MODERN DATABASE SYSTEM LAB 4

INDIA WEATHER ANALYTICS USING HISTORICAL DATA PART- II

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QUESTION 1:

```
select city ,avg(temp) as average_temp
from weather_india
group by city
order by avg(temp) desc;
```

```
SQL> select city ,avg(temp) as average_temp
  2  from weather_india
  3  group by city
  4  order by avg(temp) desc;

CITY                      AVERAGE_TEMP
------------------------- ------------
chennai                     82.8219791
mumbai                      81.5042238
kolkata                     78.8528086
delhi                       75.7865012
```

QUESTION 2:

```
select city, avg(temp) as average_temp_1995_to_feb_2020
from weather_india
where year > 1995 and (year <= 2020 and month = 2)
group by city
order by city;
```

```
SQL> select city, avg(temp) as average_temp_1995_to_feb_2020
  2  from weather_india
  3  where year > 1995 and (year <= 2020 and month = 2)
  4  group by city
  5  order by city;

CITY                      AVERAGE_TEMP_1995_TO_FEB_2020
------------------------- -----------------------------
chennai                                      79.1492154
delhi                                        62.8857347
kolkata                                      72.6850214
mumbai                                       78.3303852
```

QUESTION 3:

select min(temp) as lowest_temp_in_kolkata,

max(temp) as highest_temp_in_kolkata,

avg(temp) as average_temp_in_kolkata

from weather_india

where city = 'kolkata'

and year >= 2010 and year <= 2020;

```
SQL> select min(temp) as lowest_temp_in_kolkata,
  2  max(temp) as highest_temp_in_kolkata,
  3  avg(temp) as average_temp_in_kolkata
  4  from weather_india
  5  where city = 'kolkata'
  6  and year >= 2010 and year <= 2020;

LOWEST_TEMP_IN_KOLKATA HIGHEST_TEMP_IN_KOLKATA AVERAGE_TEMP_IN_KOLKATA
---------------------- ----------------------- -----------------------
                   -99                    96.3              79.0960345
```

QUESTION 4:

select city, avg(temp) as avg_temp_atleast_40de_apl_19

from weather_india

where temp >= 40 and month = 4 and year = 2019

group by city;

```
SQL> select city, avg(temp) as avg_temp_atleast_40de_apl_19
  2  from weather_india
  3  where temp >= 40 and month = 4 and year = 2019
  4  group by city;

CITY                      AVG_TEMP_ATLEAST_40DE_APL_19
------------------------- ----------------------------
chennai                                     89.1724138
mumbai                                      85.6896552
delhi                                       86.9307692
kolkata                                     85.1448276
```

QUESTION 5:

select month, avg(temp) as avg_temp_chennai_2019

from weather_india

where city = 'chennai' and year = '2019'

group by month

order by month;

```
SQL> select month, avg(temp) as avg_temp_chennai_2019
  2  from weather_india
  3  where city = 'chennai' and year = '2019'
  4  group by month
  5  order by month;

     MONTH AVG_TEMP_CHENNAI_2019
---------- --------------------
         1           77.3451613
         2           82.2678571
         3           85.9064516
         4                 82.9
         5           73.6064516
         6           92.5466667
         7           88.8967742
         8           88.3709677
         9           85.2066667
        10           83.2806452
        11                82.52

     MONTH AVG_TEMP_CHENNAI_2019
---------- --------------------
        12           79.6225806
```

QUESTION 6:

select year, avg(temp) as avg_temp_mumbai

from weather_india

where city = 'mumbai'

group by year

order by avg(temp) desc;

```
SQL> select year, avg(temp) as avg_temp_mumbai
  2  from weather_india
  3  where city = 'mumbai'
  4  group by year
  5  order by avg(temp) desc;

      YEAR AVG_TEMP_MUMBAI
---------- ---------------
      2017      83.4043836
      2010      82.6871233
      2015      82.6166667
      2009      82.5021918
      2011      82.2846575
      2018      82.2526027
      2014      82.2515068
      2016      81.8393443
      1997      81.7857534
      1996       81.745082
      2013      81.7391781

      YEAR AVG_TEMP_MUMBAI
---------- ---------------
      2000      81.7103825
      2012      81.6964481
      2007      81.4682192
      2003      81.4369863
      2006      81.3005479
      1999      81.2789041
      2005      81.2624658
      2001      81.0630137
      2004      80.6027322
      1995      80.5621918
      2008       80.492623

      YEAR AVG_TEMP_MUMBAI
---------- ---------------
      2002      80.1052055
      1998      80.0279452
      2019      79.8649315
      2020       78.962963
```

QUESTION 7:

select city, year, avg(temp)

from weather_india

where year in (2017, 2018, 2019)

group by city, year

order by city, year;

```
SQL> select  city, year, avg(temp)
  2  from weather_india
  3  where year in (2017, 2018, 2019)
  4  group by city, year
  5  order by city, year;

CITY                          YEAR  AVG(TEMP)
------------------------- ---------- ----------
chennai                         2017 84.7586301
chennai                         2018 83.8887671
chennai                         2019 83.5249315
delhi                           2017 77.9082192
delhi                           2018  75.099726
delhi                           2019 73.4953425
kolkata                         2017 79.8583562
kolkata                         2018 78.1339726
kolkata                         2019 76.2112329
mumbai                          2017 83.4043836
mumbai                          2018 82.2526027

CITY                          YEAR  AVG(TEMP)
------------------------- ---------- ----------
mumbai                          2019 79.8649315
```