

# Assignment SQL(major)

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	

```
1  /*Create table station
2  (
3      ID Number(3),
4      City Char(20),
5      State Char(2),
6      Lat_N Number(4),
7      Long_W Number(4),
8      Primary Key(ID)
9  );*/
10
11 insert into station values (13,'PHOENIX','AZ',33,112);
12 insert into station values (44,'DENVER','CO',40,105);
13 insert into station values (66,'CARIBOU','ME',47,68);
```

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

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

```
11 insert into station values (13,'PHOENIX','AZ',33,112);
12 insert into station values (44,'DENVER','CO',40,105);
13 insert into station values (66,'CARIBOU','ME',47,68);
```

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

```
15 Select * from Station;
```

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

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

```
17 Select LAT_N as Northern_Stations from station
18 where LAT_N > 39.7;
```

NORTHERN_STATIONS
40
47

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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

```
--
20 Create table stats
21 (
22     ID Number(4),
23     Months Number(2),
24     TEMP_F Number(3),
25     RAIN_I Number(3),
26     foreign key (ID) References Station(ID)
27 );
```

Table created.

### 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

```
29 Insert into Stats values (13,1,57.4,.31);
30 Insert into Stats values (13,7,91.7,5.15);
31 Insert into Stats values (44,1,27.3,.18);
32 Insert into Stats values (44,7,74.8,2.11);
33 Insert into Stats values (66,1,6.7,2.1);
34 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.

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

```

38 Select s.City, st.Temp_f as temperature
39 from Station s
40 left join stats st
41 on s.ID = st.ID;

```

CITY	TEMPERATURE
PHOENIX	57
PHOENIX	92
DENVER	27
DENVER	75
CARIBOU	7
CARIBOU	66

**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.**

```

20 Select st.Month, st.Rain_I, sn.CITY from STATS st
21 inner join Station sn
22 on st.ID =sn.ID
23 order by Month;

```

MONTH	RAIN_I	CITY
1	.31	PHOENIX
1	.18	DENVER
1	2.1	CARIBOU
7	2.11	DENVER
7	4.52	PHOENIX
7	5.15	PHOENIX

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

```
25 Select st.Month, st.TEMP_F, sn.CITY, sn.LAT_N from Stats st
26 inner join station sn
27 on sn.ID = st.ID and st.month = 7
28 order by TEMP_F;
```

MONTH	TEMP_F	CITY	LAT_N
7	65.8	DENVER	40
7	65.8	PHOENIX	33
7	65.8	CARIBOU	47
7	74.8	PHOENIX	33
7	74.8	DENVER	40
7	74.8	CARIBOU	47
7	91.7	DENVER	40
7	91.7	PHOENIX	33
7	91.7	CARIBOU	47

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

```
--
30 Select max(TEMP_F), min(TEMP_F), SUM(RAIN_I)/3 as AVG_RAINFALL from stats;
31
32
```

MAX(TEMP_F)	MIN(TEMP_F)	AVG_RAINFALL
91.7	6.7	4.79

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

```
31 Select MONTH, RAIN_I, (TEMP_F-32)*5/9 as TEMP_IN_CELCIUS, RAIN_I*.03937 as RAIN_IN_CM from stats;
32
```

[illegible]

0 1 1 001

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

```
33 update stats set RAIN_I =RAIN_I+0.01;
34 Select * from stats;
35
```

```
5 row(s) updated.
```

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
13	7	65.8	4.53

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### 13. Update Denver's July temperature reading as 74.9

```
36 Update stats set TEMP_F = 74.9
37 where ID =44
38 AND MONTH=7;
39 Select * from Stats;
```

. row(s) updated.

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
13	7	65.8	4.53

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