CS 313: Assignment 4

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September 2022

1

```
mysql> create user 'universityDB0036'@'localhost' identified by 'iitdh123';
Query OK, 0 rows affected (0.02 sec)
```

```
         mysql -u universityDB0036 -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 17
Server version: 8.0.30 Source distribution

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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>
```

2

```
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)
```

3

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

4

```
mysql> source DDL.sql
Query OK, 0 rows affected (0.02 sec)

Query OK, 0 rows affected (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

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

5

```
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 (0.00 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, 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)

Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)

Query OK, 1 row affected (0.00 sec)
```

* Output is cropped for the sake of space.

6

```
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   |
| advisor    | i_ID        | varchar   |
+------------+-------------+-----------+
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    | 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.columns
    -> where table_name = 'course';
+------------+-------------+-----------+
| TABLE_NAME | COLUMN_NAME | DATA_TYPE |
+------------+-------------+-----------+
| course     | course_id   | varchar   |
| course     | title       | varchar   |
| course     | dept_name   | 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   |
| instructor | name        | varchar   |
| 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     | 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 |
+------------+--------------+-----------+
| section    | course_id    | varchar   |
| section    | sec_id       | varchar   |
| section    | semester     | varchar   |
| section    | year         | decimal   |
| section    | 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.columns
    -> where table_name = 'student';
+------------+-------------+-----------+
| TABLE_NAME | COLUMN_NAME | DATA_TYPE |
+------------+-------------+-----------+
| student    | ID          | varchar   |
| 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 |
+------------+-------------+-----------+
| takes      | ID          | varchar   |
| takes      | course_id   | varchar   |
| takes      | sec_id      | 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.columns
    -> 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 (0.01 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   |
| time_slot  | start_hr     | decimal   |
| time_slot  | start_min    | decimal   |
| time_slot  | end_hr       | decimal   |
| time_slot  | end_min      | decimal   |
+------------+--------------+-----------+
6 rows in set (0.00 sec)
```

7

✔ 1 row inserted.

```sql
INSERT INTO `advisor` (`s_ID`, `i_ID`) VALUES ('19991', '32343');
```

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 9 (10 total, Query took 0.0001 seconds.)

```sql
SELECT * FROM `advisor`
```

☐ 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 →				s_ID	i_ID
☐	🖉 Edit	Copy	⊘ Delete	12345	10101
☐	🖉 Edit	Copy	⊘ Delete	44553	22222
☐	🖉 Edit	Copy	⊘ Delete	45678	22222
☐	🖉 Edit	Copy	⊘ Delete	19991	32343
☐	🖉 Edit	Copy	⊘ Delete	00128	45565
☐	🖉 Edit	Copy	⊘ Delete	76543	45565
☐	🖉 Edit	Copy	⊘ Delete	23121	76543
☐	🖉 Edit	Copy	⊘ Delete	98988	76766
☐	🖉 Edit	Copy	⊘ Delete	76653	98345
☐	🖉 Edit	Copy	⊘ Delete	98765	98345

✔ 1 row inserted.

INSERT INTO `classroom` (`building`, `room_number`, `capacity`) VALUES ('Watson', '110', '75');

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 5 (6 total, Query took 0.0001 seconds.)

SELECT * FROM `classroom`

☐ 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

				building	room_number	capacity
☐	✎ Edit	⧉ Copy	⊖ Delete	Packard	101	500
☐	✎ Edit	⧉ Copy	⊖ Delete	Painter	514	10
☐	✎ Edit	⧉ Copy	⊖ Delete	Taylor	3128	70
☐	✎ Edit	⧉ Copy	⊖ Delete	Watson	100	30
☐	✎ Edit	⧉ Copy	⊖ Delete	Watson	110	75
☐	✎ Edit	⧉ Copy	⊖ Delete	Watson	120	50

↑   ☐ Check all | With selected: ✎ Edit   ⧉ Copy   ⊖ Delete   🗐 Export

☐ Show all | Number of rows: 25 ⌄   Filter rows: Search this table   Sort by key: None ⌄

✅ 1 row inserted.

```sql
INSERT INTO `course` (`course_id`, `title`, `dept_name`, `credits`) VALUES ('CS-301', 'Artificial Intelligence', 'Comp.
```

[Edit inline] [Edit] [Create PHP code]

✅ Showing rows 0 - 13 (14 total, Query took 0.0001 seconds.)

```sql
SELECT * FROM `course`
```

☐ 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

				course_id	title	dept_name	credits
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	BIO-101	Intro. to Biology	Biology	4
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	BIO-301	Genetics	Biology	4
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	BIO-399	Computational Biology	Biology	3
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	CS-101	Intro. to Computer Science	Comp. Sci.	4
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	CS-190	Game Design	Comp. Sci.	4
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	CS-301	Artificial Intelligence	Comp. Sci.	6
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	CS-315	Robotics	Comp. Sci.	3
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	CS-319	Image Processing	Comp. Sci.	3
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	CS-347	Database System Concepts	Comp. Sci.	3
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	EE-181	Intro. to Digital Systems	Elec. Eng.	3
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	FIN-201	Investment Banking	Finance	3
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	HIS-351	World History	History	3
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	MU-199	Music Video Production	Music	3
☐	🖉 Edit	⊒ᵈ Copy	⊝ Delete	PHY-101	Physical Principles	Physics	4

✔ 1 row inserted.

```sql
INSERT INTO `department` (`dept_name`, `building`, `budget`) VALUES ('MMAE', 'Einstein', '75000');
```

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 7 (8 total, Query took 0.0002 seconds.)

```sql
SELECT * FROM `department`
```

☐ 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

				dept_name	building	budget
☐	🖉 Edit	🗐 Copy	⊘ Delete	Biology	Watson	90000.00
☐	🖉 Edit	🗐 Copy	⊘ Delete	Comp. Sci.	Taylor	100000.00
☐	🖉 Edit	🗐 Copy	⊘ Delete	Elec. Eng.	Taylor	85000.00
☐	🖉 Edit	🗐 Copy	⊘ Delete	Finance	Painter	120000.00
☐	🖉 Edit	🗐 Copy	⊘ Delete	History	Painter	50000.00
☐	🖉 Edit	🗐 Copy	⊘ Delete	MMAE	Einstein	75000.00
☐	🖉 Edit	🗐 Copy	⊘ Delete	Music	Packard	80000.00
☐	🖉 Edit	🗐 Copy	⊘ Delete	Physics	Watson	70000.00

✔ 1 row inserted.

```sql
INSERT INTO `instructor` (`ID`, `name`, `dept_name`, `salary`) VALUES ('3115', 'John', 'MMAE', '65000');
```

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 12 (13 total, Query took 0.0001 seconds.)

```sql
SELECT * FROM `instructor`
```

☐ 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

				ID	name	dept_name	salary
☐	🖊 Edit	📋 Copy	⊖ Delete	10101	Srinivasan	Comp. Sci.	65000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	12121	Wu	Finance	90000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	15151	Mozart	Music	40000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	22222	Einstein	Physics	95000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	3115	John	MMAE	65000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	32343	El Said	History	60000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	33456	Gold	Physics	87000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	45565	Katz	Comp. Sci.	75000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	58583	Califieri	History	62000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	76543	Singh	Finance	80000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	76766	Crick	Biology	72000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	83821	Brandt	Comp. Sci.	92000.00
☐	🖊 Edit	📋 Copy	⊖ Delete	98345	Kim	Elec. Eng.	80000.00

✔ 1 row inserted.

```sql
INSERT INTO `prereq` (`course_id`, `prereq_id`) VALUES ('CS-301', 'CS-101');
```

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 7 (8 total, Query took 0.0001 seconds.)

```sql
SELECT * FROM `prereq`
```

☐ 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→	▼	course_id	prereq_id
☐ 🖉 Edit ⚐ Copy ⊖ Delete		BIO-301	BIO-101
☐ 🖉 Edit ⚐ Copy ⊖ Delete		BIO-399	BIO-101
☐ 🖉 Edit ⚐ Copy ⊖ Delete		CS-190	CS-101
☐ 🖉 Edit ⚐ Copy ⊖ Delete		CS-301	CS-101
☐ 🖉 Edit ⚐ Copy ⊖ Delete		CS-315	CS-101
☐ 🖉 Edit ⚐ Copy ⊖ Delete		CS-319	CS-101
☐ 🖉 Edit ⚐ Copy ⊖ Delete		CS-347	CS-101
☐ 🖉 Edit ⚐ Copy ⊖ Delete		EE-181	PHY-101

✔ 1 row inserted.

INSERT INTO `section` (`course_id`, `sec_id`, `semester`, `year`, `building`, `room_number`, `time_slot_id`) VALUES ('C

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 15 (16 total, Query took 0.0001 seconds.)

SELECT * FROM `section`

☐ 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

				course_id	sec_id	semester	year	building	room_number	time_slot_id
☐	Edit	Copy	Delete	BIO-101	1	Summer	2009	Painter	514	B
☐	Edit	Copy	Delete	BIO-301	1	Summer	2010	Painter	514	A
☐	Edit	Copy	Delete	CS-101	1	Fall	2009	Packard	101	H
☐	Edit	Copy	Delete	CS-101	1	Spring	2010	Packard	101	F
☐	Edit	Copy	Delete	CS-190	1	Spring	2009	Taylor	3128	E
☐	Edit	Copy	Delete	CS-190	2	Spring	2009	Taylor	3128	A
☐	Edit	Copy	Delete	CS-301	2	Fall	2020	Taylor	3128	A
☐	Edit	Copy	Delete	CS-315	1	Spring	2010	Watson	120	D
☐	Edit	Copy	Delete	CS-319	1	Spring	2010	Watson	100	B
☐	Edit	Copy	Delete	CS-319	2	Spring	2010	Taylor	3128	C
☐	Edit	Copy	Delete	CS-347	1	Fall	2009	Taylor	3128	A
☐	Edit	Copy	Delete	EE-181	1	Spring	2009	Taylor	3128	C
☐	Edit	Copy	Delete	FIN-201	1	Spring	2010	Packard	101	B
☐	Edit	Copy	Delete	HIS-351	1	Spring	2010	Painter	514	C
☐	Edit	Copy	Delete	MU-199	1	Spring	2010	Packard	101	D
☐	Edit	Copy	Delete	PHY-101	1	Fall	2009	Watson	100	A

✔ 1 row inserted.

```sql
INSERT INTO `student` (`ID`, `name`, `dept_name`, `tot_cred`) VALUES ('10036', 'Om', 'Comp. Sci.', '135');
```

[Edit inline] [Edit] [Create PHP code]

✔ Showing rows 0 - 13 (14 total, Query took 0.0001 seconds.)

```sql
SELECT * FROM `student`
```

☐ 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

				ID	name	dept_name	tot_cred
☐	✏ Edit	Copy	⊘ Delete	00128	Zhang	Comp. Sci.	102
☐	✏ Edit	Copy	⊘ Delete	10036	Om	Comp. Sci.	135
☐	✏ Edit	Copy	⊘ Delete	12345	Shankar	Comp. Sci.	32
☐	✏ Edit	Copy	⊘ Delete	19991	Brandt	History	80
☐	✏ Edit	Copy	⊘ Delete	23121	Chavez	Finance	110
☐	✏ Edit	Copy	⊘ Delete	44553	Peltier	Physics	56
☐	✏ Edit	Copy	⊘ Delete	45678	Levy	Physics	46
☐	✏ Edit	Copy	⊘ Delete	54321	Williams	Comp. Sci.	54
☐	✏ Edit	Copy	⊘ Delete	55739	Sanchez	Music	38
☐	✏ Edit	Copy	⊘ Delete	70557	Snow	Physics	0
☐	✏ Edit	Copy	⊘ Delete	76543	Brown	Comp. Sci.	58
☐	✏ Edit	Copy	⊘ Delete	76653	Aoi	Elec. Eng.	60
☐	✏ Edit	Copy	⊘ Delete	98765	Bourikas	Elec. Eng.	98
☐	✏ Edit	Copy	⊘ Delete	98988	Tanaka	Biology	120

✔ 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

				ID	course_id	sec_id	semester	year	grade
☐	✎ Edit	⌷ Copy	⊖ Delete	00128	CS-101	1	Fall	2009	A
☐	✎ Edit	⌷ Copy	⊖ Delete	00128	CS-347	1	Fall	2009	A-
☐	✎ Edit	⌷ Copy	⊖ Delete	10036	CS-301	2	Fall	2020	A
☐	✎ Edit	⌷ Copy	⊖ Delete	12345	CS-101	1	Fall	2009	C
☐	✎ Edit	⌷ Copy	⊖ Delete	12345	CS-190	2	Spring	2009	A
☐	✎ Edit	⌷ Copy	⊖ Delete	12345	CS-315	1	Spring	2010	A
☐	✎ Edit	⌷ Copy	⊖ Delete	12345	CS-347	1	Fall	2009	A
☐	✎ Edit	⌷ Copy	⊖ Delete	19991	HIS-351	1	Spring	2010	B
☐	✎ Edit	⌷ Copy	⊖ Delete	23121	FIN-201	1	Spring	2010	C+
☐	✎ Edit	⌷ Copy	⊖ Delete	44553	PHY-101	1	Fall	2009	B-
☐	✎ Edit	⌷ Copy	⊖ Delete	45678	CS-101	1	Fall	2009	F
☐	✎ Edit	⌷ Copy	⊖ Delete	45678	CS-101	1	Spring	2010	B+
☐	✎ Edit	⌷ Copy	⊖ Delete	45678	CS-319	1	Spring	2010	B
☐	✎ Edit	⌷ Copy	⊖ Delete	54321	CS-101	1	Fall	2009	A-
☐	✎ Edit	⌷ Copy	⊖ Delete	54321	CS-190	2	Spring	2009	B+
☐	✎ Edit	⌷ Copy	⊖ Delete	55739	MU-199	1	Spring	2010	A-
☐	✎ Edit	⌷ Copy	⊖ Delete	76543	CS-101	1	Fall	2009	A
☐	✎ Edit	⌷ Copy	⊖ Delete	76543	CS-319	2	Spring	2010	A
☐	✎ Edit	⌷ Copy	⊖ Delete	76653	EE-181	1	Spring	2009	C

■ Console

✅ 1 row inserted.

```sql
INSERT INTO `teaches` (`ID`, `course_id`, `sec_id`, `semester`, `year`) VALUES ('22222', 'CS-301', '2', 'Fall', '2020')
```

[Edit inline] [Edit] [Create PHP code]

✅ Showing rows 0 - 15 (16 total, Query took 0.0001 seconds.)

```sql
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

				ID	course_id	sec_id	semester	year
☐	🖉 Edit	Copy	⊖ Delete	76766	BIO-101	1	Summer	2009
☐	🖉 Edit	Copy	⊖ Delete	76766	BIO-301	1	Summer	2010
☐	🖉 Edit	Copy	⊖ Delete	10101	CS-101	1	Fall	2009
☐	🖉 Edit	Copy	⊖ Delete	45565	CS-101	1	Spring	2010
☐	🖉 Edit	Copy	⊖ Delete	83821	CS-190	1	Spring	2009
☐	🖉 Edit	Copy	⊖ Delete	83821	CS-190	2	Spring	2009
☐	🖉 Edit	Copy	⊖ Delete	22222	CS-301	2	Fall	2020
☐	🖉 Edit	Copy	⊖ Delete	10101	CS-315	1	Spring	2010
☐	🖉 Edit	Copy	⊖ Delete	45565	CS-319	1	Spring	2010
☐	🖉 Edit	Copy	⊖ Delete	83821	CS-319	2	Spring	2010
☐	🖉 Edit	Copy	⊖ Delete	10101	CS-347	1	Fall	2009
☐	🖉 Edit	Copy	⊖ Delete	98345	EE-181	1	Spring	2009
☐	🖉 Edit	Copy	⊖ Delete	12121	FIN-201	1	Spring	2010
☐	🖉 Edit	Copy	⊖ Delete	32343	HIS-351	1	Spring	2010
☐	🖉 Edit	Copy	⊖ Delete	15151	MU-199	1	Spring	2010
☐	🖉 Edit	Copy	⊖ Delete	22222	PHY-101	1	Fall	2009

✅ 1 row inserted.

INSERT INTO `time_slot` (`time_slot_id`, `day`, `start_hr`, `start_min`, `end_hr`, `end_min`) VALUES ('E', 'W', '8', '3

[Edit inline] [Edit] [Create PHP code]

✅ Showing rows 0 - 20 (21 total, Query took 0.0001 seconds.)

SELECT * FROM `time_slot`

☐ 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]

				time_slot_id	day	start_hr	start_min	end_hr	end_min
☐	🖉 Edit	⧉ Copy	⊖ Delete	A	F	8	0	8	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	A	M	8	0	8	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	A	W	8	0	8	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	B	F	9	0	9	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	B	M	9	0	9	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	B	W	9	0	9	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	C	F	11	0	11	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	C	M	11	0	11	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	C	W	11	0	11	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	D	F	13	0	13	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	D	M	13	0	13	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	D	W	13	0	13	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	E	R	10	30	11	45
☐	🖉 Edit	⧉ Copy	⊖ Delete	E	T	10	30	11	45
☐	🖉 Edit	⧉ Copy	⊖ Delete	E	W	8	30	9	30
☐	🖉 Edit	⧉ Copy	⊖ Delete	F	R	14	30	15	45
☐	🖉 Edit	⧉ Copy	⊖ Delete	F	T	14	30	15	45
☐	🖉 Edit	⧉ Copy	⊖ Delete	G	F	16	0	16	50
☐	🖉 Edit	⧉ Copy	⊖ Delete	G	M	16	0	16	50

■ Console

8

i.

Run SQL query/queries on database **university**: ⓘ

```
1  select course_id, title, instructor.ID, name
2  from teaches
3  join course using (course_id)
4  join instructor using (ID)
5  where instructor.dept_name = 'Physics' and course.dept_name = 'Comp. Sci.' and year = 2020
6  order by instructor.name asc;
```

Clear   Format   Get auto-saved query

☐ Bind parameters ⓘ

Delimiter [;]   ☐ Show this query here again   ☐ Retain query box   ☐ Rollback when finished   ☑ Enable fo

Hide query box

⚠ Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available. ⓘ

✔ Showing rows 0 - 0 (1 total, Query took 0.0003 seconds.) [name: **EINSTEIN... - EINSTEIN...**]

```
select course_id, title, instructor.ID, name from teaches join course using (course_id) join instr
order by instructor.name asc;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all   Number of rows: [25 ▾]   Filter rows: [Search this table]

Extra options

course_id	title	ID	name
CS-301	Artificial Intelligence	22222	Einstein

20

ii.

iii.

Run SQL query/queries on database **university**:

```
1 update instructor
2 set salary = salary * 1.1
3 where dept_name in (select dept_name
4                     from department
5                     where budget > 90000);
```

Clear   Format   Get auto-saved query

☐ Bind parameters

Delimiter | ; | ☐ Show this query here again   ☐ Retain query box   ☐ Rollback when finished   ☑ Enable fo

Hide query box

✔ 5 rows affected. (Query took 0.0166 seconds.)

update instructor set salary = salary * 1.1 where dept_name in (select dept_name from department w

[Edit inline] [Edit] [Create PHP code]

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iv.

```
1 select course_id, title, count(ID) as num_students
2 from course
3 join takes using (course_id)
4 where dept_name = 'Comp. Sci.' and year = 2009 and semester = 'Fall'
5 group by course_id, title
6 having num_students > 5
7 order by course_id asc;
```

Clear   Format   Get auto-saved query

☐ Bind parameters ⓘ

Delimiter ;   ☐ Show this query here again   ☐ Retain query box   ☐ Rollback when finished   ☑ Enable fo

Hide query box

⚠ Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available. ⓘ

✔ Showing rows 0 - 0 (1 total, Query took 0.0004 seconds.) [course_id: **CS-101...** - **CS-101...**]

```
select course_id, title, count(ID) as num_students from course join takes using (course_id) where
> 5 order by course_id asc;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

☐ Show all │ Number of rows: 25 ⌄   Filter rows: Search this table

Extra options

course_id	title	num_students
CS-101	Intro. to Computer Science	6

23