

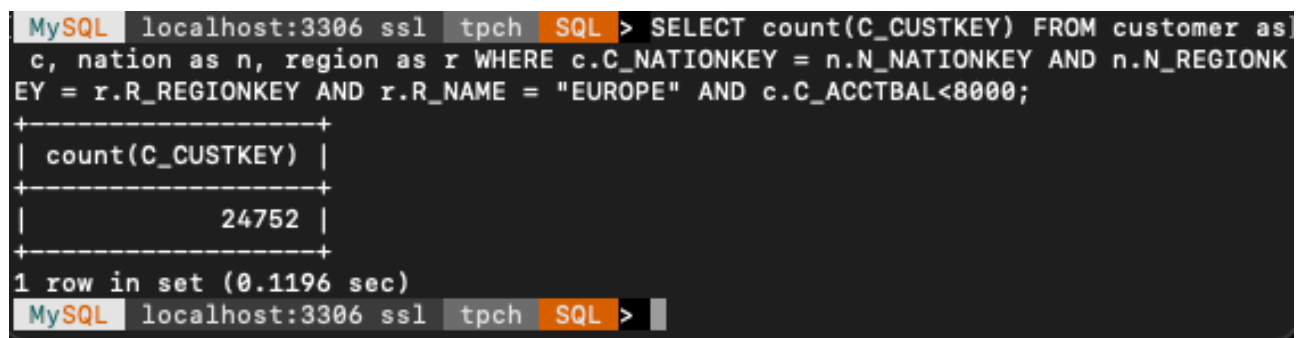
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DBMS Assignment 3

## DATABASE USED : TPCH

All Queries were executed on the imported TPCH database

**Q1. Query:**

```
SELECT count(C_CUSTKEY) FROM customer as c, nation as n, region as r
WHERE c.C_NATIONKEY = n.N_NATIONKEY AND n.N_REGIONKEY = r.R_REGIONKEY
AND r.R_NAME = "EUROPE" AND c.C_ACCTBAL<8000;
```



```
MySQL localhost:3306 ssl tpch SQL > SELECT count(C_CUSTKEY) FROM customer as
c, nation as n, region as r WHERE c.C_NATIONKEY = n.N_NATIONKEY AND n.N_REGIONK
EY = r.R_REGIONKEY AND r.R_NAME = "EUROPE" AND c.C_ACCTBAL<8000;
+-----+
| count(C_CUSTKEY) |
+-----+
|                24752 |
+-----+
1 row in set (0.1196 sec)
MySQL localhost:3306 ssl tpch SQL >
```

**Q2. Query:**

```
SELECT
  r.R_NAME AS most_supplied_region,
  COUNT(DISTINCT p.P_PARTKEY) AS distinct_parts_count
FROM
  region as r
JOIN
  nation as n ON r.R_REGIONKEY = n.N_REGIONKEY
JOIN
  supplier as s ON n.N_NATIONKEY = s.S_NATIONKEY
JOIN
  partsupp as ps ON s.S_SUPPKEY = ps.PS_SUPPKEY
JOIN
  part as p ON ps.PS_PARTKEY = p.P_PARTKEY
GROUP BY
  r.R_NAME
ORDER BY
```

```
MySQL localhost:33060+ ssl tpch SQL > SELECT I.L_ORDERKEY, I.L_QUANTITY FROM lineitem as I WHERE I.L_SHIPMODE= "TRUCK" AND DATEDIFF(I.L_COMMITDATE, I.L_SHIPDATE) < (SELECT AVG(DATEDIFF(I.L_COMMITDATE, I.L_SHIPDATE)) FROM lineitem as I WHERE I.L_SHIPMODE = "TRUCK");
```

I.L_ORDERKEY	I.L_QUANTITY
1	17.00
32	28.00
37	43.00
67	5.00
69	48.00
96	23.00
96	30.00
129	46.00
132	43.00
134	12.00
161	19.00
163	13.00
163	5.00
163	12.00
167	28.00
192	25.00
195	41.00
258	45.00
258	25.00
263	9.00
263	50.00
291	21.00
292	24.00
295	8.00
323	9.00
326	41.00
326	31.00
327	16.00
355	41.00
356	35.00
358	41.00
384	38.00
384	11.00
384	14.00
387	32.00
391	14.00
421	1.00
448	8.00
454	24.00
484	49.00
484	45.00
486	38.00
519	13.00
546	16.00
548	6.00
551	20.00
581	30.00
583	1.00
583	13.00
612	28.00
613	3.00
614	21.00
640	40.00
640	22.00
644	11.00
644	23.00
645	49.00
646	24.00

```
most_supplied_region | distinct_parts_count |
+-----+-----+
| AMERICA              | 119448                |
+-----+-----+
1 row in set (1.7815 sec)
```

```
MySQL localhost:33060+ ssl tpch SQL >
```

distinct\_parts\_count DESC  
LIMIT 1;

Q3. Query:

SELECT I.L\_ORDERKEY, I.L\_QUANTITY FROM lineitem as I WHERE I.L\_SHIPMODE= "TRUCK"  
AND DATEDIFF(I.L\_COMMITDATE, I.L\_SHIPDATE) < (SELECT AVG(DATEDIFF(I.L\_COMMITDATE,  
I.L\_SHIPDATE)) FROM lineitem as I WHERE I.L\_SHIPMODE = "TRUCK");

**Q4.** Query:

```
SELECT
  L_PARTKEY,
  P_NAME AS part_name
FROM
  lineitem AS l
JOIN
  part p ON l.L_PARTKEY = p.P_PARTKEY
JOIN
  orders o ON l.L_ORDERKEY = o.O_ORDERKEY
JOIN
  customer c ON o.O_CUSTKEY = c.C_CUSTKEY
JOIN
  nation n ON c.C_NATIONKEY = n.N_NATIONKEY
JOIN
  region r ON r.R_REGIONKEY = n.N_REGIONKEY
WHERE
  l.L_DISCOUNT = 0
  AND r.R_NAME != 'EUROPE';
```

**Q5.** Query:

```
SELECT C_NAME
FROM customer
WHERE C_CUSTKEY NOT IN (SELECT O_CUSTKEY FROM orders);
```

```

MySQL localhost:33060+ ssl tpch SQL > SELECT
-> L_PARTKEY,
-> P_NAME AS part_name
-> FROM
-> lineitem AS l
-> JOIN
-> part p ON l.L_PARTKEY = p.P_PARTKEY
-> JOIN
-> orders o ON l.L_ORDERKEY = o.O_ORDERKEY
-> JOIN
-> customer c ON o.O_CUSTKEY = c.C_CUSTKEY
-> JOIN
-> nation n ON c.C_NATIONKEY = n.N_NATIONKEY
-> JOIN
-> region r ON r.R_REGIONKEY = n.N_REGIONKEY
-> WHERE
-> l.L_DISCOUNT = 0
-> AND r.R_NAME != 'EUROPE';

```

L_PARTKEY	part_name
106170	steel chiffon pink puff chocolate
88362	ivory dodger thistle royal olive
73815	blanched seashell blue magenta metallic
115118	cyan linen papaya blanched lavender
34432	snow almond orchid peach burlywood
96645	white red saddle lemon cornflower
119477	forest papaya cyan azure olive
109743	honeydew cream steel sky pale
163334	gainsboro azure sandy thistle lavender
135137	violet navajo green cornflower frosted
140449	antique dodger orange burlywood pale
103432	grey chocolate lace red sky
198344	peru forest ivory medium pink
86382	white coral linen moccasin rose
190825	orchid lavender steel dark chartreuse
58520	red chartreuse rosy honeydew linen
97017	blanched chartreuse medium seashell puff
141003	green burnished forest metallic tan
145146	chartreuse cornsilk cornflower pale sienna
130565	grey blanched medium forest rosy
146071	sandy smoke azure brown rose
131835	aquamarine plum dodger honeydew dark
96909	dark plum puff lemon midnight
106194	firebrick midnight purple cornsilk grey
50641	papaya khaki tan azure antique
59620	almond antique khaki frosted deep
119305	antique azure midnight khaki smoke
77071	rosy green spring maroon pale
165980	pink ivory forest cornsilk navy
11158	red beige misty deep salmon
92053	sky drab thistle azure black
93563	bisque smoke magenta tomato puff
69212	rose olive moccasin linen royal
18552	rosy chocolate ivory pale dodger
15978	dim cyan cream thistle aquamarine
32694	dodger antique midnight navajo sandy
76308	lemon coral dim turquoise ivory
136884	plum grey cyan orange powder
75437	cream blanched khaki purple forest

**Q6. Query:**

```

SELECT DISTINCT
  p.P_NAME AS item_name
FROM
  part as p
JOIN

```

```

MySQL localhost:33060+ ssl kpch SQL> SELECT C_NAME
-> FROM customer
-> WHERE C_CUSTKEY NOT IN (SELECT O_CUSTKEY FROM orders);

```

C_NAME
Customer#000000003
Customer#000000006
Customer#000000009
Customer#000000012
Customer#000000015
Customer#000000018
Customer#000000021
Customer#000000024
Customer#000000027
Customer#000000030
Customer#000000033
Customer#000000036
Customer#000000039
Customer#000000042
Customer#000000045
Customer#000000048
Customer#000000051
Customer#000000054
Customer#000000057
Customer#000000060
Customer#000000063
Customer#000000066
Customer#000000069
Customer#000000072
Customer#000000075
Customer#000000078
Customer#000000081
Customer#000000084
Customer#000000087
Customer#000000090
Customer#000000093
Customer#000000096
Customer#000000099
Customer#000000102
Customer#000000105
Customer#000000108
Customer#000000111
Customer#000000114
Customer#000000117
Customer#000000120
Customer#000000123
Customer#000000126
Customer#000000129
Customer#000000132
Customer#000000135
Customer#000000138
Customer#000000141
Customer#000000144
Customer#000000147
Customer#000000150
Customer#000000153
Customer#000000156
Customer#000000159
Customer#000000162
Customer#000000165
Customer#000000168
Customer#000000171

```

partsupp as ps ON p.P_PARTKEY = ps.PS_PARTKEY
JOIN
supplier as s ON ps.PS_SUPPKEY = s.S_SUPPKEY
JOIN
nation as n ON s.S_NATIONKEY = n.N_NATIONKEY
JOIN
lineitem as l ON ps.PS_PARTKEY = l.L_PARTKEY AND ps.PS_SUPPKEY =
l.L_SUPPKEY
JOIN
orders as o ON l.L_ORDERKEY = o.O_ORDERKEY
JOIN
customer as c ON o.O_CUSTKEY = c.C_CUSTKEY
and c.C_NATIONKEY = n.N_NATIONKEY
WHERE
n.N_NATIONKEY = (
SELECT s2.S_NATIONKEY
FROM
supplier as s2
GROUP BY
s2.S_NATIONKEY
ORDER BY
AVG(s2.S_ACCTBAL) DESC
LIMIT 1
);

```

```

MySQL localhost:33060+ ssl tpch SQL > SELECT DISTINCT
-> p.P_NAME AS item_name
-> FROM
-> part as p
-> JOIN
-> partsupp as ps ON p.P_PARTKEY = ps.PS_PARTKEY
-> JOIN
-> supplier as s ON ps.PS_SUPPKEY = s.S_SUPPKEY
-> JOIN
-> nation as n ON s.S_NATIONKEY = n.N_NATIONKEY
-> JOIN
-> lineitem as l ON ps.PS_PARTKEY = l.L_PARTKEY AND ps.PS_SUPPKEY = l.L_SUPPKEY
-> JOIN
-> orders as o ON l.L_ORDERKEY = o.O_ORDERKEY
-> JOIN
-> customer as c ON o.O_CUSTKEY = c.C_CUSTKEY
-> and c.C_NATIONKEY = n.N_NATIONKEY
-> WHERE
-> n.N_NATIONKEY = (
-> SELECT s2.S_NATIONKEY
-> FROM
-> supplier as s2
-> GROUP BY
-> s2.S_NATIONKEY
-> ORDER BY
-> AVG(s2.S_ACCTBAL) DESC
-> LIMIT 1
-> );

```

item_name
antique black goldenrod linen salmon
sienna aquamarine snow smoke coral
sky black wheat misty burlywood
chiffon mint coral aquamarine burnished
dodger lace red blue light
sandy olive cornsilk powder red
sky cyan blue sienna antique
linen sandy firebrick rosy cream
chartreuse cyan chiffon firebrick seashell
cream navajo blue lawn bisque
wheat blanched metallic cyan navy
cornsilk midnight ghost azure cornflower
olive deep floral peach chocolate
sandy khaki azure coral brown
mint tan maroon coral burlywood
rose orchid drab navajo blue
linen maroon chiffon cornflower misty
slate navy red lavender purple
chocolate cornsilk medium snow drab
navajo seashell antique cyan navy
dim olive aquamarine beige goldenrod
steel midnight deep pink aquamarine
puff burnished misty lime honeydew
red lace navy chartreuse steel
lavender sienna blush purple chiffon
rose maroon red beige dodger
chartreuse cornflower navy antique olive
sandy blush linen sky burlywood
orange saddle lavender puff sandy
hot midnight blue salmon lime
aquamarine blanched rosy midnight goldenrod
light tomato ivory white medium

**Q7. Query:**

```

SELECT
  AVG(I.L_EXTENDEDPRICE) AS average_order_price
FROM
  lineitem l
JOIN
  part p ON l.L_PARTKEY = p.P_PARTKEY
WHERE
  p.P_SIZE <= 40;

```

```

MySQL localhost:33060+ ssl tpch SQL > SELECT      AVG(l.L_EXTENDEDPRICE) AS a
verage_order_price FROM      lineitem l JOIN      part p ON l.L_PARTKEY = p.P_PART
KEY WHERE      p.P_SIZE <= 40;
+-----+
| average_order_price |
+-----+
|      38261.251431   |
+-----+
1 row in set (13.1757 sec)

```

#### Q8. Query:

```
SELECT s.S_NAME , COUNT(ps.PS_PARTKEY)
FROM supplier as s, partsupp as ps
WHERE
s.S_SUPPKEY= ps.PS_SUPPKEY
GROUP BY s.S_NAME
HAVING COUNT(ps.PS_PARTKEY) > 5;
```

```
MySQL localhost:3306+ ssl tpch SQL> SELECT s.S_NAME , COUNT(ps.PS_PARTKEY)
-> FROM supplier as s, partsupp as ps
-> WHERE
-> s.S_SUPPKEY= ps.PS_SUPPKEY
-> GROUP BY s.S_NAME
-> HAVING COUNT(ps.PS_PARTKEY) > 5;
```

S_NAME	COUNT(ps.PS_PARTKEY)
Supplier#000000002	80
Supplier#000002502	80
Supplier#000005002	80
Supplier#000007502	80
Supplier#000000003	80
Supplier#000002503	80
Supplier#000005003	80
Supplier#000007503	80
Supplier#000000004	80
Supplier#000002504	80
Supplier#000005004	80
Supplier#000007504	80
Supplier#000000005	80
Supplier#000002505	80
Supplier#000005005	80
Supplier#000007505	80
Supplier#000000006	80
Supplier#000002506	80
Supplier#000005006	80
Supplier#000007506	80
Supplier#000000007	80
Supplier#000002507	80
Supplier#000005007	80
Supplier#000007507	80
Supplier#000000008	80
Supplier#000002508	80
Supplier#000005008	80
Supplier#000007508	80
Supplier#000000009	80
Supplier#000002509	80
Supplier#000005009	80
Supplier#000007509	80
Supplier#000000010	80
Supplier#000002510	80
Supplier#000005010	80
Supplier#000007510	80
Supplier#000000011	80
Supplier#000002511	80
Supplier#000005011	80
Supplier#000007511	80
Supplier#000000012	80
Supplier#000002512	80
Supplier#000005012	80
Supplier#000007512	80
Supplier#000000013	80
Supplier#000002513	80
Supplier#000005013	80
Supplier#000007513	80
Supplier#000000014	80
Supplier#000002514	80
Supplier#000005014	80
Supplier#000007514	80
Supplier#000000015	80
Supplier#000002515	80

### Q9. Query:

```
SELECT DISTINCT
  p.P_NAME AS part_name
FROM
  part as p
JOIN
  partsupp as ps ON p.P_PARTKEY = ps.PS_PARTKEY
JOIN
  lineitem as l ON ps.PS_PARTKEY = l.L_PARTKEY
WHERE
  l.L_DISCOUNT = (
    SELECT
      MAX(l2.L_DISCOUNT)
    FROM
      lineitem as l2
  );
```

```
MySQL localhost:33060+ ssl tpch SQL> SELECT DISTINCT
->   p.P_NAME AS part_name
-> FROM
->   part as p
-> JOIN
->   partsupp as ps ON p.P_PARTKEY = ps.PS_PARTKEY
-> JOIN
->   lineitem as l ON ps.PS_PARTKEY = l.L_PARTKEY
-> WHERE
->   l.L_DISCOUNT = (
->     SELECT
->       MAX(l2.L_DISCOUNT)
->     FROM
->       lineitem as l2
->   );
+-----+
| part_name |
+-----+
| almond antique blue royal burnished |
| almond antique cornsilk midnight medium |
| almond antique cyan lawn pale |
| almond antique dodger blanchd burnished |
| almond antique dodger royl pale |
| almond antique khaki frosted deep |
| almond antique lavender dark navajo |
| almond antique linen floral lace |
| almond antique magenta deep blush |
| almond antique metallic honeydew green |
| almond antique mint salmon moccasin |
| almond antique orange white violet |
| almond antique orchid burlywood cornsilk |
| almond antique orchid cornflower slate |
| almond antique powder lawn linen |
| almond antique powder pale lace |
| almond antique puff snow ghost |
| almond antique purple hot pale |
| almond antique royal sandy lavender |
| almond antique seashell papaya medium |
| almond antique steel peru coral |
| almond antique tomato pale powder |
| almond aquamarine bisque pink medium |
| almond aquamarine blue puff tan |
| almond aquamarine brown cream orange |
| almond aquamarine cornsilk rose metallic |
| almond aquamarine cyan indian rosy |
| almond aquamarine deep saddle blue |
| almond aquamarine drab sandy lawn |
| almond aquamarine frosted tomato green |
| almond aquamarine lawn honeydew frosted |
| almond aquamarine medium plum white |
| almond aquamarine mint misty red |
| almond aquamarine mint olive drab |
| almond aquamarine misty metallic dark |
| almond aquamarine misty sandy plum |
| almond aquamarine steel beige mint |
| almond aquamarine steel blue metallic |
| almond aquamarine tomato rose mint |
| almond aquamarine yellow misty midnight |
| almond azure antique puff pale |
| almond azure aquamarine pale rosy |
| almond azure beige cornsilk royal |
| almond azure cornflower burlywood slate |
| almond azure cornflower honeydew blush |
```



