**DBMS Lab**

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**Assignment No. 2a (Table, View, Index, /AutoIncrement)**

**Title:** Design and Develop SQL DDL statements which demonstrate the use of SQL objects such as Table, View, Index.

**View**

* **Create table Employees and Departments as shown below:**

(Use emp\_id as primary key for employees table and dept\_id as a primary key for departments table)

|  |  |  |  |
| --- | --- | --- | --- |
| emp\_id | emp\_name | salary | dept\_id |
| 1 | Ethan Hunt | 5000 | 4 |
| 2 | Tony Montana | 6500 | 1 |
| 3 | Sarah Connor | 8000 | 5 |
| 4 | Rick Deckard | 7200 | 3 |
| 5 | Martin Blank | 5600 | NULL |

|  |  |
| --- | --- |
| dept\_id | Dept\_name |
| 1 | Administration |
| 2 | Customer Service |
| 3 | Finance |
| 4 | Human Resources |
| 5 | Sales |

create table Employees ( emp\_id int primary key, emp\_name varchar(25) , salary int , dept\_id int);

Query OK, 0 rows affected (0.02 sec)

mysql> desc Employees;

+----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+----------+-------------+------+-----+---------+-------+

| emp\_id | int | NO | PRI | NULL | |

| emp\_name | varchar(25) | YES | | NULL | |

| salary | int | YES | | NULL | |

| dept\_id | int | YES | | NULL | |

+----------+-------------+------+-----+---------+-------+

4 rows in set (0.02 sec)

mysql> create table Departments(dept\_id int primary key, Dept\_name varchar(25));

Query OK, 0 rows affected (0.02 sec)

mysql> desc Departments;

+-----------+-------------+------+-----+---------+-------+

| Field | Type | Null | Key | Default | Extra |

+-----------+-------------+------+-----+---------+-------+

| dept\_id | int | NO | PRI | NULL | |

| Dept\_name | varchar(25) | YES | | NULL | |

+-----------+-------------+------+-----+---------+-------+

2 rows in set (0.00 sec)

mysql> insert into Employees (emp\_id , emp\_name, salary , dept\_id) values (1,'Ethan Hunt' , 5000, 4);

Query OK, 1 row affected (0.01 sec)

mysql> insert into Employees (emp\_id , emp\_name, salary , dept\_id) values (2,'Tony Montana' , 6500, 1);

Query OK, 1 row affected (0.01 sec)

mysql> insert into Employees (emp\_id , emp\_name, salary , dept\_id) values (3,'Sarah Connor' , 8000, 5);

Query OK, 1 row affected (0.01 sec)

mysql> insert into Employees (emp\_id , emp\_name, salary , dept\_id) values (4,'Rick Deckard' , 7200, 3);

Query OK, 1 row affected (0.01 sec)

mysql> insert into Employees (emp\_id , emp\_name, salary , dept\_id) values (5,'Martin Blank' , 5600, null);

Query OK, 1 row affected (0.01 sec)

mysql> select \* from Employees;

+--------+--------------+--------+---------+

| emp\_id | emp\_name | salary | dept\_id |

+--------+--------------+--------+---------+

| 1 | Ethan Hunt | 5000 | 4 |

| 2 | Tony Montana | 6500 | 1 |

| 3 | Sarah Connor | 8000 | 5 |

| 4 | Rick Deckard | 7200 | 3 |

| 5 | Martin Blank | 5600 | NULL |

+--------+--------------+--------+---------+

5 rows in set (0.00 sec)

mysql> insert into Departments (dept\_id , Dept\_name) values (1, 'Administration');

Query OK, 1 row affected (0.01 sec)

mysql> insert into Departments (dept\_id , Dept\_name) values (2, 'Customer Service');

Query OK, 1 row affected (0.00 sec)

mysql> insert into Departments (dept\_id , Dept\_name) values (3, 'Finance');

Query OK, 1 row affected (0.00 sec)

mysql> insert into Departments (dept\_id , Dept\_name) values (4, 'Human Resources');

Query OK, 1 row affected (0.01 sec)

mysql> insert into Departments (dept\_id , Dept\_name) values (5, 'Sales');

Query OK, 1 row affected (0.01 sec)

mysql> select \* from Departments;

+---------+------------------+

| dept\_id | Dept\_name |

+---------+------------------+

| 1 | Administration |

| 2 | Customer Service |

| 3 | Finance |

| 4 | Human Resources |

| 5 | Sales |

+---------+------------------+

5 rows in set (0.00 sec)

* **Execute the following queries in MySQL:**

1. Retrieve the id and name of the employees along with their department name (Use Left Join)

SELECT t1.emp\_id, t1.emp\_name, t2.dept\_name

FROM employees AS t1 LEFT JOIN departments AS t2

ON t1.dept\_id = t2.dept\_id;

mysql> select t1.emp\_id , t1.emp\_name , t2.dept\_name from Employees as t1 left join Departments as t2 on t1.dept\_id = t2.dept\_id;

+--------+--------------+-----------------+

| emp\_id | emp\_name | dept\_name |

+--------+--------------+-----------------+

| 1 | Ethan Hunt | Human Resources |

| 2 | Tony Montana | Administration |

| 3 | Sarah Connor | Sales |

| 4 | Rick Deckard | Finance |

| 5 | Martin Blank | NULL |

+--------+--------------+-----------------+

5 rows in set (0.01 sec)

1. Create View for the above query.

mysql> create view v as select t1.emp\_id , t1.emp\_name , t2.dept\_name from Employees as t1 left join Departments as t2 on t1.dept\_id = t2.dept\_id;

Query OK, 0 rows affected (0.01 sec)

1. Retrieve records from the above created view.

mysql> select \* from v;

+--------+--------------+-----------------+

| emp\_id | emp\_name | dept\_name |

+--------+--------------+-----------------+

| 1 | Ethan Hunt | Human Resources |

| 2 | Tony Montana | Administration |

| 3 | Sarah Connor | Sales |

| 4 | Rick Deckard | Finance |

| 5 | Martin Blank | NULL |

+--------+--------------+-----------------+

5 rows in set (0.00 sec)

1. Replace the above view to show emp\_id, .emp\_name, dept\_name salary also.

alter view v as select t1.emp\_id , t1.emp\_name , t2.dept\_name ,t1.salary from Employees as t1 left join Departments as t2 on t1.dept\_id = t2.dept\_id;

Query OK, 0 rows affected (0.01 sec)

mysql> select \* from v;

+--------+--------------+-----------------+--------+

| emp\_id | emp\_name | dept\_name | salary |

+--------+--------------+-----------------+--------+

| 1 | Ethan Hunt | Human Resources | 5000 |

| 2 | Tony Montana | Administration | 6500 |

| 3 | Sarah Connor | Sales | 8000 |

| 4 | Rick Deckard | Finance | 7200 |

| 5 | Martin Blank | NULL | 5600 |

+--------+--------------+-----------------+--------+

5 rows in set (0.00 sec)

1. Insert 3 more records in above created view.

mysql> insert into v ( emp\_id, emp\_name, dept\_name , salary ) values (6 , 'Ruskin Bond' , 'Literature' , 34000);

ERROR 1471 (HY000): The target table v of the INSERT is not insertable-into.

471 (HY000): The target table v of the INSERT is not insertable-into

mysql> create view v1 as select \* from Employees;

Query OK, 0 rows affected (0.01 sec)

mysql> select \* from v1;

+--------+--------------+--------+---------+

| emp\_id | emp\_name | salary | dept\_id |

+--------+--------------+--------+---------+

| 1 | Ethan Hunt | 5000 | 4 |

| 2 | Tony Montana | 6500 | 1 |

| 3 | Sarah Connor | 8000 | 5 |

| 4 | Rick Deckard | 7200 | 3 |

| 5 | Martin Blank | 5600 | NULL |

+--------+--------------+--------+---------+

5 rows in set (0.01 sec)

mysql> insert into v1 select 6, 'George' , 10000,6;

Query OK, 1 row affected (0.01 sec)

Records: 1 Duplicates: 0 Warnings: 0

mysql> insert into v1 select 7, 'James' , 15000,7;

Query OK, 1 row affected (0.01 sec)

Records: 1 Duplicates: 0 Warnings: 0

mysql> insert into v1 select 8, 'Jasmine' , 20000, 8;

Query OK, 1 row affected (0.01 sec)

Records: 1 Duplicates: 0 Warnings: 0

mysql> select \* from v1;

+--------+--------------+--------+---------+

| emp\_id | emp\_name | salary | dept\_id |

+--------+--------------+--------+---------+

| 1 | Ethan Hunt | 5000 | 4 |

| 2 | Tony Montana | 6500 | 1 |

| 3 | Sarah Connor | 8000 | 5 |

| 4 | Rick Deckard | 7200 | 3 |

| 5 | Martin Blank | 5600 | NULL |

| 6 | George | 10000 | 6 |

| 7 | James | 15000 | 7 |

| 8 | Jasmine | 20000 | 8 |

+--------+--------------+--------+---------+

8 rows in set (0.00 sec)

mysql> create view v2 as select \* from Departments;

Query OK, 0 rows affected (0.01 sec)

mysql> select \* from v2;

+---------+------------------+

| dept\_id | Dept\_name |

+---------+------------------+

| 1 | Administration |

| 2 | Customer Service |

| 3 | Finance |

| 4 | Human Resources |

| 5 | Sales |

+---------+------------------+

5 rows in set (0.00 sec)

mysql> insert into v2 select 6,'Software Developer';

Query OK, 1 row affected (0.01 sec)

Records: 1 Duplicates: 0 Warnings: 0

mysql> insert into v2 select 7,'Lawyer';

Query OK, 1 row affected (0.01 sec)

Records: 1 Duplicates: 0 Warnings: 0

mysql> insert into v2 select 8,'Doctor';

Query OK, 1 row affected (0.01 sec)

Records: 1 Duplicates: 0 Warnings: 0

mysql> select \* from v2;

+---------+--------------------+

| dept\_id | Dept\_name |

+---------+--------------------+

| 1 | Administration |

| 2 | Customer Service |

| 3 | Finance |

| 4 | Human Resources |

| 5 | Sales |

| 6 | Software Developer |

| 7 | Lawyer |

| 8 | Doctor |

+---------+--------------------+

8 rows in set (0.00 sec)

1. Update the above view to set salary =6000 for the employee having emp\_id 1.

update v1 set salary =6000 where emp\_id =1;

Query OK, 1 row affected (0.01 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from v1;

+--------+--------------+--------+---------+

| emp\_id | emp\_name | salary | dept\_id |

+--------+--------------+--------+---------+

| 1 | Ethan Hunt | 6000 | 4 |

| 2 | Tony Montana | 6500 | 1 |

| 3 | Sarah Connor | 8000 | 5 |

| 4 | Rick Deckard | 7200 | 3 |

| 5 | Martin Blank | 5600 | NULL |

| 6 | George | 10000 | 6 |

| 7 | James | 15000 | 7 |

| 8 | Jasmine | 20000 | 8 |

+--------+--------------+--------+---------+

8 rows in set (0.00 sec)

1. Retrieve the record from view where dept\_id of employees is NULL.

mysql> select \* from v1 where dept\_id is NULL;

+--------+--------------+--------+---------+

| emp\_id | emp\_name | salary | dept\_id |

+--------+--------------+--------+---------+

| 5 | Martin Blank | 5600 | NULL |

+--------+--------------+--------+---------+

1 row in set (0.00 sec)

mysql> delete from v1 where salary = 8000;

Query OK, 1 row affected (0.00 sec)

1. Delete those records from view where employee salary is 8000.

mysql> delete from v1 where salary = 8000;

Query OK, 1 row affected (0.00 sec)

mysql> select \* from v1;

+--------+--------------+--------+---------+

| emp\_id | emp\_name | salary | dept\_id |

+--------+--------------+--------+---------+

| 1 | Ethan Hunt | 6000 | 4 |

| 2 | Tony Montana | 6500 | 1 |

| 4 | Rick Deckard | 7200 | 3 |

| 5 | Martin Blank | 5600 | NULL |

| 6 | George | 10000 | 6 |

| 7 | James | 15000 | 7 |

| 8 | Jasmine | 20000 | 8 |

+--------+--------------+--------+---------+

7 rows in set (0.00 sec)

1. Drop the above created view.

mysql> drop view v1;

Query OK, 0 rows affected (0.01 sec)

mysql> select \* from v1;

ERROR 1146 (42S02): Table 'assignmemt2.v1' doesn't exist

mysql>