LAB:3 INDIA WEATHER ANALYTICS USING HISTORICAL DATA PART-||

Question1: Write 3 queries using WHERE and GROUPBY clause

(1) select avg(temperature), city from weather_india where day=9 group by city;

AVG(TEMPERATURE)	CITY
82.8665563	chennai
81.2976821	mumbai
75.7834437	delhi
79.1301325	kolkata

(2) select city, count(city) from weather_india where temperature='90.0' group by city;

CITY	COUNT(CITY)
chennai	38
mumbai	5
delhi	34
kolkata	18

(3) select city, max(temperature) from weather_india where year between 2010 and 2015 group by city;

CITY	MAX(TEMPERATURE)
chennai	96
mumbai	92.6
delhi	102.5
kolkata	95.2

Question2: Write 3 Queries using WHERE, GROUPBY and HAVING clause

(1) select sum(temperature), month from weather_india where year between 2000 and 2010 group by month having month in (10,11,12,1,2,3);

SUM(TEMPERATURE)	MONTH
93502.3	1
100515.6	11
91268.2	2
107512.6	3
110221.6	10
95674.2	12

(2) select count(city) as "no. of days", city from weather_india where year between 1999 and 2017 and temperature < 100 group by city having city not in 'chennai';

no. of days	CITY
6941	mumbai
6898	delhi
6941	kolkata

(3) select avg(temperature), year from weather_india where city not in 'chennai' group by year having year >= 2000;

AVG(TEMPERATURE)	YEAR
78.9787215	2005
79.7507763	2009
79.7721461	2010
79.1148858	2013
78.4954338	2018
78.5444749	2001
79.6859361	2006
79.349589	2014
80.3903196	2017
76.5238356	2019

77.5646575 2007

AVG(TEMPERATURE) YEAR

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78.7945355 2000

78.5621005 2011

79.0432877 2003

79.4233151 2004

79.5721311 2015

79.9728597 2016

67.6222222 2020

77.5352511 2002

78.3162113 2008

79.5935337 2012

Question3: Write 3 Queries using WHERE, GROUPBY, HAVING and ORDERBY clause

(1) select min(temperature),year from weather_india where temperature > -99 group by year having year <= 2000 order by year;

MIN(TEMPERATURE) YEAR

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50.7 1995

50.3 1996

45.4 1997

49.1 1998

48.9 1999

47.7 2000

(2) select city,avg(temperature) from weather_india where year between 1995 and 2005 group by city having avg(temperature) >50 order by city;

CITY AVG(TEMPERATURE)

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chennai 82.4170817

delhi 75.6950722

kolkata 78.5704331

mumbai 81.0530114

(3) select month,sum(temperature) from weather_india where year between 2000 and 2015 group by month having sum(temperature) >50000 order by month;

MONTH	SUM(TEMPERATURE)
1	135863.9
2	131723
3	157025.5
4	162124
5	174671.3
6	164098.9
7	169385.1
8	166761.4
9	160322.3
10	161255
11	146546.3
12	138721.3

INDIAN WEATHER ANALYTICS USING HISTORICAL DATA PART-||

SAMPLE QUERIES:

Question1: SQL> select city,avg(temperature)from weather_india where month=5 group by city order by city desc;

CITY	AVG(TEMPERATURE)
mumbai	85.2651613
kolkata	85.888
delhi	89.6534194
chennai	88.636

Question2: SQL> select city,avg(temperature) from weather_india where year between 1995 and 2020 and month=2 2 group by city order by city;

CITY	AVG(TEMPERATURE)
chennai	79.140192
delhi	62.8658436
kolkata	72.6458162
mumbai	78.2491084

Question3: SQL> select min(temperature),max(temperature),avg(temperature) from weather_india where year between 2010 and 2020 2 and city='kolkata';

MIN(TEMPERATURE)	MAX(TEMPERATURE)	AVG(TEMPERATURE)
-99	96.3	79.0960345

Question4: SQL> select city,avg(temperature) from weather_india where temperature<=40 and year=2019 and month=4 group by city;

CITY	AVG(TEMPERATURE)
chennai	-99
mumbai	-99
delhi	-99
kolkata	-99

Question5: SQL> select mon,month,avg(temperature) from indian_weatherdata where year=2019 and city='chennai' group by mon,month order by month asc;

MON	MONTH	AVG(TEMPERATURE)
January	1	77.3451613
February	2	82.2678571
March	3	85.9064516
April	4	82.9
May	5	73.6064516
June	6	92.5466667
July	7	88.8967742
August	8	88.3709677
September	9	85.2066667
October	10	83.2806452
November	11	82.52

MON	MONTH	AVG(TEMPERATURE)
December	12	79.6225806

12 rows selected.

Question6: SQL> select year,avg(temperature) from weather_india where city='mumbai' group by year order by year desc;

YEAR	AVG(TEMPERATURE)
2020	78.962963
2019	79.8649315
2018	82.2526027
2017	83.4043836
2016	81.8393443
2015	82.6166667
2014	82.2515068
2013	81.7391781
2012	81.6964481
2011	82.2846575
2010	82.6871233

YEAR	AVG(TEMPERATURE)
2009	82.5021918
2008	80.492623
2007	81.4682192
2006	81.3005479
2005	81.2624658
2004	80.6027322
2003	81.4369863
2002	80.1052055
2001	81.0630137
2000	81.7103825
1999	81.2789041

YEAR AVG(TEMPERATURE)

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1998 80.0279452

1997 81.7857534

1996 81.745082

1995 80.5621918

26 rows selected.

Question7: SQL> select city,year,avg(temperature) from weather_india where year between 2017 and 2019 group by city,year order by city,year asc;

CITY YEAR AVG(TEMPERATURE)

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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(TEMPERATURE)

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mumbai 2019 79.8649315

12 rows selected.