●select * from stations;

```
+-----+----------------+-------+-------+-------+
| id  | city           | state | lat_n | lat_w |
+-----+----------------+-------+-------+-------+
|   1 | Phenoix        | AZ    |    37 |   114 |
|   2 | Nome           | AK    |    71 |   173 |
|   5 | Tempa          | FL    |    31 |    87 |
|   7 | Honolulu       | HI    | 22.14 |   160 |
|  11 | Houstan        | TX    |    36 |   105 |
|  13 | Long Island    | NY    |    45 |    79 |
|  20 | Boston         | MA    | 42.52 | 73.31 |
|  44 | Las Vegas      | NV    |    42 |   120 |
|  66 | San Jose       | CA    |    42 |   124 |
|  70 | Seattle        | WA    |    49 |   124 |
| 100 | Salt Lake city | UT    |    42 |   114 |
+-----+----------------+-------+-------+-------+
```
11 rows in set (0.000 sec)

●select * from stats;

```
+-----+-------+--------+--------+
| id  | month | temp_f | rain_i |
+-----+-------+--------+--------+
|  11 |     3 |   25.8 |   2.52 |
|  13 |     1 |   57.4 |   0.31 |
|  13 |     7 |   91.7 |   5.15 |
|  44 |     1 |   27.3 |   0.18 |
|  44 |     7 |   74.8 |   2.11 |
|  66 |     1 |    6.7 |    2.1 |
|  66 |     7 |   65.8 |   4.52 |
|  70 |     2 |  16.22 |   0.22 |
|  70 |     5 |   26.2 |   1.22 |
| 100 |     7 |  23.22 |   5.22 |
| 100 |    11 |  28.99 |   1.66 |
+-----+-------+--------+--------+
```
11 rows in set (0.000 sec)

Q1.
select max(temp_f),min(temp_f),avg(temp_f), max(rain_i), min(rain_i), avg(rain_i),id from stats group by id;

max(temp_f)	min(temp_f)	avg(temp_f)	max(rain_i)	min(rain_i)	avg(rain_i)	id
25.8	25.8	25.8	2.52	2.52	2.52	11
91.7	57.4	74.55	5.15	0.31	2.73	13
60.13	60.13	60.13	1.39	1.39	1.39	20
74.8	27.3	51.05	2.11	0.18	1.145	44
65.8	6.7	36.25	4.52	2.1	3.3099999999999996	66
26.2	16.22	21.21	1.22	0.22	0.72	70
28.99	23.22	26.104999999999997	5.22	1.66	3.44	100

7 rows in set (0.001 sec)

Q2.
Added new records to stations table.

select * from stations;
```
+-----+----------------+-------+-------+-------+---------+----------+
| id  | city           | state | lat_n | lat_w | country | zip_code |
+-----+----------------+-------+-------+-------+---------+----------+
|   1 | Phenoix        | AZ    |    37 |   114 | USA     |    85001 |
|   2 | Nome           | AK    |    71 |   173 | USA     |    99762 |
|   5 | Tempa          | FL    |    31 |    87 | USA     |    33601 |
|   7 | Honolulu       | HI    | 22.14 |   160 | USA     |    96795 |
|  11 | Houstan        | TX    |    36 |   105 | USA     |    77001 |
|  13 | Long Island    | NY    |    45 |    79 | USA     |    11101 |
|  20 | Boston         | MA    | 42.52 | 73.31 | USA     |     2101 |
|  21 | Agra           | DL    | 18.14 |    73 | India   |    71910 |
|  44 | Las Vegas      | NV    |    42 |   120 | USA     |    88901 |
|  45 | Mumbai         | MH    | 16.74 |   111 | India   |    45510 |
|  48 | London         | EN    | 33.24 |   114 | UK      |    92829 |
|  66 | San Jose       | CA    |    42 |   124 | USA     |    94088 |
|  70 | Seattle        | WA    |    49 |   124 | USA     |    98101 |
| 100 | Salt Lake city | UT    |    42 |   114 | USA     |    84044 |
| 112 | Pune           | MH    | 18.14 |    73 | NULL    |     NULL |
+-----+----------------+-------+-------+-------+---------+----------+
```
1) Restrict

1)**SELECT id, city, state FROM stations WHERE lat_n > 39.00;**
```
+-----+----------------+-------+
| id  | city           | state |
+-----+----------------+-------+
|   2 | Nome           | AK    |
|  13 | Long Island    | NY    |
|  20 | Boston         | MA    |
|  44 | Las Vegas      | NV    |
|  66 | San Jose       | CA    |
|  70 | Seattle        | WA    |
| 100 | Salt Lake city | UT    |
+-----+----------------+-------+
```
7 rows in set (0.000 sec)

select * from stations where city = 'San Jose';
```
+----+----------+-------+-------+-------+---------+----------+
| id | city     | state | lat_n | lat_w | country | zip_code |
+----+----------+-------+-------+-------+---------+----------+
| 66 | San Jose | CA    |    42 |   124 | USA     |    94088 |
+----+----------+-------+-------+-------+---------+----------+
```

select * from stations where lat_n > 42;

```
+----+-------------+-------+-------+-------+---------+----------+
| id | city        | state | lat_n | lat_w | country | zip_code |
+----+-------------+-------+-------+-------+---------+----------+
|  2 | Nome        | AK    |    71 |   173 | USA     |    99762 |
| 13 | Long Island | NY    |    45 |    79 | USA     |    11101 |
| 20 | Boston      | MA    | 42.52 | 73.31 | USA     |     2101 |
| 70 | Seattle     | WA    |    49 |   124 | USA     |    98101 |
+----+-------------+-------+-------+-------+---------+----------+
```

select * from stations where city LIKE 'S%';

```
+-----+----------------+-------+-------+-------+---------+----------+
| id  | city           | state | lat_n | lat_w | country | zip_code |
+-----+----------------+-------+-------+-------+---------+----------+
|  66 | San Jose       | CA    |    42 |   124 | USA     |    94088 |
|  70 | Seattle        | WA    |    49 |   124 | USA     |    98101 |
| 100 | Salt Lake city | UT    |    42 |   114 | USA     |    84044 |
+-----+----------------+-------+-------+-------+---------+----------+
```
3 rows in set (0.000 sec)

 select * from stations order by city;

```
+-----+----------------+-------+-------+-------+---------+----------+
| id  | city           | state | lat_n | lat_w | country | zip_code |
+-----+----------------+-------+-------+-------+---------+----------+
|  20 | Boston         | MA    | 42.52 | 73.31 | USA     |     2101 |
|   7 | Honolulu       | HI    | 22.14 |   160 | USA     |    96795 |
|  11 | Houstan        | TX    |    36 |   105 | USA     |    77001 |
|  44 | Las Vegas      | NV    |    42 |   120 | USA     |    88901 |
|  13 | Long Island    | NY    |    45 |    79 | USA     |    11101 |
|   2 | Nome           | AK    |    71 |   173 | USA     |    99762 |
|   1 | Phenoix        | AZ    |    37 |   114 | USA     |    85001 |
| 100 | Salt Lake city | UT    |    42 |   114 | USA     |    84044 |
|  66 | San Jose       | CA    |    42 |   124 | USA     |    94088 |
|  70 | Seattle        | WA    |    49 |   124 | USA     |    98101 |
|   5 | Tempa          | FL    |    31 |    87 | USA     |    33601 |
+-----+----------------+-------+-------+-------+---------+----------+
```
11 rows in set (0.001 sec)

select * from stations where lat_w < 100;

```
+----+-------------+-------+-------+-------+---------+----------+
| id | city        | state | lat_n | lat_w | country | zip_code |
+----+-------------+-------+-------+-------+---------+----------+
|  5 | Tempa       | FL    |    31 |    87 | USA     |    33601 |
| 13 | Long Island | NY    |    45 |    79 | USA     |    11101 |
| 20 | Boston      | MA    | 42.52 | 73.31 | USA     |     2101 |
+----+-------------+-------+-------+-------+---------+----------+
```
3 rows in set (0.000 sec)

select * from stations where lat_w <= 79;

id	city	state	lat_n	lat_w	country	zip_code
13	Long Island	NY	45	79	USA	11101
20	Boston	MA	42.52	73.31	USA	2101

2 rows in set (0.000 sec)

select * from stations where state = 'FL';

id	city	state	lat_n	lat_w	country	zip_code
5	Tempa	FL	31	87	USA	33601

1 row in set (0.000 sec)

select * from stations where country= 'India';

id	city	state	lat_n	lat_w	country	zip_code
21	Agra	DL	18.14	73	India	71910
45	Mumbai	MH	16.74	111	India	45510

2 rows in set (0.000 sec)

SELECT * FROM stations, stats WHERE

stations.id=stats.id;

id	city	state	lat_n	lat_w	country	zip_code	id	month	temp_f	rain_i
11	Houstan	TX	36	105	USA	77001	11	3	25.8	2.52
13	Long Island	NY	45	79	USA	11101	13	1	57.4	0.31
13	Long Island	NY	45	79	USA	11101	13	7	91.7	5.15
44	Las Vegas	NV	42	120	USA	88901	44	1	27.3	0.18
44	Las Vegas	NV	42	120	USA	88901	44	7	74.8	2.11
66	San Jose	CA	42	124	USA	94088	66	1	6.7	2.1
66	San Jose	CA	42	124	USA	94088	66	7	65.8	4.52
70	Seattle	WA	49	124	USA	98101	70	2	16.22	0.22
70	Seattle	WA	49	124	USA	98101	70	5	26.2	1.22
100	Salt Lake city	UT	42	114	USA	84044	100	7	23.22	5.22
100	Salt Lake city	UT	42	114	USA	84044	100	11	28.99	1.66

11 rows in set (0.001 sec)

2) **Project**

select id, city from stations where state = 'FL';

id	city
5	Tempa

SELECT city, country, temp_f FROM stations, stats WHERE stations.id=stats.id;

```
+---------------+---------+--------+
| city          | country | temp_f |
+---------------+---------+--------+
| Houstan       | USA     |   25.8 |
| Long Island   | USA     |   57.4 |
| Long Island   | USA     |   91.7 |
| Las Vegas     | USA     |   27.3 |
| Las Vegas     | USA     |   74.8 |
| San Jose      | USA     |    6.7 |
| San Jose      | USA     |   65.8 |
| Seattle       | USA     |  16.22 |
| Seattle       | USA     |   26.2 |
| Salt Lake city| USA     |  23.22 |
| Salt Lake city| USA     |  28.99 |
+---------------+---------+--------+
```
11 rows in set (0.001 sec)

select id, city, zip_code from stations where country != 'USA';

```
+----+--------+----------+
| id | city   | zip_code |
+----+--------+----------+
| 21 | Agra   |    71910 |
| 45 | Mumbai |    45510 |
| 48 | London |    92829 |
+---+--------+----------+
```

select lat_n,lat_w,country from stations where zip_code = '71910';

```
+-------+-------+---------+
| lat_n | lat_w | country |
+-------+-------+---------+
| 18.14 |    73 | India   |
+---+-------+---------+
```

select id,state,lat_n,lat_w,country from stations where lat_n >= 50;

```
+----+-------+-------+-------+---------+
| id | state | lat_n | lat_w | country |
+----+-------+-------+-------+---------+
|  2 | AK    |    71 |   173 | USA     |
+---+-------+-------+-------+---------+
```

select id,city,lat_n,lat_w from stations where country ='India';

```
+----+--------+-------+-------+
| id | city   | lat_n | lat_w |
+----+--------+-------+-------+
| 21 | Agra   | 18.14 |    73 |
| 45 | Mumbai | 16.74 |   111 |
+---+--------+-------+-------+
```

```
//insert
insert into stats (id,month,temp_f,rain_i) values(70,5,26.2,1.22);
insert into stats (id,month,temp_f,rain_i) values(70,2,16.22,0.22);
insert into stats (id,month,temp_f,rain_i) values(100,7,23.22,5.22);
insert into stats (id,month,temp_f,rain_i) values(100,11,28.99,1.66);
insert into stations (id,city,state,lat_n,lat_w)
insert into stations (id,city,state,lat_n,lat_w) values(2,'Nome','AK',
71,173);values(70,'Seattle','WA',49.00,124);
insert into stations (id,city,state,lat_n,lat_w)
values(5,'Tempa','FL',31,87);
insert into stations (id,city,state,lat_n,lat_w)
values(1,'Phenoix','AZ',37,114);

//added column using following alter command
alter table stations add country varchar(10),zip_code int(6);
alter table stations add zip_code(8);

//update
update stations set country ='USA', zip_code=33601 where id = 5;
update stations set country ='USA', zip_code=96795 where id = 7;
update stations set country ='USA', zip_code=77001 where id = 11;
update stations set country ='USA', zip_code=11101 where id = 7;
update stations set country ='USA', zip_code=11101 where id = 13;
update stations set country ='USA', zip_code=88901 where id =44
update stations set country ='USA', zip_code=98101  where id =70;
update stations set country ='USA', zip_code=84044 where id =100;

//stations table
insert into stations (id,city,state,lat_n,lat_w)
values(2,'Honolulu','HI',22.14,160);
insert into stations (id,city,state,lat_n,lat_w)
insert into stations (id,city,state,lat_n,lat_w) values(2,'Nome','AK',
71,173);values(70,'Seattle','WA',49.00,124);
insert into stations (id,city,state,lat_n,lat_w)
values(5,'Tempa','FL',31,87);
insert into stations (id,city,state,lat_n,lat_w)
values(1,'Phenoix','AZ',37,114);
```