



DBs LabNo.9

Name: Umair Hafeez | CMS ID: 023-24-0473 | BSCS II

DATABASE SYSTEM

LAB No: 09

Instructor: Marina Gul

Objective of Lab No. 9:

After performing lab 9, students will be able to:

- Introduction to DML Statements
- INSERT
- INSERT INTO SELECT
- INSERT ON DUPLICATE KEY UPDATE
- UPDATE
- DELETE

Lab Task(s):

Exercise

Run SQL statement to create a table projects and student.

```
CREATE TABLE projects(  
project_id INT AUTO_INCREMENT,  
name VARCHAR(100) NOT NULL,  
start_date DATE,  
end_date DATE,  
PRIMARY KEY(project_id) );  
  
CREATE TABLE student(  
std_NO varchar(8) not null,  
std_Name varchar(30) not null,  
Department varchar(30) not null,  
email varchar(30) not null,  
phone varchar(30) ,  
project_id int ,  
FOREIGN KEY (project_id) REFERENCES projects (project_id),  
PRIMARY KEY (std No) );
```

1. Write a SQL statement to insert 4 rows in project table and 4 rows in student table below by a single insert statement.

project_id	name	start_date	end_date
1	AI for Marketing	2019-08-01	2019-12-31
2	ML for Sales	2019-05-15	2019-11-20
3	CS for IT	2020-01-01	2020-05-20
4	SQL for input	2020-06-13	2020-11-20

Query:

```
insert into projects(project_id,name,start_date,end_date)
values
(1,'AI for Marketing','2019-08-01','2019-12-31'),
(2,'ML for Sales','2019-05-15','2019-11-20'),
(3,'CS for IT','2020-01-01','2020-05-15'),
(4,'SQL for Input','2020-06-13','2020-11-20');
```

std_NO	std_Name	Department	email	phone	project_id
S100	Ali Mehmood	Administration	ali@iba-suk.edu.pk	0333-895311	3
S101	Manisha Kataria	Computer Science	manisha@iba-suk.edu.pk	0345-111333444	2
S102	Sagar Sanjay	Engineering	sagar@iba-suk.edu.pk	0300-22224454	2
S103	Sara Shaikh	IT	sara@iba-suk.edu.pk	0300-111110000	3

Query:

```
insert into student(std_no,std_name,department,email,phone,project_id)
values
('S100','Ali Mehmood','Adminstration','ali@iba-suk.edu.pk','0333-895311',3),
('S101','Manisha Kataria','Computer Science','manisha@iba-suk.edu.pk','0345-111333444',2),
('S102','Sagar Sanjay','Engineering','sagar@iba-suk.edu.pk','0300-22224454',2),
('S103','Sara Shaikh','IT','sara@iba-suk.edu.pk','0300-111110000',3);
```

Now Create duplicate of projects table named projects_copy with all structure and data

```
CREATE TABLE IF NOT EXISTS projects_copy
SELECT * FROM projects;
```

2. Write a SQL statement to delete all records from projects table. Error may occur. Identify the reason and resolve the error.

Query:

```
SET FOREIGN_KEY_CHECKS = 0;  
TRUNCATE TABLE projects;  
SET FOREIGN_KEY_CHECKS = 1;
```

3. Write a SQL statement to insert rows from projects_copy table to projects table.

Query:

```
Insert into projects  
(Select * from project_copy);
```

4. Write a SQL statement to update start_date to '2023-02-01' of a project name CS for IT.

Query:

```
update projects  
set start_date = '2023-02-01'  
where name = 'CS for IT'
```

Now add a column in table project by following command.

```
ALTER TABLE projects  
ADD cost INT;  
  
ALTER TABLE student  
ADD daysToComplete INT;
```

5. Write a SQL statement to update cost of project to 90000 where cost are null.

Query:

```
update projects  
set cost = 9000000  
where cost = null;
```

6. Write a SQL statement to update daysToComplete column from student by calculating difference from project start_date and end_date.

Query:

```
UPDATE student s  
JOIN projects p ON s.project_id = p.project_id  
SET s.daystocomplete = DATEDIFF(p.end_date, p.start_date);
```