REPORT

I Have completed my SQL lab with help of notes provided during the regular online classes as well as reference book shared in class that is “book **BeginningSQLqueries** by Clare Churcher”.

I got required the output (correct format) after rectifying silly error in almost each queries. I Refer website such as https://stackoverflow.com/, https://www.geeksforgeeks.org/ https://www.w3schools.com/ , to get know different ways of writing queies.

Lab5. Retail Sales Analytics Part-II

Objectives:

In this lab, you will continue the exploration of Retail Sales dataset using multiple tables.

Tasks To Be Done

Question1: Write 3 queries with at least 1 join per query.

Question2: Write at least 3 queries that must use outer joins.

Question1:

i) Select Sales.Sales_id, feature_date from Sales left join feature_data on Sales.Sales_id = feature_data.feature_id where Sales_id <5 and feature_id<5;

ii) Select Sales.Sales_id, feature_date from Sales right join feature_data on Sales.Sales_id = feature_data.feature_id where Sales_id < 25 and feature_id < 20;

iii) Select Sales.isholiday, feature_date from Sales inner Join feature_data on Sales.isholiday = feature_data.Isholiday where Sales_id <=11 and feature_id <=11;

Question 2:

i) SQL> Select Sales.dept from Sales full outer join feature_data on Sales.Sales_id = feature_data.Feature_id where Sales_id <=6 and feature_id <=6;

ii) SQL> Select Sales.isholiday, Sales_id from Sales full Outer join feature_data on Sales.Sales_id = feature_data.feature_id where Sales_id <=13 and feature_id<=13;

iii) SQL> Select weekly_sales from Sales full outer join feature_data on Sales.Sales_id = feature_data.feature_id where Sales_id <=5 and feature_id <=5;

LAB5: RETAILL SALES ANALYTICS PART-||

Question1.Write 3 queries with at least 1 join per query.

(i) select sales.sales_id,feature_date from sales left join feature on

sales.sales_id = feature.feature_id where sales_id<5 and feature_id<5;

```
  SALES_ID FEATURE_
----------------------------
         1 05-02-10
         2 12-02-10
         3 19-02-10
         4 26-02-10
```

(ii) select sales.sales_id,feature_date from sales right join feature on sales.sales_id = feature.feature_id where sales_id<25 and feature_id<20;

```
  SALES_ID FEATURE_
---------------------------------------
         1 05-02-10
         2 12-02-10
         3 19-02-10
         4 26-02-10
         5 05-03-10
         6 12-03-10
         7 19-03-10
         8 26-03-10

   SALES_ID FEATURE_
-----------------------------------
        12 23-04-10
        13 30-04-10
        14 07-05-10
        15 14-05-10
        16 21-05-10
        17 28-05-10
        18 04-06-10
        19 11-06-10

19 rows selected.
```

(iii) select sales.dept from sales full outer join feature on sales.sales_id = feature.feature_id where sales_id<=6 and feature_id<=6;

```
      DEPT
----------
         1
         1
         1
         1
         1
         1

6 rows selected.
```

Question2: Write 3 queries with at least 1 join per query.

(i)SQL> select sales.dept from sales full outer join feature_data on sales.sales_id = feature_data.feature_id where sales_id<=6 and feature_id<=6;

```
    DEPT
----------
       1
       1
       1
       1
       1
       1

6 rows selected.
```

(ii)SQL> select sales.isholiday, sales_id from sales full outer join feature_data on sales.sales_id = feature_data.feature_id where sales_id<=13 and feature_id<=13;

```
ISHOLIDAY                 SALES_ID
------------------------- ----------
FALSE                            1
TRUE                             2
FALSE                            3
FALSE                            4
FALSE                            5
FALSE                            6
```

```
FALSE                     7
FALSE                     8
FALSE                     9
FALSE                    10
FALSE                    11

ISHOLIDAY                SALES_ID
------------------------- ----------
FALSE                    12
FALSE                    13

13 rows selected.
```

(iii)SQL> select weekly_sales from sales full outer join feature_data on sales.sales_id = feature_data.feature_id where sales_id<=5 and feature_id<=5;

```
WEEKLY_SALES
------------
    24924.5
   46039.49
   41595.55
   19403.54
    21827.9
```

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Lab6. Retail Sales Analytics Part-III

Objectives:

In this lab, you will continue the exploration of Retail Sales dataset using multiple tables. You will learn and apply aggregation and grouping functions.

Tasks To Be Done

Question: Develop aggregate queries in SQL on Retail dataset as follows

- Write 6 SQL queries with aggregation.
- At least 1 aggregate function per query.
- At least 2/5 aggregate functions among the 6 queries.
- At least 4 GROUP BY clauses among the 6 queries.
- At least 3 HAVING clauses among the 6 queries.

1) SQL> Select max(store_id) from store;

2) SQL> Select feature_id, min(fuel-price) from feature_data where feature_id <6 group by feature_id;

3) SQL> Select store_id, min(fuel-price) from feature_data where store_id <30 group by store_id having min(fuel_price) > 2.75;

4) SQL> Select store_id, max(temperature) from feature_data where store_id >30 group by store_id having max(temperature) >70;

5) SQL> Select feature_id, min (temperature) from feature_data where feature_id > 20 group by feature_id having min (temperature) < 20;

6) SQL> Select feature_id, max(fuel_price) from feature_data where feature_id < 45 group by feature_id having max (fuel_price) < 3.98;

LAB6: RETAIL SALES ANALYTICS PART-|||

Question: Develop aggregate queries in SQL on Retail dataset as follows.

- Write 6 SQL queries with aggregation.
- At least 1 aggregate function per query.
- At least 2/5 aggregate functions among the 6 queries.
- At least 4 GROUP BY clauses among the 6 queries.
- At least 3 HAVING clauses among the 6 queries.

(1).SQL> select max(store_id) from store;

MAX(STORE_ID)

45

(2).SQL> select feature_id,min(fuel_price) from feature_data where feature_id<6 group by feature_id;

FEATURE_ID MIN(FUEL_PRICE)

---------- ----------

1 2.572

2 2.548

4 2.561

5 2.625

3 2.514

(3).SQL> select store_id,min(fuel_price) from feature_data where store_id<30 group by store_id having min(fuel_price)>2.75;

STORE_ID MIN(FUEL_PRICE)

---------- ----------

28 2.825

24 2.837

27	2.837
12	2.825
10	2.825
15	2.837
19	2.837

7 rows selected.

(4).SQL> select store_id,max(temperature) from feature_data where store_id>30 group by store_id having max(temperature)>70;

STORE_ID	MAX(TEMPERATURE)
34	87.73
42	95.36
43	91.36
44	85.58
31	94.22
32	81.95
37	87.64
35	83.36
38	101.95
33	100.14
41	76.54

STORE_ID	MAX(TEMPERATURE)
40	76.67
45	82.99
36	87.64
39	88.65

15 rows selected.

(5).SQL> select feature_id,min(temperature) from feature_data where feature_id>20 group by feature_id having min(temperature)<20;

FEATURE_ID MIN(TEMPERATURE)

---------- ----------

1148	17.46
1253	11.94
2962	16.57
4420	18.92
4552	18.14
5695	15.47
7155	18.49
7198	18.75
7435	13.54
7981	11.44
1185	19.53

FEATURE_ID MIN(TEMPERATURE)

---------- ----------

1243	12.57
1250	11.26
3146	14.84
2600	19.61
2778	19.66
2883	8.55
2961	6.23
4056	10.91
4600	16.7
4653	15.22

4710	18.57

FEATURE_ID	MIN(TEMPERATURE)
7433	19.21
1135	17.95
1141	10.09
1190	15.2
1244	2.32
2233	16.94
2598	19.53
2779	12.39
2780	17.46
3011	18.76
4602	5.54

FEATURE_ID	MIN(TEMPERATURE)
7152	16.87
7154	16.5
1145	-2.06
1189	11.17
1191	12.19
2827	14.44
2916	15.64
3066	16.27
4005	15.25
4054	18.2
4418	18.3

FEATURE_ID	MIN(TEMPERATURE)
7201	14.02
7256	15.44
7875	16.94
1140	13.76
1192	15.56
1245	-6.08
1251	13.73
1252	13.39
2339	11.44
2549	19.83
2704	18.82

FEATURE_ID	MIN(TEMPERATURE)
2784	15.02
2965	11.29
2966	14.19
3067	.25
4107	15.33
4238	17.91
4370	19.64
4524	18.89
4601	12.98
4703	11.17
4708	12.14

FEATURE_ID	MIN(TEMPERATURE)
4709	19.68
5696	18.51
7146	19.29
7148	18.55
7979	13.43
1093	10.53
1146	10.24
1193	18.67
1194	7.46
1247	-7.29
2783	13.64

FEATURE_ID	MIN(TEMPERATURE)
3009	17.56
3065	2.45
3068	11.15
4057	14.5
4157	12.27
4162	14.94
4551	9.55
4595	16.6
4606	16.3
4650	18.8
5797	18.82

FEATURE_ID	MIN(TEMPERATURE)
7151	13.29
7254	9.8
7255	19.64
7982	14.75
1142	11.32
1144	10.11
1147	17.3
1248	4
2734	18.12
2832	19.55
2885	8.82

FEATURE_ID	MIN(TEMPERATURE)
2914	18.36
2955	19.03
4052	19.05
4055	15.58
4160	12.05
4598	18.73
4607	14.31
4706	6.27
7150	9.51
7251	10.13
1198	18.79

FEATURE_ID	MIN(TEMPERATURE)
1246	-6.61
2337	13.43
2340	14.75
2731	19.79
2882	17.93
2884	17.64
2891	18.86
4006	18.75
4060	17
4603	11.17
4604	15.12

FEATURE_ID	MIN(TEMPERATURE)
4605	19.63
4714	18.19
5739	17.94
7334	16.81
7377	17.05
7099	14.48
7149	14.64
7333	14.56

129 rows selected.

(6).SQL> select feature_id,max(fuel_price) from feature_data where feature_id<45 group by feature_id having max(fuel_price)<3.98;

FEATURE_ID	MAX(FUEL_PRICE)
1	2.572
22	2.669
25	2.608
30	2.619
34	2.624
42	2.771
43	2.735
6	2.667
11	2.808
13	2.78
28	2.692

FEATURE_ID	MAX(FUEL_PRICE)
29	2.664
44	2.708
2	2.548
14	2.835
20	2.637
21	2.653
26	2.64
31	2.577
4	2.561
5	2.625

24	2.623

FEATURE_ID	MAX(FUEL_PRICE)
32	2.565
8	2.732
17	2.759
23	2.642
35	2.603
37	2.72
38	2.725
33	2.582
40	2.689
41	2.728
3	2.514

FEATURE_ID	MAX(FUEL_PRICE)
7	2.72
18	2.705
27	2.627
36	2.633
9	2.719
10	2.77
12	2.795
15	2.854
16	2.826

19	2.668
39	2.716

44 rows selected.