CS 313 Databases and Information Systems Lab

Assignment – 4

ISHIKA SHARMA (200010020)

1. CREATE USER 'universityDB0020'@'localhost' IDENTIFIED BY 'New@45678';

```
mysql> create user 'universityDB0020'@'localhost' identified by 'New@45678';
Query OK, 0 rows affected (0.04 sec)

mysql> grant all privileges on university.* to 'universityDB0020'@'localhost';
Query OK, 0 rows affected (0.00 sec)
```

2. CREATE DATABASE university;

```
ishika@ishika-virtual-machine:~$ sudo mysql -u universityDB0020 -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 8.0.30-0ubuntu0.22.04.1 (Ubuntu)

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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> create database university;
Query OK, 1 row affected (0.00 sec)
```

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 (0.02 sec)

Query OK, 0 rows affected (0.03 sec)

Query OK, 0 rows affected (0.02 sec)

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

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

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

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

```
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)
```

6. Information Schema of each table:

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```
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.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     | 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.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   |
+------------+-------------+-----------+
4 rows in set (0.00 sec)
```

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```
mysql> select table_name, column_name, data_type from information_schema.column
s 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.column
s 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.column
s 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.column
s 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)
```

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```
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    | decimal   |
| time_slot  | start_min   | decimal   |
| time_slot  | end_hr      | decimal   |
| time_slot  | end_min     | decimal   |
+------------+-------------+-----------+
6 rows in set (0.00 sec)
```

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

✔ 1 row inserted. (Query took 0.0034 seconds.)

```sql
INSERT INTO classroom VALUES ('MyBuilding', 200, 50);
```

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

✔ Showing rows 0 - 5 (6 total, Query took 0.0005 seconds.)

```sql
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 ke

+ Options

←T→				building	room_number	capacity
☐	Edit	Copy	Delete	MyBuilding	200	50
☐	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	120	50

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```
INSERT INTO department VALUES ('MyDepartment', 'MyBuilding', 200000);
```
[Edit inline] [Edit] [Create PHP code]

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

```
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

+ Options

←T→				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	Music	Packard	80000.00
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	MyDepartment	MyBuilding	200000.00
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	Physics	Watson	70000.00

```
INSERT INTO course VALUES ('MY-111', 'MyNewCourse', 'MyDepartment', 5);
```
[Edit inline] [Edit] [Create PHP code]

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

```
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

+ Options

←T→				course_id	title	dept_name	credits
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	BIO-101	Intro. to Biology	Biology	4
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	BIO-301	Genetics	Biology	4
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	BIO-399	Computational Biology	Biology	3
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	CS-101	Intro. to Computer Science	Comp. Sci.	4
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	CS-190	Game Design	Comp. Sci.	4
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	CS-315	Robotics	Comp. Sci.	3
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	CS-319	Image Processing	Comp. Sci.	3
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	CS-347	Database System Concepts	Comp. Sci.	3
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	EE-181	Intro. to Digital Systems	Elec. Eng.	3
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	FIN-201	Investment Banking	Finance	3
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	HIS-351	World History	History	3
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	MU-199	Music Video Production	Music	3
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	MY-111	MyNewCourse	MyDepartment	5
☐	🖉 Edit	⋺⋲ Copy	⊖ Delete	PHY-101	Physical Principles	Physics	4

Console

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```
INSERT INTO teaches VALUES ('00000', 'MY-111', '2', 'Summer', 2019);
```

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

✔ Showing rows 0 - 15 (16 total, Query took 0.0004 seconds.)

```
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:

+ 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	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	00000	MY-111	2	Summer	2019
☐	✎ Edit	⌷⌷ Copy	⊖ Delete	22222	PHY-101	1	Fall	2009

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✔ 1 row inserted. (Query took 0.0031 seconds.)

```
INSERT INTO instructor VALUES ('00000', 'MyName', 'MyDepartment', 500000);
```

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

✔ Showing rows 0 - 12 (13 total, Query took 0.0005 seconds.)

```
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 ⌄

+ Options

				ID	name	dept_name	salary
☐	🖉 Edit	Copy	⊖ Delete	00000	MyName	MyDepartment	500000.00
☐	🖉 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	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

■ Console

✔ 1 row inserted. (Query took 0.0035 seconds.)

```
INSERT INTO student VALUES ('11111', 'Rocket', 'MyDepartment', 66);
```

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

✔ Showing rows 0 - 13 (14 total, Query took 0.0005 seconds.)

```
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:

+ Options

				ID	name	dept_name	tot_cred
☐	🖉 Edit	⊰ Copy	⊖ Delete	00128	Zhang	Comp. Sci.	102
☐	🖉 Edit	⊰ Copy	⊖ Delete	11111	Rocket	MyDepartment	66
☐	🖉 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

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✔ 1 row inserted. (Query took 0.0041 seconds.)

INSERT INTO takes VALUES ('11111', 'MY-111', '2', 'Summer', 2019, 'B+');

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

✔ Showing rows 0 - 22 (23 total, Query took 0.0005 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

+ Options

				ID	course_id	sec_id	semester	year	grade
☐	🖉 Edit	Copy	⊖ Delete	00128	CS-101	1	Fall	2009	- Drag to reorder.
☐	🖉 Edit	Copy	⊖ Delete	00128	CS-347	1	Fall	2009	- Click to mark/unmark.
☐	🖉 Edit	Copy	⊖ Delete	11111	MY-111	2	Summer	2019	B+
☐	🖉 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-

Assignment – 4

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✔️ 1 row inserted. (Query took 0.0043 seconds.)

```
INSERT INTO advisor VALUES ('54321', '00000');
```

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

✔️ Showing rows 0 - 9 (10 total, Query took 0.0004 seconds.)

```
SELECT * FROM advisor;
```

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

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

+ Options

				s_ID	i_ID
☐	🖊️ Edit	⌗ Copy	⊖ Delete	54321	00000
☐	🖊️ Edit	⌗ Copy	⊖ Delete	12345	10101
☐	🖊️ Edit	⌗ Copy	⊖ Delete	44553	22222
☐	🖊️ Edit	⌗ Copy	⊖ Delete	45678	22222
☐	🖊️ 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

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✔ 1 row inserted. (Query took 0.0032 seconds.)

```
INSERT INTO time_slot VALUES ('A', 'F', 9, 30, 10, 30);
```

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

✔ Showing rows 0 - 20 (21 total, Query took 0.0005 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

+ 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	F	9	30	10	30
☐	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

✔ 1 row inserted. (Query took 0.0033 seconds.)

```
INSERT INTO section VALUES ('MY-111', '2', 'Summer', 2019, 'MyBuilding', '200', 'A');
```

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

✔ Showing rows 0 - 15 (16 total, Query took 0.0003 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 ▾

+ 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-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	MY-111	2	Summer	2019	MyBuilding	200	A

■ Console

8. **(i) No instructor teaches a course that does not belong to his department**

✔ Showing rows 0 - 1 (2 total, Query took 0.0012 seconds.) [course_id: **CS-101...** - **CS-347...**]

```
SELECT course_id, title, COUNT(ID) as num FROM course JOIN takes USING (course_id) WHERE dept_name = 'Comp. Sci.'
AND year = 2009 AND semester = 'Fall' GROUP BY course_id, title HAVING num > 1 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

+ Options

course_id ▲ 1	title	num
CS-101	Intro. to Computer Science	6
CS-347	Database System Concepts	2

(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

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

+ Options

				course_id	title	dept_name	credits
☐	Edit	Copy	Delete	BIO-101	Intro. to Biology	Biology	4
☐	Edit	Copy	Delete	BIO-301	Genetics	Biology	4
☐	Edit	Copy	Delete	BIO-399	Computational Biology	Biology	3
☐	Edit	Copy	Delete	CS-101	Intro. to Computer Science	Comp. Sci.	4
☐	Edit	Copy	Delete	CS-190	Game Design	Comp. Sci.	4
☐	Edit	Copy	Delete	CS-303	Intro to Databases	Comp. Sci.	6
☐	Edit	Copy	Delete	CS-315	Robotics	Comp. Sci.	3
☐	Edit	Copy	Delete	CS-319	Image Processing	Comp. Sci.	3
☐	Edit	Copy	Delete	CS-333	Advanced Databases Lab	Comp. Sci.	3
☐	Edit	Copy	Delete	CS-347	Database System Concepts	Comp. Sci.	3
☐	Edit	Copy	Delete	EE-181	Intro. to Digital Systems	Elec. Eng.	3
☐	Edit	Copy	Delete	FIN-201	Investment Banking	Finance	3
☐	Edit	Copy	Delete	HIS-351	World History	History	3

(iii)

✔ 0 rows affected. (Query took 0.0004 seconds.)

```
UPDATE instructor SET salary = salary * 1.1 WHERE dept_name in (SELECT dept_name FROM
department WHERE budget > 900000);
```

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

CS 313 Databases and Information Systems Lab

Assignment – 4

ISHIKA SHARMA (200010020)

Showing rows 0 - 12 (13 total, Query took 0.0012 seconds.)

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

Profiling [Edit inline] [Edit] [E

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

+ Options

				ID	name	dept_name	salary
☐	Edit	Copy	Delete	00000	MyName	MyDepartment	500000.00
☐	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	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

(iv)

Showing rows 0 - 1 (2 total, Query took 0.0012 seconds.) [course_id: **CS-101... - CS-347...**]

```sql
SELECT course_id, title, COUNT(ID) as num FROM course JOIN takes USING (course_id) WHERE dept_name = 'Comp. Sci.'
AND year = 2009 AND semester = 'Fall' GROUP BY course_id, title HAVING num > 1 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

+ Options

course_id ▲ 1	title	num
CS-101	Intro. to Computer Science	6
CS-347	Database System Concepts	2