

MILESTONE 3

IE6700

Data Management for Analytics

Done by:

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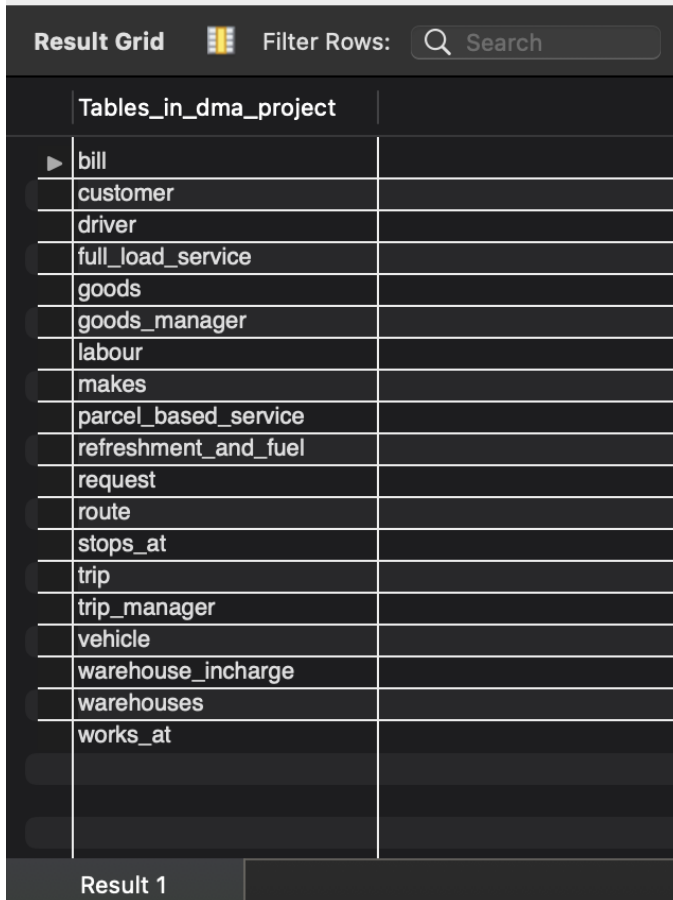
Zixi Xiao

Creating our database "DMA_PROJECT":

```
create schema DMA_PROJECT;  
show schemas;  
use DMA_PROJECT;
```

Displaying all the tables in our database:

```
show tables;
```





The screenshot shows a database interface with a dark theme. At the top, there is a header bar with "Result Grid" on the left, a "Filter Rows:" label with a small icon, and a search bar with a magnifying glass icon and the text "Search". Below the header, a table titled "Tables_in_dma_project" is displayed. The table has two columns: the first column contains a list of table names, and the second column is empty. The table names are: bill, customer, driver, full_load_service, goods, goods_manager, labour, makes, parcel_based_service, refreshment_and_fuel, request, route, stops_at, trip, trip_manager, vehicle, warehouse_incharge, warehouses, and works_at. The table is labeled "Result 1" at the bottom left.

Tables_in_dma_project	
bill	
customer	
driver	
full_load_service	
goods	
goods_manager	
labour	
makes	
parcel_based_service	
refreshment_and_fuel	
request	
route	
stops_at	
trip	
trip_manager	
vehicle	
warehouse_incharge	
warehouses	
works_at	

Query 1

```
select c.Customer_name, sum(b.total_freight) as tot_billed  
from customer c, bill b  
where c.bill_id = b.bill_id  
group by c.Customer_name  
order by tot_billed desc  
limit 10;
```

Output:

Result Grid   Filter Rows: <input type="text" value="Search"/>		
	Customer_name	tot_billed
▶	Zooveo	166929.930000000005
●	Vinte	127515.28
●	Zazio	127370.669999999998
●	Babbleopia	123423.860000000002
●	Edgeify	122607.509999999998
●	Photojam	122496.819999999999
●	Skippad	111022.49
●	Thoughtworks	103933.03
●	Twiyο	102230.12
●	Thoughtstorm	100597.849999999998
●		



Analytic Purpose:

This query gives a list of top 10 customers who carry out the most business with Boston Convenience. To appreciate their loyalty with us, we can give them a better quote so that they continue doing business with us. We can also send them goodies for being the most loyal clients.

Query 2

```
select DRV_id, accidents_committed
from driver
where accidents_committed = (select max(accidents_committed)
                             from driver);
```

Output:

Result Grid   Filter Rows: <input type="text" value="Search"/>		
	DRV_id	accidents_committ...
▶	DRV67	15
●	DRV99	15
●	DRV72	15
●	DRV40	15
●		
●		

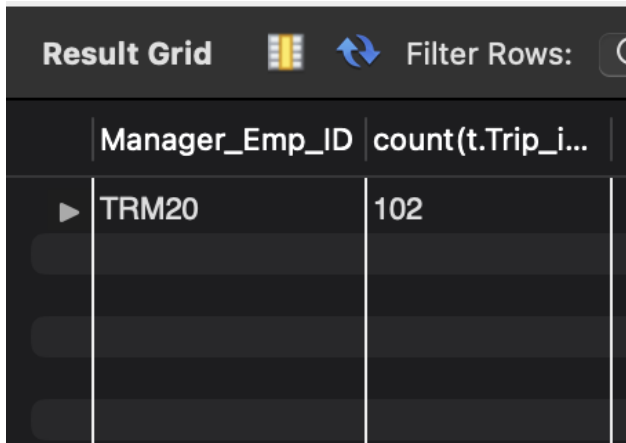
Analytic Purpose:

This query returns those drivers who have committed the most number of accidents till date. It can be used to provide a warning to these drivers, and they can be put under notice for a period of time, until they clear their record (by assigning them shorter trips or reduction in their salary).

Query 3

```
select t.Manager_Emp_ID, count(t.Trip_id)
from trip_manager tm, trip t
where tm.TRM_id = t.Manager_Emp_ID
group by t.Manager_Emp_ID
order by count(t.Trip_id) desc limit 1;
```

Output:



The screenshot shows a 'Result Grid' window with a dark theme. It contains a table with two columns: 'Manager_Emp_ID' and 'count(t.Trip_i...'. The first row shows 'TRM20' and '102'. There are three empty rows below it. To the left of the table, there are three play button icons. Above the table, there are icons for a grid, a refresh, and a search filter, along with the text 'Filter Rows:'.

	Manager_Emp_ID	count(t.Trip_i...
▶	TRM20	102
▶		
▶		
▶		

Analytic Purpose:

This query gives the trip manager who has overlooked the most number of trips till date. This way, we can assign this manager to high profile clients and a performance bonus would be provided to him/her.

Query 4

```
select r.Pick_up_Location, count(c.Customer_name) as cust_count
from customer c, makes m, request r
where c.Invoice_Number=m.Invoice_Number and
c.Employee_ID=m.Employee_ID and m.req_id=r.req_id
group by r.Pick_up_Location order by cust_count desc;
```

Output:

Result Grid			Filter Rows:
	Pick_up_Location	cust_count	
▶	Boston	358	
●	Albany	130	
●	Syracuse	119	
●	New York	98	
●	Rochester	63	
●	Cleaveland	47	
●	Hartford	42	
●	Scranton	39	
●	Blacksburg	33	
●	Philadelphia	29	
●	Baltimore	27	
●	Detroit	23	

Analytic purpose:

From this query, it is observed that Boston is the most frequently chosen location for the pick up of delivery by the customers. Therefore, we can arrange extra services (like transporting their goods from their warehouse to our warehouse) and work towards arranging more rented/owned warehouses in and around Boston.

Query 5

```
select r.drop_Location,count(c.Customer_name) as cust_count
from customer c,makes m,request r
where c.Invoice_Number=m.Invoice_Number and
c.Employee_ID=m.Employee_ID and m.req_id=r.req_id
group by r.drop_Location order by cust_count desc;
```

Output:

Result Grid			Filter Rows:
	drop_Location	cust_count	
▶	Chicago	171	
●	Detroit	112	
●	Cleaveland	88	
●	Rochester	83	
●	Syracuse	72	
●	Charlotte	67	
●	Columbus	64	
●	Nashville	58	
●	Richmond	54	
●	Knoxville	52	
●	Akron	41	
●	Blacksburg	36	
●	Washington	35	

Analytic purpose:

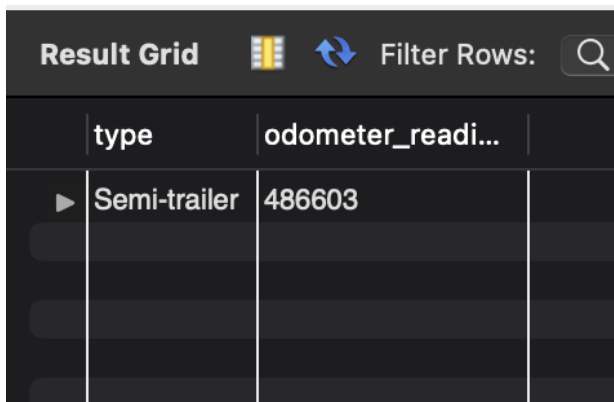
From this query, it is observed that Chicago is the most frequently chosen location for the drop off of goods by the customers. Therefore, we can arrange extra services (like transporting their goods from our warehouse to their warehouse) and work towards arranging more rented/owned warehouses in and around Chicago.

In addition to this, we can start our business expansion from these cities

Query 6

```
select v.type,(v.odometer_reading)
from vehicle v
order by v.odometer_reading desc limit 1;
```

Output:



	type	odometer_readi...	
▶	Semi-trailer	486603	
▶			
▶			
▶			
▶			



Analytic Purpose:

From this query, it is observed that Semi-trailer trucks are being preferred the most by clients. This implies that the demand is high for these trucks relative to other types of trucks. Therefore, this can be considered while purchasing new trucks in the future.

Query 7

```
select concat(gm.first_name, ' ', gm.last_name) as name, sum(g.Weight)
from goods g, goods_manager gm
where gm.emp_id = g.Employee_ID
group by name
order by sum(g.Weight) desc
limit 1;
```

Output:

Result Grid   Filter Rows: <input type="text" value=""/>			
	name	sum(g.Weight)	
▶	Etti Elby	18385.980000000003	



Analytic purpose:

This query returns the name of the goods manager who has prioritized our company for transportation over the rest of the competition. He can be offered extra commission to recommend our services to his client/customer list.

Query 8

```
select rf.store_name,count(rf.store_name) as total_visits
from refreshment_and_fuel rf,stops_at sa
where rf.store_id=sa.Location_ID
group by rf.store_name
order by total_visits desc limit 5;
```

Output:

Result Grid   Filter Rows: <input type="text" value="Search"/>			
	store_name	total_visits	
	Phillips 66	293	
	QuickChek	257	
	Sinclair	199	
	Royal Farms	168	
	American Gas	165	




Analytic purpose:

The above five refreshment/fuel stores are the ones that are most stopped at by our trucks, during any trip. In the future, we can partner with these stores to avail loyal customer discounts, that would decrease our trip cost, and therefore increase our profit margin.

Query 9

```
select c.Customer_name, sum(b.total_freight) as tot_billed
from customer c, bill b
where c.bill_id = b.bill_id
group by c.Customer_name
order by tot_billed
limit 10;
```

Output:

Result Grid   Filter Rows: 		
	Customer_name	tot_billed
▶	Youtags	3132.68
●	Kayveo	3683.69
●	Trilith	3901.68
●	Photobean	3988.21
●	Dynabox	4003.29
●	Linkbridge	4197.48
●	Trupe	4342.23
●	Tagchat	5085.05
●	Zoomdog	5195.37
●	Yoveo	5398.280000000001

Analytic Purpose:

This query gives a list of 10 companies that have done the least business with Boston Convenience. We can concentrate our marketing towards these companies and try to adjust our quote that would attract them towards our service.