DBMS: LAB ASSIGNMENT 1&2

This Document consists of the Solution of the Assignment posted as 'SQL Lab Assignment 1 and 2' on LMS

Documentation:

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NOTE:

This Assignment consists of the solutions in the following format:

The Question mentioned in Brief (Just for Reference & should not be misunderstood as the exact replication of the question mentioned in the Assignment)

A code Block containing the relevant code for the work that has been demanded in the Question

An output screenshot of the LIVE SQL Platform showing the Output on the successful execution of the code.

SUB SECTION 1: LAB ASSIGNMENT 1

All the codes implemented here can be verified from the link of the saved script on ORACLE LIVE SQL

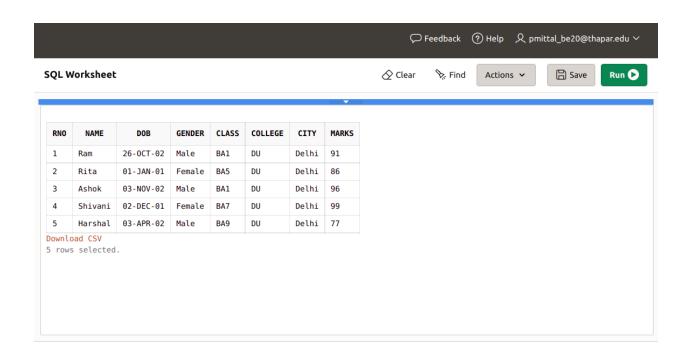ASSIGNMENT-1

Q1 - CREATE A TABLE 'STUDENT'......

```sql
CREATE TABLE Student (
Rno
NUMBER(8),

Name
VARCHAR2(30),

DOB
Date,

Gender
VARCHAR2(8),

Class
VARCHAR2(3),

College
VARCHAR2(100),

City
VARCHAR2(100),

Marks
Number(3)
);
```

SQL Worksheet   ⬦ Clear   ⚡ Find   Actions ⌄   🖫 Save   Run ▶

```
 4   NUMBER(8),
 5
 6   Name
 7   VARCHAR2(30),
 8
 9   DOB
10   Date,
11
12   Gender
13   VARCHAR2(8),
14
15   Class
16   VARCHAR2(3),
17
18   College
19   VARCHAR2(100),
20
21   City
22   VARCHAR2(100),
23
24   Marks
25   Number(3)
26   );
```

Table created.

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Q2 - Insert 5 rows of Data in the Table
Q3 - Print the details of all the students

```
INSERT INTO Student
VALUES(1,'Ram','26-OCT-2002','Male','BA1','DU','Delhi','91');
INSERT INTO Student
VALUES(2,'Rita','1-JAN-2001','Female','BA5','DU','Delhi','86');
INSERT INTO Student
VALUES(3,'Ashok','3-NOV-2002','Male','BA1','DU','Delhi','96');
INSERT INTO Student
VALUES(4,'Shivani','2-DEC-2001','Female','BA7','DU','Delhi','99');
INSERT INTO Student
VALUES(5,'Harshal','3-APR-2002','Male','BA9','DU','Delhi','77');

SELECT * FROM Student;
```

OUTPUT FROM LIVE SQL PLATFORM-

SQL Worksheet

◇ Clear   ✎ Find   Actions ∨   💾 Save   Run ▶

RNO	NAME	DOB	GENDER	CLASS	COLLEGE	CITY	MARKS
1	Ram	26-OCT-02	Male	BA1	DU	Delhi	91
2	Rita	01-JAN-01	Female	BA5	DU	Delhi	86
3	Ashok	03-NOV-02	Male	BA1	DU	Delhi	96
4	Shivani	02-DEC-01	Female	BA7	DU	Delhi	99
5	Harshal	03-APR-02	Male	BA9	DU	Delhi	77

Download CSV
5 rows selected.

Q4- DISPLAY THE DETAIL STRUCTURE OF THE TABLE

```
DESC Student;
```

SQL Worksheet

◇ Clear   ✎ Find   Actions ∨   💾 Save   Run ▶

TABLE STUDENT

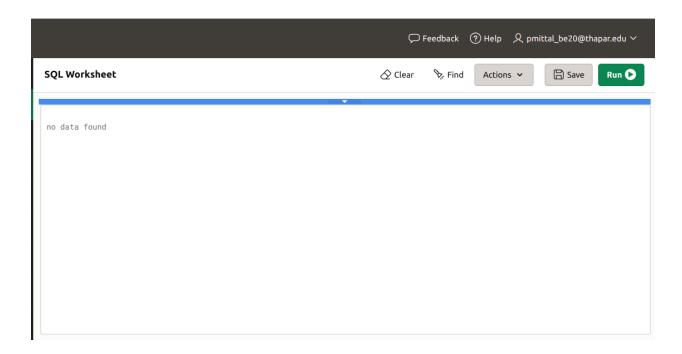| Column	Null?	Type
RNO	-	NUMBER(8,0)
NAME	-	VARCHAR2(30)
DOB	-	DATE
GENDER	-	VARCHAR2(8)
CLASS	-	VARCHAR2(3)
COLLEGE	-	VARCHAR2(100)
CITY	-	VARCHAR2(100)
MARKS	-	NUMBER(3,0)

Download CSV
8 rows selected.

Q5- Display Rno, Name and Class information of 'Patiala' students
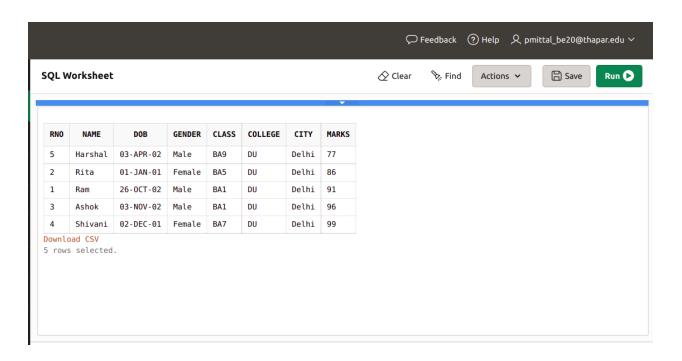
NOTE-
The original question has demanded information about 'Patiala Students' but the database that I have created does not contain any such information, therefore there would be no output in this case.

```sql
SELECT Rno,Name,Class FROM Student WHERE city='Patiala';
```
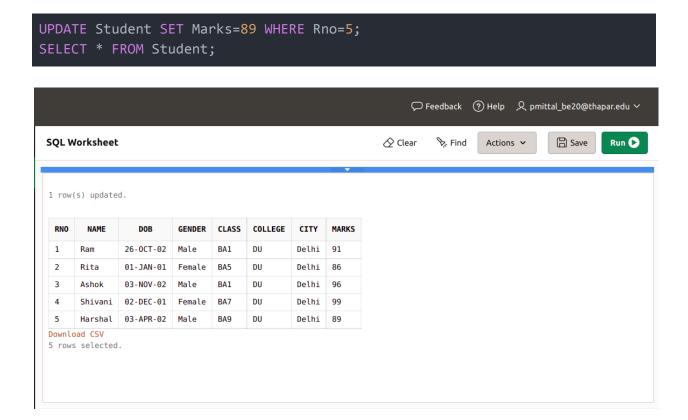

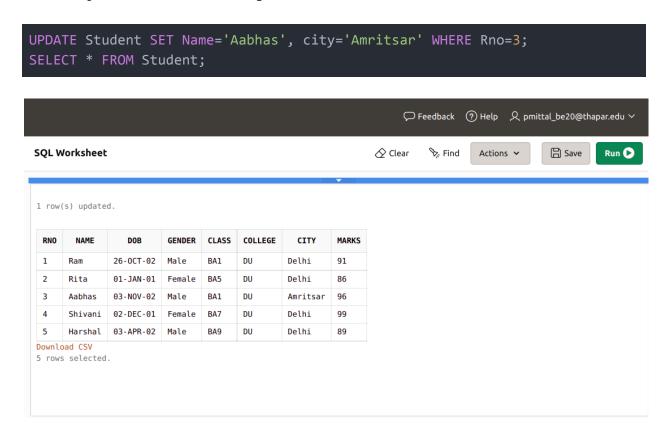Q6- Display Information on the Ascending Order of Marks.

```sql
SELECT * FROM Student ORDER BY Marks ASC
```

SQL Worksheet   Clear   Find   Actions ∨   Save   Run

RNO	NAME	DOB	GENDER	CLASS	COLLEGE	CITY	MARKS
5	Harshal	03-APR-02	Male	BA9	DU	Delhi	77
2	Rita	01-JAN-01	Female	BA5	DU	Delhi	86
1	Ram	26-OCT-02	Male	BA1	DU	Delhi	91
3	Ashok	03-NOV-02	Male	BA1	DU	Delhi	96
4	Shivani	02-DEC-01	Female	BA7	DU	Delhi	99

Download CSV
5 rows selected.

Q7- Change the Marks of Roll Number 5 to 89

```sql
UPDATE Student SET Marks=89 WHERE Rno=5;
SELECT * FROM Student;
```

SQL Worksheet   Clear   Find   Actions ∨   Save   Run

1 row(s) updated.

RNO	NAME	DOB	GENDER	CLASS	COLLEGE	CITY	MARKS
1	Ram	26-OCT-02	Male	BA1	DU	Delhi	91
2	Rita	01-JAN-01	Female	BA5	DU	Delhi	86
3	Ashok	03-NOV-02	Male	BA1	DU	Delhi	96
4	Shivani	02-DEC-01	Female	BA7	DU	Delhi	99
5	Harshal	03-APR-02	Male	BA9	DU	Delhi	89

Download CSV
5 rows selected.

6

Q8 Change the name and city of Rno 3.

```
UPDATE Student SET Name='Aabhas', city='Amritsar' WHERE Rno=3;
SELECT * FROM Student;
```
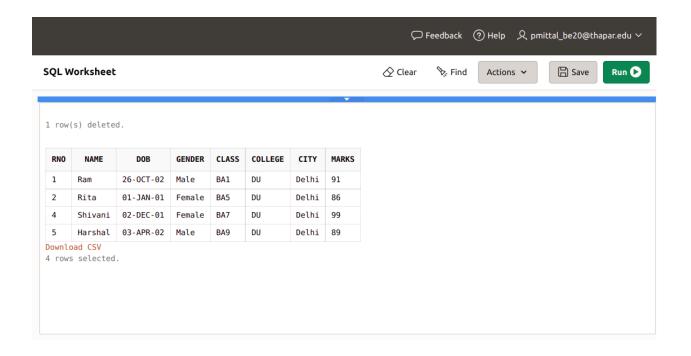

Q9: Delete the information of 'Amritsar' city records

```
DELETE FROM student WHERE city='Amritsar';
SELECT * FROM Student;
```

1 row(s) deleted.

RNO	NAME	DOB	GENDER	CLASS	COLLEGE	CITY	MARKS
1	Ram	26-OCT-02	Male	BA1	DU	Delhi	91
2	Rita	01-JAN-01	Female	BA5	DU	Delhi	86
4	Shivani	02-DEC-01	Female	BA7	DU	Delhi	99
5	Harshal	03-APR-02	Male	BA9	DU	Delhi	89

Download CSV
4 rows selected.

10. Delete the records of student where marks<30.

Note: As in the Database, there are no Student records with Marks<30, There would be no Deletion. The same fact will be reflected in the Output that will be attached here.

```
DELETE FROM student WHERE Marks<30;
SELECT * FROM Student;
```

SQL Worksheet

Clear   Find   Actions ∨   Save   Run ▶

0 row(s) deleted.

RNO	NAME	DOB	GENDER	CLASS	COLLEGE	CITY	MARKS
1	Ram	26-OCT-02	Male	BA1	DU	Delhi	91
2	Rita	01-JAN-01	Female	BA5	DU	Delhi	86
4	Shivani	02-DEC-01	Female	BA7	DU	Delhi	99
5	Harshal	03-APR-02	Male	BA9	DU	Delhi	89

Download CSV
4 rows selected.

SUB SECTION 2: LAB ASSIGNMENT 2

Note : All the SQL commands inserted as Code Blocks and the Associated Output Files can be Verified from the ORACLE LIVE SQL Script with the Link Mentioned Below:
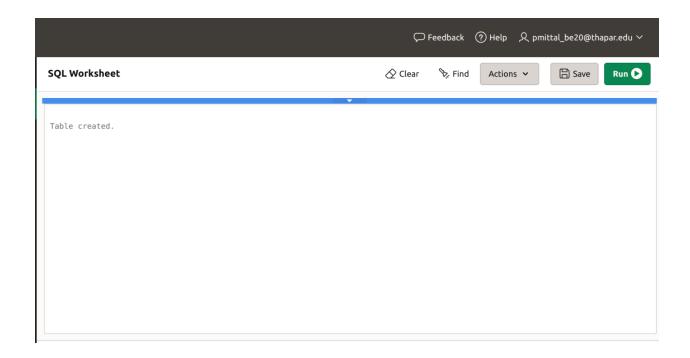
ASSIGNMENT 2- LIVE SQL SCRIPT

Q1: Create table emp which has the following attributes (employee table)(empno, ename, job, sal, deptno)

```sql
CREATE TABLE emp(

empno
NUMBER(8),

ename
VARCHAR2(100),

job
VARCHAR2(150),

sal
NUMBER(10),

deptno
NUMBER(6)
);
```
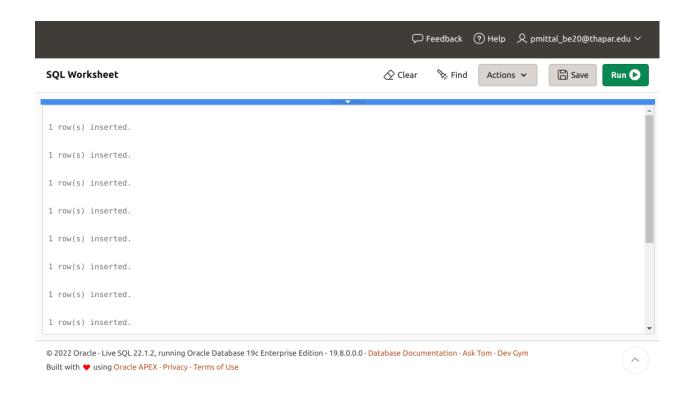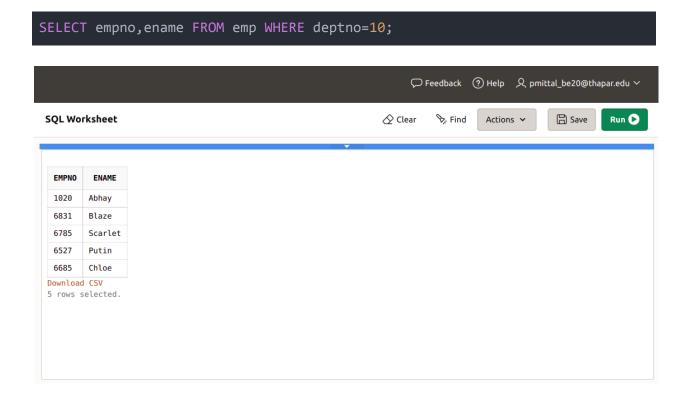
Table created.

Q2: Insert appropriate records in above tables.

```sql
INSERT INTO emp VALUES(1020,'Abhay','President',6000,10);
INSERT INTO emp VALUES(6831,'Blaze','Manager',5678,10);
INSERT INTO emp VALUES(6832,'Jenny','Manager', 5678,20);
INSERT INTO emp VALUES(6833,'Jonas','Manager',5678,30);
INSERT INTO emp VALUES(6785,'Scarlet','Analyst',4347,10);
INSERT INTO emp VALUES(6767,'Jonathan','Analyst',4347,20);
INSERT INTO emp VALUES(6543,'Adelyn', 'Analyst', 3480,30);
INSERT INTO emp VALUES(6527,'Putin', 'Salesman', 2567,10);
INSERT INTO emp VALUES(6437,'Shah','Salesman',2425,30);
INSERT INTO emp VALUES(6432,'Markel','Salesman',1965,30);
INSERT INTO emp VALUES(5687,'Andrew','Salesman',2457,20);
INSERT INTO emp VALUES(6685,'Chloe','Clerk',1568,10);
INSERT INTO emp VALUES(7689,'Watson','clerk',1438,20);
```

SQL Worksheet   ◇ Clear   ⚒ Find   Actions ⌄   ⊟ Save   Run ▶

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

Q3: Get Employee No. and Name who work in Dept 10

```
SELECT empno,ename FROM emp WHERE deptno=10;
```

SQL Worksheet   ◇ Clear   ⚒ Find   Actions ⌄   ⊟ Save   Run ▶

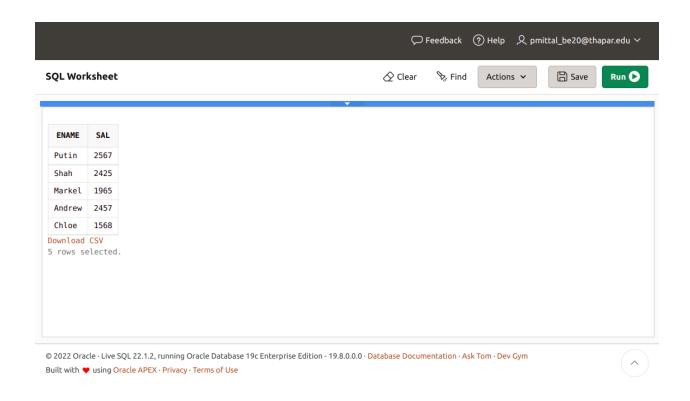| EMPNO	ENAME
1020	Abhay
6831	Blaze
6785	Scarlet
6527	Putin
6685	Chloe

Download CSV
5 rows selected.

Q4: Display the employee names of those clerks whose salary > 2000

NOTE: As there is no clerk with the salary>2000, No Data would be displayed in this case. The same case is illustrated in the SQL command and Output Also

```sql
SELECT ename FROM emp WHERE (sal>2000 and job='Clerk');
```


Q5: Display name and sal of Salesperson & Clerks

```sql
SELECT ename,sal FROM emp WHERE (job='Salesman' or job='Clerk');
```

SQL Worksheet

Clear Find Actions ∨ Save Run ▶

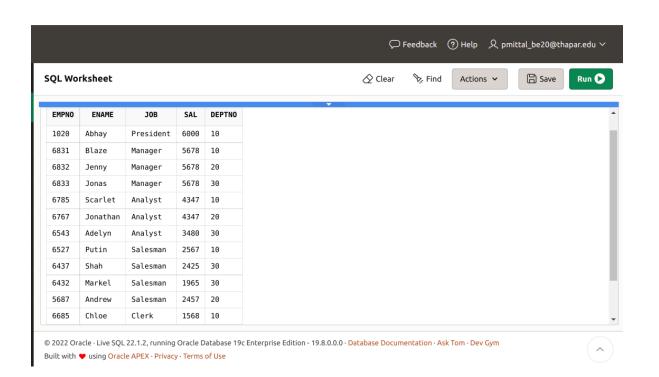| ENAME	SAL
Putin	2567
Shah	2425
Markel	1965
Andrew	2457
Chloe	1568

Download CSV
5 rows selected.

Q6: Display all details of employees whose salary between 2000 and 3000

```sql
SELECT * FROM emp WHERE sal BETWEEN 2000 and 3000;
```

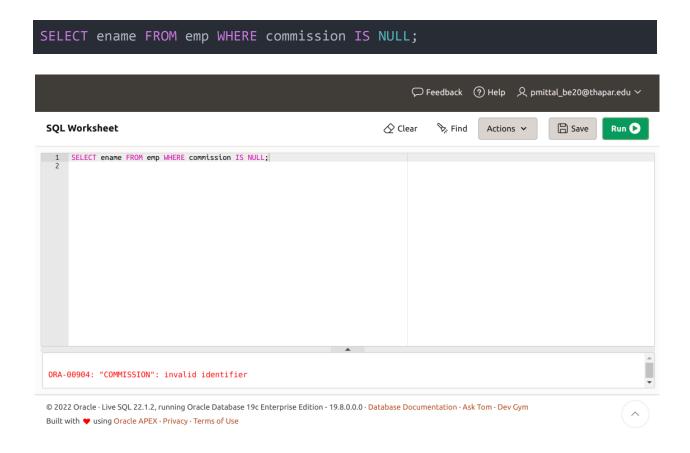Q7: Display all details of employees whose dept no is 10, 20, or 30

```sql
SELECT * FROM emp WHERE deptno IN(10,20,30);
```

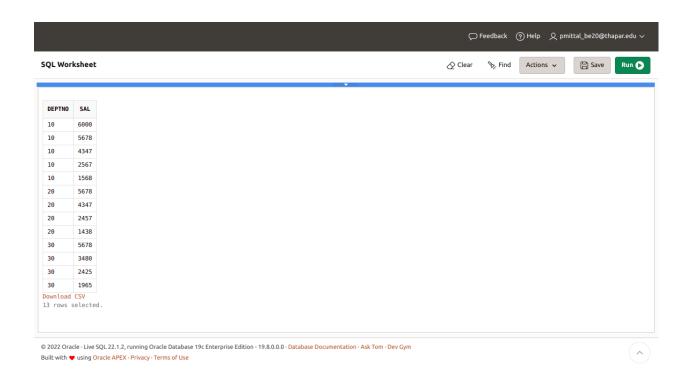Q8: Display name of those employees whose commission is NULL

Note:
This Question is Invalid Question as there was no instruction in the preceding problem statements, however on execution of this statement an error will occur and the same is reflected in the Output attached below

```sql
SELECT ename FROM emp WHERE commission IS NULL;
```

SQL Worksheet

```
1  SELECT ename FROM emp WHERE commission IS NULL;
2
```

```
ORA-00904: "COMMISSION": invalid identifier
```

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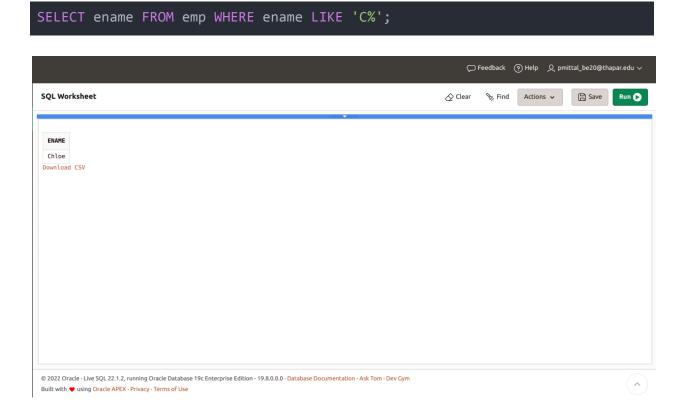Built with ♥ using Oracle APEX · Privacy · Terms of Use

Q9: Display dept no & salary in ascending order of dept no and with in each dept no salary should be in descending order

```sql
SELECT deptno, sal FROM emp ORDER BY deptno ASC, sal DESC;
```
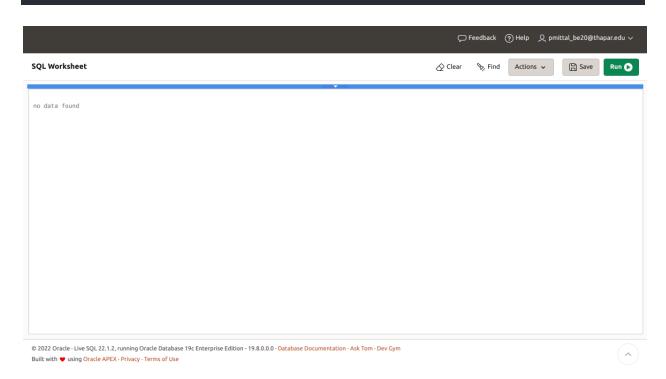
SQL Worksheet

Clear   Find   Actions ⌄   Save   Run ▶

DEPTNO	SAL
10	6000
10	5678
10	4347
10	2567
10	1568
20	5678
20	4347
20	2457
20	1438
30	5678
30	3480
30	2425
30	1965

Download CSV
13 rows selected.

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Q10: Display name of employees that starts with 'C'

```
SELECT ename FROM emp WHERE ename LIKE 'C%';
```

ENAME
Chloe

Download CSV

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Q11: Display name of employees that ends with with 'C'

```sql
SELECT ename FROM emp WHERE ename LIKE '%C';
```

SQL Worksheet

Feedback | Help | pmittal_be20@thapar.edu

Clear | Find | Actions | Save | Run

no data found

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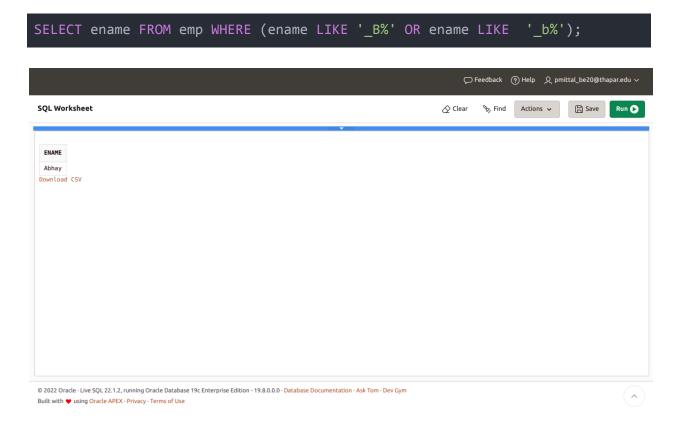Built with ♥ using Oracle APEX · Privacy · Terms of Use

Q12: Display name of employees having two 'a' or 'A' chars in the name.

```sql
SELECT ename FROM emp WHERE (ename LIKE '%A%A' OR ename LIKE  '%a%a' OR
ename LIKE '%A%a' OR ename LIKE'%a%A' OR ename LIKE'A%a%' OR ename
LIKE'a%A%' );
```

ENAME
Abhay

Download CSV

Q13: Display the name of the employees whose second char is 'b' or 'B'

```
SELECT ename FROM emp WHERE (ename LIKE '_B%' OR ename LIKE  '_b%');
```

ENAME
Abhay

Download CSV

Q14: Display the name of the employees whose first or last char is
'a' or 'A'

```
SELECT ename FROM emp WHERE (ename LIKE 'A%' OR ename LIKE  'a%' OR ename
LIKE '%A' OR ename LIKE '%a');
```