

Q 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:

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```
1 CREATE TABLE STATION
2 (ID INTEGER PRIMARY KEY,
3 CITY CHAR(20),
4 STATE CHAR(2),
5 LAT_N NUMBER,
6 LONG_W NUMBER);
```

Table created.

Q2. 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.

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```
1 INSERT INTO STATION VALUES(13,'PHOENIX','AZ',33,112);
2 INSERT INTO STATION VALUES(44,'DENVER','CO',40,105);
3 INSERT INTO STATION VALUES(66,'CARIBOU','ME',47,68);
```

1 row(s) inserted.
1 row(s) inserted.
1 row(s) inserted.

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

Ans.

The screenshot shows the Live SQL interface. The query entered is `SELECT * FROM STATION;`. The results are displayed in a table with the following data:

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

A "Download CSV" button is visible below the table.

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

Ans.

The screenshot shows the Live SQL interface. The query entered is `SELECT * FROM STATION WHERE LAT_N > 39.7;`. The results are displayed in a table with the following data:

ID	CITY	STATE	LAT_N	LONG_W
44	DENVER	CO	40	105
66	CARIBOU	ME	47	68

A "Download CSV" button is visible below the table. Below the table, it says "2 rows selected."

Q 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.

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```
1 CREATE TABLE STATES
2 (ID INTEGER REFERENCES STATION(ID),
3  MONTH NUMBER 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.

Q 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.

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```
1 INSERT INTO STATS VALUES (13, 1, 57.4, 0.31);
2 INSERT INTO STATS VALUES (13, 7, 91.7, 5.15);
3 INSERT INTO STATS VALUES (44, 1, 27.3, 0.18);
4 INSERT INTO STATS VALUES (44, 7, 74.8, 2.11);
5 INSERT INTO STATS VALUES (66, 1, 6.7, 2.10);
6 INSERT INTO STATS VALUES (66, 7, 65.8, 4.52);
```

1 row(s) inserted.  
1 row(s) inserted.  
1 row(s) inserted.  
1 row(s) inserted.  
1 row(s) inserted.  
1 row(s) inserted.

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

Ans.

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

```
1 SELECT CITY, TEMP_F
2 FROM STATION, STATS
3 ORDER BY CITY
```

The result is displayed in a table with two columns: CITY and TEMP\_F.

CITY	TEMP_F
Caribou	74.8
Caribou	6.7
Caribou	27.3
Caribou	91.7
Caribou	57.4
Caribou	65.8
Denver	91.7
Denver	57.4

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

Ans.

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

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

The result is displayed in a table with four columns: MONTH, ID, RAIN\_I, and TEMP\_F.

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

Download CSV

6 rows selected

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

Ans:

The screenshot shows the Live SQL interface. The SQL Worksheet contains the following 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;
```

The result is a table with 3 rows selected:

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

Buttons for 'Download CSV' and 'Run' are visible.

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

Ans.

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

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

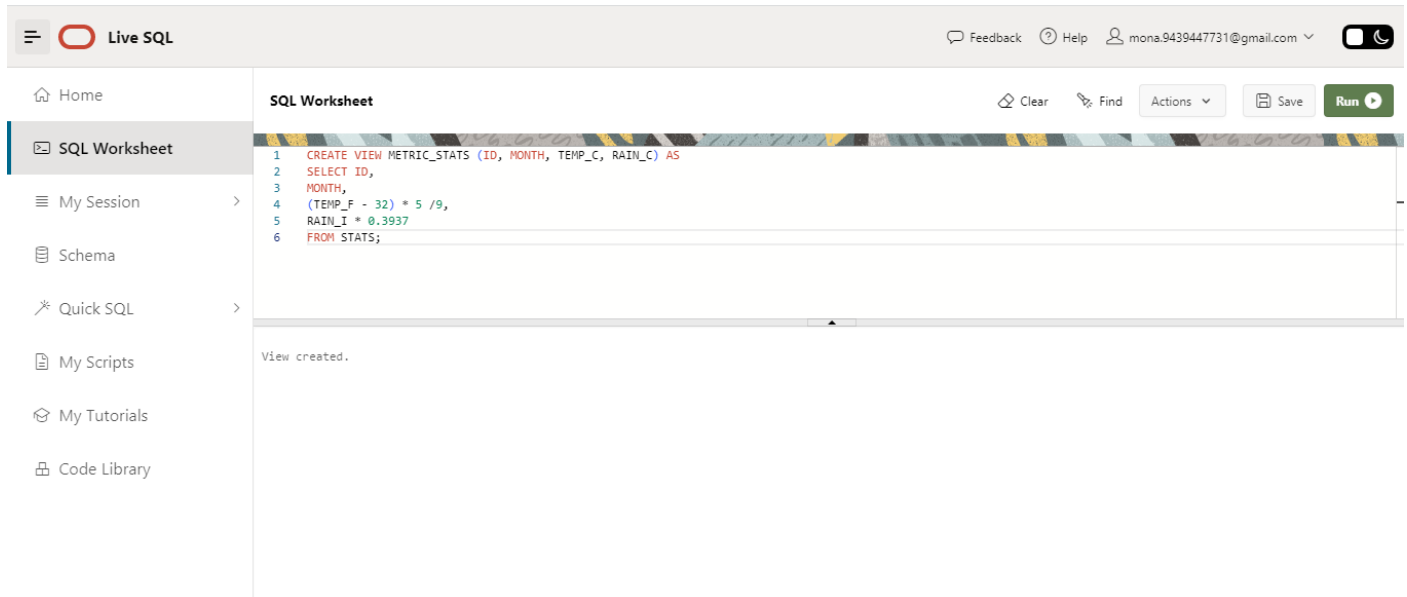
The result is a table with 3 rows selected:

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

Buttons for 'Download CSV' and 'Run' are visible.

Q 11. Execute a query to display each city's monthly temperature in Celsius and rainfall in centimeter.

Ans.



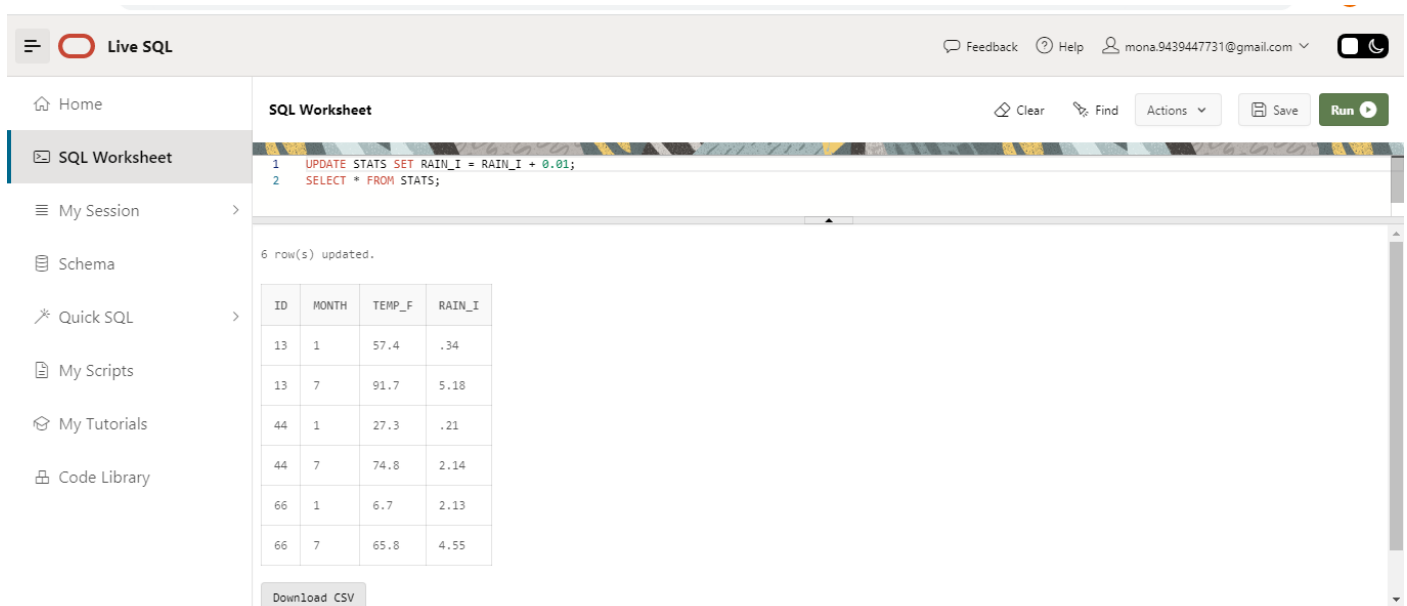
The screenshot shows the Live SQL interface. The left sidebar contains navigation links: Home, SQL Worksheet (selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet" and contains a SQL query:

```
1 CREATE VIEW METRIC_STATS (ID, MONTH, TEMP_C, RAIN_C) AS
2 SELECT ID,
3 MONTH,
4 (TEMP_F - 32) * 5 / 9,
5 RAIN_I * 0.3937
6 FROM STATS;
```

Below the query, the output shows "View created." The top right of the interface includes links for Feedback, Help, a user profile (mona.9439447731@gmail.com), and a dark mode toggle.

Q12. Update all rows of table STATS to compensate for faulty rain gauges known to read 0.01 inches low.

Ans.



The screenshot shows the Live SQL interface with the same sidebar as the previous image. The main area is titled "SQL Worksheet" and contains a SQL query:

```
1 UPDATE STATS SET RAIN_I = RAIN_I + 0.01;
2 SELECT * FROM STATS;
```

Below the query, the output shows "6 row(s) updated." followed by a table of data:

ID	MONTH	TEMP_F	RAIN_I
13	1	57.4	.34
13	7	91.7	5.18
44	1	27.3	.21
44	7	74.8	2.14
66	1	6.7	2.13
66	7	65.8	4.55

At the bottom of the output area, there is a "Download CSV" button. The top right of the interface includes links for Feedback, Help, a user profile (mona.9439447731@gmail.com), and a dark mode toggle.

Q13.Update Denver's July temperature reading as 74.9

Ans.

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```
1 UPDATE STATS SET TEMP_F = 74.9
2 WHERE ID = 44
3 AND MONTH=7;
4 SELECT * FROM STATS;
```

1 row(s) updated.

ID	MONTH	TEMP_F	RAIN_I
13	1	57.4	.34
13	7	91.7	5.18
44	1	27.3	.21
44	7	74.9	2.14
66	1	6.7	2.13
66	7	65.8	4.55