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Week 5 Graded Quiz using Teradata

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1. Have you completed the week 5 Teradata practice exercises guide? — 1 / 1 point

Answer Yes or No.

- (•) Yes
- ( ) No

Correct
Great! You are ready to take this quiz.

2. How many distinct skus have the brand "Polo fas", and are either size "XXL" or "black" in color? — 1 / 1 point

- ( ) 27,271
- ( ) 84
- (•) 13,623
- ( ) 5,224

Correct
There are several possible queries that would arrive at the right answer, one of which is:

```
SELECT COUNT(DISTINCT sku)
FROM skuinfo
WHERE brand = 'polo fas' AND (color = 'black' OR size = 'XXL');
```

3. There was one store in the database which had only 11 days in one of its months (in other words, that store/month/year combination only contained 11 days of transaction data). In what city and state was this store located? — 1 / 1 point

- (•) Atlanta, GA
- ( ) Tulsa, OK
- ( ) Richmond, VA
- ( ) Little Rock, AR

Correct
There are several possible queries that would arrive at the right answer, one of which is:

```
SELECT DISTINCT t.store, s.city, s.state
FROM trnsact t JOIN strinfo s
ON t.store=s.store
WHERE t.store IN (SELECT days_in_month.store
FROM(SELECT EXTRACT(YEAR from saledate) AS sales_year,
EXTRACT(MONTH from saledate) AS sales_month, store, COUNT (DISTINCT saledate) as numdays
FROM trnsact
GROUP BY sales_year, sales_month, store
HAVING numdays=11) as days_in_month)
```

4. Which sku number had the greatest increase in total sales revenue from November to December? — 1 / 1 point

- 4737469
- 2637537
- 6966816
- 3949538

Correct

There are several possible queries that would arrive at the right answer, one of which is:

```
SELECT sku,
sum(case when extract(month from saledate)=11 then amt end) as November,
sum(case when extract(month from saledate)=12 then amt end) as December,
December-November AS sales_bump
FROM trnsact
WHERE stype='P'
GROUP BY sku
ORDER BY sales_bump DESC;
```

5. What vendor has the greatest number of distinct skus in the transaction table that do not exist in the skstinfo table? (Remember that vendors are listed as distinct numbers in our data set). **1 / 1 point**

- 3313116
- 5715232
- 5511283
- 9514659

Correct

There are several possible queries that would arrive at the right answer, one of which is:

```
SELECT count(DISTINCT t.sku) as num_skus, si.vendor
FROM trnsact t
LEFT JOIN skstinfo s
ON t.sku=s.sku AND t.store=s.store
JOIN skuinfo si ON t.sku=si.sku
WHERE s.sku IS NULL
GROUP BY si.vendor
ORDER BY num_skus DESC;
```

6. What is the brand of the sku with the greatest standard deviation in sprice? Only examine skus which have been part of over 100 transactions. **1 / 1 point**

- Clinique
- Hart Sch
- Vanity F
- Polo Fas

Correct

There are several possible ways you could write the query to arrive at the correct answer, including with a subquery, such as this:

```
SELECT DISTINCT top10skus.sku, top10skus.sprice_stdev, top10skus.num_transactions, si.style, si.color, si.size, si.packsize, si.vendor, si.brand
FROM (SELECT TOP 1 sku, STDDEV_POP(sprice) AS sprice_stdev, count(sprice) AS num_transactions
FROM trnsact WHERE stype='P'
GROUP BY sku
HAVING num_transactions > 100
ORDER BY sprice_stdev DESC)
```

AS top10skus

JOIN skuinfo si

ON top10skus.sku = si.sku

ORDER BY top10skus.sprice_stdev DESC;

Or without a subquery, such as this:

SELECT TOP 1 t.sku, STDDEV_POP(t.sprice) AS sprice_stdev, count(t.sprice) AS num_transactions, si.style, si.color, si.size, si.packsize, si.vendor, si.brand

FROM trnsact t JOIN skuinfo si

ON t.sku = si.sku

WHERE stype='P'

GROUP BY t.sku, si.style, si.color, si.size, si.packsize, si.vendor, si.brand HAVING num_transactions > 100

ORDER BY sprice_stdev DESC;

7. What is the city and state of the store which had the greatest increase in average daily revenue (as defined in Teradata Week 5 Exercise Guide) from November to December? 1 / 1 point

- ○ Little Rock, AK
- ◉ Metairie, LA
- ○ Tucson, AZ
- ○ McAllen, TX

✓ **Correct**

There are several possible queries that would arrive at the right answer, one of which is:

SELECT s.city, s.state, t.store,

SUM(case WHEN EXTRACT(MONTH from saledate) =11 then amt END) as November,

SUM(case WHEN EXTRACT(MONTH from saledate) =12 then amt END) as December,

COUNT(DISTINCT (case WHEN EXTRACT(MONTH from saledate) =11 then saledate END)) as Nov_numdays,

COUNT(DISTINCT (case WHEN EXTRACT(MONTH from saledate) =12 then saledate END)) as Dec_numdays, (December/Dec_numdays)-(November/Nov_numdays) AS dip

FROM trnsact t JOIN strinfo s

ON t.store=s.store

WHERE t.stype='P' AND t.store||EXTRACT(YEAR from t.saledate)||EXTRACT(MONTH from t.saledate) IN (SELECT store||EXTRACT(YEAR from saledate)||EXTRACT(MONTH from saledate)

FROM trnsact

GROUP BY store, EXTRACT(YEAR from saledate), EXTRACT(MONTH from saledate)

HAVING COUNT(DISTINCT saledate)>= 20)

GROUP BY s.city, s.state, t.store

ORDER BY dip DESC;

8. Compare the average daily revenue (as defined in Teradata Week 5 Exercise Guide) of the store with the highest msa_income and the store with the lowest median msa_income (according to the msa_income field). In what city and state were these two stores, and which store had a higher average daily revenue? 1 / 1 point

- ◉ The store with the highest median msa_income was in Spanish Fort, AL. It had a lower average daily revenue than the store with the lowest median msa_income, which was in McAllen, TX.
- ○ The store with the highest median msa_income was in Littleton, CO. It had a higher average daily revenue than the store with the lowest median msa_income, which was in Cincinnati, OH.
- ○ The store with the highest median msa_income was in McAllen, TX. It had a higher average daily revenue than the store with the lowest median msa_income, which was in Spanish Fort, AL.
- ○ The store with the highest median msa_income was in Cincinnati, OH. It had a lower average daily revenue than the store with the lowest median msa_income, which was in Littleton, CO.

✓ **Correct**

There are several possible queries that would arrive at the right answer, one of which is:

SELECT SUM(store_rev. tot_sales)/SUM(store_rev.numdays) AS daily_average, store_rev.msa_income as med_income, store_rev.city, store_rev.state

FROM (SELECT COUNT (DISTINCT t.saledate) as numdays, EXTRACT(YEAR from t.saledate) as s_year, EXTRACT(MONTH from t.saledate) as s_month, t.store, sum(t.amt) as tot_sales, CASE when extract(year from t.saledate) = 2005 AND extract(month from t.saledate) = 8 then 'exclude'

END as exclude_flag, m.msa_income, s.city, s.state

FROM trnsact t JOIN store_msa m

ON m.store=t.store JOIN strinfo s

ON t.store=s.store

WHERE t.stype = 'P' AND exclude_flag IS NULL

GROUP BY s_year, s_month, t.store, m.msa_income, s.city, s.state

HAVING numdays >= 20) as store_rev

WHERE store_rev.msa_income IN ((SELECT MAX(msa_income) FROM store_msa),(SELECT MIN(msa_income) FROM store_msa))

GROUP BY med_income, store_rev.city, store_rev.state;

9. Divide the msa_income groups up so that msa_incomes between 1 and 20,000 are labeled 'low', msa_incomes between 20,001 and 30,000 are labeled 'med-low', msa_incomes between 30,001 and 40,000 are labeled 'med-high', and msa_incomes between 40,001 and 60,000 are labeled 'high'. Which of these groups has the highest average daily revenue (as defined in Teradata Week 5 Exercise Guide) per store? 1 / 1 point

- (●) low
- ( ) med-low
- ( ) high
- ( ) med-high

✓ **Correct**

There are several possible queries that would arrive at the right answer, one of which is:

SELECT SUM(revenue_per_store.revenue)/SUM(numdays) AS avg_group_revenue,

CASE WHEN revenue_per_store.msa_income BETWEEN 1 AND 20000 THEN 'low'

WHEN revenue_per_store.msa_income BETWEEN 20001 AND 30000 THEN 'med-low'

WHEN revenue_per_store.msa_income BETWEEN 30001 AND 40000 THEN 'med-high'

WHEN revenue_per_store.msa_income BETWEEN 40001 AND 60000 THEN 'high'

END as income_group

FROM (SELECT m.msa_income, t.store,

CASE when extract(year from t.saledate) = 2005 AND extract(month from t.saledate) = 8 then 'exclude'

END as exclude_flag, SUM(t.amt) AS revenue, COUNT(DISTINCT t.saledate) as numdays, EXTRACT(MONTH from t.saledate) as monthID

FROM store_msa m JOIN trnsact t

ON m.store=t.store

WHERE t.stype='P' AND exclude_flag IS NULL AND t.store||EXTRACT(YEAR from t.saledate)||EXTRACT(MONTH from t.saledate) IN (SELECT store||EXTRACT(YEAR from saledate)||EXTRACT(MONTH from saledate)

FROM trnsact

GROUP BY store, EXTRACT(YEAR from saledate), EXTRACT(MONTH from saledate)

HAVING COUNT(DISTINCT saledate)>= 20)

GROUP BY t.store, m.msa_income, monthID, exclude_flag) AS revenue_per_store

GROUP BY income_group

ORDER BY avg_group_revenue;

10. Divide stores up so that stores with msa populations between 1 and 100,000 are labeled 'very small', stores with msa populations between 100,001 and 200,000 are labeled 'small', stores with msa populations between 200,001 and 500,000 are labeled 'med_small', stores with msa populations between 500,001 and 1,000,000 are labeled 'med_large', stores with msa populations between 1,000,001 and 5,000,000 are labeled "large", and stores with msa_population greater than 5,000,000 are labeled "very large". What is the average daily revenue (as defined in Teradata Week 5 Exercise Guide) for a store in a "very large" population msa? 1 / 1 point

- (●) $25,452
- ( ) $6,298
- ( ) $16,355
- ( ) $24,341

✓ **Correct**

There are several possible queries that would arrive at the right answer, one of which is:

```
SELECT SUM(store_rev. tot_sales)/SUM(store_rev.numdays) AS daily_avg, CASE WHEN store_rev.msa_pop
BETWEEN 1 AND 100000 THEN 'very small'

WHEN store_rev.msa_pop BETWEEN 100001 AND 200000 THEN 'small'

WHEN store_rev.msa_pop BETWEEN 200001 AND 500000 THEN 'med_small'

WHEN store_rev.msa_pop BETWEEN 500001 AND 1000000 THEN 'med_large'

WHEN store_rev.msa_pop BETWEEN 1000001 AND 5000000 THEN 'large'

WHEN store_rev.msa_pop > 5000000 then 'very large'

END as pop_group

FROM(SELECT COUNT (DISTINCT t.saledate) as numdays, EXTRACT(YEAR from t.saledate) as s_year,
EXTRACT(MONTH from t.saledate) as s_month, t.store, sum(t.amt) AS tot_sales,

CASE when extract(year from t.saledate) = 2005 AND extract(month from t.saledate) = 8 then 'exclude'

END as exclude_flag, m.msa_pop

FROM trnsact t JOIN store_msa m

ON m.store=t.store

WHERE t.stype = 'P' AND exclude_flag IS NULL

GROUP BY s_year, s_month, t.store, m.msa_pop

HAVING numdays >= 20) as store_rev

GROUP BY pop_group

ORDER BY daily_avg;
```

11. Which department in which store had the greatest percent increase in average daily sales revenue from November to December, and what city and state was that store located in? Only examine departments whose total sales were at least $1,000 in both November and December. **1 / 1 point**

- ( ) Clinique department, Odessa, TX
- ( ) Gottex department, Pine Bluff, AR
- ( ) Jacques department, Jackson, MS
- (●) Louisvl department, Salina, KS

✓ **Correct**

There are several possible queries that would arrive at the right answer, one of which is:

```
SELECT s.store, s.city, s.state, d.deptdesc, sum(case when extract(month from saledate)=11 then amt end) as
November,

COUNT(DISTINCT (case WHEN EXTRACT(MONTH from saledate) ='11' then saledate END)) as Nov_numdays,
sum(case when extract(month from saledate)=12 then amt end) as December,

COUNT(DISTINCT (case WHEN EXTRACT(MONTH from saledate) ='12' then saledate END)) as Dec_numdays,
((December/Dec_numdays)-(November/Nov_numdays))/(November/Nov_numdays)*100 AS bump

FROM trnsact t JOIN strinfo s

ON t.store=s.store JOIN skuinfo si

ON t.sku=si.sku JOIN deptinfo d

ON si.dept=d.dept

WHERE t.stype='P' and t.store||EXTRACT(YEAR from t.saledate)||EXTRACT(MONTH from t.saledate) IN (SELECT
store||EXTRACT(YEAR from saledate)||EXTRACT(MONTH from saledate)

FROM trnsact

GROUP BY store, EXTRACT(YEAR from saledate), EXTRACT(MONTH from saledate)

HAVING COUNT(DISTINCT saledate)>= 20)
```

```
GROUP BY s.store, s.city, s.state, d.deptdesc HAVING November > 1000 AND December > 1000

ORDER BY bump DESC;
```

12. Which department within a particular store had the greatest decrease in average daily sales revenue from August to September, and in what city and state was that store located? **1 / 1 point**

- ○ Polomen department, Knoxville, TN
- ○ Clinique department, Cincinnati, OH
- ◉ Clinique department, Louisville, KY
- ○ Polomen department, Greenville, SC

✓ **Correct**

There are several possible queries that would arrive at the right answer, one of which is:

```
SELECT s.city, s.state, d.deptdesc, t.store,

CASE when extract(year from t.saledate) = 2005 AND extract(month from t.saledate) = 8 then 'exclude'

END as exclude_flag,

SUM(case WHEN EXTRACT(MONTH from saledate) ='8' THEN amt END) as August,

SUM(case WHEN EXTRACT(MONTH from saledate) ='9' THEN amt END) as September,

COUNT(DISTINCT (case WHEN EXTRACT(MONTH from saledate) ='8' then saledate END)) as Aug_numdays,
COUNT(DISTINCT (case WHEN EXTRACT(MONTH from saledate) ='9' then saledate END)) as Sept_numdays,
(August/Aug_numdays)-(September/Sept_numdays) AS dip

FROM trnsact t JOIN strinfo s

ON t.store=s.store JOIN skuinfo si

ON t.sku=si.sku JOIN deptinfo d

ON si.dept=d.dept WHERE t.stype='P' AND exclude_flag IS NULL AND t.store||EXTRACT(YEAR from
t.saledate)||EXTRACT(MONTH from t.saledate) IN (SELECT store||EXTRACT(YEAR from
saledate)||EXTRACT(MONTH from saledate)

FROM trnsact

GROUP BY store, EXTRACT(YEAR from saledate), EXTRACT(MONTH from saledate)

HAVING COUNT(DISTINCT saledate)>= 20)

GROUP BY s.city, s.state, d.deptdesc, t.store, exclude_flag

ORDER BY dip DESC;
```

13. Identify which department, in which city and state of what store, had the greatest DECREASE in the number of items sold from August to September. How many fewer items did that department sell in September compared to August? **1 / 1 point**

- ○ The Clinique department in Greenville, SC sold 18,553 fewer items
- ○ The R Lauren department in Toledo, OH sold 12,009 fewer items
- ◉ The Clinique department in Louisville, KY sold 13,491 fewer items
- ○ The R Lauren department in Charlotte, NC sold 5,856 fewer items

✓ **Correct**

There are several possible queries that could have given you the right answer, one of which is:

```
SELECT s.city, s.state, d.deptdesc, t.store,

CASE when extract(year from t.saledate) = 2005 AND extract(month from t.saledate) = 8 then 'exclude'

END as exclude_flag,

SUM(case WHEN EXTRACT(MONTH from saledate) = 8 then t.quantity END) as August,

SUM(case WHEN EXTRACT(MONTH from saledate) = 9 then t.quantity END) as September, August-September
AS dip

FROM trnsact t JOIN strinfo s

ON t.store=s.store JOIN skuinfo si

ON t.sku=si.sku JOIN deptinfo d

ON si.dept=d.dept
```

```
WHERE t.stype='P' AND exclude_flag IS NULL AND

t.store||EXTRACT(YEAR from t.saledate)||EXTRACT(MONTH from t.saledate) IN

(SELECT store||EXTRACT(YEAR from saledate)||EXTRACT(MONTH from saledate)

FROM trnsact

GROUP BY store, EXTRACT(YEAR from saledate), EXTRACT(MONTH from saledate)

HAVING COUNT(DISTINCT saledate)>= 20)

GROUP BY s.city, s.state, d.deptdesc, t.store, exclude_flag

ORDER BY dip DESC;
```

14. For each store, determine the month with the minimum average daily revenue (as defined in Teradata Week 5 Exercise Guide) . For each of the twelve months of the year, count how many stores' minimum average daily revenue was in that month. During which month(s) did over 100 stores have their minimum average daily revenue? **1 / 1 point**

- ○ January and September
- ○ August and September
- ◉ August only
- ○ January and August

✓ **Correct**

There are several possible queries that would arrive at the right answer, one of which is:

```
SELECT CASE when max_month_table.month_num = 1 then 'January' when max_month_table.month_num = 2
then 'February' when max_month_table.month_num = 3 then 'March' when max_month_table.month_num = 4
then 'April' when max_month_table.month_num = 5 then 'May' when max_month_table.month_num = 6 then
'June' when max_month_table.month_num = 7 then 'July' when max_month_table.month_num = 8 then
'August' when max_month_table.month_num = 9 then 'September' when max_month_table.month_num = 10
then 'October' when max_month_table.month_num = 11 then 'November' when
max_month_table.month_num = 12 then 'December' END, COUNT(*)

FROM (SELECT DISTINCT extract(year from saledate) as year_num, extract(month from saledate) as
month_num, CASE when extract(year from saledate) = 2005 AND extract(month from saledate) = 8 then
'exclude' END as exclude_flag, store, SUM(amt) AS tot_sales, COUNT (DISTINCT saledate) as numdays,
tot_sales/numdays as dailyrev, ROW_NUMBER () over (PARTITION BY store ORDER BY dailyrev DESC) AS
month_rank

FROM trnsact

WHERE stype='P' AND exclude_flag IS NULL AND store||EXTRACT(YEAR from saledate)||EXTRACT(MONTH
from saledate) IN (SELECT store||EXTRACT(YEAR from saledate)||EXTRACT(MONTH from saledate)

FROM trnsact

GROUP BY store, EXTRACT(YEAR from saledate), EXTRACT(MONTH from saledate)

HAVING COUNT(DISTINCT saledate)>= 20)

GROUP BY store, month_num, year_num

HAVING numdays>=20 QUALIFY month_rank=12) as max_month_table

GROUP BY max_month_table.month_num

ORDER BY max_month_table.month_num;
```

15. Write a query that determines the month in which each store had its maximum number of sku units returned. During which month did the greatest number of stores have their maximum number of sku units returned? **1 / 1 point**

- ◉ December
- ○ January
- ○ March
- ○ September

✓ **Correct**

There are several possible queries that would arrive at the right answer, one of which is:

```
SELECT CASE when max_month_table.month_num = 1 then 'January' when max_month_table.month_num = 2
then 'February' when max_month_table.month_num = 3 then 'March' when max_month_table.month_num = 4
then 'April' when max_month_table.month_num = 5 then 'May' when max_month_table.month_num = 6 then
'June' when max_month_table.month_num = 7 then 'July' when max_month_table.month_num = 8 then
'August' when max_month_table.month_num = 9 then 'September' when max_month_table.month_num = 10
```

```
then 'October' when max_month_table.month_num = 11 then 'November' when
max_month_table.month_num = 12 then 'December' END, COUNT(*)

FROM (SELECT DISTINCT extract(year from saledate) as year_num, extract(month from saledate) as
month_num, CASE when extract(year from saledate) = 2004 AND extract(month from saledate) = 8 then
'exclude' END as exclude_flag, store, SUM(quantity) AS tot_returns, ROW_NUMBER () over (PARTITION BY store
ORDER BY tot_returns DESC) AS month_rank

FROM trnsact

WHERE stype='R' AND exclude_flag IS NULL AND store||EXTRACT(YEAR from saledate)||EXTRACT(MONTH
from saledate) IN (SELECT store||EXTRACT(YEAR from saledate)||EXTRACT(MONTH from saledate)

FROM trnsact

GROUP BY store, EXTRACT(YEAR from saledate), EXTRACT(MONTH from saledate)

HAVING COUNT(DISTINCT saledate)>= 20)

GROUP BY store, month_num, year_num QUALIFY month_rank=1) as max_month_table

GROUP BY max_month_table.month_num

ORDER BY max_month_table.month_num
```