

ASSIGNMENT -1

Name- Saransh

Roll no – 102103077

Group – 2/CO3

1. Create table Student (Rno, Name, DOB, Gender, Class, College, City, Marks)

2. Insert 5 records in student table

3. Display the information of all the students

4. Display the detail structure of student table

The screenshot shows a browser window for 'livesql.oracle.com' with the title 'SQL Worksheet - Oracle Live SQL'. The page displays an SQL script and its execution results.

```
1 create table student(
2     Roll_Number(3),
3     Name varchar(40),
4     DOB Date,
5     Gender Char(1),
6     Class Varchar(10),
7     City Varchar(20),
8     Marks number(3)
9 );
10 Insert into student Values(101,'Saransh','6-oct-2003','M','co3','Talwara',95);
11 Insert into student Values(102,'naruto','16-dec-2004','M','co3','LA',89);
12 Insert into student Values(103,'creed','7-jan-2003','M','co3','NYC',91);
13 Insert into student Values(104,'barney','6-nov-2003','M','co3','las vegas',75);
14 Insert into student Values(105,'chandler','4-jul-2005','M','co3','patiala',59);
15 Select * from student;
```

Below the script, a table structure is shown:

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	MARKS
---------	------	-----	--------	-------	------	-------

Execution details at the bottom:

2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym
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System tray icons include: 24°C Sunny, Search, File, Google Chrome, Microsoft Edge, File Explorer, Task View, WhatsApp, and battery status.

The screenshot shows a browser window for 'livesql.oracle.com' with the title 'SQL Worksheet - Oracle Live SQL'. The page displays the results of a SELECT query and a download option.

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	MARKS
101	Saransh	06-OCT-03	M	co3	Talwara	95
102	naruto	16-DEC-04	M	co3	LA	89
105	chandler	04-JUL-05	M	co3	patiala	59
103	creed	07-JAN-03	M	co3	NYC	91
104	barney	06-NOV-03	M	co3	las vegas	75

Buttons: Download CSV, Save, Run.

Execution details at the bottom:

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System tray icons include: 24°C Sunny, Search, File, Google Chrome, Microsoft Edge, File Explorer, Task View, WhatsApp, and battery status.

5. Display Rno, Name and Class information of 'Patiala' students.

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following code:

```
3   Name varchar(40),
4   DOB Date,
5   Gender Char(1),
6   Class Varchar(10),
7   City Varchar(20),
8   Marks number(3)
9 );
10 Insert into student Values(101,'Saransh','6-oct-2003','M','co3','Talwara',95);
11 Insert into student Values(102,'naruto','16-dec-2004','M','co3','LA',89);
12 Insert into student Values(103,'creed','7-jan-2003','M','co3','NYC',91);
13 Insert into student Values(104,'barney','6-nov-2003','M','co3','las vegas',75);
14 Insert into student Values(105,'chandler','4-jul-2005','M','co3','patiala',59);
15 Select * from student;
16 Select Name, Roll_no, Class From student
17 where City = 'patiala';
```

The results are displayed in a table:

NAME	ROLL_NO	CLASS

Below the table, the status bar shows: 2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym. Built with ❤️ using Oracle APEX - Privacy - Terms of Use. The system tray shows: 24°C Sunny, ENG IN, 14:21, 05-02-2023.

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following code:

```
3   Name varchar(40),
4   DOB Date,
5   Gender Char(1),
6   Class Varchar(10),
7   City Varchar(20),
8   Marks number(3)
9 );
10 Insert into student Values(101,'Saransh','6-oct-2003','M','co3','Talwara',95);
11 Insert into student Values(102,'naruto','16-dec-2004','M','co3','LA',89);
12 Insert into student Values(103,'creed','7-jan-2003','M','co3','NYC',91);
13 Insert into student Values(104,'barney','6-nov-2003','M','co3','las vegas',75);
14 Insert into student Values(105,'chandler','4-jul-2005','M','co3','patiala',59);
15 Select * from student;
16 Select Name, Roll_no, Class From student
17 where City = 'patiala';
```

The results are displayed in a table:

NAME	ROLL_NO	CLASS
chandler	105	co3

A "Download CSV" button is visible below the table. The status bar shows: 2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym. Built with ❤️ using Oracle APEX - Privacy - Terms of Use. The system tray shows: 24°C Sunny, ENG IN, 14:21, 05-02-2023.

6. Display information on ascending order of marks

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following code:

```
5   Gender Char(1),
6   Class Varchar(10),
7   City Varchar(20),
8   Marks number(3)
9 );
10 Insert into student Values(101,'Saransh','6-oct-2003','M','co3','Talwara',95);
11 Insert into student Values(102,'naruto','16-dec-2004','M','co3','LA',89);
12 Insert into student Values(103,'creed','7-jan-2003','M','co3','NYC',91);
13 Insert into student Values(104,'barney','6-nov-2003','M','co3','las vegas',75);
14 Insert into student Values(105,'chandler','4-jul-2005','M','co3','patiala',59);
15 Select * from student;
16 Select Name, Roll_no, Class From student
17 where City = 'patiala';
18 Select * from student
19 order by marks asc;
```

The results pane displays a table with columns: ROLL_NO, NAME, DOB, GENDER, CLASS, CITY, MARKS. The data is as follows:

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	MARKS
105	chandler	04-JUL-05	M	co3	patiala	59
104	barney	06-NOV-03	M	co3	las vegas	75
102	naruto	16-DEC-04	M	co3	LA	89
103	creed	07-JAN-03	M	co3	NYC	91
101	Saransh	06-OCT-03	M	co3	Talwara	95

At the bottom, there is a note: "Built with ❤️ using Oracle APEX · Privacy · Terms of Use". The system tray shows the date as 05-02-2023.

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following code:

```
5 rows selected.
```

The results pane displays a table with columns: ROLL_NO, NAME, DOB, GENDER, CLASS, CITY, MARKS. The data is as follows:

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	MARKS
105	chandler	04-JUL-05	M	co3	patiala	59
104	barney	06-NOV-03	M	co3	las vegas	75
102	naruto	16-DEC-04	M	co3	LA	89
103	creed	07-JAN-03	M	co3	NYC	91
101	Saransh	06-OCT-03	M	co3	Talwara	95

At the bottom, there is a note: "Built with ❤️ using Oracle APEX · Privacy · Terms of Use". The system tray shows the date as 05-02-2023.

7. Change the marks of Rno 5(105) to 89.

SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:103930500087950::RP::

Live SQL

Feedback Help ssaransh_be21@thapar.edu

SQL Worksheet

Clear Find Actions Save Run

```

9 );
10 Insert into student Values(101,'Saransh','6-oct-2003','M','co3','Talwara',95);
11 Insert into student Values(102,'naruto','16-dec-2004','M','co3','LA',89);
12 Insert into student Values(103,'creed','7-jan-2003','M','co3','NYC',91);
13 Insert into student Values(104,'barney','6-nov-2003','M','co3','las vegas',75);
14 Insert into student Values(105,'chandler','4-jul-2005','M','co3','patiala',59);
15 Select * from student;
16 Select Name, Roll_no, Class From student
17 where City = 'patiala';
18 Select * from student
19 order by marks asc;
20 update student
21 set Marks = 89
22 where Roll_no = 105;
23 Select * from student;

```

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	MARKS

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SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

Clear Find Actions Save Run

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	MARKS
101	Saransh	06-OCT-03	M	co3	Talwara	95
102	naruto	16-DEC-04	M	co3	LA	89
105	chandler	04-JUL-05	M	co3	patiala	89
103	creed	07-JAN-03	M	co3	NYC	91
104	barney	06-NOV-03	M	co3	las vegas	75

Download CSV

5 rows selected.

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8. Change the name and city of Rno 9.(104 in my case)

SQL Worksheet - Oracle Live SQL | Oracle Live SQL - Tutorial: Update | livesql.oracle.com/apex/f?p=5901:103930500087950::R::

Live SQL

Feedback Help ssaransh_be21@thapar.edu

Clear Find Actions Save Run

SQL Worksheet

```
13 Insert into student Values(104,'barney','6-nov-2003','M','co3','las vegas',75);
14 Insert into student Values(105,'chandler','4-jul-2005','M','co3','patiala',59);
15 Select * from student;
16 Select Name, Roll_no, Class From student
17 where City = 'patiala';
18 Select * from student
19 order by marks asc;
20 update student
21 set Marks = 89
22 where Roll_no = 105;
23 Select * from student;
24 update student
25 set Name = 'joey' and City = 'jalander'
26 where Roll_no = 104;
27 Select * from student;
```

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	MARKS

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Live SQL

Feedback Help ssaransh_be21@thapar.edu Incognito

SQL Worksheet

Clear Find Actions Save Run

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	MARKS
101	Saransh	06-OCT-03	M	co3	Talwara	95
102	naruto	16-DEC-04	M	co3	LA	89
105	chandler	04-JUL-05	M	co3	patiala	89
103	creed	07-JAN-03	M	co3	NYC	91
104	barney	06-NOV-03	M	co3	las vegas	75

Download CSV

5 rows selected.

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24°C Sunny

Search

ENG IN 14:39 05-02-2023

9. Delete the information of 'Amritsar' city records

SQL Worksheet - Oracle Live SQL | Oracle Live SQL - Tutorial: Updat... | +

livesql.oracle.com/apex/f?p=590:1:103930500087950::...

Live SQL

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

```

21 set Marks = 89
22 where Roll_no = 105;
23 Select * from student;
24 update student
25 set Name = 'joey' and City = 'jalander'
26 where Roll_no = 104;
27 Select * from student;
28 update student
29 set City = 'Amritsar'
30 where Roll_no = 104;
31 Select * from student;
32 Delete from student
33 where City = 'Amritsar';
34 Select * from student;
35

```

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	Marks

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Live SQL

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	Marks
101	Saransh	06-OCT-03	M	co3	Talwara	95
102	naruto	16-DEC-04	M	co3	LA	89
105	chandler	04-JUL-05	M	co3	patiala	89
103	creed	07-JAN-03	M	co3	NYC	91

Download CSV

4 rows selected.

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10. Delete the records of student where marks<30

The screenshot shows the Oracle Live SQL interface. On the left, a sidebar menu includes Home, SQL Worksheet (selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet" and contains the following SQL code:

```

25 set Name = 'joey' and City = 'jalander'
26 where Roll_no = 104;
27 Select * from student;
28 update student
29 set City = 'Amritsar'
30 where Roll_no = 104;
31 Select * from student;
32 Delete from student
33 where City = 'Amritsar'
34 Select * from student;
35 Delete from student
36 where Marks = 30
37 Select * from student;
38
39

```

Below the code is a results grid with columns: ROLL_NO, NAME, DOB, GENDER, CLASS, CITY, MARKS. The grid currently has no data.

At the bottom, a status bar shows: 24°C Sunny, a taskbar with various icons, ENG IN, 14:47, and 05-02-2023.

The screenshot shows the Oracle Live SQL interface. The sidebar menu is identical to the first screenshot. The main area shows the same SQL code as the first screenshot, but the results grid now contains data:

ROLL_NO	NAME	DOB	GENDER	CLASS	CITY	MARKS
101	Saransh	06-OCT-03	M	co3	Talwara	95
102	naruto	16-DEC-04	M	co3	LA	89
105	chandler	04-JUL-05	M	co3	patiala	89
103	creed	07-JAN-03	M	co3	NYC	91

Below the grid, a "Download CSV" button is visible. A message at the bottom states: "4 rows selected."

At the bottom, a status bar shows: 24°C Sunny, a taskbar with various icons, ENG IN, 14:47, and 05-02-2023.

LAB ASSIGNMENT 2

Name – Saransh

Roll no – 102103077

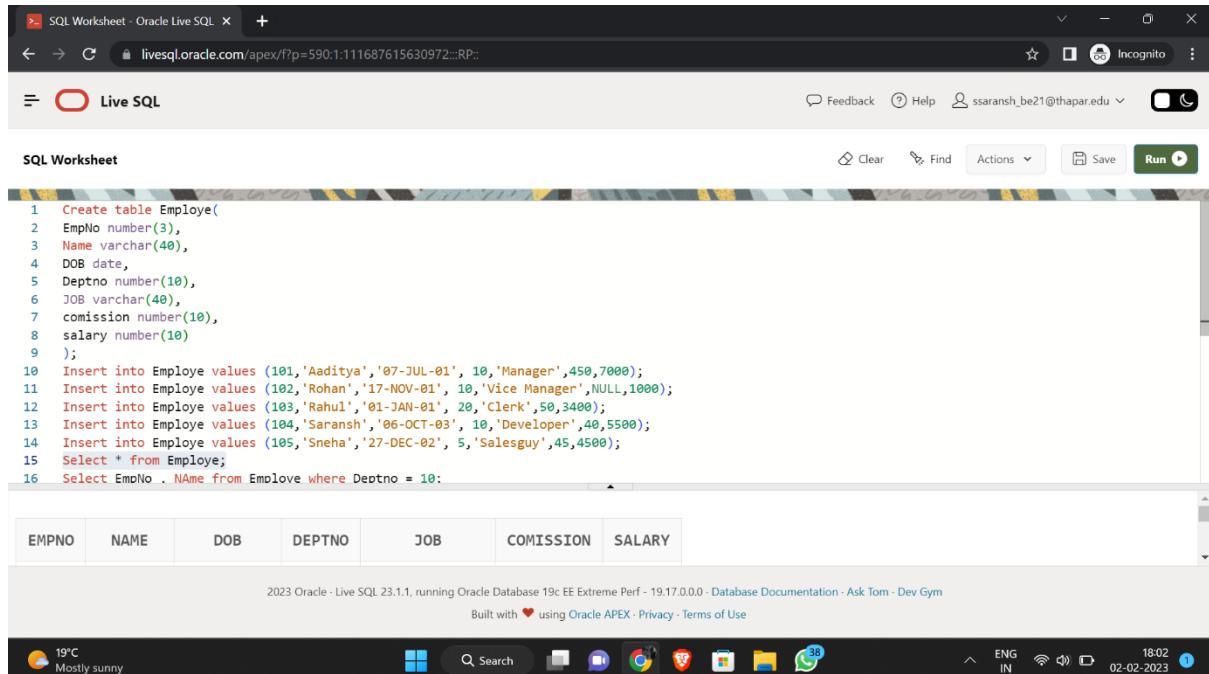
Group – 2/CO3

Based on Emp table

Columns are EmpNo, Ename, Job, Salary, Commission, DeptNO

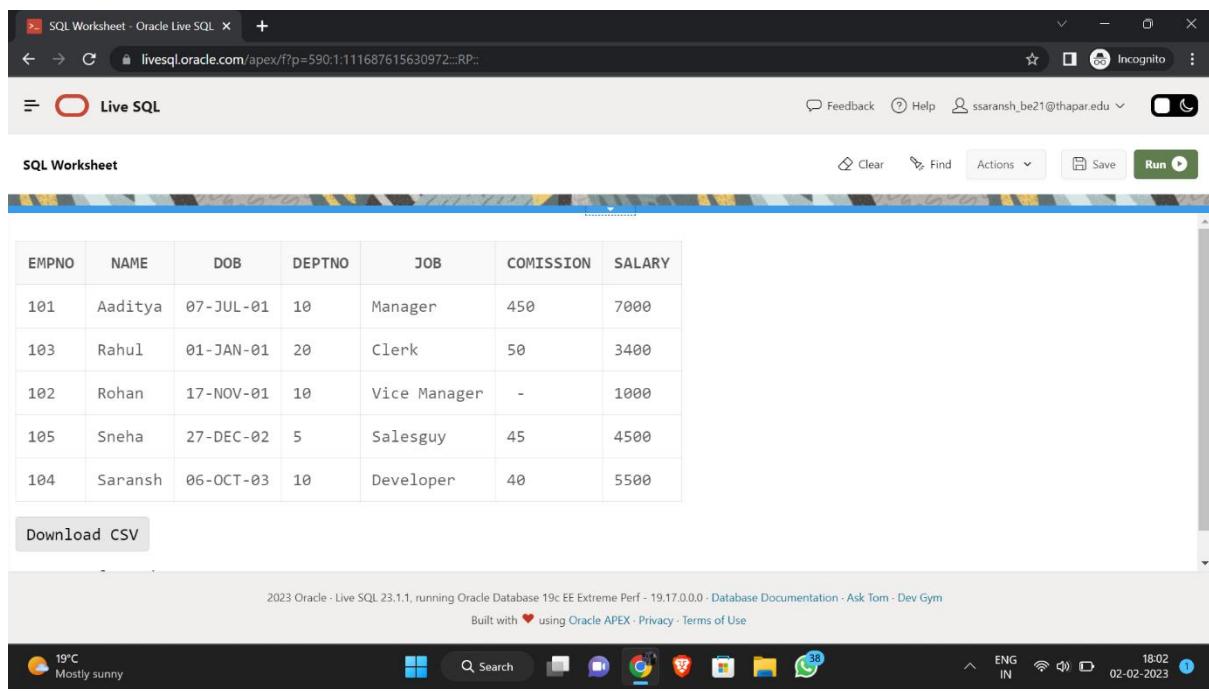
Insert 5 records by storing Null value in some records for commission column.

Q1) Get employee no and employee name who works in dept no 10 ?



```
1 Create table Employee(
2   Empno number(3),
3   Name varchar(40),
4   DOB date,
5   Deptno number(10),
6   JOB varchar(40),
7   comission number(10),
8   salary number(10)
9 );
10 Insert into Employee values (101,'Aaditya','07-JUL-01', 10,'Manager',450,7000);
11 Insert into Employee values (102,'Rohan','17-NOV-01', 10,'Vice Manager',NULL,1000);
12 Insert into Employee values (103,'Rahul','01-JAN-01', 20,'Clerk',50,3400);
13 Insert into Employee values (104,'Saransh','06-OCT-03', 10,'Developer',40,5500);
14 Insert into Employee values (105,'Sneha','27-DEC-02', 5,'Salesguy',45,4500);
15 Select * from Employee;
16 Select EmpNo , NAME from Employee where Deptno = 10;
```

EMPNO	NAME	DOB	DEPTNO	JOB	COMISSION	SALARY
101	Aaditya	07-JUL-01	10	Manager	450	7000
103	Rahul	01-JAN-01	20	Clerk	50	3400
102	Rohan	17-NOV-01	10	Vice Manager	-	1000
105	Sneha	27-DEC-02	5	Salesguy	45	4500
104	Saransh	06-OCT-03	10	Developer	40	5500



EMPNO	NAME	DOB	DEPTNO	JOB	COMISSION	SALARY
101	Aaditya	07-JUL-01	10	Manager	450	7000
103	Rahul	01-JAN-01	20	Clerk	50	3400
102	Rohan	17-NOV-01	10	Vice Manager	-	1000
105	Sneha	27-DEC-02	5	Salesguy	45	4500
104	Saransh	06-OCT-03	10	Developer	40	5500

The screenshot shows the Oracle Live SQL interface. A table titled 'EMPNO NAME' displays three rows of employee data:

EMPNO	NAME
101	Aaditya
102	Rohan
104	Saransh

Below the table is a 'Download CSV' button. The status bar indicates '3 rows selected.'

At the bottom, the footer includes the text '2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym' and 'Built with ❤️ using Oracle APEX - Privacy - Terms of Use'.

The system tray at the bottom right shows weather (19°C, Mostly sunny), network, battery, and date/time (02-02-2023).

Q2) Display the employee names of those clerks whose salary > 2000 ?

The screenshot shows the Oracle Live SQL interface with the sidebar expanded. The 'SQL Worksheet' section contains the following SQL code:

```
1 Create table Employee(
2   EmpNo number(3),
3   Name varchar(40),
4   DOB date,
5   Deptno number(10),
6   JOB varchar(40),
7   comision number(10),
8   salary number(10)
9 )
10 Insert into Employee values (101,'Aaditya','07-JUL-01', 10,'Manager',456,7000)
11 Insert into Employee values (102,'Rohan','17-NOV-01', 10,'Vice Manager',NULL,1000)
12 Insert into Employee values (103,'Rahul','01-JAN-01', 20,'Clerk',50,3400)
13 Insert into Employee values (104,'Saransh','06-OCT-03', 10,'Developer',40,5500)
14 Insert into Employee values (105,'Sneha','27-DEC-02', 5,'Salesguy',45,4500)
15 Select Name from employee
16 where JOB = 'Clerk' and salary>2000;
```

The results pane below shows a table with a single column 'NAME' containing the value 'Sneha'.

At the bottom, the footer includes the text '2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym' and 'Built with ❤️ using Oracle APEX - Privacy - Terms of Use'.

The system tray at the bottom right shows weather (15°C, Clear), network, battery, and date/time (04-02-2023).

SQL Worksheet - Oracle Live SQL

```

1 Create table Employee(
2   EmpNo number(3),
3   Name varchar(40),
4   DOB date,
5   Deptno number(10),
6   JOB varchar(40),
7   comission number(10),
8   salary number(10)
9 )
10 Insert into Employee values (101,'Aaditya','07-JUL-01', 10,'Manager',450,7000)
11 Insert into Employee values (102,'Rohan','17-NOV-01', 10,'Vice Manager',NULL,1000)
12 Insert into Employee values (103,'Rahul','01-JAN-01', 20,'Clerk',50,3400)
13 Insert into Employee values (104,'Saransh','06-OCT-03', 10,'Developer',40,5500)
14 Insert into Employee values (105,'Sneha','27-DEC-02', 5,'Salesguy',45,4500)
15 Select Name from employee
16 where JOB = 'Clerk' and salary>2000;
17 Select Name,JOB from employee
18 Where JOB in ('Clerk','Salesguy');

```

NAME
Rahul

Download CSV

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15°C Clear 23:58 ENG IN 04-02-2023

Q3) Display name and job of Salesperson & Clerks ?

SQL Worksheet - Oracle Live SQL

```

1 Create table Employee(
2   EmpNo number(3),
3   Name varchar(40),
4   DOB date,
5   Deptno number(10),
6   JOB varchar(40),
7   comission number(10),
8   salary number(10)
9 )
10 Insert into Employee values (101,'Aaditya','07-JUL-01', 10,'Manager',450,7000)
11 Insert into Employee values (102,'Rohan','17-NOV-01', 10,'Vice Manager',NULL,1000)
12 Insert into Employee values (103,'Rahul','01-JAN-01', 20,'Clerk',50,3400)
13 Insert into Employee values (104,'Saransh','06-OCT-03', 10,'Developer',40,5500)
14 Insert into Employee values (105,'Sneha','27-DEC-02', 5,'Salesguy',45,4500)
15 Select Name from employee
16 where JOB = 'Clerk' and salary>2000;
17 Select Name,JOB from employee
18 Where JOB in ('Clerk','Salesguy');

```

NAME JOB

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15°C Clear 00:02 ENG IN 05-02-2023

The screenshot shows the Oracle Live SQL interface. On the left, there's a sidebar with options like Home, SQL Worksheet (which is selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet" and contains a table with two rows:

NAME	JOB
Rahul	Clerk
Sneha	Salesguy

Below the table is a "Download CSV" button. A message at the bottom says "2 rows selected." At the bottom of the page, it says "2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym" and "Built with ❤️ using Oracle APEX - Privacy - Terms of Use". The system tray at the bottom shows weather (15°C Clear), system icons, and the date/time (05-02-2023).

4. Display all details of employees whose salary between 2000 and 3000?

The screenshot shows the Oracle Live SQL interface. The sidebar is identical to the previous one. The main area contains the following SQL code:

```
6   JOB varchar(40),
7   commission number(10),
8   salary number(10)
9 )
10 Insert into Employee values (101,'Aaditya','07-JUL-01', 10,'Manager',450,7000)
11 Insert into Employee values (102,'Rohan','17-NOV-01', 10,'Vice Manager',NULL,1000)
12 Insert into Employee values (103,'Rahul','01-JAN-01', 20,'Clerk',50,3400)
13 Insert into Employee values (104,'Saransh','06-OCT-03', 10,'Developer',40,5500)
14 Insert into Employee values (105,'Sneha','27-DEC-02', 5,'Salesguy',45,4500)
15 Select Name from employee
16 where JOB = 'Clerk' and salary>2000;
17 Select Name,JOB from employee
18 Where JOB in ('Clerk','Salesguy');
19 Select * from employee
20 Where salary between 2000 and 3000;
```

The results section below the code shows "no data found". The footer and system tray are also present.

The screenshot shows the Oracle Live SQL interface. The left sidebar has a 'SQL Worksheet' section selected. The main area displays the message 'no data found'. At the bottom, there is a status bar with a weather icon (14°C Clear), system icons (Search, File, etc.), and a timestamp (05-02-2023 00:07).

No data because no such employee exist whose salary is between 2000 and 3000

5. Display all details of employees whose dept no is 10, 20, or 30?

The screenshot shows the Oracle Live SQL interface. The left sidebar has a 'SQL Worksheet' section selected. The main area contains the following SQL code:

```
9 )
10 Insert into Employe values (101,'Aaditya','07-JUL-01', 10,'Manager',450,7000)
11 Insert into Employe values (102,'Rohan','17-NOV-01', 10,'Vice Manager',NULL,1000)
12 Insert into Employe values (103,'Rahul','01-JAN-01', 20,'Clerk',50,3400)
13 Insert into Employe values (104,'Saransh','06-OCT-03', 10,'Developer',40,5500)
14 Insert into Employe values (105,'Neisha','27-DEC-02', 5,'Salesguy',45,4500)
15 Select Name from employe
16 where JOB = 'Clerk' and salary>2000;
17 Select Name,JOB from employe
18 Where JOB in ('Clerk','Salesguy');
19 Select * from employe
20 Where salary between 2000 and 3000;
21 Select * from employe
22 Where Deptno in (10,20,30);
```

The results table below the code shows columns: EMPNO, NAME, DOB, DEPTNO, JOB, COMISSION, SALARY. The status bar at the bottom includes a weather icon (14°C Clear), system icons, and a timestamp (05-02-2023 00:11).

The screenshot shows the Oracle Live SQL interface. On the left, a sidebar menu includes 'Home', 'SQL Worksheet' (which is selected), 'My Session', 'Schema', 'Quick SQL', 'My Scripts', 'My Tutorials', and 'Code Library'. The main area is titled 'SQL Worksheet' and displays a table of employee data. The table has columns: EMPNO, NAME, DOB, DEPTNO, JOB, COMISSION, and SALARY. The data is as follows:

EMPNO	NAME	DOB	DEPTNO	JOB	COMISSION	SALARY
101	Aaditya	07-JUL-01	10	Manager	450	7000
102	Rohan	17-NOV-01	10	Vice Manager	-	1000
103	Rahul	01-JAN-01	20	Clerk	50	3400
104	Saransh	06-OCT-03	10	Developer	40	5500

Below the table, there is a 'Download CSV' button and a note stating '4 rows selected.' At the bottom of the page, it says '2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym' and 'Built with ❤️ using Oracle APEX - Privacy - Terms of Use'.

Q6) Display name of those employees whose commission is NULL ?

The screenshot shows the Oracle Live SQL interface. The sidebar menu is identical to the previous one. The main area is titled 'SQL Worksheet' and contains the following SQL code:

```

14  insert into Employee values (105, 'Shella', '27-DEC-02', 5, 'Salesguy', 45, 4500)
15  Select Name from employee
16  where JOB = 'Clerk' and salary>2000;
17  Select Name,JOB from employee
18  Where JOB in ('Clerk','Salesguy');
19  Select * from employee
20  Where salary between 2000 and 3000;
21  Select * from employee
22  Where Deptno in (10,20,30);
23  Select * from employee
24  Where comission = NULL;

```

The output below the code shows 'no data found'. At the bottom, it says '2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym' and 'Built with ❤️ using Oracle APEX - Privacy - Terms of Use'.

No such Name exist in database

Q7) Display dept no & salary in ascending order of dept no and with in each dept no salary should be in descending order ?

SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:102457211131391::::

Live SQL

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

```

2  EmpNo number(3),
3  Name varchar(40),
4  DOB date,
5  Deptno number(10),
6  Job varchar(40),
7  comission number(10),
8  salary number(10)
9 )
10 Insert into Employee values (101,'Aaditya','07-JUL-01', 10,'Manager',450,7000)
11 Insert into Employee values (102,'Rohit', '17-NOV-01', 10,'Vice Manager',NULL,1000)
12 Insert into Employee values (103,'Rahul', '01-JAN-01', 20,'Clerk',50,3400)
13 Insert into Employee values (104,'Saransh', '06-OCT-03', 10,'Developer',40,5500)
14 Insert into Employee values (105,'Sneha', '27-DEC-02', 5,'Salesguy',45,4500)
15 Select * from Employee;
16 Select Employee.Deptno , Employee.salary
17 from Employee
18 ORDER BY Employee.Deptno asc , Employee.salary desc;
19

```

DEPTNO	SALARY

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21°C Sunny 18:26 05-02-2023 ENG IN

SQL Worksheet - Oracle Live SQL

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Live SQL

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

DEPTNO	SALARY
5	4500
10	7000
10	5500
10	1000
20	3400

Download CSV

5 rows selected.

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21°C Sunny 18:26 05-02-2023 ENG IN

Q8) Display name of employees having two 'a' or 'A' chars in the name ?

SQL Worksheet - Oracle Live SQL | Oracle Live SQL - Tutorial: Updat... | +

livesql.oracle.com/apex/f?p=590:1:102457211131391::::

Live SQL

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

```

9 )
10 Insert into Employee values (101,'Aaditya','07-JUL-01', 10,'Manager',450,7000)
11 Insert into Employee values (102,'Rohan','17-NOV-01', 10,'Vice Manager',NULL,1000)
12 Insert into Employee values (103,'Rahul','01-JAN-01', 20,'Clerk',50,3400)
13 Insert into Employee values (104,'Saransh','06-OCT-03', 10,'Developer',40,5500)
14 Insert into Employee values (105,'Sneha','27-DEC-02', 5,'Salesguy',45,4500)
15 Select * from Employee;
16 Select Employee.Name
17 from Employee
18 where Employee.Name like '%a%a%' or Employee.Name like '%A%A%';
19

```

NAME
Aaditya
Saransh

Download CSV

2 rows selected.

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21°C Sunny 18:39 IN 05-02-2023

Q9) Display the name of the employees whose second char is 'b' or 'B' ?

SQL Worksheet - Oracle Live SQL | Oracle Live SQL - Tutorial: Updat... | +

livesql.oracle.com/apex/f?p=590:1:102457211131391::::

Live SQL

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

```

12 Insert into Employee values (103,'Rahul','01-JAN-01', 20,'Clerk',50,3400)
13 Insert into Employee values (104,'Saransh','06-OCT-03', 10,'Developer',40,5500)
14 Insert into Employee values (105,'Sneha','27-DEC-02', 5,'Salesguy',45,4500)
15 Insert into Employee values (106,'Abhay','27-MAY-02', 5,'Salesguy',50,5000)
16 Select * from Employee;
17 Select Employee.Name
18 from Employee
19 where Employee.Name like '%a%a%' or Employee.Name like '%A%A%';
20 Select Employee.Name
21 from Employee
22 where Employee.Name like '_b%' or Employee.Name like '_B%';

```

NAME
Abhay

Download CSV

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21°C Sunny 18:43 IN 05-02-2023

Q10) Display the name of the employees whose first or last char is 'a' or 'A' ?

The screenshot shows the Oracle Live SQL interface. On the left, there's a sidebar with options like Home, SQL Worksheet, My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet" and contains the following SQL code:

```

20 Select Employee.Name
21   from Employee
22 where Employee.Name like '_b%' or Employee.Name like '_B%';
23 Select Employee.Name
24   from Employee
25 where Employee.Name like 'a%' or Employee.Name like 'A%'or Employee.Name like '%a' or Employee.Name like '%A';
26

```

Below the code, a table named "NAME" is displayed with four rows: Aman, Abhay, Aaditya, and Sneha. At the bottom of the worksheet, it says "Download CSV". The status bar at the bottom right shows the date and time: 05-02-2023, 18:45.

Q11) Display maximum, minimum, average salary of deptno 10 employees.

The screenshot shows the Oracle Live SQL interface. The sidebar is identical to the previous one. The main area is titled "SQL Worksheet" and contains the following SQL code:

```

22 where Employee.Name like '_D%' or Employee.Name like 'D%';
23 Select Employee.Name
24   from Employee
25 where Employee.Name like 'a%' or Employee.Name like 'A%'or Employee.Name like '%a' or Employee.Name like '%A';
26 Select max(Employee.salary), min(Employee.salary), avg(Employee.salary)
27   from Employee
28 where DEPTNO=10;
29

```

Below the code, a table with three columns is displayed:

MAX(EMPLOYEE.SALARY)	MIN(EMPLOYEE.SALARY)	AVG(EMPLOYEE.SALARY)
7000	1000	4500

At the bottom of the worksheet, it says "Download CSV". The status bar at the bottom right shows the date and time: 05-02-2023, 18:46.

Q12) Display total number of employees working in deptno 20

The screenshot shows the Oracle Live SQL interface. On the left, there's a sidebar with options like Home, SQL Worksheet (which is selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet" and contains the following SQL code:

```

23 where Employee.Name like 'aa' or Employee.Name like 'bb' or Employee.Name like 'aa';
24 Select max(Employee.salary), min(Employee.salary), avg(Employee.salary)
25 from Employee
26 where DEPTNO=10;
27 Select count(Employee.Deptno)
28 from Employee
29 where Deptno =20
30
31
32

```

Below the code, the results are displayed in a table:

COUNT(EMPLOYEE.DEPTNO)
1

At the bottom, there's a "Download CSV" button. The status bar at the bottom right shows the date as 05-02-2023.

Q13) Display total salary paid to clerks

The screenshot shows the Oracle Live SQL interface. The sidebar is identical to the previous one. The main area is titled "SQL Worksheet" and contains the following SQL code:

```

29 select count(Employee.Deptno)
30 from Employee
31 where Deptno =20
32 Select sum(Employee.salary)
33 from Employee
34 where job='clerk';
35
36

```

Below the code, the results are displayed in a table:

SUM(EMPLOYEE.SALARY)
3400

At the bottom, there's a "Download CSV" button. The status bar at the bottom right shows the date as 05-02-2023.

Q14) Display system date

Ans 14 SELECT TO CHAR(SYSDATE,'MM-DD-YYYYHH24:MI:SS')"NOW"FROM DUAL

Q15) Display the result of (12*12)/13

The screenshot shows the Oracle Live SQL interface. On the left, there's a sidebar with options like Home, SQL Worksheet (which is selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet" and contains the following SQL code:

```

29  Select count(Employee.Deptno)
30  from Employee
31  where Deptno =20
32  Select sum(Employee.salary)
33  from Employee
34  where job='Clerk';
35  Select (12*12)/13 From dual
36

```

Below the code, the output is displayed in a results pane:

```

(12*12)/13
11.07692307692307692307692307692308

```

At the bottom of the results pane, there's a "Download CSV" button. The status bar at the bottom right shows the date and time: 05-02-2023, 18:54.

Q16) Display info of 'raj' irrespective to the case in which the data is stored.

The screenshot shows the Oracle Live SQL interface. The sidebar is identical to the previous one. The SQL Worksheet contains the following query:

```

27  from Employee
28  where DEPTNO=10;
29  Select count(Employee.Deptno)
30  from Employee
31  where Deptno =20
32  Select sum(Employee.salary)
33  from Employee
34  where job='Clerk';
35  Select (12*12)/13 From dual
36
37  Select *
38  from Employee
39  where Employee.Name = 'raj' or Employee.Name='RAJ';
40
41
42
43
44
45

```

The results pane shows the message "no data found". The status bar at the bottom right shows the date and time: 05-02-2023, 18:57.

ASSIGNMENT – 3

Name – Saransh

Roll no – 102103077

Group – 2/CO3

SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:102457211131391::RP::

Live SQL

Feedback Help ssaransh_be21@thapar.edu

SQL Worksheet

Actions Save Run

```
1 Select CHR(65) || CHR(84)
2 From dual;
3 Select CONCAT ('Sup', 'Dude')
4 from dual;
5 Select INSTR('Sup','p')
6 from Dual;
7 Select Length('Saransh')
8 From dual;
9 Select LPAD('Saransh',10,'Sup')
10 From dual;
11 Select LTRIM('hiibro','hii')
12 From dual;
13
14 Select RPAD('hii',6,'bro')
15 From dual;
16 Select RTRIM('hiibro','bro')
17 From dual;
```

CHR(65) || CHR(84)

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Live SQL

Feedback Help ssaransh_be21@thapar.edu

SQL Worksheet

Actions Save Run

```
16 Select RTRIM('hiibro','bro')
17 From dual;
18 Select REPLACE('hiibro','hii','hey')
19 From dual;
20 Select SUBSTR('hiihheybro',4,7)
21 From dual;
22 Select INITCAP('hiibro')
23 From dual;
24 Select LOWER('Hii Bro')
25 From dual;
26 Select UPPER('hii bro')
27 From dual;
28 Select TRANSLATE('hiibro','iro','12')
29 From dual;
30 Select ABS(-100)
31 From dual;
32 Select CEIL(75.56)
```

CHR(65) || CHR(84)

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SQL Worksheet - Oracle Live SQL

```
32 Select CEIL(75.56)
33 From dual;
34 Select COS(θ)
35 From dual;
36 Select EXP(1)
37 From dual;
38 Select FLOOR(2.1)
39 From dual;
40 Select MOD(5,2)
41 From dual;
42 Select POWER(2,2)
43 From dual;
44 Select ROUND(12.454,2)
45 From dual;
46 Select SIGN(-10)
47 From dual;
48 Select SQRT(4)
49 From dual;
50 Select TRUNC(-12.345,2)
51 From dual;
52 Select SYSDATE
53 From dual;
54 Select ADD_MONTHS('25-jan-2023',4)
55 From dual;
56 Select LAST_DAY('25-jan-2023')
57 From dual;
58 Select MONTHS_BETWEEN('17-oct-2023','25-jan-2023')
59 From dual;
60 Select NEXT_DAY('25-jan-2023','Monday')
61 From dual;
62 Select GREATEST(-12.345,2,4.5,1.34)
63 From dual;
```

CHR(65) || CHR(84)

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17:34 05-02-2023

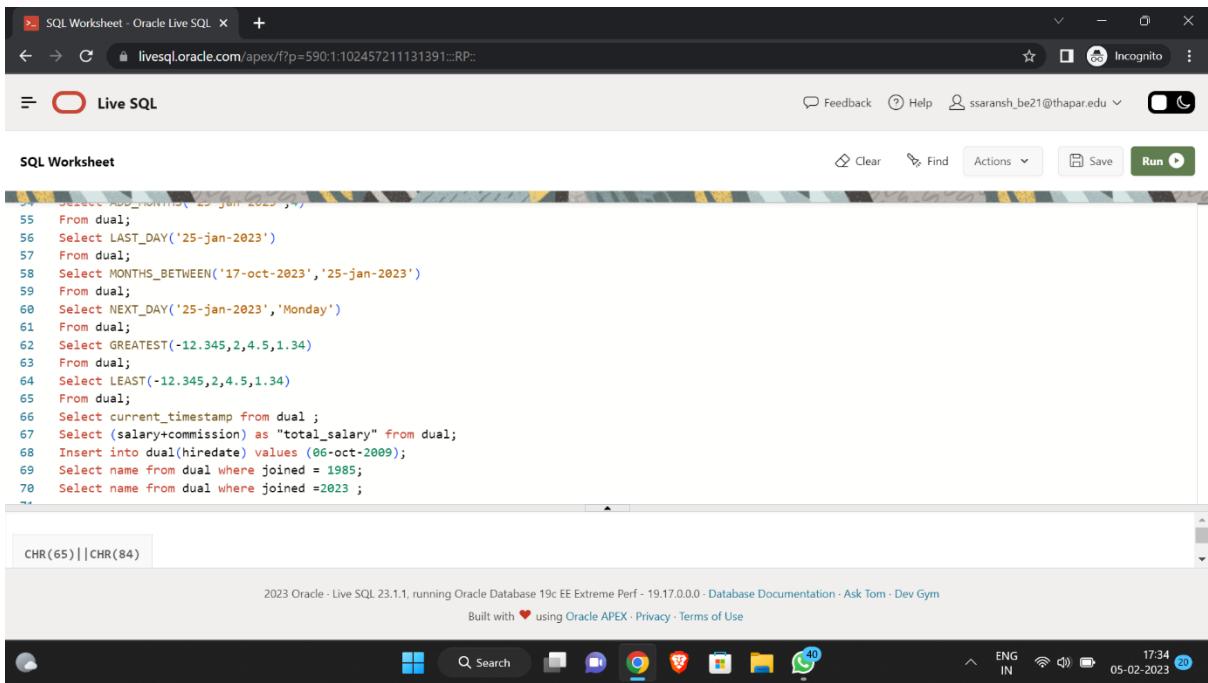
SQL Worksheet - Oracle Live SQL

```
47 From dual;
48 Select SQRT(4)
49 From dual;
50 Select TRUNC(-12.345,2)
51 From dual;
52 Select SYSDATE
53 From dual;
54 Select ADD_MONTHS('25-jan-2023',4)
55 From dual;
56 Select LAST_DAY('25-jan-2023')
57 From dual;
58 Select MONTHS_BETWEEN('17-oct-2023','25-jan-2023')
59 From dual;
60 Select NEXT_DAY('25-jan-2023','Monday')
61 From dual;
62 Select GREATEST(-12.345,2,4.5,1.34)
63 From dual;
```

CHR(65) || CHR(84)

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17:34 05-02-2023



The screenshot shows the Oracle Live SQL interface. In the SQL Worksheet pane, there is a block of SQL code. The code includes several statements such as SELECT, FROM DUAL, and various date functions like LAST_DAY, MONTHS_BETWEEN, and NEXT_DAY. It also contains DML statements like INSERT INTO dual and DCL statements like SELECT name from dual where joined = 1985. Below the worksheet, a message box displays "CHR(65) || CHR(84)" and "AT". The status bar at the bottom indicates the session is running on Oracle Database 19c EE Extreme Perf - 19.17.0.0.0.

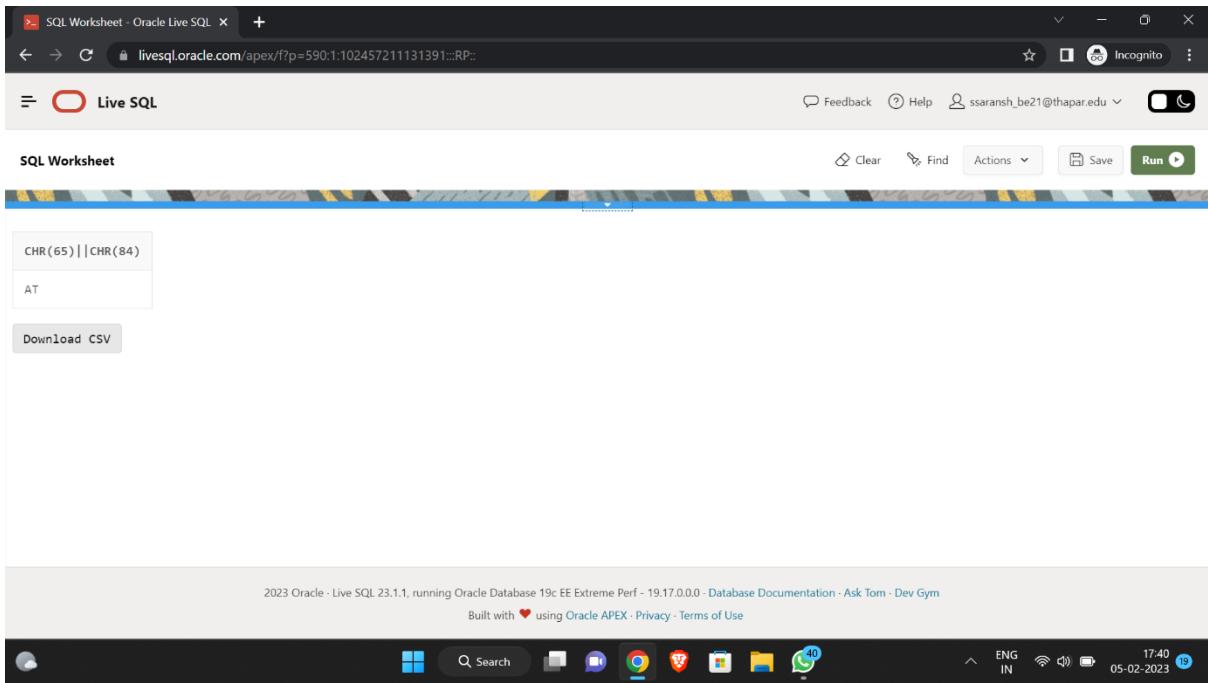
```
54 Select Add_MONTHS('25-jan-2023',4)
55 From dual;
56 Select LAST_DAY('25-jan-2023')
57 From dual;
58 Select MONTHS_BETWEEN('17-oct-2023','25-jan-2023')
59 From dual;
60 Select NEXT_DAY('25-jan-2023','Monday')
61 From dual;
62 Select GREATEST(-12.345,2,4.5,1.34)
63 From dual;
64 Select LEAST(-12.345,2,4.5,1.34)
65 From dual;
66 Select current_timestamp from dual ;
67 Select (salary+commission) as "total_salary" from dual;
68 Insert into dual(hiredate) values ('06-oct-2009');
69 Select name from dual where joined = 1985;
70 Select name from dual where joined =>2023 ;
```

CHR(65) || CHR(84)

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17:34 05-02-2023 ENG IN

OUTPUT



The screenshot shows the Oracle Live SQL interface after the SQL code has been executed. The output pane displays the result of the query "Select name from dual where joined = 1985;". The result is a single row with the value "AT". Below the output, a "Download CSV" button is visible. The status bar at the bottom indicates the session is running on Oracle Database 19c EE Extreme Perf - 19.17.0.0.0.

CHR(65) || CHR(84)

AT

Download CSV

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17:40 05-02-2023 ENG IN

SQL Worksheet - Oracle Live SQL

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Live SQL

Feedback Help ssaransh_be21@thapar.edu

SQL Worksheet

Actions Save Run

CONCAT('SUP', 'DUDE')

SupDude

Download CSV

INSTR('SUP', 'P')

3

Download CSV

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SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:102457211131391::RP::

Live SQL

Feedback Help ssaransh_be21@thapar.edu

SQL Worksheet

Actions Save Run

LENGTH('SARANSH')

7

Download CSV

LPAD('SARANSH', 10, 'SUP')

SupSaransh

Download CSV

LTRIM('HIIIBRO', 'HII')

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SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

Actions Save Run

LTRIM('HIIBRO','HII')
bro

Download CSV

RPAD('HII',6,'BRO')
hiibro

Download CSV

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SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

Actions Save Run

RTRIM('HIIBRO','BRO')
hii

Download CSV

REPLACE('HIIBRO','HII','HEY')
heybro

Download CSV

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ENG IN 17:39 05-02-2023

SQL Worksheet - Oracle Live SQL

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Live SQL

SQL Worksheet

SUBSTR('HIIHEYBRO',4,7)

heybro

Download CSV

INITCAP('HIIIBRO')

Hiibro

Download CSV

LOWERCASE('HIIIBRO')

hii bro

Download CSV

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17:39 05-02-2023 ENG IN

SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:102457211131391::RP::

Live SQL

SQL Worksheet

LOWER('HIIIBRO')

hii bro

Download CSV

UPPER('HIIIBRO')

HII BRO

Download CSV

TRANSLATE('HIIIBRO','IRO','12')

hii bro

Download CSV

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17:40 05-02-2023 ENG IN

SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

Actions Save Run

TRANSLATE('HIIBRO','IRO','12')

h11b2

Download CSV

ABS(-100)

100

Download CSV

CEIL(75.56)

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SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

Actions Save Run

CEIL(75.56)

76

Download CSV

COS(θ)

1

Download CSV

EXP(1)

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SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

EXP(1)

2.71828182845904523536028747135266249776

Download CSV

FLOOR(2.1)

2

Download CSV

MOD(5,2)

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Live SQL

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SQL Worksheet

MOD(5,2)

1

Download CSV

POWER(2,2)

4

Download CSV

ROUND(12.454,2)

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SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:102457211131391::RP::

Live SQL

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SQL Worksheet

ROUND(12.454, 2)

12.45

Download CSV

SIGN(-10)

-1

Download CSV

SQRT(4)

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SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

SQRT(4)

2

Download CSV

TRUNC(-12.345, 2)

-12.34

Download CSV

SYSDATE

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ENG IN 17:40 05-02-2023

SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:102457211131391::RP::

Live SQL

Feedback Help ssaransh_be21@thapar.edu

SQL Worksheet

SYSDATE

05-FEB-23

Download CSV

ADD_MONTHS('25-JAN-2023', 4)

25-MAY-23

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LAST_DAY('25-JAN-2023')

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SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:102457211131391::RP::

Live SQL

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SQL Worksheet

LAST_DAY('25-JAN-2023')

31-JAN-23

Download CSV

MONTHS_BETWEEN('17-OCT-2023', '25-JAN-2023')

8.74193548387096774193548387096774193548

Download CSV

NEXT_DAY('25-JAN-2023', 'MONDAY')

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The screenshot shows the Oracle Live SQL interface. It contains three separate SQL statements:

- `NEXT_DAY('25-JAN-2023', 'MONDAY')` results in `30-JAN-23`.
- `GREATEST(-12.345, 2, 4.5, 1.34)` results in `4.5`.
- `LEAST(-12.345, 2, 4.5, 1.34)` results in `-12.345`.

Below the results, a note states: "2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym". The system status bar at the bottom indicates: ENG IN 17:40 05-02-2023.

This screenshot is identical to the one above, showing the same three SQL statements and their results. The note at the bottom and the system status bar at the bottom are also identical.

LAB ASSIGNMENT 4

Name – Saransh

Roll no – 102103077

Group – 2/CO3

1. Create table emp which has the following attributes (employee table) (@empno, ename, job, sal, deptno) Where empno is primary key, ename is unique, job in (Prof, AP, and Lect), sal is not NULL, and deptno default is 10. Insert appropriate records, check error messages in case of violation and list all the constraint names for given table.

SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:109056215034967::::

Live SQL

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

```
1 Create Table emp(
2 empno int primary key,
3 ename varchar(40),
4 job varchar(40),
5 sal number(10) not null,
6 deptno number(2) default (10)
7 );
8 insert into emp values (1,'Neymar','Prof',1000000,default)
9 insert into emp values (2,'Ronaldo','AP',100000,default)
10 insert into emp values (3,'Messi','Lect',100000,default)
11 Select *
12 From emp;
13 /*Create Table book(
14 sno number(3) primary key
```

EMPNO	ENAME	JOB	SAL	DEPTNO
1	Neymar	Prof	1000000	10

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ssaransh_be21@thapar.edu

Actions

Save

Run

ENG IN 00:10 02-02-2023

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Live SQL

Home

SQL Worksheet

My Session

Schema

Quick SQL

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SQL Worksheet

EMPNO	ENAME	JOB	SAL	DEPTNO
1	Neymar	Prof	1000000	10
2	Ronaldo	AP	100000	10
3	Messi	Lect	10000	10

Download CSV

3 rows selected.

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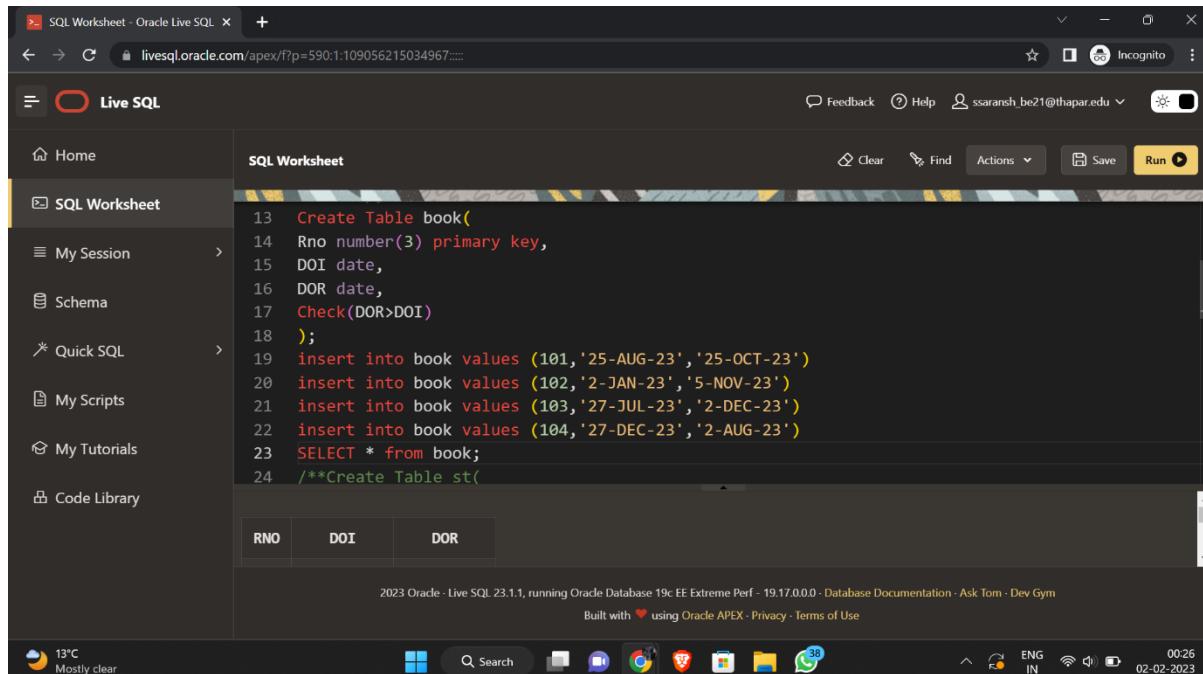
Actions

Save

Run

ENG IN 00:11 02-02-2023

2. Create table book: Rno number—PK DOI-date DOR-date DOR>DOI Insert appropriate records, check error messages in case of violation and list all the constraint names for given table.



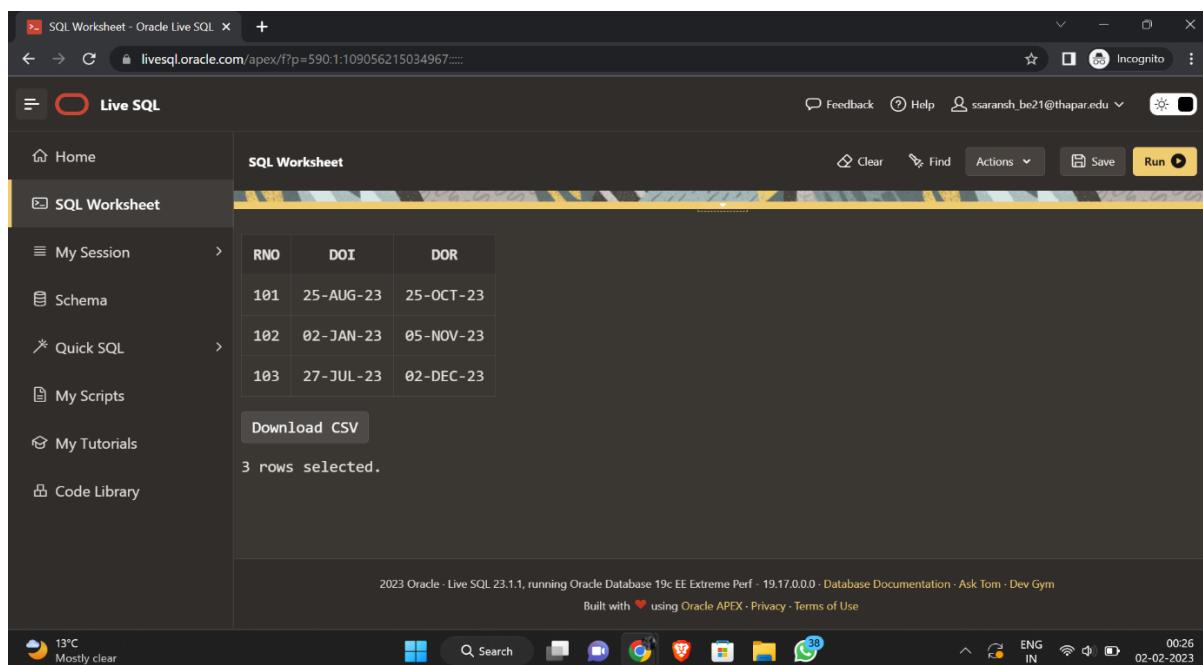
The screenshot shows the Oracle Live SQL interface. On the left, a sidebar menu is open with options like Home, SQL Worksheet, My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet". The code entered is:

```
13 Create Table book(
14   Rno number(3) primary key,
15   DOI date,
16   DOR date,
17   Check(DOR>DOI)
18 );
19 insert into book values (101, '25-AUG-23', '25-OCT-23')
20 insert into book values (102, '02-JAN-23', '05-NOV-23')
21 insert into book values (103, '27-JUL-23', '02-DEC-23')
22 insert into book values (104, '27-DEC-23', '02-AUG-23')
23 SELECT * from book;
24 /*Create Table st(
```

Below the code, there is a table structure with columns RNO, DOI, and DOR. A screenshot of the table data is shown:

RNO	DOI	DOR
101	25-AUG-23	25-OCT-23
102	02-JAN-23	05-NOV-23
103	27-JUL-23	02-DEC-23

At the bottom of the interface, there is a status bar showing weather (13°C, Mostly clear), system icons (Search, File, Google Chrome, etc.), and system status (ENG IN, 00:26, 02-02-2023).



The screenshot shows the Oracle Live SQL interface. The sidebar menu is open with the same options as the previous screenshot. The main area is titled "SQL Worksheet". The code entered is identical to the first screenshot:

```
13 Create Table book(
14   Rno number(3) primary key,
15   DOI date,
16   DOR date,
17   Check(DOR>DOI)
18 );
19 insert into book values (101, '25-AUG-23', '25-OCT-23')
20 insert into book values (102, '02-JAN-23', '05-NOV-23')
21 insert into book values (103, '27-JUL-23', '02-DEC-23')
22 insert into book values (104, '27-DEC-23', '02-AUG-23')
23 SELECT * from book;
24 /*Create Table st(
```

Below the code, there is a table structure with columns RNO, DOI, and DOR. A screenshot of the table data is shown:

RNO	DOI	DOR
101	25-AUG-23	25-OCT-23
102	02-JAN-23	05-NOV-23
103	27-JUL-23	02-DEC-23

Below the table, a message says "3 rows selected.". At the bottom of the interface, there is a status bar showing weather (13°C, Mostly clear), system icons (Search, File, Google Chrome, etc.), and system status (ENG IN, 00:26, 02-02-2023).

Error comes if DOR < DOI

The screenshot shows the Oracle Live SQL interface. On the left, there's a sidebar with options like Home, SQL Worksheet, My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet". It contains the following SQL code:

```

15 DOI date,
16 DOR date,
17 Check(DOR>DOI)
18 );
19 insert into book values (101,'25-AUG-23','25-OCT-23')
20 insert into book values (102,'2-JAN-23','5-NOV-23')
21 insert into book values (103,'27-JUL-23','2-DEC-23')
22 insert into book values (104,'27-DEC-23','2-AUG-23')
23 SELECT * from book;
24 /*Create Table st(
25     Rno number(3),
26     Class Char(4),

```

Below the code, an error message is displayed:

ORA-02290: check constraint (SQL_HNLYFMGULVJMRXYNLYUWGXTF.SYS_C00112737668) violated ORA-06512: at "SYS.DBMS_SQL", line 1721

At the bottom, it says "2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 · Database Documentation · Ask Tom · Dev Gym" and "Built with ❤ using Oracle APEX · Privacy · Terms of Use".

3. Create table st Rno-Number Class-Char Marks-Number Primary key(rno,class) Marks>0 Insert appropriate records, check error messages in case of violation and list all the constraint names for given table.

The screenshot shows the Oracle Live SQL interface. The sidebar and main area are identical to the previous screenshot. The SQL Worksheet contains the following code:

```

23 SELECT * FROM BOOK; */
24 Create Table st(
25     Rno number(3),
26     Class Char(4),
27     Marks number(3),
28     Primary key(Rno,Class),
29     Check (Marks>0)
30 );
31 insert into st values (101,'2C03',78)
32 insert into st values (102,'2C03',98)
33 insert into st values (103,'2C03',67)
34 Select * from st;

```

Below the code, a table named "st" is shown with three columns: RNO, CLASS, and MARKS. The data is:

RNO	CLASS	MARKS
101	2C03	78
102	2C03	98
103	2C03	67

At the bottom, it says "2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 · Database Documentation · Ask Tom · Dev Gym" and "Built with ❤ using Oracle APEX · Privacy · Terms of Use".

The screenshot shows the Oracle Live SQL interface. On the left, a sidebar menu includes Home, SQL Worksheet (selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area displays a table named 'st' with three rows:

RNO	CLASS	MARKS
101	2C03	78
102	2C03	98
103	2C03	67

Below the table, there is a 'Download CSV' button and a message stating '3 rows selected.' At the bottom of the interface, it says '2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym' and 'Built with ❤️ using Oracle APEX - Privacy - Terms of Use'. The system status bar at the bottom right shows '13°C Mostly clear', 'ENG IN', and the date '02-02-2023'.

Error comes if Marks < 0

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet pane contains the following SQL code:

```

25  Rno number(3),
26  Class Char(4),
27  Marks number(3),
28  Primary key(Rno,Class),
29  Check (Marks>0)
30  ;
31  insert into st values (101,'2C03',78)
32  insert into st values (102,'2C03',98)
33  insert into st values (103,'2C03',67)
34  insert into st values (104,'2C03',-20)
35  Select * from st;
36  /*Create Table S(

```

Below the code, an error message is displayed: 'ORA-02290: check constraint (SQL_HNLYFMGULVJMRXYNLYUWGXTF.SYS_C00112738433) violated ORA-06512: at "SYS.DBMS_SQL", line 1721'. The bottom status bar indicates '2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym' and 'Built with ❤️ using Oracle APEX - Privacy - Terms of Use'.

4. Create table S which has the following attributes (Salesperson table) (sno, sname, city) Where sno is primary key

SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/f?p=5901:109056215034967::::

Live SQL

SQL Worksheet

```

34  insert into st values (104,'2C03',-20)
35  Select * from st;/*
36  Create Table S(
37      sno number(5) Primary key,
38      sname varchar(40),
39      city varchar(40)
40  );
41  insert into S values (10001,'David','Mumbai');
42  insert into S values (10002,'Steve','Jaipur');
43  insert into S values (10003,'Mark','Chennai');
44  Select * from S;
45  /*Create Table P(

```

SNO	SNAME	CITY
10001	David	Mumbai
10002	Steve	Jaipur
10003	Mark	Chennai

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12°C Mostly clear

SQL Worksheet - Oracle Live SQL

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Live SQL

SQL Worksheet

SNO	SNAME	CITY
10001	David	Mumbai
10002	Steve	Jaipur
10003	Mark	Chennai

Download CSV

3 rows selected.

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12°C Mostly clear

5. Create table P which has the following attributes (Part table) (pno, pname, color) Where pno is primary key

The screenshot shows the Oracle Live SQL interface. On the left, the sidebar has 'SQL Worksheet' selected. In the main area, the following SQL code is run:

```

43 insert into S values (10003,'Mark','Chennai');
44 Select * from S;/*
45 Create table P(
46     pno int primary key,
47     pname varchar(40),
48     color varchar(20)
49 );
50 insert into P values (11,'Denim','Blue');
51 insert into P values (12,'Velvet','Purple');
52 insert into P values (13,'Cotton','Skin');
53 Select * from P;
54 /**

```

Below the code, a table is displayed with the columns PNO, PNAME, and COLOR. The data is:

PNO	PNAME	COLOR
11	Denim	Blue
13	Cotton	Skin
12	Velvet	Purple

At the bottom, the status bar shows '2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym'.

The screenshot shows the Oracle Live SQL interface. On the left, the sidebar has 'SQL Worksheet' selected. In the main area, the results of the previous query are displayed in a table:

PNO	PNAME	COLOR
11	Denim	Blue
13	Cotton	Skin
12	Velvet	Purple

Below the table, there is a button labeled 'Download CSV'. The status bar at the bottom shows '2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym'.

6. Create table SP which has the following attributes (sno, pno qty) Where combination of (sno, pno) is primary key, also sno and pno are foreign keys

SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/r?p=5901:8863910228675....

Live SQL

Home

SQL Worksheet

My Session

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Quick SQL

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My Tutorials

Code Library

SQL Worksheet

```

62 pno int primary key,
63 pname varchar(40),
64 color varchar(20)
65 )
66 insert into P values (11,'Denim','Blue')
67 insert into P values (12,'Velvet','Purple')
68 insert into P values (13,'Cotton','Skin')
69 select * from P
70 v Create table SP(
71 sno number(5),
72 pno varchar(40),
73 qty varchar(40),
74 constraint pk_SP primary key(pno,sno),foreign key (sno) references s, foreign key(pno) references P
75
76 );
77

```

SQL Statement Output

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21°C Sunny

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ENG IN 22:36 05-02-2023

7. Create table dept which has the following attributes (department table) (deptno, dname) Where deptno is primary key, dname in (Acc, comp, elect)

SQL Worksheet - Oracle Live SQL

livesql.oracle.com/apex/r?p=5901:8863910228675....

Live SQL

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

```

62 pno int primary key,
63 pname varchar(40),
64 color varchar(20)
65 )
66 insert into P values (11,'Denim','Blue')
67 insert into P values (12,'Velvet','Purple')
68 insert into P values (13,'Cotton','Skin')
69 select * from P
70 v Create table SP(
71 sno number(5),
72 pno varchar(40),
73 qty varchar(40),
74 constraint pk_SP primary key(pno,sno),foreign key (sno) references s, foreign key(pno) references P
75
76 );
77 v Create table dept(
78 deptno number(5),
79 dname varchar(40),
80 constraint chk_dept check (dname in ('Acc','comp','elect'))
81 );
82

```

SQL Statement Output

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21°C Sunny

Search

Run

Clear Find Actions Save

ENG IN 22:42 05-02-2023

8. Create table emp which has the following attributes (employee table) (@empno, ename, job, sal, deptno) Where empno is primary key, ename is unique, job in (Prof, AP, and Lect), sal is not NULL, and deptno is foreign key

The screenshot shows the Oracle Live SQL interface. On the left, there's a sidebar with options like Home, SQL Worksheet, My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet" and contains the following SQL code:

```

75 );
76 ^ Create table dept(
77   deptno number(5),
78   dname varchar(40),
79   constraint chk_dept check (dname in ('Acc','comp','elect'))
80 );
81 ^ Create table emp(
82   empno number(5),
83   ename varchar(40) unique,
84   job varchar(20),
85   sal number(10) not null,
86   dept number(2)
87 );
88 constraint pk_dept primary key (empno),
89 constraint chk_dept check (job in ('Prof','AP','Lect'))
90 constraint for_emp foreign key (deptno) references dept
91 );
92
93

```

Below the code, it says "SQL Statement Output". At the bottom, there's a footer with "2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym" and "Built with ❤️ using Oracle APEX - Privacy - Terms of Use". The system tray at the bottom right shows the date as 05-02-2023.

ASSIGNMENT - 5

Name – Saransh

Roll no – 102103077

Group – 2/CO3

Q-1

The screenshot shows the Oracle Live SQL interface. On the left, there's a sidebar with options like Home, SQL Worksheet, My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet" and contains the following SQL code:

```

1 create table sailors(
2   Sid number primary key,
3   Sname varchar(20),
4   rating integer check(rating between 0 and 10),
5   age number
6 );
7 create table boats(
8   Bid number primary key,
9   Bname varchar(20),
10  color varchar(10)
11 );
12 create table reserves(
13   Sid number,
14   Bid number,
15   day date,
16   primary key(Sid, Bid),
17   foreign key(Sid) references sailors,
18   foreign key(Bid) references boats(Bid)
19 );

```

Below the code, there's a table header with columns SID, SNAME, RATING, and AGE. At the bottom, there's a footer with "2023 Oracle - Live SQL 23.1.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym" and "Built with ❤️ using Oracle APEX - Privacy - Terms of Use". The system tray at the bottom right shows the date as 05-02-2023.

SQL Worksheet - Oracle Live SQL

```
create table reserves(
    Sid number,
    Bid number,
    day date,
    primary key(Sid, Bid),
    foreign key(Sid) references sailors,
    foreign key(Bid) references boats(Bid)
);

insert into sailors values(22,'Dustin', 7, 45.5);
insert into sailors values(29,'Brutus', 1, 33.0);
insert into sailors values(31,'Lubber', 8, 55.5);
insert into sailors values(32,'Andy', 8, 25.5);
insert into sailors values(58,'Rusty', 10, 35.0);
insert into sailors values(64,'Horatio', 7, 35.0);
insert into sailors values(71,'Zoraba', 10, 16);
insert into sailors values(74,'Horatio', 9, 35.0);
insert into sailors values(85,'Art', 3, 25.5);
insert into sailors values(95,'Bob', 3, 63.5);
select * from sailors
```

SID	SNAME	RATING	AGE
22	Dustin	7	45.5
29	Brutus	1	33
31	Lubber	8	55.5
58	Rusty	10	35
64	Horatio	7	35
71	Zoraba	10	16

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17:57 05-02-2023

SQL Worksheet - Oracle Live SQL

```
create table reserves(
    Sid number,
    Bid number,
    day date,
    primary key(Sid, Bid),
    foreign key(Sid) references sailors,
    foreign key(Bid) references boats(Bid)
);

insert into sailors values(22,'Dustin', 7, 45.5);
insert into sailors values(29,'Brutus', 1, 33.0);
insert into sailors values(31,'Lubber', 8, 55.5);
insert into sailors values(32,'Andy', 8, 25.5);
insert into sailors values(58,'Rusty', 10, 35.0);
insert into sailors values(64,'Horatio', 7, 35.0);
insert into sailors values(71,'Zoraba', 10, 16);
insert into sailors values(74,'Horatio', 9, 35.0);
insert into sailors values(85,'Art', 3, 25.5);
insert into sailors values(95,'Bob', 3, 63.5);
select * from sailors
```

SID	SNAME	RATING	AGE
95	Bob	3	63.5
22	Dustin	7	45.5
29	Brutus	1	33
31	Lubber	8	55.5
58	Rusty	10	35
64	Horatio	7	35
71	Zoraba	10	16

Download CSV

10 rows selected.

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17:57 05-02-2023

SQL Worksheet - Oracle Live SQL

```
17    foreign key(sid) references sailors,
18    foreign key(Bid) references boats(bid)
19 );
20 insert into sailors values(22,'Dustin', 7, 45.5);
21 insert into sailors values(29,'Brutus', 1, 33.0);
22 insert into sailors values(31,'Lubber', 8, 55.5);
23 insert into sailors values(32,'Andy', 8, 25.5);
24 insert into sailors values(58,'Rusty', 10, 35.0);
25 insert into sailors values(64,'Horatio', 7, 35.0);
26 insert into sailors values(71,'Zoraba', 10, 16);
27 insert into sailors values(74,'Horatio', 9, 35.0);
28 insert into sailors values(85,'Art', 3, 25.5);
29 insert into sailors values(95,'Bob', 3, 63.5);
30 select * from sailors
31 insert into boats values(101, 'Interlake', 'blue');
32 insert into boats values(102, 'Interlake', 'red');
33 insert into boats values(103, 'Clipper', 'green');
34 insert into boats values(104, 'Marine', 'red');
35 select * from boats
```

4 rows selected.

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21°C Sunny 17:58 05-02-2023

SQL Worksheet - Oracle Live SQL

```
17    foreign key(sid) references sailors,
18    foreign key(Bid) references boats(bid)
19 );
20 insert into sailors values(22,'Dustin', 7, 45.5);
21 insert into sailors values(29,'Brutus', 1, 33.0);
22 insert into sailors values(31,'Lubber', 8, 55.5);
23 insert into sailors values(32,'Andy', 8, 25.5);
24 insert into sailors values(58,'Rusty', 10, 35.0);
25 insert into sailors values(64,'Horatio', 7, 35.0);
26 insert into sailors values(71,'Zoraba', 10, 16);
27 insert into sailors values(74,'Horatio', 9, 35.0);
28 insert into sailors values(85,'Art', 3, 25.5);
29 insert into sailors values(95,'Bob', 3, 63.5);
30 select * from sailors
31 insert into boats values(101, 'Interlake', 'blue');
32 insert into boats values(102, 'Interlake', 'red');
33 insert into boats values(103, 'Clipper', 'green');
34 insert into boats values(104, 'Marine', 'red');
35 select * from boats
```

4 rows selected.

BID	BNAME	COLOR
101	Interlake	blue
102	Interlake	red
103	Clipper	green
104	Marine	red

Download CSV

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21°C Sunny 17:58 05-02-2023

SQL Worksheet - Oracle Live SQL

```
28 insert into sailors values(85, 'Art', 3, 25.5);
29 insert into sailors values(95, 'Bob', 3, 63.5);
30 select * from sailors;
31 insert into boats values(101, 'Interlake', 'blue');
32 insert into boats values(102, 'Interlake', 'red');
33 insert into boats values(103, 'Clipper', 'green');
34 insert into boats values(104, 'Marine', 'red');
35 select * from boats;
36 insert into reserves values(22, 101, '10-oct-98');
37 insert into reserves values(22, 102, '10-oct-98');
38 insert into reserves values(22, 103, '10-aug-98');
39 insert into reserves values(22, 104, '10-jul-98');
40 insert into reserves values(31, 102, '11-oct-98');
41 insert into reserves values(31, 103, '11-jun-98');
42 insert into reserves values(31, 104, '11-dec-98');
43 insert into reserves values(64, 101, '9-may-98');
44 insert into reserves values(64, 102, '9-aug-98');
45 insert into reserves values(74, 103, '9-aug-98');
46 select * from reserves;
```

SID	BID	DAY
22	104	10-JUL-98
31	102	11-OCT-98
64	101	09-MAY-98
64	102	09-AUG-98
74	103	09-AUG-98
22	103	10-AUG-98
22	101	10-OCT-98
22	102	10-OCT-98

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SQL Worksheet - Oracle Live SQL

```
28 insert into sailors values(85, 'Art', 3, 25.5);
29 insert into sailors values(95, 'Bob', 3, 63.5);
30 select * from sailors;
31 insert into boats values(101, 'Interlake', 'blue');
32 insert into boats values(102, 'Interlake', 'red');
33 insert into boats values(103, 'Clipper', 'green');
34 insert into boats values(104, 'Marine', 'red');
35 select * from boats;
36 insert into reserves values(22, 101, '10-oct-98');
37 insert into reserves values(22, 102, '10-oct-98');
38 insert into reserves values(22, 103, '10-aug-98');
39 insert into reserves values(22, 104, '10-jul-98');
40 insert into reserves values(31, 102, '11-oct-98');
41 insert into reserves values(31, 103, '11-jun-98');
42 insert into reserves values(31, 104, '11-dec-98');
43 insert into reserves values(64, 101, '9-may-98');
44 insert into reserves values(64, 102, '9-aug-98');
45 insert into reserves values(74, 103, '9-aug-98');
46 select * from reserves;
```

SID	BID	DAY
22	104	10-JUL-98
31	102	11-OCT-98
64	101	09-MAY-98
64	102	09-AUG-98
74	103	09-AUG-98
22	103	10-AUG-98
22	101	10-OCT-98
22	102	10-OCT-98

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Live SQL

SQL Worksheet

Clear Find Actions Save Run

64	102	09-AUG-98
74	103	09-AUG-98
22	103	10-AUG-98
22	101	10-OCT-98
22	102	10-OCT-98
31	104	11-DEC-98
31	103	11-JUN-98

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10 rows selected.

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Q-2 (i)

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Live SQL

SQL Worksheet

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Quick SQL

My Scripts

My Tutorials

Code Library

Clear Find Actions Save Run

```
45 insert into Reserves values(74, 103, '9-aug-98')
46 select * from reserves
47 Select sname,age from Sailors;
```

SNAME	AGE
Dustin	45.5
Brutus	33
Lubber	55.5
Andy	25.5
Rusty	35
Horatio	35
Saransh	16

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Search

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SQL Worksheet - Oracle Live SQL

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Live SQL

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Code Library

SQL Worksheet

```
45 Insert into Reserves values(74, 103, '9-aug-98')
46 select * from reserves
47 Select sname,age from Sailors;
48
```

Rusty	35
Horatio	35
Zoraba	16
Horatio	35
Art	25.5
Bob	63.5

Download CSV

10 rows selected.

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Feedback

Help

ssaransh_be21@thapar.edu

Actions

Save

Run

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(ii)

SQL Worksheet - Oracle Live SQL

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Live SQL

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Code Library

SQL Worksheet

```
47 Select sname,age from Sailors;
48 Select * from Boats where color in ('red','blue');
49
```

BID	BNAME	COLOR
101	Interlake	blue
102	Interlake	red
104	Marine	red

Download CSV

3 rows selected.

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Actions

Save

Run

ENG IN 22:57 05-02-2023

(iii)

SQL Worksheet - Oracle Live SQL

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Live SQL

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Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

```
47 Select sname,age from Sailors;
48 Select * from Boats where color in ('red','blue');
49 Select MAX(age) as OLDEST,MIN(age) as smallest from sailors;
50
```

OLDEST	SMALLEST
63.5	16

Download CSV

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Live SQL

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SQL Worksheet

```
42 insert into Reserves values(51, 100, '11-aug-98');
43 insert into reserves values(64, 101, '9-may-98')
44 insert into reserves values(64, 102, '9-aug-98')
45 insert into reserves values(74, 103, '9-aug-98')
46 select * from reserves
47 Select sname,age from Sailors;
48 Select * from Boats where color in ('red','blue');
49 Select MAX(age) as OLDEST,MIN(age) as smallest from sailors;
50 Select sname from sailors where sname like '%B' and length(sname)>=3;
51
52
```

Bob

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(iv)

(v)

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Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```

42 insert into reserves values(51, 101, '11-aug-98')
43 insert into reserves values(64, 101, '9-may-98')
44 insert into reserves values(64, 102, '9-aug-98')
45 insert into reserves values(74, 103, '9-aug-98')
46 select * from reserves
47 Select sname,age from Sailors;
48 Select * from Boats where color in ('red','blue');
49 Select MAX(age) as OLDEST,MIN(age) as smallest from sailors;
50 Select sname from sailors where sname like '%B' and length(sname)>=3;
51 Select avg(rating) as rating from sailors;
52

```

RATING
6.6

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(vi)

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Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```

45 insert into reserves values(74, 103, '9-aug-98')
46 select * from reserves
47 Select sname,age from Sailors;
48 Select * from Boats where color in ('red','blue');
49 Select MAX(age) as OLDEST,MIN(age) as smallest from sailors;
50 Select sname from sailors where sname like '%B' and length(sname)>=3;
51 Select avg(rating) as rating from sailors;
52 Select * from Sailors where Rating >7;
53
54

```

SID	SNAME	RATING	AGE
31	Lubber	8	55.5
32	Andy	8	25.5
58	Rusty	10	35
71	Zoraba	10	16
74	Horatio	9	35

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(vii)

SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```

52 Select * from Sailors where Rating >7;
53 Select Count(day) as no_of_boats_reserved_by_Horatio
54 From sailors,reserves,boats
55 where sailors.sname = 'Horatio'
56 and
57 reserves.sid = sailors.sid
58 and
59 reserves.bid = boats.bid;
60
61

```

NO_OF_BOATS_RESERVED_BY_HORATIO
3

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(viii)

SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```

58 and
59 reserves.bid = boats.bid;
60 Select color as colors_reserved_by_Lubber
61 From sailors,reserves,boats
62 where sailors.sname = 'Lubber'
63 and
64 reserves.sid = sailors.sid
65 and
66 reserves.bid = boats.bid;
67

```

COLORS_RESERVED_BY_LUBBER
red
green
red

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(ix)

SQL Worksheet - Oracle Live SQL

```

53 and
66 reserves.bid = boats.bid;
67 Select * from sailors,reserves,boats
68 where
69 reserves.sid = sailors.sid
70 and
71 reserves.bid = 102;
72 and
73 boats.bid = 102;
74
75

```

SID	SNAME	RATING	AGE	SID	BID	DAY	BID	BNAME	COLOR
22	Dustin	7	45.5	22	102	10-OCT-98	101	Interlake	blue
22	Dustin	7	45.5	22	102	10-OCT-98	102	Interlake	red
22	Dustin	7	45.5	22	102	10-OCT-98	103	Clipper	green
22	Dustin	7	45.5	22	102	10-OCT-98	104	Marine	red

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SQL Worksheet - Oracle Live SQL

```

22 Dustin 7 45.5 22 102 10-OCT-98 103 Clipper green
22 Dustin 7 45.5 22 102 10-OCT-98 104 Marine red
31 Lubber 8 55.5 31 102 11-OCT-98 101 Interlake blue
31 Lubber 8 55.5 31 102 11-OCT-98 102 Interlake red
31 Lubber 8 55.5 31 102 11-OCT-98 103 Clipper green
31 Lubber 8 55.5 31 102 11-OCT-98 104 Marine red
64 Horatio 7 35 64 102 09-AUG-98 101 Interlake blue
64 Horatio 7 35 64 102 09-AUG-98 102 Interlake red
64 Horatio 7 35 64 102 09-AUG-98 103 Clipper green

```

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SQL Worksheet - Oracle Live SQL

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Live SQL

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SQL Worksheet

Clear Find Actions Save Run

```
65 and
66 reserves.bid = boats.bid;
67 Select sailors.sid,sname from sailors,reserves,boats
68 where
69 reserves.sid = sailors.sid
70 and
71 reserves.bid = boats.bid;
72 and
73 boats.color = green;
```

22	Dustin
31	Lubber
31	Lubber
31	Lubber
64	Horatio
73	Horatio

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(xii)

SQL Worksheet - Oracle Live SQL

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Live SQL

Feedback Help ssaransh_be21@thapar.edu

SQL Worksheet

Clear Find Actions Save Run

```
65 and
66 reserves.bid = boats.bid;
67 Select sname from sailors,reserves,boats
68 where
69 reserves.sid = sailors.sid
70 and
71 reserves.bid = 103;
72 group by sname;
```

Dustin	
Lubber	
Lubber	
Lubber	
Lubber	
Horatio	

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(xiv)

SQL Worksheet - Oracle Live SQL

```
74 select sname from sailors,reserves,boats
75 where
76 reserves.sid = sailors.sid
77 and
78 reserves.bid = boats.bid
79 and
80 boats.color = 'green'
81 intersect
82 select sname from sailors,reserves,boats
83 where
84 reserves.sid = sailors.sid
85 and
86 reserves.bid = boats.bid
87 and
88 boats.color = 'red';
89
90
91
```

SNAME
Dustin
Horatio
Lubber

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(xv)

SQL Worksheet - Oracle Live SQL

```
72 group by sname,
73
74 select sname from sailors,reserves,boats
75 where
76 reserves.sid = sailors.sid
77 and
78 reserves.bid = boats.bid
79 and
80 boats.color = 'green'
81 group by sname;
82
```

SNAME
Lubber
Horatio
Dustin

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Database Management System

ASSIGNMENT 6

NAME :- Saransh

ROLL NO:- 102103077

CLASS :-2CO3

Write queries to:

- 1. Display the system date**
- 2. Display current day**
- 3. Display current month and spell out year**

4. Display spell out current date

5. Check whether it is AM or PM right now

6. Display the date of next Friday

7. Round the system date on month

8. Truncate the system date on month

9. Round the system date on year

10. Truncate the system date on year

11. Find the day after three days

SOLUTION :-

1select sysdate from dual;

2select to_char(sysdate, 'day') from dual;

3select to_char(sysdate, 'mon year') from dual;

4select to_char(sysdate, 'ddspth') from dual;

5select to_char(sysdate, 'PM') from dual;

6select lower(next_day(sysdate, 'friday')) from dual;

7select round (to_date(sysdate),'MON') from dual;

8select trunc(to_date(sysdate),'MON') from dual;

9select round(to_date(sysdate),'year') from dual;

10select trunc(to_date(sysdate),'year') from dual;

11select to_char(sysdate+3, 'day') from dual;

QUESTION 2

12. Display day of date of joining column

13. Display those employees who join the company on Monday

14. Display those employees who join the company this month

15. Display those employees who join the company in last 30 days

SOLUTION

Ans 12 select joining_date from emp

Ans 13 select * from employee where joining_day='Monday'

Ans 14 select* from employee where to_char(joining_date,'mon')= to_char(sysdate,'mon')

Ans 15 select* from employee where joining_date>sysdate-30 and joining_date<sysdate

Create a table train having three four columns

16. Train Number, date of Departure, time of departure, time of arrival

17. Insert five columns in train table

18. Display all the records

19. Display the time values inserted in the columns

20. Display those trains which arrived on PM

21. Display train number who are going to depart in next on hour.

Ans 16 create table Train(

```
train_number int,  
date_of_departure date,  
time_of_arrival timestamp,  
time_of_departure timestamp  
)
```

Ans 17 insert into train values('101','01-april-2021','01-april-2021 5.10.00 pm','02-april-2021 5.10.00 pm')

```
insert into train values('101','01-april-2021','01-april-2021 5.10.00 pm','02-april-2021 5.10.00 pm')
```

```
insert into train values('102','01-june-2021','01-june-2022 5.10.00 pm','02-april-2021 9.10.00 am');
```

```
insert into train values('103','31-july-2022','31-july-2022 7.50.00 am','01-august-2022 3.10.00 pm');
```

```
insert into train values('104','21-feb-2023','21-feb-2023 10.29.00 pm','22-feb-2023 5.10.00 am');
```

```
insert into train values('105','25-dec-2021','25-dec-2021 9.10.00 pm','27-dec-2021 4.10.00 pm')
```

Ans 18 select* from train

TRAIN_NUMBER	DATE_OF_DEPARTURE	TIME_OF_ARRIVAL	TIME_OF_DEPARTURE
101	01-APR-21	01-APR-21 05.10.00.000000 PM	02-APR-21 05.10.00.000000 PM
102	01-JUN-21	01-JUN-22 05.10.00.000000 PM	02-APR-21 09.10.00.000000 AM
103	31-JUL-22	31-JUL-22 07.50.00.000000 AM	01-AUG-22 03.10.00.000000 PM
104	21-FEB-23	21-FEB-23 10.29.00.000000 PM	22-FEB-23 05.10.00.000000 AM
105	25-DEC-21	25-DEC-21 09.10.00.000000 PM	27-DEC-21 04.10.00.000000 PM

Ans 19 select to_char(time_of_arrival,'HH:MI:SS') as "Arrival_Time", to_char(time_of_departure,'HH:MI:SS') as "Arrival_Time" from train

Arrival_Time	Arrival_Time
05:10:00	05:10:00
05:10:00	09:10:00
07:50:00	03:10:00
10:29:00	05:10:00
09:10:00	04:10:00

Database Management System

ASSIGNMENT 7

NAME :- Saransh

ROLL NO:- 102103077

CLASS :-2CO3

Q1) Check the structure of tables.

Column	Null?	Type
EMPNO	NOT NULL	NUMBER(2,0)
ENAME	-	CHAR(20)
JOB	-	CHAR(20)
SAL	NOT NULL	NUMBER(5,0)
DEPT_NO	-	NUMBER(3,0)

Q2) Check the constraint name for applied constraints?

OWNER	CONSTRAINT_NAME	CONSTRAINT_TYPE	TABLE_NAME	SEARCH_CONDITION	SEARCH_CONDITION_VC	R_OWNER	R_CONSTRAINT_NAME	DELETE_RULE	STATUS	DEFERRABLE	DEFERRED	V
SQL_MBXAHTWRFSAAMIPMNGH\ICNTA	SYS_C00114675978	C	EMP	"SAL" IS NOT NULL	"SAL" IS NOT NULL	-	-	-	ENABLED	NOT DEFERRABLE	IMMEDIATE	V
SQL_MBXAHTWRFSAAMIPMNGH\ICNTA	SYS_C00114675979	C	EMP	job in ('Prof','AP','Lect')	job in ('Prof','AP','Lect')	-	-	-	ENABLED	NOT DEFERRABLE	IMMEDIATE	V
SQL_MBXAHTWRFSAAMIPMNGH\ICNTA	SYS_C00114675980	P	EMP	-	-	-	-	-	ENABLED	NOT DEFERRABLE	IMMEDIATE	V
SQL_MBXAHTWRFSAAMIPMNGH\ICNTA	SYS_C00114675981	U	EMP	-	-	-	-	-	ENABLED	NOT DEFERRABLE	IMMEDIATE	V

Q3) Drop the unique constraint on ENAME

1	alter table emp drop unique(ename);
	Table altered.

Q4) Drop the Foreign Key constraint on DEPTNO

```
1 select *from user_constraints where table_name='EMP' and constraint_type='R';
2 alter table emp drop constraint SYS_C00114724315;
```

Table altered.

Q5) Add Foreign Key constraint on DEPTNO

```
1 alter table emp add constraint fk_dept foreign key(deptno) references dept;
```

Table altered.

Q6) Change Data type of ENAME

```
1 v alter table
2   emp
3 modify
4 (
5   Ename    varchar2(30)
6 );
```

Table altered.

Q7) Change width of DNAME

```
1 alter table emp modify( deptno number(12));
```

Table altered.

Q8) Add COMM column in EMP table

```
1 alter table emp add(comm varchar2(20));
```

Table altered.

Q9) Drop CITY column from J table

```
alter table s drop(city)
```

Table altered.

Q10) Create duplicate copy of EMP table

```
1 create table emp_copy as select* from emp;
```

Table created.

Q11) Copy structure of DEPT table in another table with different column names

```
1 create table dept_copy(dno,deptn) as select *from dept;
```

Table created.

```
1 select *from dept_copy;
```

DNO	DEPTN
10	Acc
20	comp
30	elect

[Download CSV](#)

3 rows selected.

Q12) Change the name and job of the employee whose EMPNO =100

```
1 v update emp
2   set ename='ROHAN'
3   where empno=100;
4 v update emp
5   set job='Lect'
6   where empno=100;
7
```

1 row(s) updated.

ASSIGNMENT 8

NAME :- Saransh

ROLL NO:- 102103077

CLASS :-2CO3

Create the following schema and insert some tuples in these tables shown below.

Author (ID, Name, Birth_Year, Death_Year (NULL in case of Author is alive))

Book (ID, Author_ID, Title, Publish_Year, Publishing_House, Rating))

Adaptation (Book_ID, Type, Title, Release_Year, Rating)

i) Select the title of each book and the name of its author.

```
SELECT title, name  
FROM author join book  
ON author.id = book.author_id
```

ii) Show the name of each author together with the title of the book they wrote and the year in which that book was published. Show only books published after 2005.

```
SELECT name, title, publish_year  
FROM author JOIN book  
ON author.id = book.author_id  
WHERE publish_year > 2005
```

iii) For each book, show its title, adaptation title, adaptation year, and publication year.

Consider only books with a rating lower than the rating of their corresponding adaptation.

Additionally, show only those books for which an adaptation was released at most four years after the book was published. Rename the title column from the book table to book_title, and the title column from the adaptation table to adaptation_title.

```
SELECT book.title AS book_title, adaptation.title AS adaptation_title, book.publish_year,  
adaptation.release_year  
FROM book JOIN adaptation  
ON book.id = adaptation.book_id  
WHERE book.rating < adaptation.rating AND
```

$(\text{adaptation.release_year} - \text{book.publish_year}) \leq 4$

iv) Join the author and book tables using an INNER JOIN.

Show the title of each book together with its rating. Consider only those books that were published by authors who are still alive.

```
SELECT title, rating
```

```
FROM author INNER JOIN book
```

```
ON author.id = book.author_id
```

```
WHERE author.death_year IS null
```

v) Display the title of each book along with the name of its author. Show all books, even those without an author. Show all authors, even those who haven't published a book yet. Use a FULL JOIN.

```
SELECT title, name
```

```
FROM book FULL JOIN author
```

```
ON book.author_id = author.id
```

vi) Generate all possible pairs of book titles and author names. Consider only books whose author's name is Ray Henry.

```
SELECT title, name
```

```
FROM book CROSS JOIN author
```

```
WHERE author.name = 'Chetan Bhagat'
```

vii) Select each book's title, the name of its publishing house, the title of its adaptation, and the type of the adaptation.

```
SELECT book.title, book.publishing_house, adaptation.title, adaptation.type
```

```
FROM book RIGHT JOIN adaptation
```

```
ON book.id = adaptation.book_id
```

```
WHERE adaptation.type = 'movie'
```

viii) Show the title of each book and the name of its author — but only if the author was born in the 20th century. Otherwise, the author's name field should be NULL.

```
SELECT book.title, author.name
```

```
FROM book LEFT JOIN author  
ON book.author_id = author.id  
AND author.birth_year BETWEEN 1901 AND 2000
```

Consider the relation nobel (year, subject, winner, country, category) and execute the given queries(Aggregate/Group By/Having):

i) Show the total number of prizes awarded.

```
SELECT COUNT(winner) FROM nobel
```

ii) List each subject - just once

```
SELECT DISTINCT subject FROM nobel
```

iii) Show the total number of prizes awarded for Physics.

```
SELECT COUNT(*) FROM nobel WHERE subject='Physics'
```

iv) For each subject show the subject and the number of prizes.

```
SELECT subject, COUNT(*)
```

```
FROM nobel
```

```
GROUP BY subject
```

v) For each subject show the first year that the prize was awarded.

```
SELECT subject, MIN(yr) FROM nobel
```

```
GROUP BY subject
```

vi) For each subject show the number of prizes awarded in the year 2000.

```
SELECT subject, COUNT(winner)
```

```
FROM nobel
```

WHERE yr=2000

GROUP BY subject

vii) Show the number of different winners for each subject.

SELECT DISTINCT subject, COUNT(DISTINCT winner)

FROM nobel

GROUP BY subject

viii) For each subject show how many years have had prizes awarded.

SELECT subject, COUNT(DISTINCT yr)

FROM nobel

GROUP BY subject

ix) Show the years in which three prizes were given for Physics.

SELECT yr FROM nobel

WHERE subject='Physics'

GROUP BY yr

HAVING COUNT(yr)=3

x) Show winners who have won more than once.

SELECT winner FROM nobel

GROUP BY winner

HAVING COUNT(winner)>1

xi) Show winners who have won more than one subject.

SELECT winner FROM nobel

GROUP BY winner

HAVING COUNT(DISTINCT subject) > 1

xii) Show the year and subject where 3 prizes were given. Show only years 2000 onwards.

SELECT yr, subject FROM nobel

```
WHERE yr >= 2000  
GROUP BY yr, subject  
HAVING COUNT(DISTINCT winner)=3
```

Name-Saransh

Roll no – 102103077

Group - 2/CO3

PL/SQL

Assignment 1 PL/SQL

- 1) WAP to find the greatest of three numbers.

Ans:

```
3  declare
4    a number := 10; b number := 15; c number := 12;
5    bada number;
6  begin
7    bada := a;
8    if(b>bada) then
9      bada := b;
10   end if;
11   if(c>bada) then
12     bada := c;
13   end if;
14   dbms_output.put_line('greatest number is: '||bada);
15 end;
```

```
Statement processed.
greatest number is: 15
```

- 2) WAP to check whether number is odd or even.

Ans:

```
1 v declare
2   a number := 17;
3 v begin
4   if mod(a,2)=0 then
5     dbms_output.put_line('number is even');
6 v else
7   dbms_output.put_line('number is odd');
8 end if;
9 end;
```

```
Statement processed.
number is odd
```

3) WAP to find the grade. Consider the following: Marks > 80 A grade, Marks >70 B grade, Marks >50 C grade, Marks > 40 D grade, Marks < 40 E grade

Ans:

```
1 v declare
2   marks number := 72;
3   grade char(1);
4 v begin
5   if marks > 80 then
6     grade := 'A';
7 v elsif marks > 70 then
8   grade := 'B';
9 v elsif marks > 50 then
10  grade := 'C';
11 v elsif marks > 40 then
12  grade := 'D';
13 v elsif marks < 40 then
14  grade := 'E';
15 end if;
16 dbms_output.put_line('grade received: '||grade);
17 end;
```

```
Statement processed.
grade received: B
```

4) WAP to print the table of a given number.(use for loop)Ans:

```
1 v declare
2     a number := 15;
3     grade char(1);
4 v begin
5 dbms_output.put_line('table of ||a|| is: ');
6 v for i in 1..10 loop
7     dbms_output.put_line(a||' x ||i|| = '||a*i);
8 end loop;
9 end;
```

Statement processed.

table of 15 is:

15 x 1 = 15

15 x 2 = 30

15 x 3 = 45

15 x 4 = 60

15 x 5 = 75

15 x 6 = 90

15 x 7 = 105

15 x 8 = 120

15 x 9 = 135

5) WAP to find out the factorial of a given number.(use while

loop)Ans:

```
1 v declare
2     a number := 9;
3     fact number;
4     i number := 9;
5 v begin
6     fact := 1;
7 v while i>0 loop
8     fact := fact*i;
9     i := i-1;
10 end loop;
11 dbms_output.put_line('factorial of ||a|| is '||fact);
12 end;
```

Statement processed.

factorial of 9 is 362880

6) WAP to find out the Fibonacci series.

Ans:

```
1 v declare
2     a number := 0;
3     b number := 1;
4     c number;
5     n number := 7;
6 v begin
7     dbms_output.put_line('fibonacci series upto position'||n||':');
8     dbms_output.put_line(a);
9     dbms_output.put_line(b);
10 v for i in 3..n loop
11     c := a + b;
12     dbms_output.put_line(c);
13     a := b;
14     b := c;
15 end loop;
16 end;

Statement processed.
fibonacci series upto position 7:
0
1
1
2
3
5
8
```

7) WAP to find the reverse of a

numberAns:

```
1 v declare
2     n number := 243;
3     a number := n;
4     r number := 0;
5     re number;
6 v begin
7     while n>0 loop
8         re := mod(n,10);
9         r := r*10 + re;
10        n := trunc(n/10);
11    end loop;
12    dbms_output.put_line('reverse of'||a||' is'||r);
13 end;

Statement processed.
reverse of 243 is 342
```

8) Write PL/SQL block that performs addition (+), subtraction (-), multiplication (*) and division (/) of two numbers as choice by the user.

Ans:

```
1 v declare
2     m number := 33;
3     n number := 3;
4     op char(1) := '/';
5     re number;
6 v begin
7     case op
8         when '+' then
9             re := m+n;
10    when '-' then
11        re := m-n;
12    when '*' then
13        re := m*n;
14    when '/' then
15        re := m/n;
16 end case;
17 dbms_output.put_line('result ='||re);
18 end;
```

```
Statement processed.
result = 11
```

9) Write PL/SQL block to print 5, 10, 15,20 by using For Loop.

Ans:

```
1 v begin
2     for i in 1..4 loop
3         dbms_output.put_line(i*5);
4     end loop;
5 end;
```

```
Statement processed.
5
10
15
20
```

10) Write PI/SQL block to display welcome message like good morning, good afternoon, good night depending on system time.

Ans:

Current time while solving question : 6:58pm

```
1 v declare
2   h number;
3 v begin
4   h := to_number(to_char(sysdate,'HH24'));
5 v   if h>=6 and h<12 then
6     dbms_output.put_line('Good Morning');
7 v   elsif h>=12 and h<18 then
8     dbms_output.put_line('Good Afternoon');
9 v   else
10    dbms_output.put_line('Good Night');
11  end if;
12 end;
```

```
Statement processed.
Good Afternoon
```

Assignment 2 PL/SQL

1) Write a PL/SQL program to demonstrate following exceptions:

- Too Many Rows

Ans:

```
1 v DECLARE
2   n e.name%TYPE;
3   s e.salary%TYPE;
4 v BEGIN
5   SELECT name, salary INTO n, s
6   FROM e WHERE id = 5;
7
8   DBMS_OUTPUT.PUT_LINE('Employee Name: '||n);
9   DBMS_OUTPUT.PUT_LINE('Salary: '||s);
10 v EXCEPTION
11   WHEN TOO_MANY_ROWS THEN
12     DBMS_OUTPUT.PUT_LINE('More than one employee with this id');
13
14 v   WHEN NO_DATA_FOUND THEN
15     DBMS_OUTPUT.PUT_LINE('No employee with this id');
16   END;
```

```
Statement processed.
More than one employee with this id
```

- No Data Found

Ans:

```
1 v DECLARE
2   n e.name%TYPE;
3   s e.salary%TYPE;
4 v BEGIN
5   SELECT name, salary INTO n, s
6   FROM e WHERE id = 8;
7
8   DBMS_OUTPUT.PUT_LINE('Employee Name: '||n);
9   DBMS_OUTPUT.PUT_LINE('Salary: '||s);
10 v EXCEPTION
11   WHEN TOO_MANY_ROWS THEN
12     DBMS_OUTPUT.PUT_LINE('More than one employee with this id');
13
14 v   WHEN NO_DATA_FOUND THEN
15     DBMS_OUTPUT.PUT_LINE('No employee with this id');
16   END;
```

```
Statement processed.
No employee with this id
```

2) Write a PL/SQL code to display a message to check whether record is deleted or not.

Ans:

```
1 v DECLARE
2     r NUMBER;
3 v BEGIN
4     DELETE FROM e WHERE id = 9;
5
6     r := SQL%ROWCOUNT;
7 v     IF r > 0 THEN
8         DBMS_OUTPUT.PUT_LINE('Employee with id 9 is deleted');
9 v     ELSE
10        DBMS_OUTPUT.PUT_LINE('No employee with that id found');
11    END IF;
12 END;
```

```
Statement processed.
Employee with id 9 is deleted
```

3) Write a PL/SQL code to display a message to provide the information about the number of records deleted by the delete statement issued in a PL/SQL block.

Ans:

```
1 v DECLARE
2     j e.job%TYPE := 'Manager';
3     r NUMBER;
4 v BEGIN
5     DELETE FROM e WHERE job = 'Manager';
6
7     r := SQL%ROWCOUNT;
8     DBMS_OUTPUT.PUT_LINE('Number of records deleted successfully: '||r);
9 END;
```

```
Statement processed.
Number of records deleted successfully: 2
```

4) Write a PL/SQL code to demonstrate %TYPE and %ROWTYPE to display details of employees in EMP table.

Ans:

```
1 v DECLARE
2   empno EMP.empno%TYPE;
3   ename EMP.ename%TYPE;
4   record EMP%ROWTYPE;
5 v BEGIN
6   SELECT empno, ename
7     INTO empno, ename
8     FROM EMP
9    WHERE empno = 1004;
10
11  DBMS_OUTPUT.PUT_LINE('Details:');
12  DBMS_OUTPUT.PUT_LINE('Employee no: ' || empno||' Employee name: ' || ename);
13
14 v SELECT empno, ename
15   INTO empno, ename
16   FROM EMP
17  WHERE empno = 1002;
18
19  DBMS_OUTPUT.PUT_LINE('Details:');
20  DBMS_OUTPUT.PUT_LINE('Employee no: ' || empno||' Employee name: ' || ename);
21 END;
```

```
Statement processed.
Details:
Employee no: 1004 Employee name: Mary Brown
Details:
Employee no: 1002 Employee name: Jane Smith
```

5) Write a PL/SQL code to display the empno, ename, job of employees of department number 10 for EMP table (using Cursor).

Ans:

```
1 v DECLARE
2   CURSOR cursor IS
3     SELECT empno, ename, job
4       FROM EMP
5      WHERE deptno = 10;
6   empno EMP.empno%TYPE;
7   ename EMP.ename%TYPE;
8   job EMP.job%TYPE;
9 v BEGIN
10  OPEN cursor;
11 v LOOP
12    FETCH cursor INTO empno,ename,job;
13    EXIT WHEN cursor%NOTFOUND;
14    DBMS_OUTPUT.PUT_LINE('Employee No: ' || empno||' Name: ' || ename||' Job: ' || job);
15  END LOOP;
16  CLOSE cursor;
17 END;
```

```
Statement processed.
Employee No: 1001 Name: John Doe Job: Manager
Employee No: 1003 Name: Mark Johnson Job: Analyst
```

- 6) Write a PL/SQL code to display the employee number and name of top 5 highest paid Employees (using Cursor).

Ans :

```
1 v DECLARE
2   CURSOR cursor IS
3     SELECT empno, ename
4       FROM EMP
5      ORDER BY sal DESC
6      FETCH FIRST 5 ROWS ONLY;
7
8     empno EMP.empno%TYPE;
9     ename EMP.ename%TYPE;
10 v BEGIN
11   OPEN cursor;
12 v   LOOP
13   FETCH cursor INTO empno,ename;
14   EXIT WHEN cursor%NOTFOUND;
15   DBMS_OUTPUT.PUT_LINE('Employee No: ' || empno || ' Name: ' || ename);
16 END LOOP;
17 CLOSE cursor;
18 END;
```

```
Statement processed.
Employee No: 1001 Name: John Doe
Employee No: 1004 Name: Mary Brown
Employee No: 1002 Name: Jane Smith
Employee No: 1005 Name: Peter Lee
Employee No: 1003 Name: Mark Johnson
```

- 7) Write a PL/SQL code to calculate the total salary of first n records of emp table. The value of n is passed to cursor as parameter.

Ans :

```
1 v DECLARE
2   n NUMBER := 4;
3   total NUMBER := 0;
4
5   CURSOR cursor (l NUMBER) IS
6     SELECT *
7       FROM EMP
8      WHERE ROWNUM <= l;
9     record cursor%rowtype;
10 v BEGIN
11   OPEN cursor(n);
12 v   LOOP
13   FETCH cursor INTO record;
14   EXIT WHEN cursor%NOTFOUND;
15   total := total + record.sal;
16 END LOOP;
17 CLOSE cursor;
18 DBMS_OUTPUT.PUT_LINE('Total Salary of first ' ||n|| ' employees: ' || total);
19 END;
```

```
Statement processed.
Total Salary of first 4 employees: 17000
```

ASSIGNMENT 3 PL SQL

EMP(ENO,ENAME, JOB, SALARY, COMMISSION, DEPTNO).

Assume and create required tables with appropriate attributes, if any

Q1- Write a PL/SQL code of a local procedure that accepts two numbers and return its addition, subtraction, multiplication and division or in other words write procedure to return multiple values through parameters.

```
SQL> CREATE OR REPLACE PROCEDURE calculate (
 2      num1 IN NUMBER,
 3      num2 IN NUMBER,
 4      sum OUT NUMBER,
 5      diff OUT NUMBER,
 6      prod OUT NUMBER,
 7      quot OUT NUMBER
 8  ) AS
 9  BEGIN
10      sum := num1 + num2;
11      diff := num1 - num2;
12      prod := num1 * num2;
13
14      IF num2 = 0 THEN
15          quot := NULL;
16      ELSE
17          quot := num1 / num2;
18      END IF;
19  END;
20 /
```

Procedure created.

Q2 Write a PL/SQL code of a local procedure raise_salary, which accepts two parameters empid and bonus. It increases the salary of the employee by passed value of bonus and update it to the database.

```
SQL> CREATE OR REPLACE PROCEDURE raise_salary (
 2      empid IN EMP.empid%TYPE,
 3      bonus IN EMP.bonus%TYPE
 4  ) AS
 5      salary EMP.salary%TYPE;
 6  BEGIN
 7      SELECT salary INTO salary
 8      FROM EMP
 9      WHERE empid = empid;
10
11      salary := salary + bonus;
12
13      UPDATE EMP
14      SET salary = salary + bonus
15      WHERE empid = empid;
16
17      DBMS_OUTPUT.PUT_LINE('Salary updated for Employee ID ' || empid || '. New salary is ' || salary);
18  END;
19 /
```

Warning: Procedure created with compilation errors.

employee to
also call this

```
SQL> CREATE OR REPLACE PROCEDURE fire_employee (
 2      empid IN EMP.empid%TYPE
 3  ) AS
 4  BEGIN
 5      DELETE FROM EMP
 6      WHERE empid = empid;
 7
 8      DBMS_OUTPUT.PUT_LINE('Employee with ID ' || empid || ' has been fired.');
 9  END;
```

```
SQL> EXECUTE fire_employee(123);
BEGIN fire_employee(123); END;
```

Q4 Write a PL/SQL code to write local function to return total number of employees in EMP table.

```
SQL> CREATE OR REPLACE FUNCTION total_employees
  2  RETURN NUMBER
  3  IS
  4    total_emp_count NUMBER;
  5  BEGIN
  6    SELECT COUNT(*) INTO total_emp_count FROM EMP;
  7    RETURN total_emp_count;
  8  END;
  9  /
```

Q5 Write a PL/SQL code to create a stored function to add two numbers. Call this stored function.

```
SQL> CREATE OR REPLACE FUNCTION add_numbers(x NUMBER, y NUMBER)
  2  RETURN NUMBER
  3  IS
  4    sum NUMBER;
  5  BEGIN
  6    sum := x + y;
  7    RETURN sum;
  8  END;
  9
10  -- Call the stored function
11  SELECT add_numbers(10, 20) FROM DUAL;
12  /
```

Q6 Write stored function to return the number of records updated by Update statement and call this function from a block. Also Write a local function for the same.

```
SQL> CREATE OR REPLACE FUNCTION count_updated_records(table_name IN VARCHAR2, column_name IN VARCHAR2, old_value IN VARCHAR2, new_value IN VARCHAR2)
  2  RETURN NUMBER
  3  IS
  4    num_updated NUMBER := 0;
  5  BEGIN
  6    EXECUTE IMMEDIATE 'UPDATE ' || table_name || ' SET ' || column_name || ' = ' || new_value || ' WHERE ' || column_name || ' = ' || old_value
  7    RETURNING COUNT(*) INTO num_updated;
  8
  9    RETURN num_updated;
 10  END;
 11
 12  -- Call the stored function
 13  DECLARE
 14    num_records_updated NUMBER;
 15  BEGIN
 16    num_records_updated := count_updated_records('EMP', 'SALARY', '5000', '6000');
 17    DBMS_OUTPUT.PUT_LINE('Number of records updated: ' || num_records_updated);
 18  END;
 19  /
```