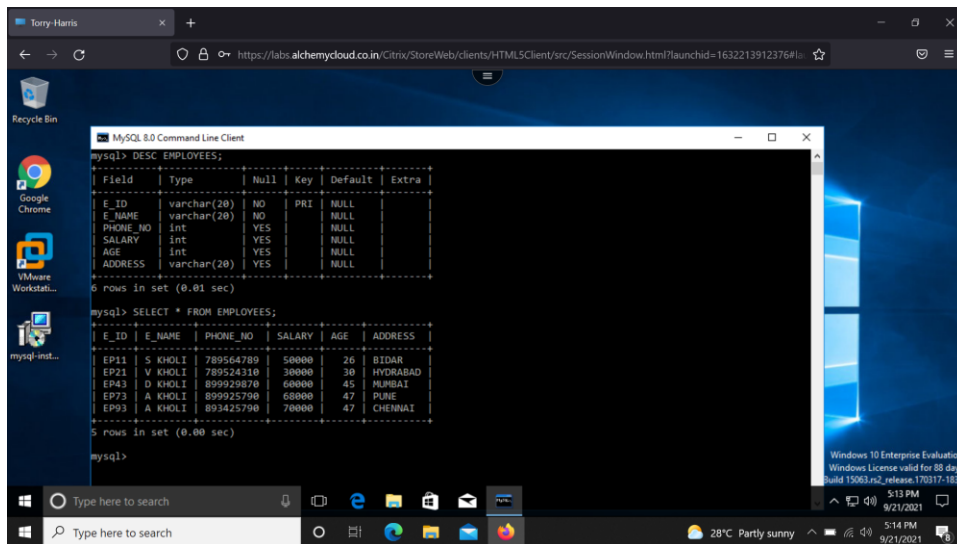


SQL:

EMPLOYEE TABLE



```
mysql> DESC EMPLOYEES;
```

Field	Type	Null	Key	Default	Extra
E_ID	varchar(20)	NO	PRI	NULL	
E_NAME	varchar(20)	NO		NULL	
PHONE_NO	int	YES		NULL	
SALARY	int	YES		NULL	
AGE	int	YES		NULL	
ADDRESS	varchar(20)	YES		NULL	

```
6 rows in set (0.01 sec)
```

```
mysql> SELECT * FROM EMPLOYEES;
```

E_ID	E_NAME	PHONE_NO	SALARY	AGE	ADDRESS
EP11	S KHOLI	789564789	50000	26	BIDAR
EP21	V KHOLI	789524310	30000	30	HYDRABAD
EP43	D KHOLI	899920870	60000	45	MUMBAI
EP73	A KHOLI	899925790	60000	47	PUNE
EP93	A KHOLI	893425790	70000	47	CHENNAI

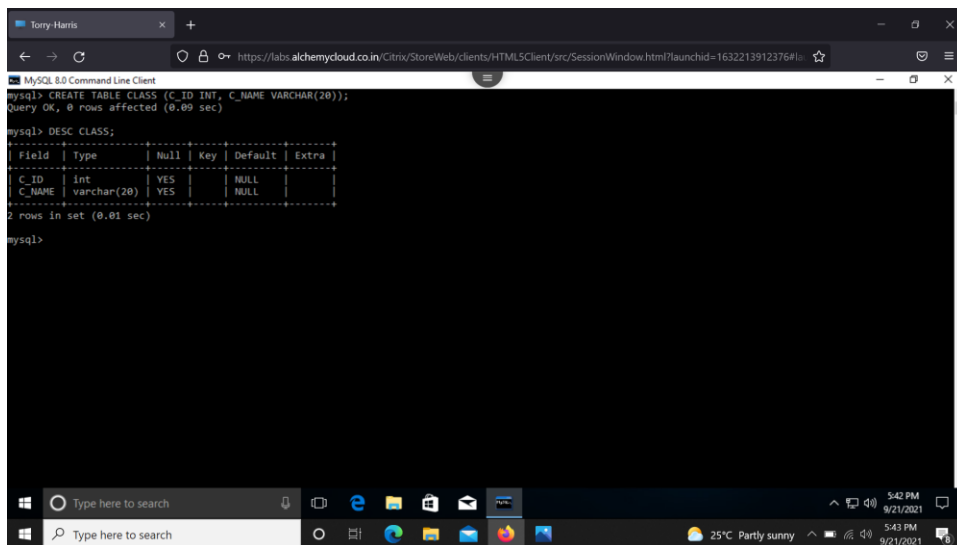
```
5 rows in set (0.00 sec)
```

```
mysql>
```

SQL COMMANDS

1. DDL

CREATE:



```
mysql> CREATE TABLE CLASS (C_ID INT, C_NAME VARCHAR(20));
```

Query OK, 0 rows affected (0.09 sec)

```
mysql> DESC CLASS;
```

Field	Type	Null	Key	Default	Extra
C_ID	int	YES		NULL	
C_NAME	varchar(20)	YES		NULL	

```
2 rows in set (0.01 sec)
```

```
mysql>
```

DROP:

MySQL 8.0 Command Line Client

```
mysql> SHOW TABLES;
+-----+
| Tables_in_student |
+-----+
| admin              |
| class              |
| company            |
| employees          |
| exam              |
| students           |
| teacher            |
| topper             |
| toppers            |
+-----+
9 rows in set (0.07 sec)
```

```
mysql> DROP TABLE CLASS;
Query OK, 0 rows affected (0.69 sec)
```

```
mysql> SHOW TABLES;
+-----+
| Tables_in_student |
+-----+
| admin              |
| company            |
| employees          |
| exam              |
| students           |
| teacher            |
| topper             |
| toppers            |
+-----+
8 rows in set (0.00 sec)
```

```
mysql>
```

ALTER:

```
mysql> SELECT * FROM EMPLOYEES;
+-----+
| E_ID | E_NAME | PHONE_NO | SALARY | AGE | ADDRESS |
+-----+
| EP01 | K KHOLI | 879654834 | 45000 | 35 | PUNE |
| EP21 | V KHOLI | 789524310 | 30000 | 30 | HYDRABAD |
| EP43 | D KHOLI | 899929870 | 60000 | 45 | MUMBAI |
| EP73 | A KHOLI | 899925790 | 68000 | 47 | PUNE |
| EP93 | A KHOLI | 893425790 | 70000 | 47 | CHENNAI |
+-----+
5 rows in set (0.00 sec)
```

```
mysql> ALTER TABLE EMPLOYEES ADD E_COMPANY VARCHAR(20);
Query OK, 0 rows affected (0.02 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> SELECT * FROM EMPLOYEES;
+-----+
| E_ID | E_NAME | PHONE_NO | SALARY | AGE | ADDRESS | E_COMPANY |
+-----+
| EP01 | K KHOLI | 879654834 | 45000 | 35 | PUNE | NULL |
| EP21 | V KHOLI | 789524310 | 30000 | 30 | HYDRABAD | NULL |
| EP43 | D KHOLI | 899929870 | 60000 | 45 | MUMBAI | NULL |
| EP73 | A KHOLI | 899925790 | 68000 | 47 | PUNE | NULL |
| EP93 | A KHOLI | 893425790 | 70000 | 47 | CHENNAI | NULL |
+-----+
5 rows in set (0.00 sec)
```

```
mysql>
```

2.DML

INSERT:

The screenshot shows a MySQL Command Line Client window with the following commands and output:

```
mysql> CREATE TABLE EMP(E_ID INT NOT NULL, E_NAME VARCHAR(20));
Query OK, 0 rows affected (0.10 sec)

mysql> DESC EMP;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| E_ID  | int  | NO   |     | NULL    |       |
| E_NAME | varchar(20) | YES |     | NULL    |       |
+-----+
2 rows in set (0.01 sec)

mysql> INSERT INTO EMP VALUES(NULL, 'HARSHA');
ERROR 1048 (23000): Column 'E_ID' cannot be null
mysql> INSERT INTO EMP VALUES(1, 'HARSHA');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO EMP VALUES(2, 'VARSHA');
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM EMP;
+-----+
| E_ID | E_NAME |
+-----+
| 1    | HARSHA |
| 2    | VARSHA |
+-----+
2 rows in set (0.00 sec)

mysql>
```

UPDATE:

The screenshot shows a MySQL Command Line Client window with the following commands and output:

```
mysql> SELECT * FROM EMPLOYEES;
+-----+
| E_ID | E_NAME | PHONE_NO | SALARY | AGE | ADDRESS | E_COMPANY |
+-----+
| EP01 | K KHOLI | 879654034 | 45000  | 35  | PUNE    | NULL      |
| EP21 | V KHOLI | 789524310 | 30000  | 30  | HYDRABAD | NULL      |
| EP43 | D KHOLI | 899929870 | 60000  | 45  | MUMBAI   | NULL      |
| EP73 | A KHOLI | 899925790 | 68000  | 47  | PUNE     | NULL      |
| EP93 | A KHOLI | 893425790 | 70000  | 47  | CHENNAI  | NULL      |
+-----+
5 rows in set (0.00 sec)

mysql> UPDATE EMPLOYEES SET E_ID='EP91' WHERE E_NAME='K KHOLI';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1 Changed: 1 Warnings: 0

mysql> SELECT * FROM EMPLOYEES;
+-----+
| E_ID | E_NAME | PHONE_NO | SALARY | AGE | ADDRESS | E_COMPANY |
+-----+
| EP21 | V KHOLI | 789524310 | 30000  | 30  | HYDRABAD | NULL      |
| EP43 | D KHOLI | 899929870 | 60000  | 45  | MUMBAI   | NULL      |
| EP73 | A KHOLI | 899925790 | 68000  | 47  | PUNE     | NULL      |
| EP91 | K KHOLI | 879654034 | 45000  | 35  | PUNE     | NULL      |
| EP93 | A KHOLI | 893425790 | 70000  | 47  | CHENNAI  | NULL      |
+-----+
5 rows in set (0.00 sec)

mysql>
```

DELETE:

The screenshot shows a MySQL Command Line Client window. The user has executed a SELECT query to view all employees, followed by a DELETE statement to remove the employee with ID 'EP21'. A second SELECT query confirms that only 4 rows remain in the table.

```
mysql> SELECT * FROM EMPLOYEES;
```

E_ID	E_NAME	PHONE_NO	SALARY	AGE	ADDRESS	E_COMPANY
EP21	V KHOLI	789524310	30000	30	HYDRABAD	NULL
EP43	D KHOLI	899929870	60000	45	MUMBAI	NULL
EP73	A KHOLI	899925790	68000	47	PUNE	NULL
EP91	K KHOLI	879654034	45000	35	PUNE	NULL
EP93	A KHOLI	893425790	70000	47	CHENNAI	NULL

5 rows in set (0.00 sec)

```
mysql> DELETE FROM EMPLOYEES WHERE E_ID='EP21';
```

Query OK, 1 row affected (0.01 sec)

```
mysql> SELECT * FROM EMPLOYEES;
```

E_ID	E_NAME	PHONE_NO	SALARY	AGE	ADDRESS	E_COMPANY
EP43	D KHOLI	899929870	60000	45	MUMBAI	NULL
EP73	A KHOLI	899925790	68000	47	PUNE	NULL
EP91	K KHOLI	879654034	45000	35	PUNE	NULL
EP93	A KHOLI	893425790	70000	47	CHENNAI	NULL

4 rows in set (0.00 sec)

```
mysql>
```

3.DQL:

SELECT

The screenshot shows a MySQL Command Line Client window. The user has executed a DESCRIBE query to view the structure of the EMPLOYEES table, followed by a SELECT query to view all employees.

```
mysql> DESC EMPLOYEES;
```

Field	Type	Null	Key	Default	Extra
E_ID	varchar(20)	NO	PRI	NULL	
E_NAME	varchar(20)	NO		NULL	
PHONE_NO	int	YES		NULL	
SALARY	int	YES		NULL	
AGE	int	YES		NULL	
ADDRESS	varchar(20)	YES		NULL	

6 rows in set (0.01 sec)

```
mysql> SELECT * FROM EMPLOYEES;
```

E_ID	E_NAME	PHONE_NO	SALARY	AGE	ADDRESS
EP11	S KHOLI	789564789	50000	26	BIDAR
EP21	V KHOLI	789524310	30000	30	HYDRABAD
EP43	D KHOLI	899929870	60000	45	MUMBAI
EP73	A KHOLI	899925790	68000	47	PUNE
EP93	A KHOLI	893425790	70000	47	CHENNAI

5 rows in set (0.00 sec)

```
mysql>
```

AGGREGATE FUNCTIONS:

Torry Harris x +

← → ↻ 🔒 <https://labs.alchemycloud.co.in/Citrix/StoreWeb/clients/HTML5Client/src/SessionWindow.html?launchid=1632213912376#> ☆

MySQL 8.0 Command Line Client

EP11	S	KHOLI	789564789	50000	26	BIDAR
EP21	V	KHOLI	789524310	30000	30	HYORABAD
EP43	D	KHOLI	899929870	60000	45	MUMBAI
EP73	A	KHOLI	899925790	68000	47	PUNE
EP93	A	KHOLI	893425790	70000	47	CHENNAI

5 rows in set (0.00 sec)

```
mysql> SELECT COUNT(*) FROM EMPLOYEES;
+-----+
| COUNT(*) |
+-----+
|         5 |
+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT SUM(AGE) FROM EMPLOYEES;
+-----+
| SUM(AGE) |
+-----+
|       195 |
+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT AVG(AGE) FROM EMPLOYEES;
+-----+
| AVG(AGE) |
+-----+
|  39.0000 |
+-----+
1 row in set (0.00 sec)
```

mysql>

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25°C Partly sunny

Torry Harris x +

← → ↻ 🔒 <https://labs.alchemycloud.co.in/Citrix/StoreWeb/clients/HTML5Client/src/SessionWindow.html?launchid=1632213912376#> ☆

MySQL 8.0 Command Line Client

EP11	S	KHOLI	789564789	50000	26	BIDAR
EP21	V	KHOLI	789524310	30000	30	HYORABAD
EP43	D	KHOLI	899929870	60000	45	MUMBAI
EP73	A	KHOLI	899925790	68000	47	PUNE
EP93	A	KHOLI	893425790	70000	47	CHENNAI

5 rows in set (0.00 sec)

```
mysql> SELECT COUNT(E_NAME) FROM EMPLOYEES;
+-----+
| COUNT(E_NAME) |
+-----+
|               5 |
+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT MIN(SALARY) FROM EMPLOYEES;
+-----+
| MIN(SALARY) |
+-----+
|       30000 |
+-----+
1 row in set (0.00 sec)
```

```
mysql> SELECT MAX(SALARY) FROM EMPLOYEES;
+-----+
| MAX(SALARY) |
+-----+
|       70000 |
+-----+
1 row in set (0.00 sec)
```

mysql>

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Torry Harris

← → ↻ <https://labs.alchemycloud.co.in/Citrix/StoreWeb/clients/HTML5Client/src/SessionWindow.html?launchid=1632213912376#>

MySQL 8.0 Command Line Client

E_ID	E_NAME	PHONE_NO	SALARY	AGE	ADDRESS
EP11	S KHOLI	789564789	50000	26	BIDAR
EP21	V KHOLI	789524310	30000	30	HYDRABAD
EP43	D KHOLI	899929870	60000	45	MUMBAI
EP73	A KHOLI	899925790	68000	47	PUNE
EP93	A KHOLI	893425790	70000	47	CHENNAI

5 rows in set (0.00 sec)

mysql> SELECT COUNT(E_ID) FROM EMPLOYEES GROUP BY E_NAME;

COUNT(E_ID)
1
1
1
2

4 rows in set (0.00 sec)

mysql> SELECT COUNT(E_ID), E_NAME FROM EMPLOYEES GROUP BY E_NAME;

COUNT(E_ID)	E_NAME
1	S KHOLI
1	V KHOLI
1	D KHOLI
2	A KHOLI

4 rows in set (0.00 sec)

mysql>

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← → ↻ <https://labs.alchemycloud.co.in/Citrix/StoreWeb/clients/HTML5Client/src/SessionWindow.html?launchid=1632213912376#>

MySQL 8.0 Command Line Client

E_ID	E_NAME	PHONE_NO	SALARY	AGE	ADDRESS
EP11	S KHOLI	789564789	50000	26	BIDAR
EP21	V KHOLI	789524310	30000	30	HYDRABAD
EP43	D KHOLI	899929870	60000	45	MUMBAI
EP73	A KHOLI	899925790	68000	47	PUNE
EP93	A KHOLI	893425790	70000	47	CHENNAI

5 rows in set (0.00 sec)

mysql> SELECT E_ID, E_NAME FROM EMPLOYEES ORDER BY SALARY;

E_ID	E_NAME
EP21	V KHOLI
EP11	S KHOLI
EP43	D KHOLI
EP73	A KHOLI
EP93	A KHOLI

5 rows in set (0.00 sec)

mysql> SELECT E_ID, E_NAME FROM EMPLOYEES ORDER BY SALARY DESC;

E_ID	E_NAME
EP93	A KHOLI
EP73	A KHOLI
EP43	D KHOLI
EP11	S KHOLI
EP21	V KHOLI

5 rows in set (0.00 sec)

mysql>

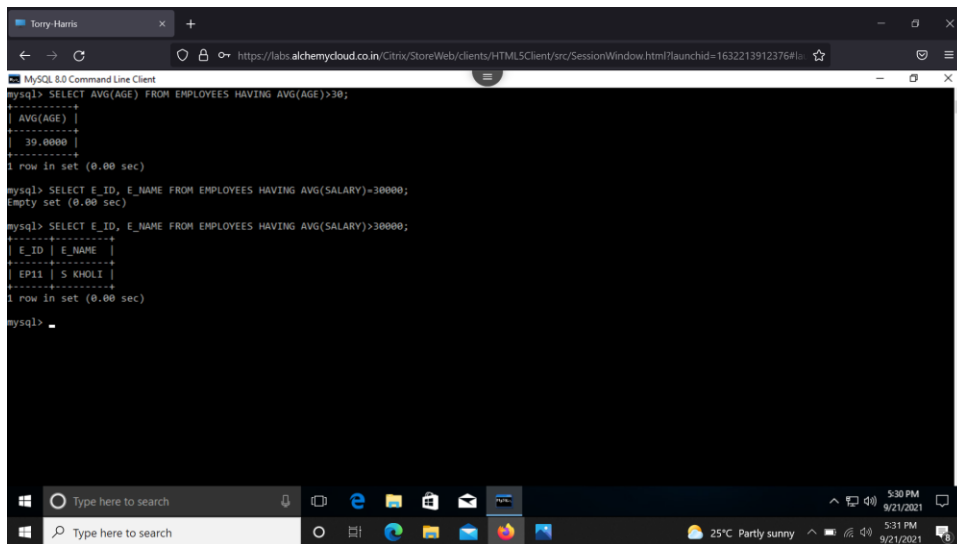
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The screenshot shows a MySQL Command Line Client window with the following queries and results:

```
mysql> SELECT AVG(AGE) FROM EMPLOYEES HAVING AVG(AGE)>30;
+-----+
| AVG(AGE) |
+-----+
| 39.0000 |
+-----+
1 row in set (0.00 sec)

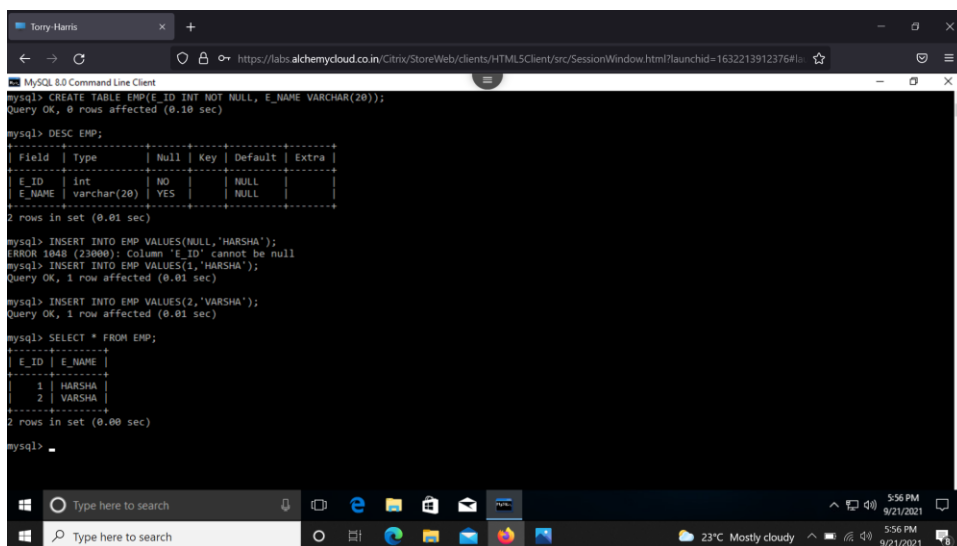
mysql> SELECT E_ID, E_NAME FROM EMPLOYEES HAVING AVG(SALARY)=30000;
Empty set (0.00 sec)

mysql> SELECT E_ID, E_NAME FROM EMPLOYEES HAVING AVG(SALARY)>30000;
+-----+
| E_ID | E_NAME |
+-----+
| EP11 | S KHOLI |
+-----+
1 row in set (0.00 sec)

mysql>
```

SQL CONSTRAINT:

1.NOT NULL



The screenshot shows a MySQL Command Line Client window with the following queries and results:

```
mysql> CREATE TABLE EMP(E_ID INT NOT NULL, E_NAME VARCHAR(20));
Query OK, 0 rows affected (0.10 sec)

mysql> DESC EMP;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| E_ID | int | NO | | NULL | |
| E_NAME | varchar(20) | YES | | NULL | |
+-----+
2 rows in set (0.01 sec)

mysql> INSERT INTO EMP VALUES(NULL,'HARSHA');
ERROR 1048 (23000): Column 'E_ID' cannot be null

mysql> INSERT INTO EMP VALUES(1,'HARSHA');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO EMP VALUES(2,'VARSHA');
Query OK, 1 row affected (0.01 sec)

mysql> SELECT * FROM EMP;
+-----+
| E_ID | E_NAME |
+-----+
| 1 | HARSHA |
| 2 | VARSHA |
+-----+
2 rows in set (0.00 sec)

mysql>
```

2.UNIQUE

Torry Harris

← → ↻ 🔒 <https://labs.alchemycloud.co.in/Citrix/StoreWeb/clients/HTML5Client/src/SessionWindow.html?launchid=1632213912376#> ☆

MySQL 8.0 Command Line Client

```
mysql> CREATE TABLE EMP(EMP_ID INT UNIQUE, EMP_NAME VARCHAR(20));
Query OK, 0 rows affected (0.07 sec)

mysql> DESC EMP;
+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+
| EMP_ID | int | YES | UNI | NULL | |
| EMP_NAME | varchar(20) | YES | | NULL | |
+-----+
2 rows in set (0.01 sec)

mysql> INSERT INTO EMP VALUES(2,'VARSHA');
Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO EMP VALUES(2,'VARSHA');
ERROR 1062 (23000): Duplicate entry '2' for key 'emp.EMP_ID'
mysql> INSERT INTO EMP VALUES(5,'VISHNU');
Query OK, 1 row affected (0.07 sec)

mysql> SELECT * FROM EMP;
+-----+
| EMP_ID | EMP_NAME |
+-----+
| 2 | VARSHA |
| 5 | VISHNU |
+-----+
2 rows in set (0.00 sec)

mysql>
```

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23°C Mostly cloudy 5:58 PM 9/21/2021