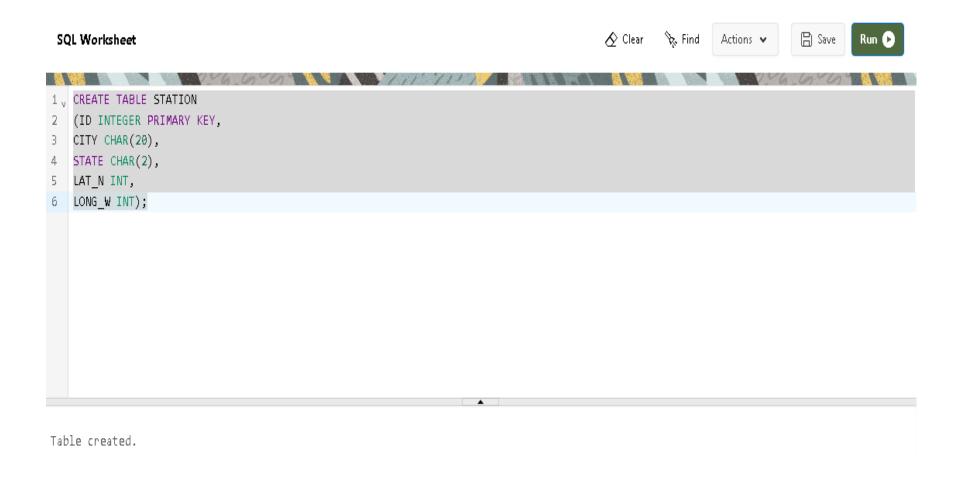
SQL Major Assignment

Answers

1. Create a table "Station" to store information about weather observation stations



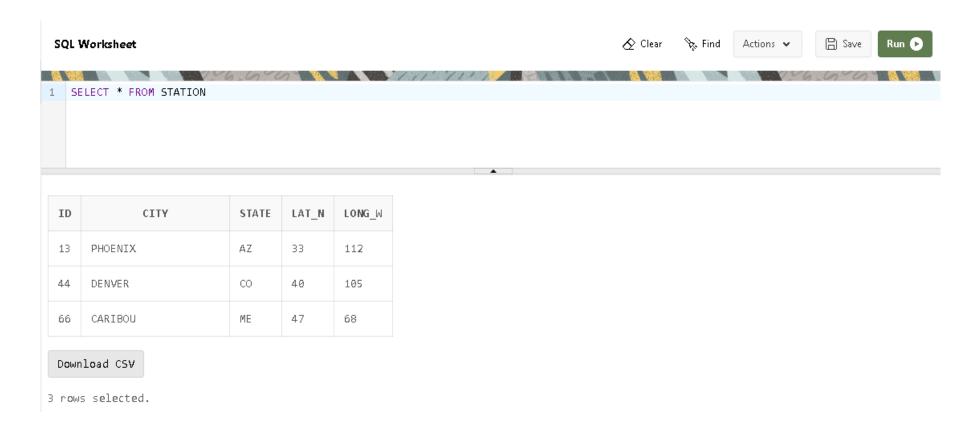
2. Insert the following records into the table:

```
🦙 Find

    Clear

 SQL Worksheet
                                                                                                                     Actions 🗸
   INSERT INTO STATION (ID, CITY,STATE, LAT_N,LONG_W)
   VALUES(13, 'PHOENIX', 'AZ', 33, 112);
3 J INSERT INTO STATION (ID, CITY, STATE, LAT_N, LONG_W)
   VALUES(44, 'DENVER', 'CO', 40, 105);
5 J INSERT INTO STATION (ID, CITY, STATE, LAT N, LONG W)
   VALUES(66, 'CARIBOU', 'ME', 47, 68);
1 row(s) inserted.
1 row(s) inserted.
1 row(s) inserted.
```

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



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



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

Download CSV

2 rows selected.

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

```
SQL Worksheet
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),
 PRIMARY KEY (ID, MONTH));
Table created.
```

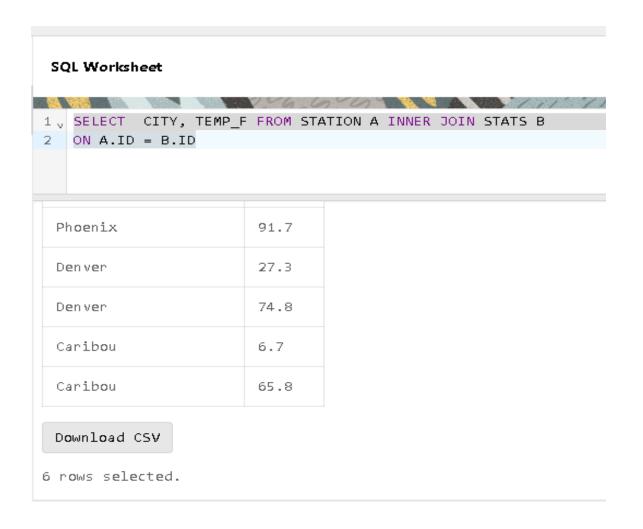
6. Populate the table STATS with some statistics for January and July

```
🐎 Find

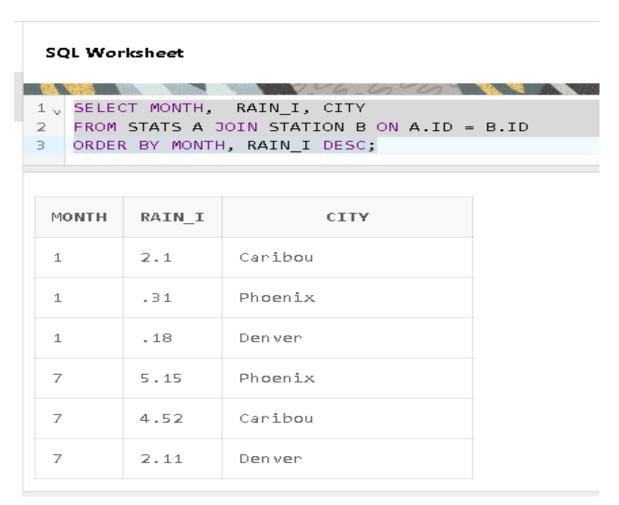
    Clear

                                                                                                                   Actions 🗸
                                                                                                                                 □ Save
 SQL Worksheet
1  INSERT INTO STATS(ID, "MONTH", TEMP_F, RAIN_I)
    VALUES(13,1,57.4,31);
3 , INSERT INTO STATS(ID, "MONTH", TEMP F, RAIN I)
    VALUES(13,7,91.7,5.15);
5 \ INSERT INTO STATS(ID, "MONTH", TEMP_F, RAIN_I)
    VALUES(44,1,27.3,.18);
7 \ INSERT INTO STATS(ID, "MONTH", TEMP_F, RAIN_I)
    VALUES(44,7,74.8,2.11);
9 INSERT INTO STATS(ID, "MONTH", TEMP F, RAIN I)
    VALUES(66,1,6.7,2.1);
10
11  INSERT INTO STATS(ID, "MONTH", TEMP_F, RAIN_I)
    VALUES(66,7,65.8,4.52);
1 row(s) inserted.
1 row(s) inserted.
1 row(s) inserted.
1 row(s) inserted.
```

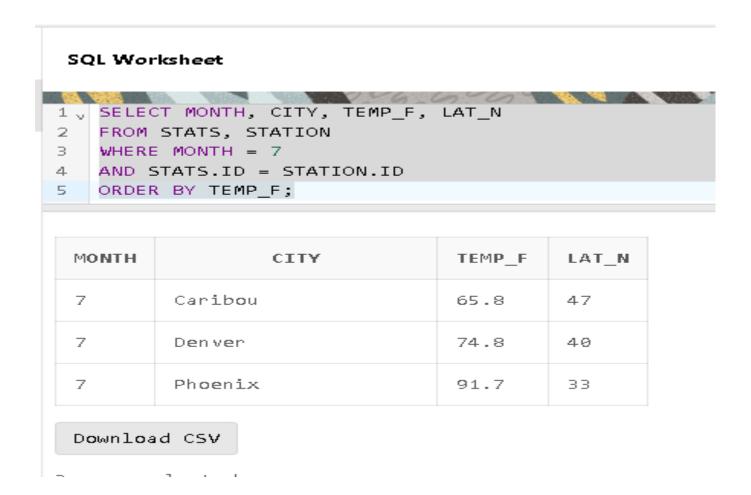
7. Execute a query to display temperature stats (from STATS table) for each city (from Station table).



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.



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



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

SQL Worksheet

```
1  SELECT CITY, MAX(TEMP_F), MIN(TEMP_F), AVG(RAIN_I)
2  FROM STATS A JOIN STATION B
3  ON A.ID = B.ID
4  GROUP BY CITY.
```

CITY	MAX(TEMP_F)	MIN(TEMP_F)	AVG(RAIN_I)
Caribou	65.8	6.7	3.31
Denver	74.8	27.3	1.145
Phoenix	91.7	57.4	2.73

Download CSV

3 rows selected.

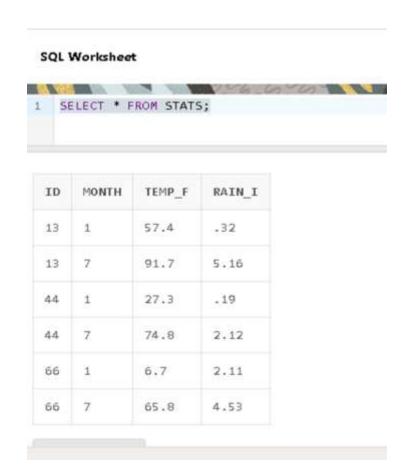
11. Execute a query to display each city's monthly temperature in Celcius and rainfall in Centimeter.

SQL Worksheet

CITY	TEM_C	RAIN_CM
Phoenix	14.111111111111111111111111111111111111	.7874
Phoenix	33.16666666666666666666666666666666	13.081
Denver	-2.6111111111111111111111111111111111111	.4572
Denver	23.77777777777777777777777777777777	5.3594
Caribou	-14.0555555555555555555555555555555	5.334
Caribou	18.77777777777777777777777777777777	11.4808

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





13. Update Denver's July temperature reading as 74.9





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