

Live SQL

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SQL Worksheet

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```
--Create a table "Station"
1
2
3
4 CREATE TABLE Station (
5   ID NUMBER PRIMARY KEY,
6   CITY CHAR(20),
7   STATE CHAR(2),
8   LAT_N NUMBER,
9   LONG_W NUMBER
10 );
11
```

Table created.

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```
12
13
14 Insert the following records into the table */
15
16
17 INSERT INTO Station (ID, CITY, STATE, LAT_N, LONG_W)
18 VALUES (13, 'PHOENIX', 'AZ', 33, 112);
19
20 INSERT INTO Station (ID, CITY, STATE, LAT_N, LONG_W)
21 VALUES (44, 'DENVER', 'CO', 40, 105);
22
23 INSERT INTO Station (ID, CITY, STATE, LAT_N, LONG_W)
24 VALUES (66, 'CARIBOU', 'ME', 47, 68);
25
26
```

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

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```
22
23 INSERT INTO Station (ID, CITY, STATE, LAT_N, LONG_W)
24 VALUES (66, 'CARIBOU', 'ME', 47, 68);
25
26
27
28
29 Execute a query to look at table STATION in undefined order */
30
31
32 SELECT * FROM Station;
33
34
35
```

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

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28 Execute a query to look at table STATION in undefined order

29

30

31 SELECT * FROM Station;

32

33

34

35 Execute a query to select Northern stations (Northern latitude > 39.7) */

36

37

38

39 SELECT * FROM Station WHERE LAT_N > 39.7;

40

41

42

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

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42

43 Create another table , 'STATS' */

44

45

46 CREATE TABLE STATS (

47 ID NUMBER,

48 MONTH NUMBER CHECK (MONTH BETWEEN 1 AND 12),

49 TEMP_F NUMBER CHECK (TEMP_F BETWEEN -80 AND 150),

50 RAIN_I NUMBER CHECK (RAIN_I BETWEEN 0 AND 100),

51 CONSTRAINT PK_STATS PRIMARY KEY (ID, MONTH),

52 CONSTRAINT FK_STATS_STATION FOREIGN KEY (ID) REFERENCES Station(ID)

53);

54

55

Table created.

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57 Populate the table STATS */

58

59 INSERT INTO STATS (ID, MONTH, TEMP_F, RAIN_I)

60 VALUES (13, 1, 57.4, 0.31);

61

62 INSERT INTO STATS (ID, MONTH, TEMP_F, RAIN_I)

63 VALUES (13, 7, 91.7, 5.15);

64

65 INSERT INTO STATS (ID, MONTH, TEMP_F, RAIN_I)

66 VALUES (44, 1, 27.3, 0.18);

67

68 INSERT INTO STATS (ID, MONTH, TEMP_F, RAIN_I)

69 VALUES (44, 7, 74.8, 2.11);

70

71 INSERT INTO STATS (ID, MONTH, TEMP_F, RAIN_I)

72 VALUES (66, 1, 6.7, 2.1);

73

74 INSERT INTO STATS (ID, MONTH, TEMP_F, RAIN_I)

75 VALUES (66, 7, 65.8, 4.52);

76

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

```
75 VALUES (66, 7, 65.8, 4.52);
76
77
78
79 Execute a query to display temperature stats (from STATS table) for each city (from Station table) */
80
81
82 SELECT s.CITY, AVG(st.TEMP_F) AS AVG_TEMPERATURE, MAX(st.TEMP_F) AS MAX_TEMPERATURE, MIN(st.TEMP_F) AS MIN_TEMPERATURE
83 FROM Station s
84 JOIN STATS st ON s.ID = st.ID
85 GROUP BY s.CITY;
86
87
88
89
90
```

CITY	AVG_TEMPERATURE	MAX_TEMPERATURE	MIN_TEMPERATURE
CARIBOU	36.25	65.8	6.7
DENVER	51.05	74.8	27.3
PHOENIX	74.55	91.7	57.4

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```
87
88
89 Execute a query to look at the table STATS */
90
91
92 SELECT st.MONTH, st.RAIN_I, st.ID, st.TEMP_F, s.CITY
93 FROM STATS st
94 JOIN Station s ON st.ID = s.ID
95 ORDER BY st.MONTH, st.RAIN_I DESC;
96
97
98
```

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

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```
98
99
100 Execute a query to look at temperatures for July from table STATS , lowest temperatures first , picking up city name and latitude */
101
102
103 SELECT s.CITY, s.LAT_N, st.TEMP_F
104 FROM STATS st
105 JOIN Station s ON st.ID = s.ID
106 WHERE st.MONTH = 7
107 ORDER BY st.TEMP_F ASC;
108
109
```

CITY	LAT_N	TEMP_F
CARIBOU	47	65.8
DENVER	40	74.8
PHOENIX	33	91.7

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```
108
109
110
111 Execute a query to show MAX and MIN temperatures as well as average rainfall for each city */
112
113
114 SELECT s.CITY, MAX(st.TEMP_F) AS MAX_TEMPERATURE, MIN(st.TEMP_F) AS MIN_TEMPERATURE, AVG(st.RAIN_I) AS AVG_RAINFALL
115 FROM STATS st
116 JOIN Station s ON st.ID = s.ID
117 GROUP BY s.CITY;
118
119
```

CITY	MAX_TEMPERATURE	MIN_TEMPERATURE	AVG_RAINFALL
CARIBOU	65.8	6.7	3.31
DENVER	74.8	27.3	1.145
PHOENIX	91.7	57.4	2.73

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```
117 GROUP BY s.CITY;
118
119
120 Execute a query to display each city's monthly temperature in Celcius and rainfall in Centimeter */
121
122
123 SELECT s.CITY, st.MONTH, ROUND((st.TEMP_F - 32) * 5/9, 2) AS TEMP_CELSIUS, ROUND(st.RAIN_I * 2.54, 2) AS RAIN_CM
124 FROM STATS st
125 JOIN Station s ON st.ID = s.ID;
126
127
128
```


CITY	MONTH	TEMP_CELSIUS	RAIN_CM
PHOENIX	1	14.11	.79
PHOENIX	7	33.17	13.08
DENVER	1	-2.61	.46
DENVER	7	23.78	5.36
CARIBOU	1	-14.06	5.33
CARIBOU	7	18.78	11.48

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```
124 FROM STATS st
125 JOIN Station s ON st.ID = s.ID;
126
127
128
129 Update all rows of table STATS to compensate for faulty rain gauges known to read 0.01 inches low */
130
131
132 UPDATE STATS
133 SET RAIN_I = RAIN_I + 0.01;
134
135
```


6 row(s) updated.


SQL Worksheet

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Actions ▾

 Save

 Run

```
134
135
136
137 Update DENVER's July temperature reading as 74.9 */
138
139
140 UPDATE STATS
141 SET TEMP_F = 74.9
142 WHERE ID = (SELECT ID FROM Station WHERE CITY = 'DENVER') AND MONTH = 7;
143
144
145
```

1 row(s) updated.