

Feb 12, 2018

Week 6

DML -- Data Manipulation Language

Inserting rows onto a table

Q65. A new department has been created. The id is 81, Public Affairs at location 1700.

The manager of the new department is King.

```
mysql> desc departments;
```

Field	Type	Null	Key	Default	Extra
Department_Id	decimal(4,0)	NO	PRI	NULL	
Department_Name	varchar(30)	NO		NULL	
Manager_Id	decimal(6,0)	YES		NULL	
Location_Id	decimal(4,0)	YES		NULL	

4 rows in set (0.03 sec)

Find the employee id of King

```
mysql>
```

```
mysql>
```

```
mysql> select employee_id  
-> from employees  
-> where last_name = 'King';
```

employee_id
100

1 row in set (0.05 sec)

```
mysql> Insert INTO
```

```
Departments(Department_id,Department_name,Manager_id,Location_id)
```

```
-> Values (81,'Public Affairs',100,1700);
```

Query OK, 1 row affected (0.06 sec)

```
mysql> select *
```

```
-> from departments;
```

Department_Id	Department_Name	Manager_Id	Location_Id
10	Administration	200	1700
20	Marketing	201	1800

50	Shipping	124	1500
60	IT	103	1400
80	Sales	149	2500
81	Public Affairs	100	1700
90	Executive	100	1700
110	Accounting	205	1700
190	Contracting	NULL	1700

9 rows in set (0.00 sec)

Q66. Insert department 89, Day Care Services at location 1700 onto the departments table.
The manager has not been assigned yet.

```
mysql> desc departments;
```

Field	Type	Null	Key	Default	Extra
Department_Id	decimal(4,0)	NO	PRI	NULL	
Department_Name	varchar(30)	NO		NULL	
Manager_Id	decimal(6,0)	YES		NULL	
Location_Id	decimal(4,0)	YES		NULL	

4 rows in set (0.03 sec)

```
mysql> Insert Into Departments
-> Values(89, 'Day Care Services',null, 1700);
Query OK, 1 row affected (0.05 sec)
```

```
mysql> select *
-> from departments;
```

Department_Id	Department_Name	Manager_Id	Location_Id
10	Administration	200	1700
20	Marketing	201	1800
50	Shipping	124	1500
60	IT	103	1400
80	Sales	149	2500
81	Public Affairs	100	1700
89	Day Care Services	NULL	1700
90	Executive	100	1700
110	Accounting	205	1700
190	Contracting	NULL	1700

10 rows in set (0.00 sec)

Example of entering null values where null values are not accepted

```
mysql> Insert Into Departments
      -> Values(99, null,null, 1700);
ERROR 1048 (23000): Column 'Department_Name' cannot be null
```

Q67. Add Shipping and Handling with id 95 to the table departments

Example: Not mentioning the column names where the information should be inserted

```
mysql> Insert Into Departments
      -> Values(95, 'Shipping and Handling');
ERROR 1136 (21S01): Column count doesn't match value count at row 1
```

Corrected version: Name the columns where the information should go.

```
mysql> Insert Into Departments(department_id, department_name)
      -> Values(95, 'Shipping and Handling');
Query OK, 1 row affected (0.11 sec)
```

=====

Deleting rows from a table

Q68. Remove the shipping and handling department from the database.

```
mysql> Delete
      -> from Departments
      -> where department_name = 'Shipping and Handling';
Query OK, 1 row affected (0.05 sec)
```

```
mysql> select *
      -> from departments;
```

Department_Id	Department_Name	Manager_Id	Location_Id
10	Administration	200	1700
20	Marketing	201	1800
50	Shipping	124	1500
60	IT	103	1400
80	Sales	149	2500
81	Public Affairs	100	1700
89	Day Care Services	NULL	1700
90	Executive	100	1700
110	Accounting	205	1700
190	Contracting	NULL	1700

10 rows in set (0.00 sec)

Q69. Remove all employees working for the IT department.

```
mysql>Delete
->From employees
->where department_id = (Select department_id
->                        From departments
->                        Where department_name = 'IT');
```

Q70. Remove from the database all the departments located in Seattle.

```
mysql>Delete
->from departments
->where location_id = (select location_id
->                     from locations
->                     where city = 'Seattle');
```

====

Updating Rows from a table

Q71. The employee whose id is 176 will be working for department 81
Do the update

```
mysql> Select department_id
-> from employees
-> where employee_id = 176;
```

```
+-----+
| department_id |
+-----+
|           80 |
+-----+
```

1 row in set (0.01 sec)

```
mysql> UPDATE Employees
-> SET department_id = 81
-> where employee_id = 176;
Query OK, 1 row affected (0.05 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql>
mysql>
mysql> Select department_id
-> from employees
-> where employee_id = 176;
```

```
+-----+
| department_id |
+-----+
```

```
|          81 |  
+-----+  
1 row in set (0.00 sec)
```

Q72. The department Public Affairs has been renamed Public Services and the new manager id is 102

```
mysql> Select department_name, manager_id  
-> from departments  
-> where department_name = 'Public Affairs';
```

```
+-----+-----+  
| department_name | manager_id |  
+-----+-----+  
| Public Affairs  |          100 |  
+-----+-----+  
1 row in set (0.00 sec)
```

```
mysql> Update Departments  
-> Set department_name = 'Public Services', manager_id = 102  
-> where department_name = 'Public Affairs';  
Query OK, 1 row affected (0.05 sec)  
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> Select department_name, manager_id  
-> from departments  
-> where department_name = 'Public Services';
```

```
+-----+-----+  
| department_name | manager_id |  
+-----+-----+  
| Public Services |          102 |  
+-----+-----+  
1 row in set (0.00 sec)
```

Q73. The Contracting department has a new manager. The name of the new manager is King.
Do the update.

```
mysql> UPDATE Departments  
-> SET manager_id = (Select employee_id  
-> from employees  
-> where last_name = 'King')  
-> Where department_name = 'Contracting';  
Query OK, 1 row affected (0.05 sec)  
Rows matched: 1  Changed: 1  Warnings: 0
```

=====

DDL -- Data Definition Language

```
mysql> Create database Julyreg;  
Query OK, 1 row affected (0.00 sec)
```

```
mysql> use Julyreg;  
Database changed
```

Running the Registration script

```
mysql> Drop Table Registrations;  
ERROR 1051 (42S02): Unknown table 'studentsreg.registrations'  
mysql> Drop Table CoursesOffered;  
ERROR 1051 (42S02): Unknown table 'studentsreg.coursesoffered'  
mysql> Drop Table Courses;  
ERROR 1051 (42S02): Unknown table 'studentsreg.courses'  
mysql> Drop Table Teachers;  
ERROR 1051 (42S02): Unknown table 'studentsreg.teachers'  
mysql> Drop Table Students;  
ERROR 1051 (42S02): Unknown table 'studentsreg.students'  
mysql>  
mysql>  
mysql>  
mysql> Create Table Courses  
-> (Cid varchar(7) Primary key,  
-> Ctitle varchar(30));  
Query OK, 0 rows affected (0.45 sec)
```

```
mysql>  
mysql> Create Table Teachers  
-> (Eid varchar(7) Primary Key,  
-> TlastName varchar(30),  
-> TfirstName varchar(30),  
-> Taddress varchar(50),  
-> Temail varchar(50),  
-> TcontactNumber varchar(15));  
Query OK, 0 rows affected (0.36 sec)
```

```
mysql>  
mysql> Create Table Students  
-> (Sid varchar(7) Primary Key,  
-> SlastName varchar(30),  
-> SfirstName varchar(30),  
-> Saddress varchar(50),  
-> Semail varchar(50),  
-> ScontactNumber varchar(15));
```

Query OK, 0 rows affected (0.36 sec)

mysql>

mysql>

```
mysql> Create Table CoursesOffered
-> (Cid varchar(7),
->   Csection varchar(5),
->   Cterm varchar(10),
->   CstarTime time,
->   CStartDate Date,
->   CendDate Date,
->   Clocation varchar(5),
->   Eid varchar(7),
->   Foreign Key (Cid) References Courses(Cid),
->   Foreign Key (Eid) References Teachers(Eid),
->   Constraint CoursesOffered_pk Primary Key
(Cid,Csection,Cterm));
```

Query OK, 0 rows affected (0.53 sec)

mysql>

```
mysql> Create Table Registrations
-> (Cid varchar(7),
->   Csection varchar(5),
->   Cterm varchar(10),
->   Sid varchar(7),
->   Grade varchar(3),
->   RegDate timestamp DEFAULT CURRENT_TIMESTAMP ON UPDATE
CURRENT_TIMESTAMP,
->   Foreign Key (sid) References Students(Sid),
->   Foreign Key (Cid,Csection,Cterm) References
CoursesOffered(Cid,Csection,Cterm),
->   Constraint Registrations_pk Primary
Key(Cid,Csection,Cterm,Sid));
```

Query OK, 0 rows affected (0.55 sec)

mysql> show tables;

```
+-----+
| Tables_in_studentsreg |
+-----+
| courses                |
| coursesoffered         |
| registrations          |
| students               |
| teachers               |
+-----+
```

5 rows in set (0.02 sec)

mysql> desc coursesOffered;

```
+-----+-----+-----+-----+-----+-----+
| Field      | Type      | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
```

Cid	varchar(7)	NO	PRI		
Csection	varchar(5)	NO	PRI		
Cterm	varchar(10)	NO	PRI		
CstarTime	time	YES		NULL	
CstartDate	date	YES		NULL	
CendDate	date	YES		NULL	
Clocation	varchar(5)	YES		NULL	
Eid	varchar(7)	YES	MUL	NULL	

8 rows in set (0.01 sec)

-- Populate the Students table

```
mysql> Insert Into Students
-> Values ('4443329','Steven','King','180 Berri',
'SKING@gmail.com','5151234567');
Query OK, 1 row affected (0.05 sec)
```

```
mysql>
mysql> Insert Into Students
-> Values ('4433321','Neena','Kochhar','200 St catherine',
'NKOCHHAR@hotmail.com','5151234568');
Query OK, 1 row affected (0.03 sec)
```

```
mysql>
mysql> Insert Into Students
-> Values ('4445322','Alexander','Hunold',' 3000 Duluth',
'AHUNOLD@aol.com','5904234567');
Query OK, 1 row affected (0.06 sec)
```

```
mysql>
mysql> Insert Into Students
-> Values ('4443322','Bruce','Ernst',' 500 St
Denis','BERNST@gmail.com','5904234568');
Query OK, 1 row affected (0.05 sec)
```

```
mysql>
mysql> Insert Into Students
-> Values ('4443622','Diana','Lorentz',' 6600 Rue',
'DLORENTZ@gmail.com','5904235567');
Query OK, 1 row affected (0.05 sec)
```

```
mysql>
mysql> Insert Into Students
-> Values ('4446322','Kevin','Mourgos','550 Here',
'KMOURGOS@gmail.com','6501235234');
Query OK, 1 row affected (0.05 sec)
```



```

mysql>
mysql> Insert Into Students
    -> Values ('4447322','Trenna','Rajs','6700 There av',
    'TRAJS@hotmail.com','6501218009');
Query OK, 1 row affected (0.02 sec)

mysql>
mysql> Insert Into Students
    -> Values ('4483322','Curtis','Davies','4500 OverThere Av.',
    'CDAVIES@hotmail.com','6501212994');
Query OK, 1 row affected (0.05 sec)

mysql>
mysql> Insert Into Students
    -> Values ('4493322','Randall','Matos',' 4389 Jamaica
    St','RMATOS@hotmail.com','6501212874');
Query OK, 1 row affected (0.03 sec)

mysql>
mysql> Insert Into Students
    -> Values ('4431322','Peter','Vargas','4678 Rue Berri',
    'PVARGAS@hotmail.com','6501212004');
Query OK, 1 row affected (0.03 sec)

mysql>
mysql> Insert Into Students
    -> values ('1113334','Martin','James','1600 St Catherine
    West','James.Martin@concordia.ca','5148482424');
Query OK, 1 row affected (0.03 sec)

mysql>
mysql> Insert Into Students
    -> values ('2223334','Messi','Leo','600 St Catherine
    West','leo.messi@concordia.ca','5148482626');
Query OK, 1 row affected (0.03 sec)

mysql>
mysql> Insert Into Students
    -> values ('9993339','Suarez','Luis','300 St
    Denis','Luis.Suarez@Barcelona.ca','5148482699');
Query OK, 1 row affected (0.03 sec)

mysql>
mysql> Insert Into Students
    -> values ('3335533','Pique','Gerard','333
    Laval','Gerard.Pique@Barcelona.ca','5148482633');
Query OK, 1 row affected (0.05 sec)

mysql>

```

```
mysql>
mysql> -- Populate Teachers Table
mysql>
mysql>
mysql> Insert Into Teachers
-> values('0023456','Messina','Carlos','1250 De Maisonneuve
West','Carlos.Messina@concordia.ca','5148482425');
Query OK, 1 row affected (0.03 sec)
```

```
mysql>
mysql>
mysql>      Insert Into Teachers
-> values('0035070','Brown','Charles','450 St Catherine
West','Charles.Brown@concordia.ca','4508483030');
Query OK, 1 row affected (0.03 sec)
```

```
mysql>
mysql> Insert Into Teachers
-> values('0044777','Martino','Gerrard','7300
Berri','Gerrard.Martino@concordia.ca','5144459988');
Query OK, 1 row affected (0.03 sec)
```

```
mysql>
mysql>
mysql>      Insert Into Teachers
-> values('0058077','White','Ronnie','11450
Laval','Ronnie.White@concordia.ca','4503308888');
Query OK, 1 row affected (0.05 sec)
```

```
mysql>
mysql> Insert Into Teachers
-> values('0065079','Romano','Gino','6500 St
Laurent','Romano.Gino@concordia.ca','5147330990');
Query OK, 1 row affected (0.02 sec)
```

```
mysql>
mysql>      Select * from teachers;
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| Eid      | TlastName | TfirstName | Taddress                      | Temail
| TcontactNumber |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| 0023456 | Messina   | Carlos     | 1250 De Maisonneuve West |
Carlos.Messina@concordia.ca | 5148482425 |
| 0035070 | Brown     | Charles    | 450 St Catherine West    |
Charles.Brown@concordia.ca  | 4508483030 |
| 0044777 | Martino   | Gerrard    | 7300 Berri                |
Gerrard.Martino@concordia.ca | 5144459988 |
| 0058077 | White     | Ronnie     | 11450 Laval               |

```

```

Ronnie.White@concordia.ca | 4503308888 |
| 0065079 | Romano | Gino | 6500 St Laurent |
Romano.Gino@concordia.ca | 5147330990 |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
5 rows in set (0.00 sec)

```

```

mysql>
mysql> -- Populate Courses Table
mysql>
mysql> Insert INTO Courses(Cid,Ctitle)
      -> values('CEWP215','SQL Essentials');
Query OK, 1 row affected (0.03 sec)

```

```

mysql>
mysql> Insert INTO Courses(Cid,Ctitle)
      -> values('CEPH219','Java Programming I');
Query OK, 1 row affected (0.03 sec)

```

```

mysql>
mysql> Insert INTO Courses(Cid,Ctitle)
      -> values('CEDP150','Programming with PHP');
Query OK, 1 row affected (0.03 sec)

```

```

mysql>
mysql> -- Populate CoursesOffered Table
mysql>
mysql> Insert INTO coursesOffered
      ->
      values('CEWP215','C1','Spring2016','18:00','2016/04/04','2016/05/16','
      FB101','0023456');
Query OK, 1 row affected (0.06 sec)

```

```

mysql>
mysql> Insert INTO coursesOffered
      ->
      values('CEPH219','C1','Spring2016','20:00','2016/04/04','2016/05/16','
      FB105','0035070');
Query OK, 1 row affected (0.03 sec)

```

```

mysql>
mysql> Insert INTO coursesOffered
      ->
      values('CEDP150','C1','Spring2016','18:00','2016/04/05','2016/05/16','
      FB101','0023456');
Query OK, 1 row affected (0.09 sec)

```

```

mysql>
mysql> Select * from coursesOffered;
+-----+-----+-----+-----+-----+

```

```

+-----+-----+-----+
| Cid    | Csection | Cterm      | CstarTime | CStartDate | CendDate |
| Clocation | Eid      |            |            |            |            |
+-----+-----+-----+
+-----+-----+-----+
| CEDP150 | C1       | Spring2016 | 18:00:00  | 2016-04-05 |          |
2016-05-16 | FB101    | 0023456    |            |            |            |
| CEPH219 | C1       | Spring2016 | 20:00:00  | 2016-04-04 |          |
2016-05-16 | FB105    | 0035070    |            |            |            |
| CEWP215 | C1       | Spring2016 | 18:00:00  | 2016-04-04 |          |
2016-05-16 | FB101    | 0023456    |            |            |            |
+-----+-----+-----+
+-----+-----+-----+
3 rows in set (0.00 sec)

```

```

mysql>
mysql> -- Populate Registrations Table
mysql>
mysql> Insert Into Registrations
-> values('CEWP215','C1','Spring2016','4443329',null,null);
Query OK, 1 row affected (0.44 sec)

```

```

mysql>
mysql> Insert Into Registrations
-> values('CEWP215','C1','Spring2016','4445322',null,null);
Query OK, 1 row affected (0.06 sec)

```

```

mysql>
mysql> Insert Into Registrations
-> values('CEWP215','C1','Spring2016','4443622',null,null);
Query OK, 1 row affected (0.19 sec)

```

```

mysql>
mysql> Insert Into Registrations
-> values('CEWP215','C1','Spring2016','4447322',null,null);
Query OK, 1 row affected (0.03 sec)

```

```

mysql>
mysql> Insert Into Registrations
-> values('CEWP215','C1','Spring2016','4431322',null,null);
Query OK, 1 row affected (0.02 sec)

```

```

mysql>
mysql> Insert Into Registrations
-> values('CEWP215','C1','Spring2016','3335533',null,'2016-02-17
13:10:05');
Query OK, 1 row affected (0.03 sec)

```

```

mysql>
mysql> Insert Into Registrations

```

```

-> values('CEDP150','C1','Spring2016','3335533',null,'2016-02-18
14:10:10');
Query OK, 1 row affected (0.03 sec)

```

```

mysql> select *
-> from courses;

```

Cid	Ctitle
CEDP150	Programming with PHP
CEPH219	Java Programming I
CEWP215	SQL Essentials

```

3 rows in set (0.00 sec)

```

```

mysql> Select *
-> from students;

```

Sid	SlastName	SfirstName	Saddress	Semail
ScontactNumber				
1113334	Martin	James	1600 St Catherine West	James.Martin@concordia.ca
2223334	Messi	Leo	600 St Catherine West	leo.messi@concordia.ca
3335533	Pique	Gerard	333 Laval	Gerard.Pique@Barcelona.ca
4431322	Peter	Vargas	4678 Rue Berri	PVARGAS@hotmail.com
4433321	Neena	Kochhar	200 St catherine	NKOCHHAR@hotmail.com
4443322	Bruce	Ernst	500 St Denis	BERNST@gmail.com
4443329	Steven	King	180 Berri	SKING@gmail.com
4443622	Diana	Lorentz	6600 Rue	DLORENTZ@gmail.com
4445322	Alexander	Hunold	3000 Duluth	AHUNOLD@aol.com
4446322	Kevin	Mourgos	550 Here	KMOURGOS@gmail.com
4447322	Trenna	Rajs	6700 There av	TRAJS@hotmail.com
4483322	Curtis	Davies	4500 OverThere Av.	CDAVIES@hotmail.com
4493322	Randall	Matos	4389 Jamaica St	RMATOS@hotmail.com
9993339	Suarez	Luis	300 St Denis	

```
Luis.Suarez@Barcelona.ca | 5148482699 |
```

```
+-----+-----+-----+-----+  
+-----+-----+-----+-----+
```

14 rows in set (0.00 sec)

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

```
+-----+-----+-----+-----+  
+-----+-----+-----+-----+  
| Eid      | TlastName | TfirstName | Taddress                | Temail  
| TcontactNumber |
```

```
+-----+-----+-----+-----+  
+-----+-----+-----+-----+  
| 0023456 | Messina   | Carlos     | 1250 De Maisonneuve West |  
Carlos.Messina@concordia.ca | 5148482425 |  
| 0035070 | Brown     | Charles    | 450 St Catherine West   |  
Charles.Brown@concordia.ca | 4508483030 |  
| 0044777 | Martino   | Gerrard    | 7300 Berri              |  
Gerrard.Martino@concordia.ca | 5144459988 |  
| 0058077 | White     | Ronnie     | 11450 Laval             |  
Ronnie.White@concordia.ca | 4503308888 |  
| 0065079 | Romano    | Gino       | 6500 St Laurent         |  
Romano.Gino@concordia.ca | 5147330990 |
```

```
+-----+-----+-----+-----+  
+-----+-----+-----+-----+
```

5 rows in set (0.00 sec)

```
mysql> select *  
-> from coursesoffered;
```

```
+-----+-----+-----+-----+  
+-----+-----+-----+-----+  
| Cid      | Csection | Cterm      | CstarTime | CStartDate | CendDate
```

```
+-----+-----+-----+-----+  
+-----+-----+-----+-----+  
| CEDP150 | C1       | Spring2016 | 18:00:00 | 2016-04-05 |  
2016-05-16 | FB101    | 0023456 |  
| CEPH219 | C1       | Spring2016 | 20:00:00 | 2016-04-04 |  
2016-05-16 | FB105    | 0035070 |  
| CEWP215 | C1       | Spring2016 | 18:00:00 | 2016-04-04 |  
2016-05-16 | FB101    | 0023456 |
```

```
+-----+-----+-----+-----+  
+-----+-----+-----+-----+
```

3 rows in set (0.02 sec)

```
mysql>  
mysql>  
mysql> select *  
-> from registrations;
```

```
+-----+-----+-----+-----+  
+-----+-----+-----+-----+
```

```

+-----+
| Cid    | Csection | Cterm    | Sid    | Grade | RegDate |
+-----+-----+-----+-----+-----+
+-----+
| CEDP150 | C1       | Spring2016 | 3335533 | NULL | 2016-02-18 |
14:10:10 |
| CEWP215 | C1       | Spring2016 | 3335533 | NULL | 2016-02-17 |
13:10:05 |
| CEWP215 | C1       | Spring2016 | 4431322 | NULL | 2016-05-09 |
20:36:32 |
| CEWP215 | C1       | Spring2016 | 4443329 | NULL | 2016-05-09 |
20:36:31 |
| CEWP215 | C1       | Spring2016 | 4443622 | NULL | 2016-05-09 |
20:36:32 |
| CEWP215 | C1       | Spring2016 | 4445322 | NULL | 2016-05-09 |
20:36:32 |
| CEWP215 | C1       | Spring2016 | 4447322 | NULL | 2016-05-09 |
20:36:32 |
+-----+-----+-----+-----+-----+
+-----+
7 rows in set (0.00 sec)

```

Q75. The student Diana Lorentz with id 4443622 obtained a A+ in her course. Do the update.

```

mysql> Update Registrations
      -> Set Grade = 'A+'
      -> where sid = '4443622';
Query OK, 1 row affected (0.03 sec)
Rows matched: 1  Changed: 1  Warnings: 0

```

```

mysql> select *
      -> from registrations;
+-----+-----+-----+-----+-----+
+-----+
| Cid    | Csection | Cterm    | Sid    | Grade | RegDate |
+-----+-----+-----+-----+-----+
+-----+
| CEDP150 | C1       | Spring2016 | 3335533 | NULL | 2016-02-18 |
14:10:10 |
| CEWP215 | C1       | Spring2016 | 3335533 | NULL | 2016-02-17 |
13:10:05 |
| CEWP215 | C1       | Spring2016 | 4431322 | NULL | 2016-05-09 |
20:36:32 |
| CEWP215 | C1       | Spring2016 | 4443329 | NULL | 2016-05-09 |
20:36:31 |
| CEWP215 | C1       | Spring2016 | 4443622 | A+    | 2016-05-09 |
20:39:16 |<-----

```

```
| CEWP215 | C1          | Spring2016 | 4445322 | NULL | 2016-05-09
20:36:32 |
| CEWP215 | C1          | Spring2016 | 4447322 | NULL | 2016-05-09
20:36:32 |
```

```
+-----+-----+-----+-----+-----+
+-----+
```

7 rows in set (0.00 sec)

mysql> exit;

----- End of File

----- End of the course
