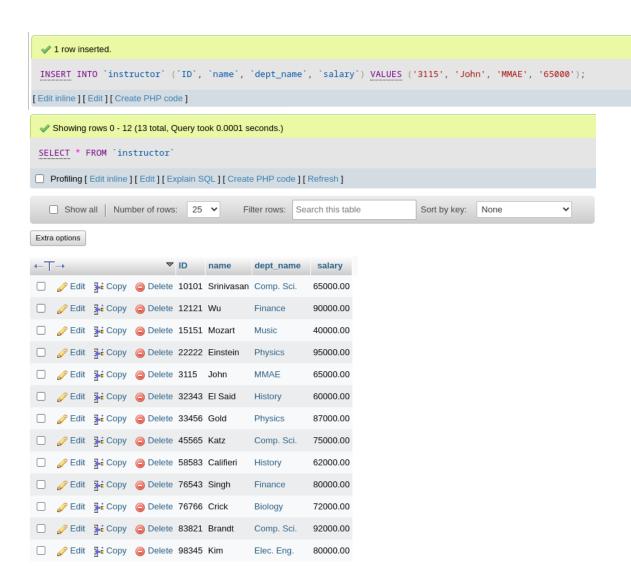
```
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'teaches';
 TABLE_NAME | COLUMN_NAME | DATA_TYPE |
            | ID
 teaches
                         | varchar
 teaches
            | course_id | varchar
 teaches
            | sec_id
                         | varchar
            semester
 teaches
                         | varchar
 teaches | year
                         | decimal
5 rows in set (0.01 sec)
mysql> select table_name, column_name, data_type
   -> from information_schema.columns
   -> where table_name = 'time_slot';
 TABLE_NAME | COLUMN_NAME | DATA_TYPE |
| time_slot | time_slot_id | varchar
 time_slot | day
                         | varchar
                         | decimal
| time_slot | start_hr
                         | decimal
 time_slot | start_min
time_slot | end_hr
                          | decimal
| time_slot | end_min
                          | decimal
6 rows in set (0.00 sec)
```

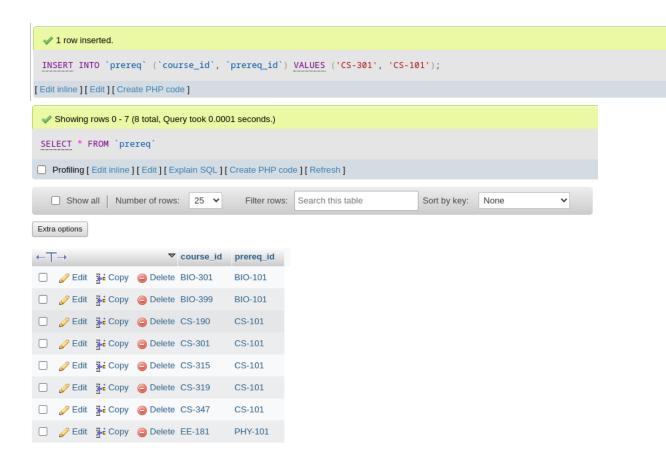


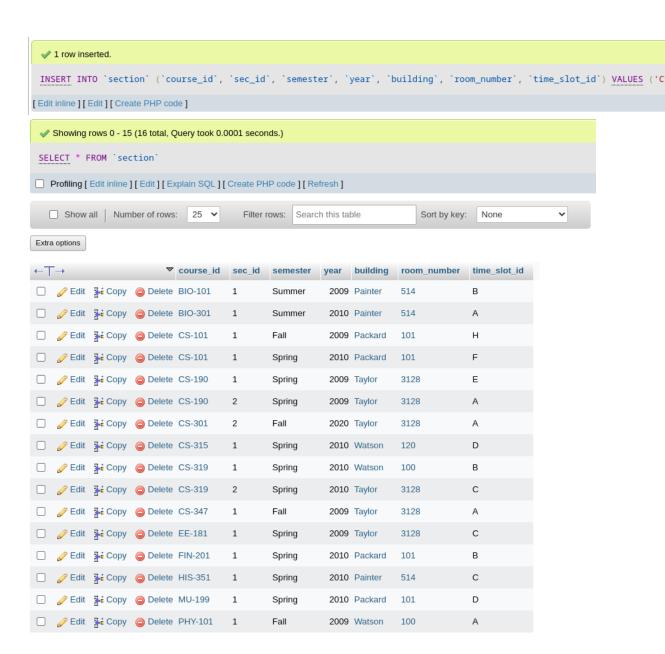


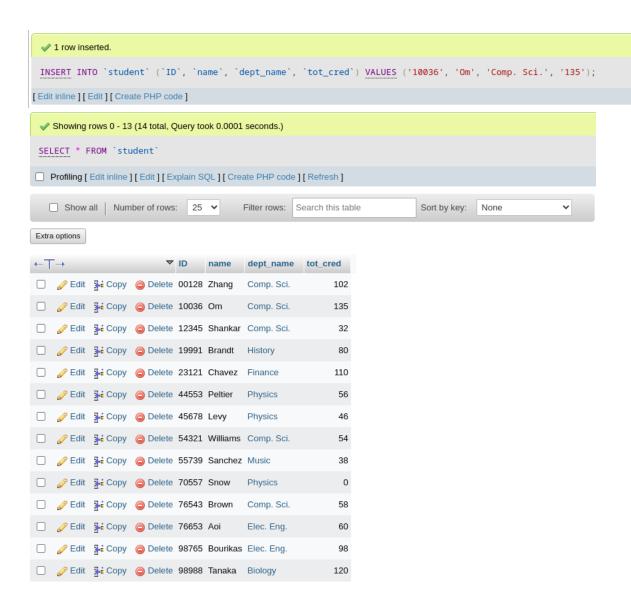










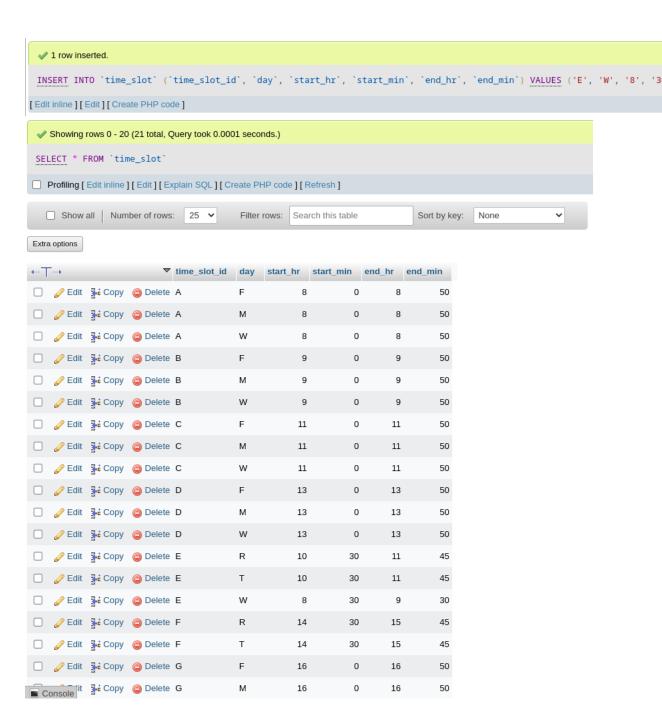


```
1 row inserted.
 INSERT INTO `takes` ('ID', `course_id', `sec_id', `semester', `year', `grade') VALUES ('10036', 'CS-301', '2', 'Fall',
[ Edit inline ] [ Edit ] [ Create PHP code ]

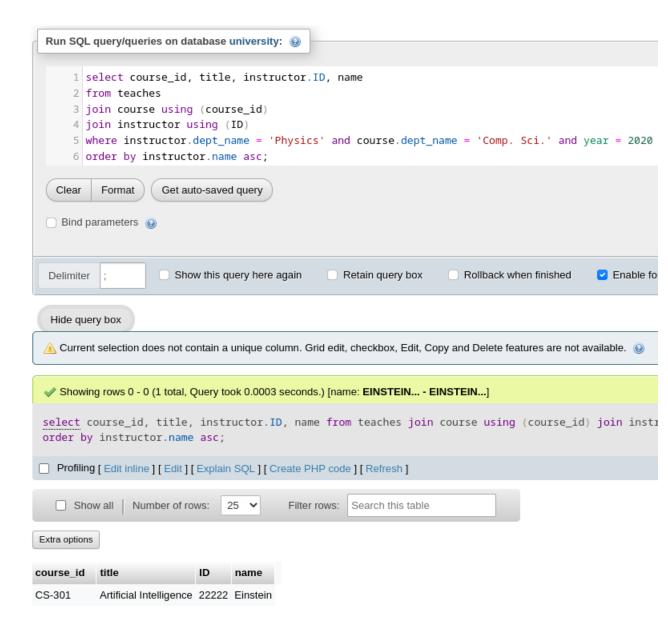
✓ Showing rows 0 - 22 (23 total, Query took 0.0002 seconds.)

 SELECT * FROM `takes`
Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
  ☐ Show all | Number of rows: 25 ✔
                                Filter rows: Search this table
                                                            Sort by key: None
Extra options
←T→
                    ▼ ID course_id sec_id semester
                                                 year grade
☐ Ø Edit ♣ Copy 	 Delete 00128 CS-101
                                                  2009 A
                                         Fall
☐ Ø Edit ♣ Copy ☐ Delete 00128 CS-347
                                                  2009 A-
                                         Fall
☐ Ø Edit ♣ Copy ☐ Delete 10036 CS-301
                                         Fall
                                                  2020 A
                                                  2009 C
Fall
                                                  2009 A
Spring
☐ Ø Edit ♣ Copy ☐ Delete 12345 CS-315
                                                  2010 A
                                         Spring
☐ Ø Edit ♣ Copy 	 Delete 12345 CS-347
                                         Fall
                                                  2009 A
2010 B
                                         Spring
☐ Ø Edit ♣ Copy 	 Delete 23121 FIN-201
                                                  2010 C+
                                         Spring
   Ø Edit ♣ Copy ⊜ Delete 44553 PHY-101
                                         Fall
                                                  2009 B-
☐ Ø Edit ♣ Copy ☐ Delete 45678 CS-101
                                                  2009 F
                                                  2010 B+
Spring
2010 B
                                   1
                                         Spring
☐ / Edit 1 Copy ☐ Delete 54321 CS-101
                                         Fall
                                                  2009 A-
Spring
                                                  2009 B+
2010 A-
                                         Spring
1
                                         Fall
                                                  2009 A
Spring
                                                  2010 A
Console it Copy © Delete 76653 EE-181
                                                  2009 C
                                         Spring
```

```
1 row inserted.
 INSERT INTO `teaches` ('ID', `course_id', `sec_id', `semester', `year') VALUES ('22222', 'CS-301', '2', 'Fall', '2020')
[ Edit inline ] [ Edit ] [ Create PHP code ]
SELECT * FROM `teaches`
Profiling [ Edit inline ] [ Edit ] [ Explain SQL ] [ Create PHP code ] [ Refresh ]
  ☐ Show all | Number of rows: 25 ✔
                              Filter rows: Search this table
                                                       Sort by key: None
Extra options
\leftarrow T \rightarrow
                   ▼ ID course_id sec_id semester
                                             year
☐ Ø Edit ♣ Copy 	 Delete 76766 BIO-101
                                              2009
                                      Summer
2010
                                      Summer
☐ Ø Edit ♣ Copy ☐ Delete 10101 CS-101
                                1
                                      Fall
                                              2009
2010
                                      Spring
1
                                      Spring
                                              2009
2009
                                      Spring
☐ Ø Edit ♣ Copy 	 Delete 22222 CS-301
                                      Fall
                                              2020
Spring
                                              2010
2010
                                1
                                      Spring
Spring
                                              2010
☐ Ø Edit ♣ Copy 	 Delete 10101 CS-347
                                1
                                      Fall
                                              2009
2009
                                      Spring
☐ Ø Edit ♣ Copy 	 Delete 12121 FIN-201
                                      Spring
                                              2010
                                1
☐ Ø Edit ♣ Copy ☐ Delete 32343 HIS-351
                                      Spring
                                              2010
Spring
                                              2010
☐ Ø Edit ♣ Copy 	 Delete 22222 PHY-101
                                      Fall
                                              2009
```



i.



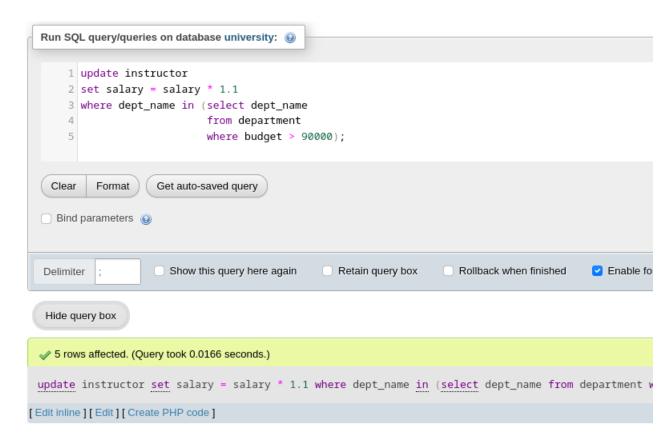
ii.

```
Run SQL query/queries on database university: @
      1 insert into course values ('CS-333', 'Advanced Databases Lab', 'Comp. Sci.', 3);
       2 insert into course values ('CS-303', 'Intro to Databases', 'Comp. Sci.', 6);
      3 insert into prereq values ('CS-333', 'CS-303');
   Clear
            Format
                      Get auto-saved query
  Bind parameters (a)
                      Show this query here again Retain query box
                                                                          Rollback when finished
  Delimiter
   Hide query box

√ 1 row inserted. (Query took 0.0108 seconds.)
 insert into course values ('CS-333', 'Advanced Databases Lab', 'Comp. Sci.', 3);
[ Edit inline ] [ Edit ] [ Create PHP code ]

√ 1 row inserted. (Query took 0.0018 seconds.)
 insert into course values ('CS-303', 'Intro to Databases', 'Comp. Sci.', 6);
[ Edit inline ] [ Edit ] [ Create PHP code ]
  1 row inserted. (Query took 0.0014 seconds.)
 insert into prereq values ('CS-333', 'CS-303');
[ Edit inline ] [ Edit ] [ Create PHP code ]
```

iii.



iv.

