COFFEE SHOP SALES | SQL

```
Create database coffee;


describe `coffee shop sales`;


Update `coffee shop sales`
SET transaction_date = str_to_date(transaction_date,'%d-%m-%Y');
set SQL_SAFE_UPdates = 0;

Alter table `coffee shop sales`
modify COLUMN transaction_date date;



set SQL_SAFE_UPdates = 0;
Update `coffee shop sales`
SET transaction_time= str_to_date(transaction_time,'%H:%i:%s');

Alter table `coffee shop sales`
modify COLUMN transaction_time time;

ALTER TABLE `coffee shop sales`
CHANGE COLUMN `ï»¿transaction_id` transaction_id INT;
```

Total Sales Analysis

1) Calculate the total sales for each respective month

2) Determine the month on month increase or decrease in sales

3) Calculate the difference in sales between the selected month and previous month

Query -

```
Select month(transaction_date) as Month,
Round(sum(unit_price*transaction_qty),2) as Total_sales,
(Round(sum(unit_price*transaction_qty),2) -
lag(Round(sum(unit_price*transaction_qty),2),1) over (order by
month(transaction_date))) as Month_sales_difference,
(Round(sum(unit_price*transaction_qty),2) -
lag(Round(sum(unit_price*transaction_qty),2),1) over (order by
month(transaction_date)))/
lag(Round(sum(unit_price*transaction_qty),2),1) over (order by
month(transaction_date)) * 100 as MOM_Percentage
from `coffee shop sales`
Where month(transaction_date) IN (1,2,3,4,5,6)
Group by month(transaction_date)
order by Month;
```

O/p - Total Sales , Month on month sales difference , and MOM percentage is as below for all months

Month	Total_sales	Month_sales_difference	MOM_Percentage
1	81677.74	NULL	NULL
2	76145.19	-5532.550000000003	-6.773632571126481
3	98834.68	22689.48999999999	29.79766679943932
4	118941.08	20106.40000000001	20.34346648362701
5	156727.76	37786.68000000001	31.769242384548726
6	166485.88	9758.119999999995	6.2261592968597235

Total Order Analysis

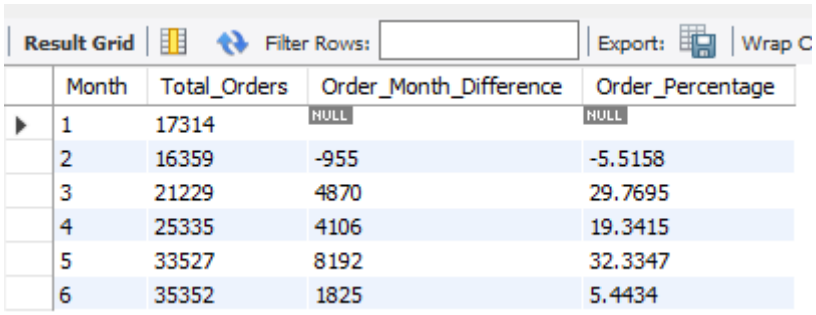
1) **Calculate total number of orders for each respective month**
2) **Determine month on month increase or decrease in number of orders**
3) **Calculate the difference in number of orders between the selected month and the previous month**

Query -

```
Select month(transaction_date) as Month,
count(transaction_id) as Total_Orders,
```

```
(count(transaction_id) - lag(count(transaction_id),1) over(order by
month(transaction_date))) as Order_Month_Difference,

((count(transaction_id) - lag(count(transaction_id),1) over(order by
month(transaction_date))) / lag(count(transaction_id),1) over(order by
month(transaction_date))*100) as Order_Percentage

from `coffee shop sales`

Where month(transaction_date) IN (1,2,3,4,5,6)

Group by month(transaction_date)

Order by Month;
```

O/p – Total Orders , Month on month Order difference , and Order percentage is as below for all months



Result Grid | Filter Rows: | Export: | Wrap C

Month	Total_Orders	Order_Month_Difference	Order_Percentage
1	17314	NULL	NULL
2	16359	-955	-5.5158
3	21229	4870	29.7695
4	25335	4106	19.3415
5	33527	8192	32.3347
6	35352	1825	5.4434

Total Quantity Sold Analysis

1) **Calculate total quantity sold for each respective month**
2) **Determine month on month increase or decrease in total quantity sold**
3) **Calculate the difference in total quantity sold between the selected month and the previous month**

Query -

```
Select month(transaction_date) as Month ,

sum(transaction_qty) as Total_Orders_Quantity,

(sum(transaction_qty) - lag(sum(transaction_qty),1) over (order
by month(transaction_date))) as Quantity_Month_Difference,

((sum(transaction_qty) - lag(sum(transaction_qty),1) over (order
by month(transaction_date))) / lag(sum(transaction_qty),1) over
```

```
(order by month(transaction_date)) *100) as
Quantity_Percentage

from `coffee shop sales`

Where month(transaction_date) IN (1,2,3,4,5,6)

Group by month(transaction_date)

Order by Month;
```

O/p – Total_Orders_Quantity, Quantity month difference , and Quantity percentage is as below for all months

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Month	Total_Orders_Quantity	Quantity_Month_Difference	Quantity_Percentage
1	24870	NULL	NULL
2	23550	-1320	-5.3076
3	30406	6856	29.1125
4	36469	6063	19.9401
5	48233	11764	32.2575
6	50942	2709	5.6165

Calendar Heat Map

Implement tooltip to display detailed metrics(sales, Orders, Quantity) when hovering over a specific day

Query -

```
Select transaction_date,

(concat(round(sum(transaction_qty*unit_price)/1000,1),'K')) as
Total_Sales,

(round(count(transaction_id),1)) as Total_orders,

(concat(round(sum(transaction_qty)/1000,1),'K')) as
Total_quantity

from `coffee shop sales`

Group by transaction_date;
```

O/p – Total Sales, Total Orders and Total Quantity for each day is as below.

Result Grid | Filter Rows: | Export:

transaction_date	Total_Sales	Total_orders	Total_quantity
2023-01-01	2.5K	550	0.8K
2023-01-02	2.4K	566	0.8K
2023-01-03	2.6K	582	0.8K
2023-01-04	2.2K	497	0.7K
2023-01-05	2.4K	547	0.8K
2023-01-06	2.3K	509	0.7K
2023-01-07	2.6K	562	0.8K
2023-01-08	2.6K	562	0.8K
2023-01-09	2.7K	551	0.7K
2023-01-10	2.7K	602	0.9K
2023-01-11	2.6K	561	0.8K
2023-01-12	2.3K	534	0.8K

Sales analysis by weekdays and weekends

Query -

```
Select
    CASE WHEN dayofweek(transaction_date) IN (1,7) then 'Weekends'
    ELSE 'Weekdays'
END as Day_Type,
(concat(round(sum(transaction_qty * unit_price)/1000,1),'K')) as Total_sales
from `coffee shop sales`
where month(transaction_date) in (1,2,3,4,5,6)
Group by Day_Type;
```

O/p – Total_sales for Weekends is 195.2K and Weekdays is 503.6K

Result Grid | Filter Rc

Day_Type	Total_sales
Weekends	195.2K
Weekdays	503.6K

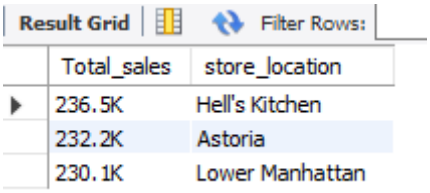
Sales analysis by store location

Query -

```
Select (concat(round(sum(transaction_qty * unit_price)/1000,1),'K')) as Total_sales, store_location
```

```
from `coffee shop sales`
Where month(transaction_date) in (1,2,3,4,5,6)
Group by store_location
Order by Total_sales DESC;
```

O/p – Total_sales for each Store location is as below. Its observed Hell's Kitchen has the Hisghest sale.



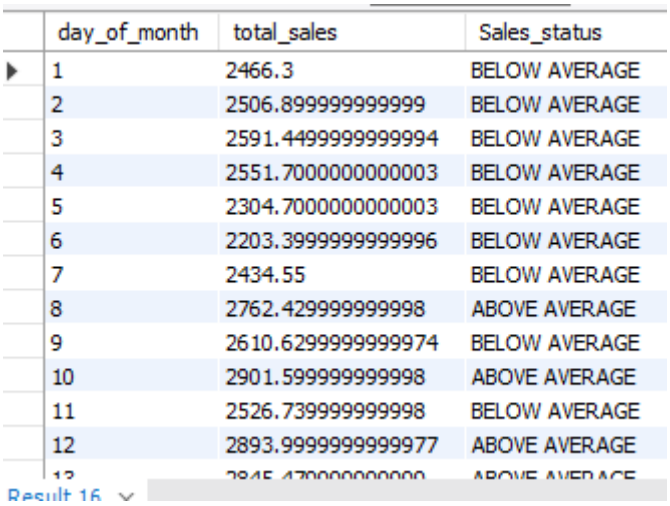
Total_sales	store_location
236.5K	Hell's Kitchen
232.2K	Astoria
230.1K	Lower Manhattan

Daily total sales , avg sales, and sales status for selected month

Query - Select

```
day_of_month,total_sales,
CASE
    WHEN total_sales > Avg_sales THEN 'ABOVE AVERAGE'
    WHEN total_sales < Avg_sales THEN 'BELOW AVERAGE'
    ELSE 'EQUAL TO AVERAGE'
END AS Sales_status
from (
    Select DAY(transaction_date) as day_of_month,
    Sum(unit_price*transaction_qty) as total_sales,
    AVG(Sum(unit_price*transaction_qty)) OVER() as Avg_sales
from `coffee shop sales`
where month(transaction_date) IN (2)
Group by DAY(transaction_date)) AS Sales_data
Order by day_of_month ;
```

O/p – Day of month, Total Sales and Sales status for the month of Feb is as below



day_of_month	total_sales	Sales_status
1	2466.3	BELOW AVERAGE
2	2506.899999999999	BELOW AVERAGE
3	2591.4499999999994	BELOW AVERAGE
4	2551.7000000000003	BELOW AVERAGE
5	2304.7000000000003	BELOW AVERAGE
6	2203.3999999999996	BELOW AVERAGE
7	2434.55	BELOW AVERAGE
8	2762.429999999998	ABOVE AVERAGE
9	2610.6299999999974	BELOW AVERAGE
10	2901.599999999998	ABOVE AVERAGE
11	2526.739999999998	BELOW AVERAGE
12	2893.9999999999977	ABOVE AVERAGE

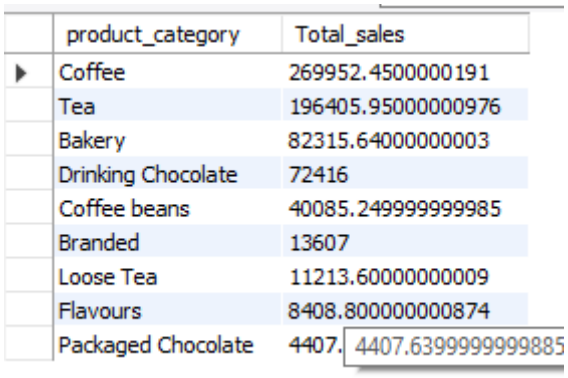
Result 16

Sales by Product Category

Query -

```
Select product_category, sum(unit_price*transaction_qty) as
Total_sales

from `coffee shop sales`

Where month(transaction_date) IN (1,2,3,4,5,6)

Group by product_category

Order by Total_sales Desc;
```

O/p – It is observed that Coffee Product category has the highest and Packaged Chocolate has the least sales.



product_category	Total_sales
Coffee	269952.4500000191
Tea	196405.95000000976
Bakery	82315.64000000003
Drinking Chocolate	72416
Coffee beans	40085.249999999985
Branded	13607
Loose Tea	11213.60000000009
Flavours	8408.800000000874
Packaged Chocolate	4407. 4407.6399999999885

TOP 10 product by Sales

Query -

```
Select product_type, sum(unit_price*transaction_qty) as
Total_sales

from `coffee shop sales`
```

Where month(transaction_date) IN (1,2,3,4,5,6) AND product_category = 'coffee'

Group by product_type

Order by Total_sales Desc Limit 10;

O/p – It is observed that Barista Expresso Product type has the highest sales for all months in coffee product category.

product_type	Total_sales
Barista Espresso	91406.20000000032
Gourmet brewed coffee	70034.59999999922
Premium brewed coffee	38781.14999999997
Organic brewed coffee	37746.500000001004
Drip coffee	31984

Sales Analysis by Days and Hour

Query - Select sum(unit_price*transaction_qty) as Total_sales,

sum(transaction_qty) as Total_qty_sold,

Count(*) as Total_orders

from `coffee shop sales`

Where month(transaction_date) = 5 -- May

AND dayofweek(transaction_date) = 2 -- Mon

AND hour(transaction_time) = 8 -- Hour no.8

Group by dayname(transaction_date) ;

O/p – Total Sales is 2697, Total Qty sold are 819 and Total orders were 572 on Mondays for May month at 8th Hour .

Result Grid | Filter Rows: | Exp

Total_sales	Total_qty_sold	Total_orders
2697.029999999999	819	572

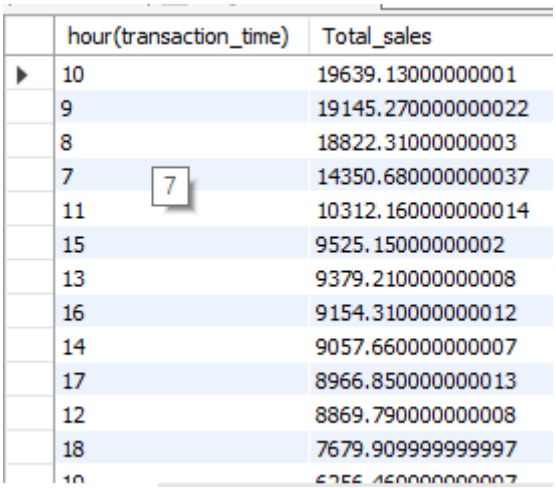
Peak Sales Analysis by Hour

Query - Select hour(transaction_time),

sum(unit_price*transaction_qty) as Total_sales

```
from `coffee shop sales`
where Month(transaction_date) = 5
Group by hour(transaction_time)
order by Total_sales Desc;
```

O/p – 10th Hour has the highest sales for the month of May.



hour(transaction_time)	Total_sales
10	19639.13000000001
9	19145.270000000022
8	18822.31000000003
7	14350.680000000037
11	10312.160000000014
15	9525.15000000002
13	9379.210000000008
16	9154.310000000012
14	9057.660000000007
17	8966.850000000013
12	8869.790000000008
18	7679.909999999997

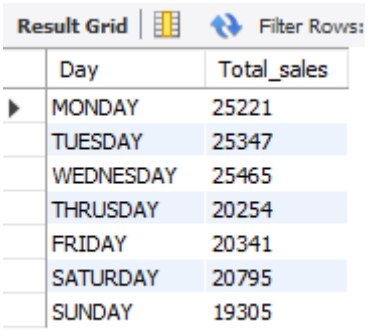
Day Wise Sales

Query -

```
Select
    CASE
        WHEN dayofweek(transaction_date) = 2 THEN 'MONDAY'
        WHEN dayofweek(transaction_date) = 3 THEN 'TUESDAY'
        WHEN dayofweek(transaction_date) = 4 THEN 'WEDNESDAY'
        WHEN dayofweek(transaction_date) = 5 THEN 'THRUSDAY'
        WHEN dayofweek(transaction_date) = 6 THEN 'FRIDAY'
        WHEN dayofweek(transaction_date) = 7 THEN 'SATURDAY'
        ELSE 'SUNDAY'
        END AS Day,
        Round(sum(unit_price*transaction_qty)) as Total_sales
        from `coffee shop sales`
```

```
Where month (transaction_date) = 5 -- May
Group by Day;
```

O/p - Day wise sales of for the month of May



Result Grid | Filter Rows:

Day	Total_sales
MONDAY	25221
TUESDAY	25347
WEDNESDAY	25465
THRUSDAY	20254
FRIDAY	20341
SATURDAY	20795
SUNDAY	19305