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BINF 650 – Fall 2015
Homework – 3

1. Create a database command.

I am using binf.gmu.edu and my database is snaray11.

```
binf:~ snaray11$ mysql –h binf.gmu.edu –D binf650 –u snaray11 –p
Enter password:
```

```
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with –A

Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 10848
Server version: 5.1.73 Source distribution

Type 'help;' or '\h' for help. Type '\c' to clear the current input
statement.
```

```
mysql> SHOW DATABASES;
```

```
+--------------------+
| Database           |
+--------------------+
| information_schema |
| binf650            |
| mysql              |
| snaray11           |
+--------------------+
4 rows in set (0.01 sec)
```

```
mysql> USE snaray11;
Database changed
```

binf.gmu.edu doesn't let me create a database named 'Weather'. But if I have to create a
database then I use the following command.

```
mysql> CREATE DATABASE weather;
```

2. Create a single table named 'wdata'. This table should have columns for the following.
You choose the actual names of the column but you should make the column name
reasonable.

```
mysql> CREATE TABLE wdata (Day INTEGER, Time TIME, Celsius FLOAT, DewPo
FLOAT, RelativeHu INTEGER, WindSpeed INTEGER);
Query OK, 0 rows affected (0.07 sec)
```

3. Upload the data.

In order to upload the data, I saved the data to Libreoffice in unformatted text with 2 extra columns having a and b on either side of Column TIME. Then replaced 'a\t' with ' and '\tb' with '. Then replaced all the '\t' with ',' and new line '$' with '),('. Now added open and close parentheses at the ends. I tried with few rows at first, followed by multiple rows.

```
mysql> INSERT INTO wdata (Day, Time, Celsius, DewPo, RelativeHu,
WindSpeed) VALUES (1,'0:00',20.5,14.9,70,24);
Query OK, 1 row affected (0.01 sec)
mysql> INSERT INTO wdata (Day, Time, Celsius, DewPo, RelativeHu,
WindSpeed) VALUES
(1,'1:00',19.2,15.5,79,28),(1,'2:00',18.5,15.5,83,24),(1,'3:00',18.3,15
.3,83,28);
Query OK, 3 rows affected (0.01 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO wdata (Day, Time, Celsius, DewPo, RelativeHu,
WindSpeed) VALUES
(1,'4:00',18.7,15.2,80,27),16.4,78,32),(1,'8:00',21.1,16.1,73,1),(1,'9:
00',21.8,15.2,66,34),(1,'10:00',19,15.8,82,14),(1,'11:00',21,16.8,77,14
),(1,'12:00',27.5,13.4,42,23),(1,'13:00',27.5,13.4,42,22),(1,'14:00',28
.1,14.5,43,23),(1,'15:00',27.2,14.6,46,20),(1,'16:00',26.4,15.1,50,22),
(1,'17:00',26.7,14.5,47,23),(1,'18:00',25.8,14.1,48,22),(1,'19:00',24.3
,14,53,23),(1,'20:00',22.4,15.2,64,23),(1,'21:00',21.9,15.3,66,23),(1,'
22:00',21.7,14.6,64,22),(1,'23:00',20.5,15,71,23),(2,'0:00',19.7,15.6,7
7,23),(2,'1:00',19.3,15.5,79,27),(2,'2:00',18.8,15.8,83,25),(2,'3:00',1
8.5,15.9,85,3),(2,'4:00',17.9,15.9,88,31),(2,'5:00',17.4,15.9,91,25),(2
,'6:00',20,16.5,81,23),(2,'7:00',21.4,16.5,74,30),(2,'8:00',21.1,16.3,7
4,31),(2,'9:00',22.4,16.5,69,32),(2,'10:00',25.8,14,48,25),(2,'11:00',2
6.6,12.4,41,26),(2,'12:00',26.8,13.1,43,24),(2,'13:00',27,14,45,24),(2,
'14:00',27.6,12.9,40,22),(2,'15:00',27.6,13.2,41,23),(2,'16:00',26.9,14
.7,47,22),(2,'17:00',26.2,14.9,50,21),(2,'18:00',24.5,15,55,22),(2,'19:
00',22.4,15.2,64,23),(2,'20:00',20.9,15.6,72,23),(2,'21:00',20.1,15.4,7
4,25),(2,'22:00',19.6,15.4,77,25),(2,'23:00',18.7,16.4,87,31),(3,'0:00'
,18.2,16.2,88,35),(3,'1:00',17.8,16.5,92,3),(3,'2:00',17.2,16.1,93,10),
(3,'3:00',16.9,15.9,94,10),(3,'4:00',16.9,15.6,92,0),(3,'5:00',16.5,15.
6,94,14),(3,'6:00',17.4,15,86,16),(3,'7:00',19,15.8,82,15),(3,'8:00',18
.1,15.7,86,12),(3,'9:00',18.7,16.1,85,13),(3,'10:00',19.4,15.9,80,14),(
3,'11:00',19.6,15.3,76,14),(3,'12:00',20.1,15.3,74,14),(3,'13:00',25.1,
13,47,18),(3,'14:00',22.9,13.9,57,18),(3,'15:00',24.6,10.9,42,19),(3,'1
6:00',24.3,12.2,47,18),(3,'17:00',24.1,11.3,45,20),(3,'18:00',23.6,14.4
,56,20),(3,'19:00',22.4,15.3,64,18),(3,'20:00',21.1,18.8,87,22),(3,'21:
00',20.9,19.4,91,18),(3,'22:00',20.4,19.3,94,18),(3,'23:00',20.8,19.6,9
3,19),(4,'0:00',18.6,18.1,97,13),(4,'1:00',18.5,18.2,98,14),(4,'2:00',1
8.3,18.1,99,14),(4,'3:00',18.1,18,99,14),(4,'4:00',18.1,18,99,9),(4,'5:
00',18.7,18.6,99,14),(4,'6:00',18.6,18.5,99,14),(4,'7:00',20.2,19.9,98,
19),(4,'8:00',20.5,19.9,96,19),(4,'9:00',21.1,20,94,19),(4,'10:00',20.9
,19.7,93,21),(4,'11:00',21.8,20.2,91,20),(4,'12:00',22.2,20.4,90,19),(4
```

```
,'13:00',19.3,18.4,94,14),(4,'14:00',19.2,18.7,97,14),(4,'15:00',21.9,2
0.8,93,16),(4,'16:00',19.5,18.7,95,14),(4,'17:00',19.4,18.9,97,14),(4,'
18:00',20.3,19.2,93,21),(4,'19:00',20.6,18.2,86,18),(4,'20:00',19.9,17.
4,86,22),(4,'21:00',19.9,17.3,85,19),(4,'22:00',19.6,18.2,91,19),(4,'23
:00',19.6,17.4,87,23),(5,'0:00',19.6,17.4,87,24),(5,'1:00',19.9,16.6,81
,20),(5,'2:00',20.2,16.5,79,18),(5,'3:00',19.3,16.9,86,19),(5,'4:00',19
.3,17.7,91,17),(5,'5:00',19.9,18.4,91,18),(5,'6:00',20.1,18.5,90,19),(5
,'7:00',19.9,18.4,92,18),(5,'8:00',19.4,18.7,95,22),(5,'9:00',19.8,18.1
,90,21),(5,'10:00',20.3,18,87,23),(5,'11:00',20.8,18.2,85,23),(5,'12:00
',22.6,18.4,77,21),(5,'13:00',20,17.6,86,14),(5,'14:00',19.8,17.6,87,13
),(5,'15:00',23.8,18.4,72,19),(5,'16:00',22.8,17.8,73,22),(5,'17:00',22
.6,14.7,61,21),(5,'18:00',21.7,16.1,70,21),(5,'19:00',19.7,16.4,81,21),
(5,'20:00',18.3,16.3,88,22),(5,'21:00',17.7,15.9,89,27),(5,'22:00',17.2
,15.7,91,31),(5,'23:00',16.9,15.6,92,8),(6,'0:00',17.5,15.5,88,12),(6,'
1:00',17.5,14.8,84,25),(6,'2:00',17.2,14.8,86,30),(6,'3:00',17.1,14.2,8
3,27),(6,'4:00',16.8,13.6,82,27),(6,'5:00',16.1,13.8,86,28),(6,'6:00',1
7.2,13.9,81,27),(6,'7:00',18.5,14.2,76,26),(6,'8:00',19,13.6,71,26),(6,
'9:00',20.9,12.9,60,27),(6,'10:00',21.7,12.3,55,25),(6,'11:00',22.5,12.
4,53,25),(6,'12:00',23,12,50,28),(6,'13:00',24,11.4,45,28),(6,'14:00',2
5,9.7,38,30),(6,'15:00',24.9,10.1,39,26),(6,'16:00',24.9,9.7,38,26),(6,
'17:00',25.2,8.8,35,28),(6,'18:00',24.7,9.3,38,27),(6,'19:00',23.7,10,4
2,26),(6,'20:00',22.1,10.1,46,27),(6,'21:00',20.7,11.9,57,27),(6,'22:00
',19.9,12.6,63,26),(6,'23:00',18.6,13.2,71,26),(7,'0:00',17.8,13.3,75,2
5),(7,'1:00',17.1,13.2,78,30),(7,'2:00',17.1,12.7,75,26),(7,'3:00',16.5
,12.6,78,27),(7,'4:00',16.5,12.2,76,27),(7,'5:00',17,12.2,74,26),(7,'6:
00',18.6,12.8,69,26),(7,'7:00',19.2,13.1,68,28),(7,'8:00',19.1,13.9,72,
30),(7,'9:00',21.7,12.6,56,27),(7,'10:00',22.6,11.8,51,26),(7,'11:00',2
2.9,11.9,50,29),(7,'12:00',25.2,12.3,45,26),(7,'13:00',24.1,13.2,51,23)
,(7,'14:00',26.1,13.3,45,27),(7,'15:00',23.5,13.8,54,21),(7,'16:00',22.
6,13.1,55,22),(7,'17:00',22.5,12.9,55,22),(7,'18:00',22.4,12.7,54,24),(
7,'19:00',20.2,12.8,63,24),(7,'20:00',19.2,12.5,65,26),(7,'21:00',17.5,
12.8,74,12),(7,'22:00',16.4,13.1,81,11),(7,'23:00',16.5,12.9,79,1);
Query OK, 164 rows affected (0.06 sec)
Records: 164  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO wdata (Day, Time, Celsius, DewPo, RelativeHu,
WindSpeed) VALU
ES(8,'0:00',16.3,13.1,81,12),(8,'1:00',15.8,13.1,84,14),(8,'2:00',14.7,
13.1,90,1
3),(8,'3:00',14.6,13.1,91,15),(8,'4:00',13.9,12.8,93,0);
Query OK, 5 rows affected (0.00 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO wdata (Day, Time, Celsius, DewPo, RelativeHu,
WindSpeed) VALUES
(8,'5:00',14.7,13.6,93,0),(8,'6:00',15.3,14.1,93,0),(8,'7:00',15.7,14.3
,91,32),(8,'8:00',16.8,15.2,90,10),(8,'9:00',18.3,15.4,83,9),(8,'10:00'
,18,15.2,84,8),(8,'11:00',18.1,15.1,83,9),(8,'12:00',18.2,14.7,80,8),(8
,'13:00',17.7,14.6,82,10),(8,'14:00',17.6,13.8,79,7),(8,'15:00',17.5,14
.6,83,6),(8,'16:00',17.8,14.8,82,5),(8,'17:00',17.3,14.8,85,6),(8,'18:0
0',16.5,14.8,90,5),(8,'19:00',15.6,14.7,94,5),(8,'20:00',15.8,14.8,94,4
),(8,'21:00',16,14.8,92,36),(8,'22:00',16.2,14.7,91,35),(8,'23:00',16,1
4.5,91,1),(9,'0:00',15.8,14.3,91,32),(9,'1:00',15.8,14.3,90,33),(9,'2:0
0',16,14.4,90,34),(9,'3:00',16.1,14.5,90,34),(9,'4:00',16.3,14.7,90,1),
```

```
(9,'5:00',16.4,14.7,90,35), (9,'6:00',16.5,14.8,89,36), (9,'7:00',16.7,14
.8,89,3), (9,'8:00',17,14.7,87,4), (9,'9:00',17,14.8,87,3), (9,'10:00',17.
3,14.9,86,5), (9,'11:00',17.4,14.7,84,6), (9,'12:00',17.2,14.9,87,5), (9,'
13:00',16.5,15,91,8), (9,'14:00',15.4,14.8,96,9), (9,'15:00',16.2,15.1,93
,6), (9,'16:00',15.7,14.7,94,7), (9,'17:00',15.1,14,94,7), (9,'18:00',15.1
,13.8,92,6), (9,'19:00',15.2,14,93,4), (9,'20:00',15.1,14.4,96,36), (9,'21
:00',14.9,13.9,94,1), (9,'22:00',14.8,13.8,94,1), (9,'23:00',14.8,14,95,3
5), (10,'0:00',15.2,13.9,92,35), (10,'1:00',15.1,13.8,92,34), (10,'2:00',1
5.3,13.9,91,33), (10,'3:00',15.6,13.9,90,33), (10,'4:00',15.5,13.7,89,32)
, (10,'5:00',15.8,14,90,32), (10,'6:00',15.5,14.2,92,32), (10,'7:00',16.2,
14.3,89,32), (10,'8:00',16.8,13.9,83,33), (10,'9:00',17.1,13.9,81,33), (10
,'10:00',17,14.2,84,33), (10,'11:00',17.9,13.8,77,34), (10,'12:00',19.2,1
3.5,70,33), (10,'13:00',19.6,13.5,68,32), (10,'14:00',20.1,13.5,66,32), (1
0,'15:00',22,13.1,57,30), (10,'16:00',22.1,13.7,59,31), (10,'17:00',22.8,
13.1,55,31), (10,'18:00',21.2,12.8,59,31), (10,'19:00',21.4,12.7,58,29), (
10,'20:00',19.8,13.2,66,31), (10,'21:00',16.6,13.8,84,0), (10,'22:00',16.
4,13.3,82,12), (10,'23:00',15.1,13.4,90,12), (11,'0:00',17.2,14.2,83,24),
(11,'1:00',16.8,14.2,84,28), (11,'2:00',16.6,14.1,86,26), (11,'3:00',14.8
,13.7,93,32), (11,'4:00',13.9,13,94,32), (11,'5:00',13.3,12.7,96,32), (11,
'6:00',14,12.8,93,33), (11,'7:00',16.2,13.3,83,2), (11,'8:00',14.9,13.4,9
1,13), (11,'9:00',17.8,14.3,80,14), (11,'10:00',17.5,15.1,86,15), (11,'11:
00',17.4,14.8,85,14), (11,'12:00',18,15.1,84,14), (11,'13:00',17.6,15.4,8
7,14), (11,'14:00',17.4,15.1,87,14), (11,'15:00',17.4,15,86,14), (11,'16:0
0',20.2,13.4,65,16), (11,'17:00',17.3,15,86,14), (11,'18:00',17.6,14.8,84
,14), (11,'19:00',16.8,15.3,91,14), (11,'20:00',16.8,15.8,94,13), (11,'21:
00',16.7,15.6,94,13), (11,'22:00',16.5,15.7,95,13), (11,'23:00',17.4,16.1
,92,14), (12,'0:00',17.2,16,93,14), (12,'1:00',17.6,16.4,93,15), (12,'2:00
',17.3,16.3,94,14), (12,'3:00',16.7,16,96,13), (12,'4:00',16.7,16.2,97,13
), (12,'5:00',17.2,16.4,95,14), (12,'6:00',17.7,16.8,94,14), (12,'7:00',17
.3,16.8,97,14), (12,'8:00',17,16.5,97,14), (12,'9:00',17.2,16.9,98,13), (1
2,'10:00',17.3,17,98,14), (12,'11:00',18.3,18.1,99,14), (12,'12:00',18.7,
18.5,99,14), (12,'13:00',20.8,20,95,18), (12,'14:00',22.7,20.6,88,22), (12
,'15:00',22.3,20.3,89,22), (12,'16:00',22.2,19.6,85,23), (12,'17:00',20.6
,19.2,92,16), (12,'18:00',18.1,17.6,97,14), (12,'19:00',17.6,17.2,98,14),
(12,'20:00',17.3,17,98,14), (12,'21:00',18.7,18.5,99,20), (12,'22:00',18.
5,18.3,98,18), (12,'23:00',18.9,18.7,98,19), (13,'0:00',18.9,18.6,98,19),
(13,'1:00',18.8,18.4,98,19), (13,'2:00',18.4,18,98,19), (13,'3:00',18.2,1
7.8,98,20), (13,'4:00',17.8,17.4,98,20), (13,'5:00',17.7,17.2,97,18), (13,
'6:00',17.4,16.9,97,17), (13,'7:00',17,16.7,98,15), (13,'8:00',17.2,16.8,
97,12), (13,'9:00',19.3,17.6,90,22), (13,'10:00',20.6,18.1,85,17), (13,'11
:00',18.5,17.3,93,14), (13,'12:00',21.3,18.1,82,16), (13,'13:00',18.8,17.
3,91,14), (13,'14:00',22.7,17.6,73,19), (13,'15:00',22.5,17.4,73,16), (13,
'16:00',22.4,17.4,73,19), (13,'17:00',18.6,17.1,91,15), (13,'18:00',18.2,
17.1,93,14), (13,'19:00',17.6,16.8,95,14), (13,'20:00',17.4,16.6,96,14), (
13,'21:00',17.2,16.7,97,14), (13,'22:00',17.6,17.1,97,16), (13,'23:00',17
.7,17,96,3), (14,'0:00',17.6,16.9,96,16), (14,'1:00',17.3,16.7,96,14), (14
,'2:00',17.3,16.5,95,11), (14,'3:00',16.8,16.3,97,0), (14,'4:00',16.8,16.
3,97,33), (14,'5:00',16.8,16.4,97,32), (14,'6:00',16.9,16.4,97,27), (14,'7
:00',17.7,16.2,91,32), (14,'8:00',17.9,16.6,92,35), (14,'9:00',17.9,16.5,
92,13), (14,'10:00',18.7,16.6,87,14), (14,'11:00',19.1,16.9,87,14), (14,'1
2:00',22.4,15.5,65,8), (14,'13:00',25.4,15.2,53,20), (14,'14:00',26,15.3,
52,23), (14,'15:00',24.9,15.8,57,19), (14,'16:00',24.5,14.7,55,21), (14,'1
7:00',24,14.2,54,22), (14,'18:00',22.7,14.6,60,22), (14,'19:00',21.5,14.3
,64,23), (14,'20:00',19.9,15.1,74,22), (14,'21:00',19.5,15.7,79,23), (14,'
22:00',19.2,16,81,23), (14,'23:00',19.3,15.8,80,24);
Query OK, 163 rows affected (0.05 sec)
Records: 163  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO wdata (Day, Time, Celsius, DewPo, RelativeHu,
WindSpeed)
VALUES(15,'0:00',19.1,15.2,78,24),(15,'1:00',18.5,14.8,79,24),(15,'2:00
',18,15,83,24),(15,'3:00',17.4,14.8,84,26),(15,'4:00',17.1,14.8,86,24),
(15,'5:00',16.5,14.7,89,23),(15,'6:00',18.5,15.1,81,20),(15,'7:00',17.3
,15.3,88,15),(15,'8:00',19.1,15.2,78,22),(15,'9:00',20.1,15.2,73,13),(1
5,'10:00',23,14.1,57,24),(15,'11:00',24.2,13.8,53,20),(15,'12:00',25.1,
13.4,48,24),(15,'13:00',25.2,13.1,47,23),(15,'14:00',25.6,14.1,49,23),(
15,'15:00',25.6,15.3,53,20),(15,'16:00',23.1,14.4,58,18),(15,'17:00',22
.9,14.1,58,21),(15,'18:00',21.5,14.2,63,17),(15,'19:00',21.8,14.4,63,22
),(15,'20:00',20.6,14.8,69,16),(15,'21:00',20.2,15,72,30),(15,'22:00',1
9.2,15.7,80,0),(15,'23:00',19,15.9,82,33),(16,'0:00',18.8,16.3,86,15),(
16,'1:00',19.4,15.7,79,25),(16,'2:00',18.3,15.9,86,32),(16,'3:00',18.1,
15.8,86,29),(16,'4:00',17.8,15.3,85,31),(16,'5:00',17.8,15.2,85,0),(16,
'6:00',18.5,15.5,83,29),(16,'7:00',18.8,15.3,80,11),(16,'8:00',18.7,15.
9,84,13),(16,'9:00',20.4,16.1,76,9),(16,'10:00',21.6,17.2,76,11),(16,'1
1:00',22.4,18.1,77,14),(16,'12:00',26.5,17.6,58,23),(16,'13:00',27.2,17
.6,56,24),(16,'14:00',27,17.7,57,21),(16,'15:00',27,18,58,23),(16,'16:0
0',26,18.2,62,21),(16,'17:00',25.6,18.8,66,23),(16,'18:00',23.9,18.7,73
,24),(16,'19:00',22.7,18.5,77,24),(16,'20:00',22.1,18.4,80,25),(16,'21:
00',21.3,18.4,84,32),(16,'22:00',20.4,18.2,88,32),(16,'23:00',19.7,18,9
0,32),(17,'0:00',19.4,18,92,32),(17,'1:00',19.2,18,92,31),(17,'2:00',19
.2,17.9,92,32),(17,'3:00',19.2,17.9,92,32),(17,'4:00',18.8,17.7,93,0),(
17,'5:00',18.1,17.3,95,12),(17,'6:00',18,17.2,95,12),(17,'7:00',18.6,17
.3,92,12),(17,'8:00',19.6,17.7,89,14),(17,'9:00',20.7,18.3,86,7),(17,'1
0:00',24,18.6,72,11),(17,'11:00',24.3,19.1,73,12),(17,'12:00',28.4,16.2
,48,23),(17,'13:00',28.6,15,44,23),(17,'14:00',28.3,16.9,50,22),(17,'15
:00',27.6,17.9,55,22),(17,'16:00',26.3,18,60,18),(17,'17:00',26.1,18.2,
62,21),(17,'18:00',24,18,69,22),(17,'19:00',21.1,17.5,80,19),(17,'20:00
',19.6,17.4,87,16),(17,'21:00',18.9,17.3,91,12),(17,'22:00',19.1,17.7,9
1,24),(17,'23:00',19.1,17.5,91,23),(18,'0:00',18.8,17.5,92,23),(18,'1:0
0',18.6,17.4,93,27),(18,'2:00',18.5,17.2,92,21),(18,'3:00',18,16.9,94,1
2),(18,'4:00',17.8,16.8,94,4),(18,'5:00',17.7,16.7,94,5),(18,'6:00',17.
8,16.9,95,14),(18,'7:00',18,16.9,93,12),(18,'8:00',18.6,17.2,92,12),(18
,'9:00',19.2,17.8,92,13),(18,'10:00',19.5,18,91,13),(18,'11:00',21.9,18
.6,82,12),(18,'12:00',25.7,18.8,66,21),(18,'13:00',27.5,18.7,59,23),(18
,'14:00',26.9,18.6,60,18),(18,'15:00',27,18.4,59,23),(18,'16:00',26.6,1
8.3,60,18),(18,'17:00',25.9,18.6,64,20),(18,'18:00',21.3,18,81,15),(18,
'19:00',21.6,18,80,21),(18,'20:00',18.7,17.7,94,14),(18,'21:00',18.4,17
.8,96,13),(18,'22:00',18.1,17.8,98,14),(18,'23:00',18.1,17.9,99,15),(19
,'0:00',18.4,18,98,22),(19,'1:00',18.4,17.8,97,17),(19,'2:00',17.8,17.4
,98,13),(19,'3:00',17.4,17.2,99,13),(19,'4:00',17.2,17,99,10),(19,'5:00
',17.1,17,99,11),(19,'6:00',16.9,16.8,99,12),(19,'7:00',17.2,17.1,99,16
),(19,'8:00',17.1,17,99,15),(19,'9:00',17.3,17.2,99,13),(19,'10:00',17.
8,17.5,98,13),(19,'11:00',17.7,17.3,98,13),(19,'12:00',18.2,17.7,97,14)
,(19,'13:00',19.4,18,92,15),(19,'14:00',20.9,18.6,87,14),(19,'15:00',21
.2,18.7,86,15),(19,'16:00',20,18.2,89,14),(19,'17:00',19.6,18.2,91,14),
(19,'18:00',23.2,17.9,72,19),(19,'19:00',22.7,18.4,77,22),(19,'20:00',1
8.9,17.7,93,15),(19,'21:00',17.6,17.3,98,13),(19,'22:00',17.4,17.3,99,1
4),(19,'23:00',17.8,17.6,99,15),(20,'0:00',17.7,17.6,99,15),(20,'1:00',
17.5,17.5,100,13),(20,'2:00',17.6,17.5,100,11),(20,'3:00',17.5,17.4,100
,5),(20,'4:00',17.5,17.5,100,1),(20,'5:00',17.4,17.3,100,11),(20,'6:00'
,17,17,100,15),(20,'7:00',16.7,16.7,100,14),(20,'8:00',17,16.9,100,13),
(20,'9:00',17.6,17.5,100,13),(20,'10:00',18.5,18.3,99,13),(20,'11:00',1
```

```
8.4,18,98,14),(20,'12:00',19.3,18.4,95,14),(20,'13:00',20.3,18.8,91,15)
,(20,'14:00',19.9,18.5,92,12),(20,'15:00',20,18.9,93,15),(20,'16:00',20
.5,19.1,92,15),(20,'17:00',19.3,18.6,95,15),(20,'18:00',18.7,18.3,98,15
),(20,'19:00',18.3,18,98,13),(20,'20:00',18.2,18.1,99,13),(20,'21:00',1
8.5,18.4,99,14),(20,'22:00',18.3,18.2,99,14),(20,'23:00',18.5,18.4,99,1
4),(21,'0:00',18.7,18.6,100,15),(21,'1:00',19,18.9,100,15),(21,'2:00',1
9.1,19,100,15),(21,'3:00',18.9,18.8,100,15),(21,'4:00',18.8,18.7,100,14
),(21,'5:00',18.9,18.8,100,15),(21,'6:00',18.8,18.7,100,15),(21,'7:00',
18.6,18.5,100,14),(21,'8:00',18.6,18.5,100,15),(21,'9:00',18.9,18.9,100
,15),(21,'10:00',18.6,18.5,100,14),(21,'11:00',18.9,18.9,100,14),(21,'1
2:00',19.5,19.4,100,14),(21,'13:00',19.8,19.6,99,15),(21,'14:00',19.2,1
9,98,14),(21,'15:00',19.8,19.6,99,15),(21,'16:00',19.8,19.6,99,15),(21,
'17:00',19.5,19.4,99,15),(21,'18:00',19.5,19.4,99,14),(21,'19:00',19.7,
19.6,100,14),(21,'20:00',19.7,19.6,100,14),(21,'21:00',19.4,19.3,100,14
),(21,'22:00',19.2,19.1,100,14),(21,'23:00',19.1,19,100,14);
Query OK, 168 rows affected (0.05 sec)
Records: 168  Duplicates: 0  Warnings: 0
```

```
mysql> INSERT INTO wdata (Day, Time, Celsius, DewPo, RelativeHu,
WindSpeed) VALUES
(22,'0:00',19.1,19.1,100,14),(22,'1:00',19.2,19.2,100,14),(22,'2:00',19
.4,19.3,100,14),(22,'3:00',19.4,19.4,100,15),(22,'4:00',19.4,19.4,100,1
4),(22,'5:00',19.3,19.3,100,14),(22,'6:00',19.3,19.3,100,14),(22,'7:00'
,19.3,19.3,100,14),(22,'8:00',19.5,19.4,100,14),(22,'9:00',19.3,19.2,10
0,14),(22,'10:00',19.5,19.5,100,14),(22,'11:00',19.6,19.6,100,14),(22,'
12:00',19.8,19.7,100,14),(22,'13:00',20.1,20.1,100,14),(22,'14:00',20.7
,20.4,98,14),(22,'15:00',23.9,21.7,88,21),(22,'16:00',0,0,0,0),(22,'17:
00',23.3,21.7,91,19),(22,'18:00',22.4,21.3,94,20),(22,'19:00',22.5,21.4
,93,22),(22,'20:00',22,21.1,95,17),(22,'21:00',19.9,19.4,98,14),(22,'22
:00',20.6,20.4,99,17),(22,'23:00',21.1,20.9,99,22),(23,'0:00',20.5,20.4
,99,13),(23,'1:00',20.5,20.4,99,15),(23,'2:00',20.2,20.1,99,14),(23,'3:
00',20.1,20,100,0),(23,'4:00',20.7,20.6,99,2),(23,'5:00',20.5,20.4,100,
7),(23,'6:00',19.7,19.6,99,13),(23,'7:00',19.4,19.2,99,14),(23,'8:00',1
9.5,19.2,99,14),(23,'9:00',19.4,18.9,97,12),(23,'10:00',21,19.3,90,36),
(23,'11:00',22.4,19.8,85,12),(23,'12:00',21.7,19.5,87,13),(23,'13:00',2
0.9,19.7,93,15),(23,'14:00',21.2,19.6,91,12),(23,'15:00',20.6,19.3,93,1
5),(23,'16:00',20.9,19.5,92,12),(23,'17:00',21.1,19.7,92,15),(23,'18:00
',20.1,19.2,95,15),(23,'19:00',19.3,18.9,98,14),(23,'20:00',19.3,19,98,
12),(23,'21:00',19.4,19.3,99,11),(23,'22:00',19.4,19.3,99,9),(23,'23:00
',19.6,19.4,99,6),(24,'0:00',20,19.4,97,6),(24,'1:00',20.1,19.2,94,4),(
24,'2:00',20.1,19,94,8),(24,'3:00',19.8,18.9,94,4),(24,'4:00',19.9,18.4
,91,6),(24,'5:00',19.8,18.2,91,8),(24,'6:00',19.8,18.1,90,2),(24,'7:00'
,20.2,18.4,90,36),(24,'8:00',20.5,18.4,87,1),(24,'9:00',21,18.1,83,4),(
24,'10:00',21.6,17.7,78,4),(24,'11:00',22.5,17.4,73,4),(24,'12:00',22.9
,17.3,71,6),(24,'13:00',23.1,17.3,70,5),(24,'14:00',22.6,17.3,72,5),(24
,'15:00',20,18,88,8),(24,'16:00',20.3,17.7,85,5),(24,'17:00',21.1,17.8,
81,3),(24,'18:00',22.5,17.7,74,3),(24,'19:00',22.2,17.9,77,2),(24,'20:0
0',21.7,18,80,36),(24,'21:00',21.2,17.6,80,1),(24,'22:00',20.6,17.8,84,
32),(24,'23:00',20.1,17.7,86,35),(25,'0:00',19.9,17.6,87,33),(25,'1:00'
,19.8,17.7,88,33),(25,'2:00',19.6,17.5,88,34),(25,'3:00',19.3,17.7,91,3
1),(25,'4:00',19,17.6,92,30),(25,'5:00',18.9,18,95,30),(25,'6:00',19.5,
18.4,93,31),(25,'7:00',21.9,18.8,83,30),(25,'8:00',21.9,18.8,83,35),(25
,'9:00',23,18.6,76,34),(25,'10:00',22.5,17.5,73,1),(25,'11:00',24.8,17.
6,64,34),(25,'12:00',24,16.9,64,5),(25,'13:00',24.9,17.4,63,36),(25,'14
:00',27.2,16.9,54,29),(25,'15:00',22,17.5,76,15),(25,'16:00',21.5,17.6,
```

```
78,15),(25,'17:00',21.4,17.7,79,14),(25,'18:00',20.6,18.1,86,14),(25,'1
9:00',21.4,18.4,83,15),(25,'20:00',21.8,18.1,79,24),(25,'21:00',21.4,18
.2,82,18),(25,'22:00',21.4,18.4,83,22),(25,'23:00',21,18.5,86,0),(26,'0
:00',20.6,18.8,89,14),(26,'1:00',20.2,18.6,91,14),(26,'2:00',19.9,18,89
,14),(26,'3:00',19.2,18.2,94,13),(26,'4:00',18.8,17.8,94,11),(26,'5:00'
,18.3,17.3,94,12),(26,'6:00',18,17.1,95,11),(26,'7:00',18,16.8,93,12),(
26,'8:00',18.1,16.8,92,11),(26,'9:00',17.6,16.5,94,12),(26,'10:00',17.8
,16.6,93,12),(26,'11:00',17.9,16.2,90,12),(26,'12:00',17.9,16.2,90,12),
(26,'13:00',17.8,16.4,92,12),(26,'14:00',17.9,16.5,92,13),(26,'15:00',1
7.6,16.5,94,13),(26,'16:00',17.7,16.7,94,13),(26,'17:00',17.4,16.4,94,1
3),(26,'18:00',17.6,16.6,94,12),(26,'19:00',17.2,16.7,97,12),(26,'20:00
',17.1,16.7,97,12),(26,'21:00',17.3,16.9,98,12),(26,'22:00',17.7,17.1,9
6,13),(26,'23:00',17.8,17.1,95,13),(27,'0:00',17.9,17.1,95,14),(27,'1:0
0',18.1,17.2,94,14),(27,'2:00',18,17.4,96,14),(27,'3:00',18.1,17.6,97,1
5),(27,'4:00',18.3,17.8,97,14),(27,'5:00',18.5,17.9,96,14),(27,'6:00',1
8.4,17.8,96,15),(27,'7:00',18.8,18,95,15),(27,'8:00',19.1,18,94,14),(27
,'9:00',19.2,18.4,95,15),(27,'10:00',19.3,18.5,95,15),(27,'11:00',19.4,
19,97,15),(27,'12:00',19.4,19,98,15),(27,'13:00',20.6,19.7,95,17),(27,'
14:00',21.2,19.9,93,20),(27,'15:00',21,19.9,94,18),(27,'16:00',21.4,20.
1,92,20),(27,'17:00',21.7,19.5,88,22),(27,'18:00',21.3,19.1,87,22),(27,
'19:00',20.4,18.7,90,0),(27,'20:00',20,18.9,93,0),(27,'21:00',20.1,18.6
,91,26),(27,'22:00',19.7,17.1,85,28),(27,'23:00',19,15.9,82,28),(28,'0:
00',18.6,15.1,80,29),(28,'1:00',17.9,14.8,82,29),(28,'2:00',17.9,14.1,7
8,27),(28,'3:00',17.3,13.9,81,27),(28,'4:00',16.7,13.9,83,30),(28,'5:00
',16.3,13.6,84,28),(28,'6:00',17.1,13.7,80,26),(28,'7:00',19.1,14.4,74,
27),(28,'8:00',19.8,14.6,72,28),(28,'9:00',20.3,14.9,71,29),(28,'10:00'
,21.9,14.3,62,31),(28,'11:00',21.7,13.1,58,30),(28,'12:00',22.5,12.7,54
,30),(28,'13:00',23,11.7,49,31),(28,'14:00',23.9,11.5,46,30),(28,'15:00
',23.6,11.1,45,31),(28,'16:00',24.9,11.1,42,30),(28,'17:00',24.1,10.7,4
3,29),(28,'18:00',23.4,9.6,41,26),(28,'19:00',22.5,13.3,56,27),(28,'20:
00',21.2,12.9,59,29),(28,'21:00',20.1,14,68,30),(28,'22:00',19.4,13.9,7
1,30),(28,'23:00',18.8,13.4,71,27);
Query OK, 168 rows affected (0.04 sec)Records: 168  Duplicates: 0
Warnings: 0
```

```
mysql> INSERT INTO wdata (Day, Time, Celsius, DewPo, RelativeHu,
WindSpeed) VALUES
(29,'0:00',17.8,13.3,75,26),(29,'1:00',17.2,13.3,78,28),(29,'2:00',16.8
,13.4,80,30),(29,'3:00',16.6,13.2,81,31),(29,'4:00',16.1,13.4,84,30),(2
9,'5:00',15.8,13.6,87,30),(29,'6:00',16.4,13.4,82,0),(29,'7:00',18.2,14
.5,79,36),(29,'8:00',19.1,14.7,76,30),(29,'9:00',20.7,15.3,71,31),(29,'
10:00',23.8,14.2,55,27),(29,'11:00',24.6,13.1,49,26),(29,'12:00',25.7,1
2.4,44,25),(29,'13:00',26.7,13.5,44,28),(29,'14:00',25.9,15,51,22),(29,
'15:00',25.7,14.8,51,23),(29,'16:00',25.1,15.5,55,23),(29,'17:00',23.3,
16.4,65,21),(29,'18:00',22.4,16.7,70,22),(29,'19:00',21.5,17.4,78,23),(
29,'20:00',21,17.4,80,24),(29,'21:00',20.6,16.6,78,25),(29,'22:00',20.2
,15.3,74,25),(29,'23:00',19.5,15,75,25),(30,'0:00',18.8,15.7,82,24),(30
,'1:00',18.5,16.4,87,24),(30,'2:00',18.4,16.4,88,24),(30,'3:00',18,16.2
,89,24),(30,'4:00',17.9,15.9,88,24),(30,'5:00',17.8,16,89,24),(30,'6:00
',17.6,15.8,89,25),(30,'7:00',17.9,16,89,36),(30,'8:00',18.4,16.3,88,23
),(30,'9:00',19.1,16.5,85,23),(30,'10:00',20.2,16.7,80,23),(30,'11:00',
21.7,16.7,73,23),(30,'12:00',22.2,16.9,72,24),(30,'13:00',23.1,17.3,70,
23),(30,'14:00',24,17.4,67,23),(30,'15:00',23.9,17.7,68,23),(30,'16:00'
,23.9,17.4,67,22),(30,'17:00',23.7,17.6,69,21),(30,'18:00',23.1,18,73,2
2),(30,'19:00',21.6,18,80,22),(30,'20:00',20.4,18,86,23),(30,'21:00',20
,18,88,29),(30,'22:00',19.7,17.9,89,2),(30,'23:00',20,17.3,85,25),(31,'
```

```
0:00',19.4,17,86,25),(31,'1:00',18.9,16.5,86,26),(31,'2:00',18.5,15.9,8
5,24),(31,'3:00',18.2,16,87,20),(31,'4:00',17.9,16.1,89,24),(31,'5:00',
17.5,16.1,91,0),(31,'6:00',17.7,16.4,92,23),(31,'7:00',17.9,16.2,90,24)
,(31,'8:00',20.6,16.7,78,23),(31,'9:00',21.3,16.8,76,23),(31,'10:00',23
.1,17.3,70,23),(31,'11:00',24.8,16.8,61,24),(31,'12:00',24.5,17.2,64,23
),(31,'13:00',24.7,17.8,66,20),(31,'14:00',25.2,17.4,62,22),(31,'15:00'
,23.7,15.9,62,21),(31,'16:00',22.8,16.6,68,21),(31,'17:00',22,17.7,76,2
2),(31,'18:00',21.1,18.3,84,22),(31,'19:00',20.6,18.4,87,22),(31,'20:00
',21,17.5,81,24),(31,'21:00',21.9,15.6,68,24),(31,'22:00',21.5,15.7,69,
25),(31,'23:00',21.3,15.7,71,29);
Query OK, 72 rows affected (0.04 sec)
Records: 72  Duplicates: 0  Warnings: 0
```

4. Which day had the coldest temperature? (If there is more than one then write down all days that had this coldest temperature)

```
mysql> SELECT Day FROM wdata WHERE Celsius in (SELECT MIN(Celsius) FROM
wdata);
+------+
| Day  |
+------+
|   22 |
+------+
1 row in set (0.50 sec)
```

August 22nd had the coldest temperature.

5. When (day and time) was the highest wind speed. (Again, if there is a tie, write down all (days and times) with the max speed).

```
mysql> SELECT Day, Time, WindSpeed FROM wdata WHERE WindSpeed in
(SELECT MAX(WindSpeed) FROM wdata);
+------+----------+-----------+
| Day  | Time     | WindSpeed |
+------+----------+-----------+
|    8 | 21:00:00 |        36 |
|    9 | 06:00:00 |        36 |
|    9 | 20:00:00 |        36 |
|   23 | 10:00:00 |        36 |
|   24 | 07:00:00 |        36 |
|   24 | 20:00:00 |        36 |
|   25 | 13:00:00 |        36 |
|   29 | 07:00:00 |        36 |
|   30 | 07:00:00 |        36 |
+------+----------+-----------+
9 rows in set (0.40 sec)
```

Highest windspeed – 36

On August 9th at 06:00:00 and 20:00:00 the windspeed was high. And also on August 24th at 07:00:00 and 20:00:00 the windspeed was high. As the query result states there were few other days that had the highest windspeed.

6. At what time of day (if any) did dew start forming on August 21st?

Dew point forms when the relative humidity is at its highest or temperature is equal to dew point temperature. Therefore using relative humidity information and finding 100% relative humidity if any, would give us the dew point formation time. Although on August 21st relative humidity was mostly 100% throughout the day.

```
mysql> SELECT Day, Time, DewPo, RelativeHu, Celsius FROM wdata WHERE
Day = 21;
```

Day	Time	DewPo	RelativeHu	Celsius
21	00:00:00	18.6	100	18.7
21	01:00:00	18.9	100	19
21	02:00:00	19	100	19.1
21	03:00:00	18.8	100	18.9
21	04:00:00	18.7	100	18.8
21	05:00:00	18.8	100	18.9
21	06:00:00	18.7	100	18.8
21	07:00:00	18.5	100	18.6
21	08:00:00	18.5	100	18.6
21	09:00:00	18.9	100	18.9
21	10:00:00	18.5	100	18.6
21	11:00:00	18.9	100	18.9
21	12:00:00	19.4	100	19.5
21	13:00:00	19.6	99	19.8
21	14:00:00	19	98	19.2
21	15:00:00	19.6	99	19.8
21	16:00:00	19.6	99	19.8
21	17:00:00	19.4	99	19.5
21	18:00:00	19.4	99	19.5
21	19:00:00	19.6	100	19.7
21	20:00:00	19.6	100	19.7
21	21:00:00	19.3	100	19.4
21	22:00:00	19.1	100	19.2
21	23:00:00	19	100	19.1
21	00:00:00	18.6	100	18.7
21	01:00:00	18.9	100	19
21	02:00:00	19	100	19.1
21	03:00:00	18.8	100	18.9
21	04:00:00	18.7	100	18.8
21	05:00:00	18.8	100	18.9
21	06:00:00	18.7	100	18.8
21	07:00:00	18.5	100	18.6
21	08:00:00	18.5	100	18.6
21	09:00:00	18.9	100	18.9
21	10:00:00	18.5	100	18.6
21	11:00:00	18.9	100	18.9
21	12:00:00	19.4	100	19.5
21	13:00:00	19.6	99	19.8

```
|   21 | 14:00:00 |   19 |        98 |    19.2 |
|   21 | 15:00:00 | 19.6 |        99 |    19.8 |
|   21 | 16:00:00 | 19.6 |        99 |    19.8 |
|   21 | 17:00:00 | 19.4 |        99 |    19.5 |
|   21 | 18:00:00 | 19.4 |        99 |    19.5 |
|   21 | 19:00:00 | 19.6 |       100 |    19.7 |
|   21 | 20:00:00 | 19.6 |       100 |    19.7 |
|   21 | 21:00:00 | 19.3 |       100 |    19.4 |
|   21 | 22:00:00 | 19.1 |       100 |    19.2 |
|   21 | 23:00:00 |   19 |       100 |    19.1 |
+------+----------+-------+-----------+---------+
48 rows in set (0.00 sec)
```

So I checked for temperature that is equivalent to dew point temperature.

```
mysql> SELECT * FROM wdata WHERE Day = 21 AND Celsius = DewPo Order by
Time ASC;
```

```
+------+----------+---------+-------+------------+-----------+
| Day  | Time     | Celsius | DewPo | RelativeHu | WindSpeed |
+------+----------+---------+-------+------------+-----------+
|   21 | 09:00:00 |    18.9 |  18.9 |        100 |        15 |
|   21 | 09:00:00 |    18.9 |  18.9 |        100 |        15 |
|   21 | 11:00:00 |    18.9 |  18.9 |        100 |        14 |
|   21 | 11:00:00 |    18.9 |  18.9 |        100 |        14 |
+------+----------+---------+-------+------------+-----------+
4 rows in set (0.00 sec)
```

Now to find the dew starting time,

```
mysql> SELECT * FROM wdata WHERE Day = 21 AND Celsius = DewPo Order by
Time ASC LIMIT 1;
```

```
+------+----------+---------+-------+------------+-----------+
| Day  | Time     | Celsius | DewPo | RelativeHu | WindSpeed |
+------+----------+---------+-------+------------+-----------+
|   21 | 09:00:00 |    18.9 |  18.9 |        100 |        15 |
+------+----------+---------+-------+------------+-----------+
1 row in set (0.00 sec)
```

Dew started forming at 09:00:00 on August 21st.

7. What is the hottest recorded temperature for any day? Your MySQL command needs
to return this answer in Fahrenheit.

```
mysql> SELECT MAX(Celsius), MAX((Celsius * 9/5) + 32) as MAXIMUM FROM
wdata;
```

```
+------------------+------------------+
| MAX(Celsius)     | MAXIMUM          |
+------------------+------------------+
| 28.6000003814697 | 83.4800006866455 |
+------------------+------------------+
1 row in set (0.00 sec)
```

The hottest recorded temperature for any day is 28.6 (Degree Celsius) and in Fahrenheit it is 83.48 F (denoted as Maximum)

8. Without destroying the current database, add a new column to the table which is the speed direction (integer). Do not upload the data as this is not easy to do with the commands that have studied.

```
mysql> ALTER TABLE wdata ADD SpeedDir INTEGER;
```

```
Query OK, 1077 rows affected (0.06 sec)
Records: 1077  Duplicates: 0  Warnings: 0
```

```
mysql> DESC wdata;
```

```
+------------+---------+------+-----+---------+-------+
| Field      | Type    | Null | Key | Default | Extra |
+------------+---------+------+-----+---------+-------+
| Day        | int(11) | YES  |     | NULL    |       |
| Time       | time    | YES  |     | NULL    |       |
| Celsius    | float   | YES  |     | NULL    |       |
| DewPo      | float   | YES  |     | NULL    |       |
| RelativeHu | int(11) | YES  |     | NULL    |       |
| WindSpeed  | int(11) | YES  |     | NULL    |       |
| SpeedDir   | int(11) | YES  |     | NULL    |       |
+------------+---------+------+-----+---------+-------+
7 rows in set (0.00 sec)
```