Department of Data Science, Bishop Heber College Tiruchirappalli
NoSQL Database Management Lab

Lab2. India Weather Analytics using Historical Data Part-I

Objectives
In this lab, you will explore the selection, filtering and aggregate functions to analyse the historical data of India Weather Information from 1995 to February 2020

Dataset: weather_india_1995_2020.xlsx
Data format: month, day, year, temperature, city

Tasks To Be Completed

PART-1

1. Explain the attributes of the dataset, what are they?
2. Check whether the dataset has primary key?. If not, you do need primary key?.
3. Explain what insights you hope to gain

PART-2

Question1: Import Excel data into your table (You can use any tools – Oracle, SQLite, etc)
Question2: Write 5 Queries using SELECT and WHERE clause
Question3: Write 5 queries using Aggregate functions (min, max, avg and count)

Sample Queries (Write SQL Queries to answer the following)

1. What is the lowest, highest and average temperature of your dataset (from year 1995 to February 2020)?

```
SQL> Select min(temperature), max(temperature), avg(temperature)
from weather_india where year > 1994 and year < 2021 and
month = 2;
```

2. What is the average temperature in May 2019 in Chennai?

```
SQL> Select avg(temperature), from weather_india where
month = 5 and year = 2019 and city = 'Chennai';
```

3. Which is the hottest day in 2019 in Delhi?

```
SQL> Select max(temperature) from weather_india where
year = 2019 and city = 'delhi';
```

4. Which is the coldest day in 2018 in Chennai?

```
SQL> Select min(temperature) from weather_india where
year = 2018 and city = 'chennai';
```

5. Which is the coldest year in December?. Print city and temperature.

```
SQL> Select city, temperature , year from weather_ india
where month = 12 and temperature < 30;
```

6. Which is the hottest city in India in 2017?

```
SQL> Select city, temperature, year from weather_india
where year = 2017 and temperature >100;
```

7. Is winter in Delhi in January 2017 colder than Mumbai?. Print average temperature of Delhi and Mumbai too.

```
SQL> Select avg(temperature) from weather_india where city
between 'delhi' and 'mumbai' and month =1 and year=2017;
```

8. Display the day, month, year and city of the coldest day.

```
SQL> Select day, month, year, city from weather_india
where temperature <20;
```