

1. Create a table “Station” to store information about weather observation stations:

ID	Number	Primary key
CITY	CHAR(20)	
STATE	CHAR(2)	
LAT_N	Number	
LONG_W	Number	

ANS 1

```
CREATE TABLE STATION  
(ID INTEGER PRIMARY KEY,  
CITY CHAR(20),  
STATE CHAR(2),  
LAT_N REAL,  
LONG_W REAL);
```

The screenshot displays the Oracle Live SQL web interface. On the left, a sidebar contains navigation links: Home, SQL Worksheet (selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled 'SQL Worksheet' and shows a SQL script with six lines: 1. CREATE TABLE STATION, 2. (ID INTEGER PRIMARY KEY, 3. CITY CHAR(20), 4. STATE CHAR(2), 5. LAT_N REAL, 6. LONG_W REAL);. Below the script, a status message reads 'Table created.' The top of the interface includes a 'Live SQL' header, user information (prashantdev34@gmail.com), and a 'Run' button. The footer contains version information: '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 a note about being built with Oracle APEX.

2. Insert the following records into the table:

ID	CITY	STATE	LAT_N	LONG_W
13	PHOENIX	AZ	33	112
44	DENVER	CO	40	105
66	CARIBOU	ME	47	68

ANS 2

INSERT INTO STATION VALUES (13, 'Phoenix', 'AZ', 33, 112);

INSERT INTO STATION VALUES (44, 'Denver', 'CO', 40, 105);

INSERT INTO STATION VALUES (66, 'Caribou', 'ME', 47, 68);

Live SQL

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Home

SQL Worksheet

My Session

Previous Sessions

Previously Viewed

Utilization

NLS

Schema

Quick SQL

My Scripts

My Session

Table created.

Statement 2

INSERT INTO STATION VALUES (13, 'Phoenix', 'AZ', 33, 112)

1 row(s) inserted.

Statement 3

INSERT INTO STATION VALUES (44, 'Denver', 'CO', 40, 105)

1 row(s) inserted.

Statement 4

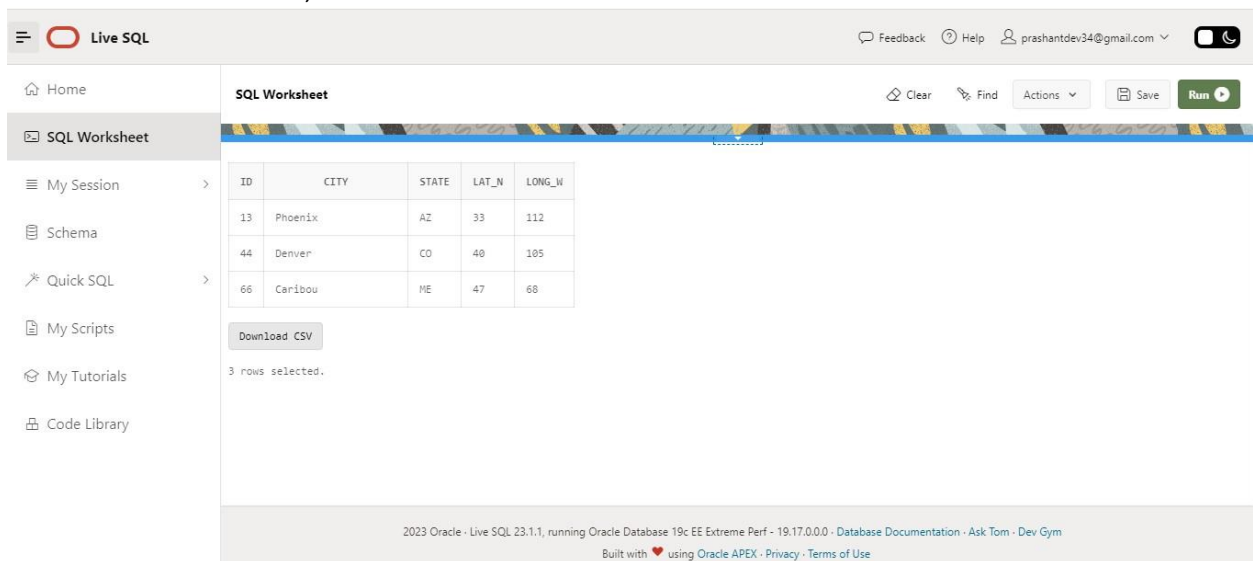
INSERT INTO STATION VALUES (66, 'Caribou', 'ME', 47, 68)

1 row(s) inserted.

3. Execute a query to look at table STATION in undefined order.

ANS 3

SELECT * FROM STATION;



The screenshot shows the Live SQL web interface. On the left is a sidebar with navigation links: 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 a table with 5 columns: ID, CITY, STATE, LAT_N, and LONG_W. The table displays 3 rows of data. Below the table is a "Download CSV" button and the text "3 rows selected." The top of the interface includes a header with the Live SQL logo, user information (prashantdev34@gmail.com), and navigation links (Feedback, Help). The bottom of the interface has a footer with version information and links to Database Documentation, Ask Tom, Dev Gym, and terms of use.

ID	CITY	STATE	LAT_N	LONG_W
13	Phoenix	AZ	33	112
44	Denver	CO	40	105
66	Caribou	ME	47	68

Download CSV

3 rows selected.

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4. Execute a query to select Northern stations (Northern latitude >39.7).

ANS 4

The screenshot shows the Oracle Live SQL web interface. The top navigation bar includes a hamburger menu, the 'Live SQL' logo, and links for Feedback, Help, and a user profile (prashantdev34@gmail.com). A sidebar on the left contains links to Home, SQL Worksheet (active), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled 'SQL Worksheet' and contains a query editor with two lines of SQL: '1 SELECT * FROM STATION' and '2 WHERE LAT_N > 39.7;'. To the right of the editor are buttons for Clear, Find, Actions, Save, and a green Run button. Below the editor, a table displays the results of the query. The table has five columns: ID, CITY, STATE, LAT_N, and LONG_W. It contains two rows of data: one for Denver, CO with LAT_N 40 and LONG_W 105, and another for Caribou, ME with LAT_N 47 and LONG_W 68. A 'Download CSV' button is located below the table. At the bottom of the interface, a footer provides version information and links to documentation and terms of use.

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SQL Worksheet

Clear Find Actions Save Run

```
1 SELECT * FROM STATION
2 WHERE LAT_N > 39.7;
```

ID	CITY	STATE	LAT_N	LONG_W
44	Denver	CO	40	105
66	Caribou	ME	47	68

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5. Create another table, 'STATS', to store normalized temperature and precipitation data:

Column	Data type	Remark
ID	Number	must match some STATION table ID(so name & location will be known).
MONTH	Number	Range between 1 and 12
TEMP_F	Number	in Fahrenheit degrees,Range between -80 and 150
RAIN_I	Number	in inches, Range between 0 and 100

There will be no Duplicate ID and MONTH combination.

ANS 5

Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

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```
1 CREATE TABLE STATS
2 (ID INTEGER REFERENCES STATION(ID),
3  MONTH INTEGER CHECK (MONTH BETWEEN 1 AND 12),
4  TEMP_F REAL CHECK (TEMP_F BETWEEN -80 AND 150),
5  RAIN_I REAL CHECK (RAIN_I BETWEEN 0 AND 100),
6  PRIMARY KEY (ID, MONTH));
```

Table created.

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6. Populate the table STATS with some statistics for January and July:

ID	MONTH	TEMP_F	RAIN_I
13	1	57.4	.31
13	7	91.7	5.15
44	1	27.3	.18
44	7	74.8	2.11
66	1	6.7	2.1
66	7	65.8	4.52

ANS 6

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Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

1 SELECT * FROM STATS;

ID	MONTH	TEMP_F	RAIN_I
13	1	57.4	.31
13	7	91.7	5.15
44	1	27.3	.18
44	7	74.8	2.11
66	1	6.7	2.1
66	7	65.8	4.52

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7. Execute a query to display temperature stats (from STATS table) for each city (from Station table).

ANS 7

The screenshot shows the Live SQL web application interface. On the left is a sidebar with navigation links: 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 a query editor with two lines of SQL code:

```
1 SELECT * FROM STATION, STATS
2 WHERE STATION.ID = STATS.ID;
```

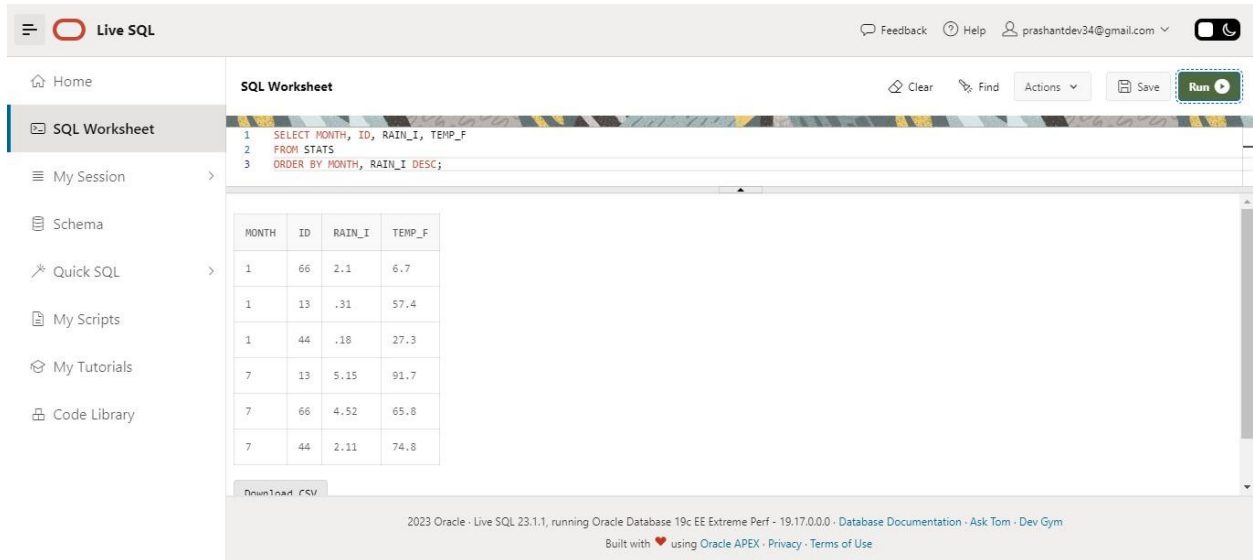
Below the editor is a table displaying the results of the query. The table has columns: ID, CITY, STATE, LAT_N, LONG_W, ID, MONTH, TEMP_F, and RAIN_I. The data is as follows:

ID	CITY	STATE	LAT_N	LONG_W	ID	MONTH	TEMP_F	RAIN_I
13	Phoenix	AZ	33	112	13	1	57.4	.31
13	Phoenix	AZ	33	112	13	7	91.7	5.15
44	Denver	CO	40	105	44	1	27.3	.18
44	Denver	CO	40	105	44	7	74.8	2.11
66	Caribou	ME	47	68	66	1	6.7	2.1
66	Caribou	ME	47	68	66	7	65.8	4.52

At the bottom of the interface, there is a footer with 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'.

8. Execute a query to look at the table STATS, ordered by month and greatest rainfall, with columns rearranged. It should also show the corresponding cities.

ANS 8



The screenshot shows the Oracle Live SQL interface. The top navigation bar includes a hamburger menu, the 'Live SQL' logo, and links for Feedback, Help, and a user profile (prashantdev34@gmail.com). A sidebar on the left contains links to 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 a query editor with the following SQL code:

```
1 SELECT MONTH, ID, RAIN_I, TEMP_F
2 FROM STATS
3 ORDER BY MONTH, RAIN_I DESC;
```

Below the query editor, the results are displayed in a table with the following data:

MONTH	ID	RAIN_I	TEMP_F
1	66	2.1	6.7
1	13	.31	57.4
1	44	.18	27.3
7	13	5.15	91.7
7	66	4.52	65.8
7	44	2.11	74.8

At the bottom of the interface, there is a footer with 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'.

9. Execute a query to look at temperatures for July from table STATS, lowest temperatures first, picking up city name and latitude.

ANS 9

The screenshot shows the Oracle Live SQL web interface. On the left is a sidebar with navigation links: 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 a text editor with the following SQL query:

```
1 SELECT LAT_N, CITY, TEMP_F
2 FROM STATS, STATION
3 WHERE MONTH = 7
4 AND STATS.ID = STATION.ID
5 ORDER BY TEMP_F;
```

Below the editor, the query results are displayed in a table with three columns: LAT_N, CITY, and TEMP_F. The results are sorted by temperature in ascending order.

LAT_N	CITY	TEMP_F
47	Caribou	65.8
48	Denver	74.8
33	Phoenix	91.7

Below the table is a 'Download CSV' button and the text '3 rows selected.' At the bottom of the interface, a footer contains version information and links to documentation and support.

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10. Execute a query to show MAX and MIN temperatures as well as average rainfall for each city.

ANS 10

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Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

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```
1 SELECT MAX(TEMP_F), MIN(TEMP_F), AVG(RAIN_I), ID
2 FROM STATS
3 GROUP BY ID;
```

MAX(TEMP_F)	MIN(TEMP_F)	AVG(RAIN_I)	ID
74.8	27.3	1.145	44
65.8	6.7	3.31	66
91.7	57.4	2.73	13

Download CSV

3 rows selected.

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ANS 11

[illegible]

12. Update all rows of table STATS to compensate for faulty rain gauges known to read 0.01 inches low.

ANS 12

UPDATE STATS SET RAIN_I = RAIN_I + 0.01;

The screenshot shows the Oracle Live SQL interface. The top navigation bar includes a hamburger menu, the 'Live SQL' logo, and links for Feedback, Help, and a user profile (prashantdev34@gmail.com). The left sidebar contains navigation links: 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 a text editor with the SQL statement 'SELECT * FROM STATS;'. Below the editor is a table with the following data:

ID	MONTH	TEMP_F	RAIN_I
13	1	57.4	.32
13	7	91.7	5.16
44	1	27.3	.19
44	7	74.8	2.12
66	1	6.7	2.11
66	7	65.8	4.53

Below the table is a 'Download CSV' button. The footer contains 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'.

13. Update Denver's July temperature reading as 74.9

ANS 13

UPDATE STATS SET TEMP_F = 74.9

WHERE ID = 44

AND MONTH = 7;

The screenshot shows the Oracle Live SQL interface. On the left is a sidebar with navigation links: 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 a table with 4 columns: ID, MONTH, TEMP_F, and RAIN_I. The table has 6 rows. The row with ID 44, MONTH 7, TEMP_F 74.9, and RAIN_I 2.12 is highlighted in yellow. Below the table is a 'Download CSV' button and the text '6 rows selected.' At the bottom of the interface, there is a footer with version information and links to documentation and terms of use.

ID	MONTH	TEMP_F	RAIN_I
13	1	57.4	.32
13	7	91.7	5.16
44	1	27.3	.19
44	7	74.9	2.12
66	1	6.7	2.11
66	7	65.8	4.53

Download CSV

6 rows selected.

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