**Name: Shivanshu Tiwari**

**Roll No.- 7354**

**DBMS Lab**

**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 |

mysql> insert into emp values(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);

**TABLE EMPLOYEES**

mysql> select \* from emp;

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

| 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 |

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

mysql> insert into dept values(1,'Administration'),(2,'Customer Services'),(3,'Finance'),(4,'Human Resources'),(5,'Sales');

Query OK, 5 rows affected (0.08 sec)

Records: 5 Duplicates: 0 Warnings: 0

**TABLE DEPARTMENTS**

mysql> select \* from dept;

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

| dept\_id | dept\_name |

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

| 1 | Administration |

| 2 | Customer Services |

| 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 e.emp\_id,e.emp\_name,d.dept\_name from emp as e left join dept as d on e.dept\_id=d.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 tab as select e.emp\_id,e.emp\_name,d.dept\_name from emp as e left join dept as d on e.dept\_id=d.dept\_id;

Query OK, 0 rows affected (0.15 sec)

1. Retrieve records from the above created view.

mysql> select \* from tab;

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

| 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.

mysql> alter view tab as select e.emp\_id,e.emp\_name,d.dept\_name,e.salary from emp as e left join dept as d on e.dept\_id=d.dept\_id;

Query OK, 0 rows affected (0.14 sec)

mysql> select \* from tab;

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

| 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> create view tab1 as select \* from emp;

Query OK, 0 rows affected (0.11 sec)

mysql> select \* from tab1;

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

| 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 tab1 select 6,'Shivanshu',100000,6;

Query OK, 1 row affected (0.07 sec)

Records: 1 Duplicates: 0 Warnings: 0

mysql> insert into tab1 select 7,'Abhishek',100000,7;

Query OK, 1 row affected (0.07 sec)

Records: 1 Duplicates: 0 Warnings: 0

mysql> insert into tab1 select 8,'Satyam',10000,8;

Query OK, 1 row affected (0.10 sec)

Records: 1 Duplicates: 0 Warnings: 0

mysql> select \* from tab1;

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

| 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 | Shivanshu | 100000 | 6 |

| 7 | Abhishek | 100000 | 7 |

| 8 | Satyam | 10000 | 8 |

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

8 rows in set (0.00 sec)

mysql> create view tab2 as select \* from dept;

Query OK, 0 rows affected (0.16 sec)

mysql> select \* from tab2;

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

| dept\_id | dept\_name |

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

| 1 | Administration |

| 2 | Customer Services |

| 3 | Finance |

| 4 | Human Resources |

| 5 | Sales |

| 6 | Software Developer |

| 7 | Doctor |

| 8 | Lawyer |

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

8 rows in set (0.00 sec)

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

mysql> update tab1 set salary=6000 where emp\_id=1;

Query OK, 1 row affected (0.20 sec)

Rows matched: 1 Changed: 1 Warnings: 0

mysql> select \* from tab1;

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

| 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 | Shivanshu | 100000 | 6 |

| 7 | Abhishek | 100000 | 7 |

| 8 | Satyam | 10000 | 8 |

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

8 rows in set (0.00 sec)

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

mysql> select \* from tab1 where dept\_id is NULL;

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

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

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

| 5 | Martin Blank | 5600 | NULL |

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

1 row in set (0.00 sec)

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

mysql> delete from tab1 where salary=8000;

Query OK, 1 row affected (0.11 sec)

mysql> select \* from tab1;

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

| 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 | Shivanshu | 100000 | 6 |

| 7 | Abhishek | 100000 | 7 |

| 8 | Satyam | 10000 | 8 |

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

7 rows in set (0.00 sec)

1. Drop the above created view.

mysql> drop view tab1;

Query OK, 0 rows affected (0.34 sec)

mysql> select \* from tab1;

ERROR 1146 (42S02): Table 'assgn2a.tab1' doesn't exist