**Weather report forecasting Analysis & Graphical Speculation on Dashboard**

**Insightful Ninjas (team number 492)**

**After analyzing the complete data set accurately, The following have been answered for a better understanding**

Note:

* we have a doubt in Q1 and Q4, posted the same in the comment section, waiting for clarification.
* We have done Q7 using the forecast function in excel

1. Give the count of the minimum number of days for the time when temperature reduced

WITH subquery AS ( SELECT date, temperature\_f,

LAG(temperature\_f) OVER (ORDER BY date) AS prev\_temp FROM weatherfile )

SELECT MAX(COUNT(CASE WHEN temperature\_f > prev\_temp THEN 1 END)) OVER ()

FROM subquery WHERE prev\_temp IS NOT NULL;

2. Find the temperature as Cold / hot by using the case and avg of values of the given data set

select date,

case when Temperature\_F>(select avg(temperature\_f) from weatherfile) then 'hot'

else 'cold'

end as 'hot/cold'

from weatherfile;

3. Can you check for all 4 consecutive days when the temperature was below 30 Fahrenheit

set @counter=0;

Select

Temperature\_F,

date,

(@counter=if(temperature\_f<30,@counter+1,0)) as consecutive\_days,

(@counter = 4) AS four\_consecutive\_days

from weatherfile

order by date;

4. Can you find the maximum number of days for which temperature dropped

WITH subquery AS ( SELECT date, temperature\_f,

LAG(temperature\_f) OVER (ORDER BY date) AS prev\_temp FROM weatherfile )

SELECT MAX(COUNT(CASE WHEN temperature\_f < prev\_temp THEN 1 END)) OVER ()

FROM subquery WHERE prev\_temp IS NOT NULL;

5. Can you find the average of average humidity from the dataset

( NOTE: should contain the following clauses: group by, order by, date )

SELECT

AVG(Avg\_Humidity\_Pct) as avg\_avg\_humidity,

Date

FROM

weatherfile

GROUP BY

Date

ORDER BY

Date;

6. Use the GROUP BY clause on the Date column and make a query to fetch details for average windspeed ( which is now windspeed done in task 3 )

select date,avg(Avg\_Windspeed\_Mph) from weatherfile group by date order by date;

7. Please add the data in the dataset for 2034 and 2035 as well as forecast predictions for these years

( NOTE: data consistency and uniformity should be maintained )

Done in excel using function: FORECAST(x, known\_y’s, known\_x’s)

8. If the maximum gust speed increases from 55mph, fetch the details for the next 4 days

Select \*

From WeatherFile

where Max\_Gustspeed\_Mph>55

order by date

limit 4;

9. Find the number of days when the temperature went below 0 degrees Celsius

select count(\*) from WeatherFile where temperature\_f<32;

10. Create another table with a “Foreign key” relation with the existing given data set.

ALTER TABLE WeatherFile ADD COLUMN RecordID INT AUTO\_INCREMENT PRIMARY KEY;

CREATE TABLE WeatherData ( DataID INT AUTO\_INCREMENT PRIMARY KEY, RecordID INT, FOREIGN KEY (RecordID) REFERENCES WeatherFile(RecordID) );