

DBMS ASSIGNMENT-1  
Date Submitted: Sept 26, 2021  
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Overview of the database:

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| institute |
| mysql |
| performance_schema |
| sakila |
| sys |
| world |
+-----+
7 rows in set (0.00 sec)

mysql> use institute;
Database changed
mysql> show tables;
+-----+
| Tables_in_institute |
+-----+
| course |
| department |
| instructor |
| section |
| teaches |
+-----+
5 rows in set (0.00 sec)

mysql> describe dept_name;
ERROR 1146 (42S02): Table 'institute.dept_name' doesn't exist
mysql> describe department;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| dept_name | varchar(255) | YES | | NULL | |
| building | varchar(255) | YES | | NULL | |
| budget | int | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
3 rows in set (0.00 sec)
```

#### Question 4: Filling up the department table:

```
mysql> insert into department(dept_name, building, budget)
-> values
-> ('Comp. Sci', 'Taylor',100000),
-> ('Biology','Watson',90000),
-> ('Elec. Eng.','Taylor',85000),
-> ('Music','Packard',80000),
-> ('Finance','Painter',120000),
-> ('History','Painter',50000),
-> ('Physics','Watson',70000);
Query OK, 7 rows affected (0.03 sec)
Records: 7  Duplicates: 0  Warnings: 0
```

```
MySQL localhost:3306 ssl institute SQL > select * from department;
```

dept_name	building	budget
Comp. Sci	Taylor	100000
Biology	Watson	90000
Elec. Eng.	Taylor	85000
Music	Packard	80000
Finance	Painter	120000
History	Painter	50000
Physics	Watson	70000

#### Question 5: Filling up the courses Table:

```
mysql> insert into instructor
-> values
-> (22222,'Einstein','Physics',95000),
-> (12121,'Wu', 'Finance',90000),
-> (32343,'El Said', 'History',60000),
-> (45565,'Katz','Comp. Sci.',75000),
-> (98345,'Kim','Elec. Eng.',80000),
-> (76766,'Crick','Biology',72000),
-> (10101,'Srinivasn','Comp. Sci.',65000),
-> (58583,'Califieri','History',62000),
-> (83821,'Brandt','Comp. Sci.',92000),
-> (15151,'Mozart','Music',40000),
-> (33456,'Gold','Physics',87000),
-> (76543,'Singh','Finance',80000);
```

Query OK, 12 rows affected (0.00 sec)

Records: 12 Duplicates: 0 Warnings: 0

```
mysql> select * from instructor;
```

id	name	dept_name	salary
22222	Einstein	Physics	95000
12121	Wu	Finance	90000
32343	El Said	History	60000
45565	Katz	Comp. Sci.	75000
98345	Kim	Elec. Eng.	80000
76766	Crick	Biology	72000
10101	Srinivasn	Comp. Sci.	65000
58583	Califieri	History	62000
83821	Brandt	Comp. Sci.	92000
15151	Mozart	Music	40000
33456	Gold	Physics	87000
76543	Singh	Finance	80000

12 rows in set (0.00 sec)

# Question 6: Filling up the instructor table:

```
mysql> insert into course(course_id, title, dept_name, credits)
-> values
-> ('BIO-101','Intro. to Biology','Biology',4),
-> ('BIO-301','Genetics','Biology',4),
-> ('BIO-399','Computational Biology','Biology',3),
-> ('CS-101','Intro. to Computer Science','Comp. Sci.', 4),
-> ('CS-190','Game Design','Comp. Sci.', 4),
-> ('CS-315','Robotics','Comp. Sci.',3),
-> ('CS-319','Image Processing','Comp. Sci.',3),
-> ('CS-347','Database System Concepts','Comp. Sci.',3),
-> ('EE-181','Intro. to Digital Systems','Elec. Eng.',3),
-> ('FIN-201','Investment Banking','Finance',3),
-> ('HIS-351','World History','History',3),
-> ('MU-199','Music Video Production','Music',3),
-> ('PHY-101','Physical Principles','Physics',4);
```

Query OK, 13 rows affected (0.03 sec)

Records: 13 Duplicates: 0 Warnings: 0

```
mysql> select * from course;
```

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

13 rows in set (0.00 sec)

### Question 7: Filling up the section table

```
mysql> insert into section(course_id, sec_id, semester, year, building, room_number, time_slot_id)
-> values
-> ('BIO-101',1,'Summer',2009,'Painter',514,'B'),
-> ('BIO-301',1,'Summer',2010,'Painter',514,'A'),
-> ('CS-101',1,'Fall',2009,'Packard',101,'H'),
-> ('CS-101',1,'Spring',2010,'Packard',101,'F'),
-> ('CS-190',1,'Spring',2009,'Taylor',3128,'E'),
-> ('CS-190',2,'Spring',2009,'Taylor',3128,'A'),
-> ('CS-315',1,'Spring',2010,'Watson',120,'D'),
-> ('CS-319',1,'Spring',2010,'Watson',100,'B'),
-> ('CS-319',2,'Spring',2010,'Taylor',3128,'C'),
-> ('CS-347',1,'Fall',2009,'Taylor',3128,'A'),
-> ('EE-181',1,'Spring',2009,'Taylor',3128,'C'),
-> ('FIN-20',1,'Spring',2010,'Packard',101,'B'),
-> ('HIS-351',1,'Spring',2010,'Painter',514,'C'),
-> ('MU-199',1,'Spring',2010,'Packard',101,'D'),
-> ('PHY-101',1,'Fall',2009,'Watson',100,'A');
```

Query OK, 15 rows affected (0.00 sec)

Records: 15 Duplicates: 0 Warnings: 0

```
mysql> select * from section;
```

course_id	sec_id	semester	year	building	room_number	time_slot_id
BIO-101	1	Summer	2009	Painter	514	B
BIO-301	1	Summer	2010	Painter	514	A
CS-101	1	Fall	2009	Packard	101	H
CS-101	1	Spring	2010	Packard	101	F
CS-190	1	Spring	2009	Taylor	3128	E
CS-190	2	Spring	2009	Taylor	3128	A
CS-315	1	Spring	2010	Watson	120	D
CS-319	1	Spring	2010	Watson	100	B
CS-319	2	Spring	2010	Taylor	3128	C
CS-347	1	Fall	2009	Taylor	3128	A
EE-181	1	Spring	2009	Taylor	3128	C
FIN-20	1	Spring	2010	Packard	101	B
HIS-351	1	Spring	2010	Painter	514	C
MU-199	1	Spring	2010	Packard	101	D
PHY-101	1	Fall	2009	Watson	100	A

15 rows in set (0.00 sec)

**Question 8: Filling up the teachers table:**

```
mysql> insert into teachers(id,course_id, sec_id, semester, year)
-> values
-> (10101,'CS-101',1,'Fall',2009),
-> (10101,'CS-315',1,'Spring',2010),
-> (10101,'CS-347',1,'Fall',2009),
-> (12121,'FIN-201',1,'Spring',2010),
-> (15151,'MU-199',1,'Spring',2010),
-> (22222,'PHY-101',1,'Fall',2009),
-> (32343,'HIS-351',1,'Spring',2010),
-> (45565,'CS-101',1,'Spring',2010),
-> (45565,'CS-319',1,'Spring',2010),
-> (76766,'BIO-101',1,'Summer',2009),
-> (76766,'BIO-319',1,'Summer',2010),
-> (83821,'CS-190',1,'Spring',2009),
-> (83821,'CS-190',2,'Spring',2009),
-> (83821,'CS-319',2,'Spring',2010),
-> (98345,'EE-181',1,'Spring',2009);
```

Query OK, 15 rows affected (0.00 sec)

Records: 15 Duplicates: 0 Warnings: 0

```
mysql> select * from teachers;
```

id	course_id	sec_id	semester	year
10101	CS-101	1	Fall	2009
10101	CS-315	1	Spring	2010
10101	CS-347	1	Fall	2009
12121	FIN-201	1	Spring	2010
15151	MU-199	1	Spring	2010
22222	PHY-101	1	Fall	2009
32343	HIS-351	1	Spring	2010
45565	CS-101	1	Spring	2010
45565	CS-319	1	Spring	2010
76766	BIO-101	1	Summer	2009
76766	BIO-319	1	Summer	2010
83821	CS-190	1	Spring	2009
83821	CS-190	2	Spring	2009
83821	CS-319	2	Spring	2010
98345	EE-181	1	Spring	2009

15 rows in set (0.00 sec)

**Question 9: Write any five DDL commands with brief explanation and syntax**

Solution: DDL stands for Data Definition Language

Examples of five DDL commands are:

- CREATE: used to create tables in the database
  - Syntax  
CREATE TABLE(  
    <col\_name1> <data\_type1>,  
    <col\_name2> <data\_type2>,  
    <col\_name3> <data\_type3>  
    .  
    .  
    .  
    <col\_namen> <data\_typen>  
);
- ALTER: alters the structure of the database
  - Syntax  
ALTER TABLE <table\_name>  
ADD COLUMN <col\_name> <dataType>;
- RENAME: rename an object
  - Syntax  
RENAME TABLE <table\_name> <new\_table\_name>;
- DROP: delete objects from the database
  - Syntax  
DROP TABLE <table\_name>;
- DESCRIBE: used to view details about the table.
  - Syntax  
DESCRIBE <table\_name>;