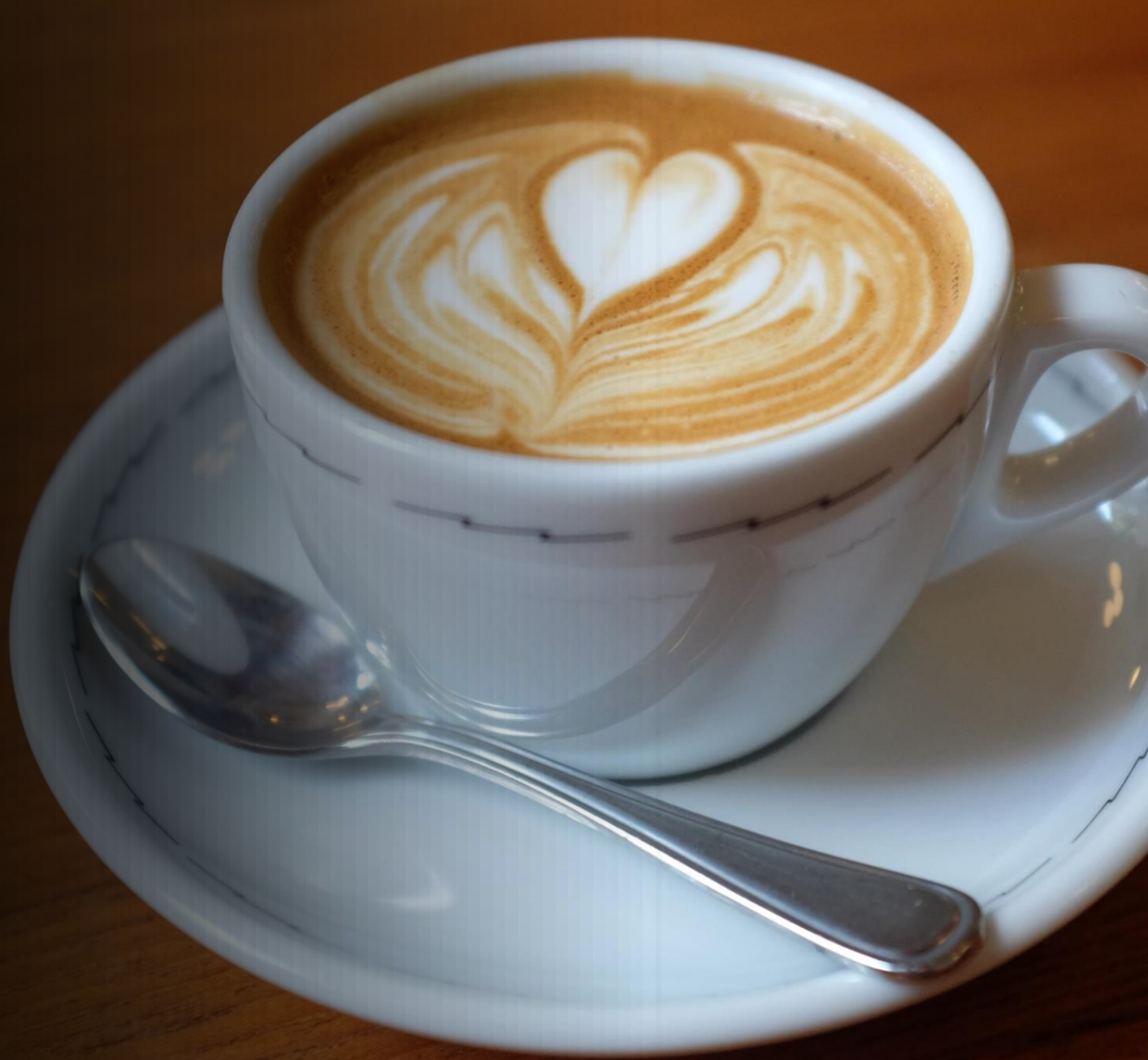
Coffee Shop Analysis

Using MySQL

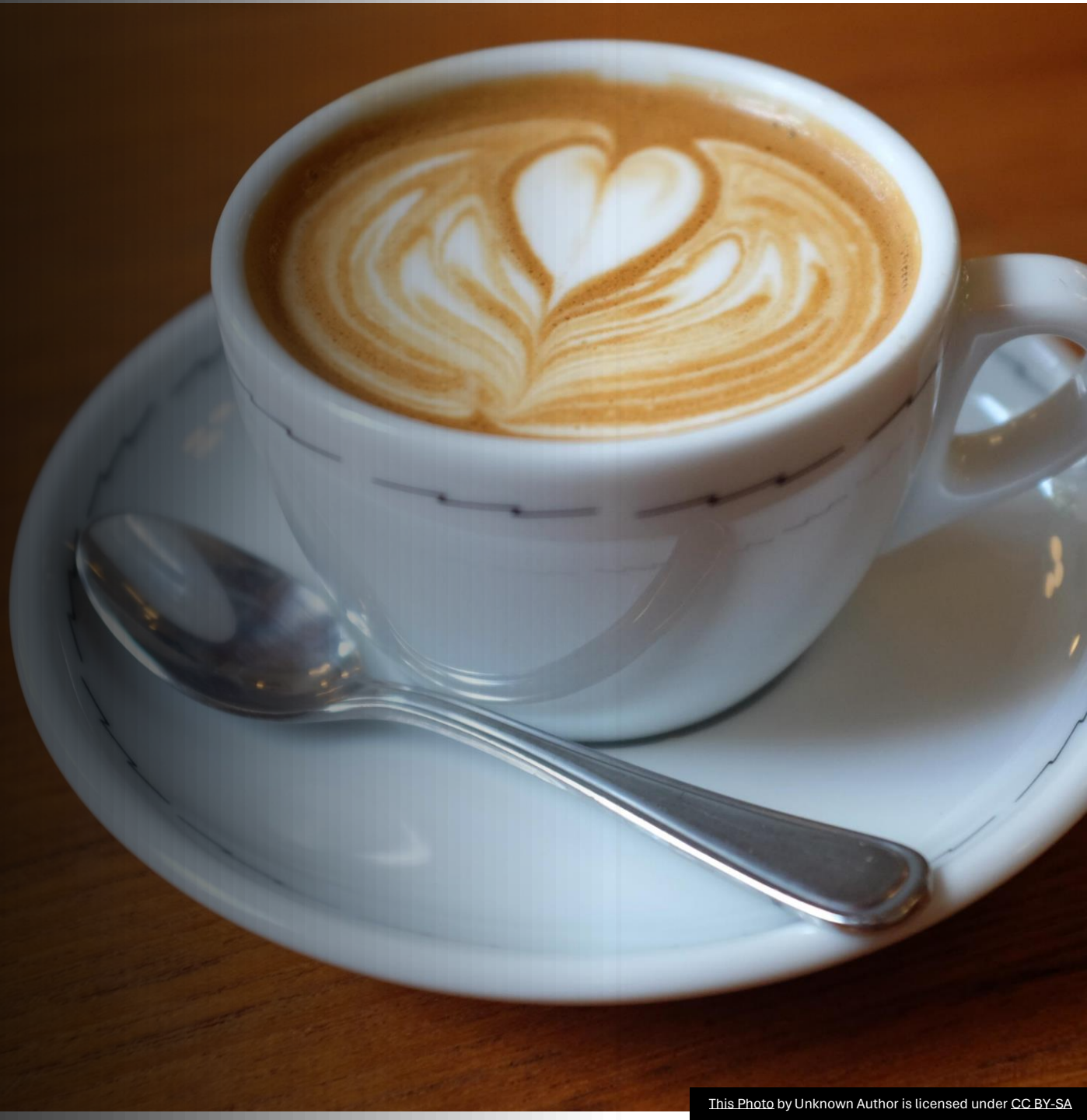


Data Cleaning

```
-- Change datatype to date
update coffeeshopsales set
transaction_date = str_to_date(transaction_date,'%d/%m/%Y');
alter table coffeeshopsales
modify column transaction_date date;
```

```
-- Change datatype to time
update coffeeshopsales set
transaction_time = str_to_date(transaction_time,'%H:%i:%s');
alter table coffeeshopsales
modify column transaction_time time;
```

```
-- Rename the column
alter table coffeeshopsales
change column ï»¿transaction_id  transaction_id int;
```



Total Sales Analysis

```sql
-- Calculate total sales for each respective month
select monthname(transaction_date) as month,
round(sum(transaction_qty*unit_price),2) as total_sales
from coffeeshopsales group by month order by month;
```

month	total_sales
April	156827.17
February	76145.19
January	120337.22
June	166485.88
March	98834.68
May	156727.76

```sql
-- Determine the month on month increase or decrease in sales
select month(transaction_date) as month ,
round(sum(transaction_qty*unit_price),2) as total_sales,
round((sum(unit_price*transaction_qty)-lag(sum(unit_price*transaction_qty),1)
over(order by month(transaction_date)))/ -- ((current-previous)/previous) * 100
lag(sum(unit_price*transaction_qty),1)
over(order by month(transaction_date)) * 100,2) as mom_increase_percentage
from coffeeshopsales
group by month(transaction_date)
order by month(transaction_date);
```

month	total_sales	mom_increase_percentage
1	120337.22	NULL
2	76145.19	-36.72
3	98834.68	29.8
4	156827.17	58.68
5	156727.76	-0.06
6	166485.88	6.23

Total Order Analysis

```sql
-- Calculate total number of orders for each respective month
select month(transaction_date) as month, count(transaction_id)
 as number_of_orders from coffeeshopsales
 group by month
 order by month;
```

month	number_of_orders
1	25505
2	16359
3	21229
4	33401
5	33527
6	35352

```sql
-- Determine the month on month increase or decrease in number of orders
select month(transaction_date) as month,
count(transaction_id) as num_orders,
concat(round((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)) *100,2),'%')
as mom_orders_percentage
from coffeeshopsales
group by month
order by month;
```

month	num_orders	mom_orders_percentage
1	25505	NULL
2	16359	-35.86%
3	21229	29.77%
4	33401	57.34%
5	33527	0.38%
6	35352	5.44%

Total Quantity Analysis

```sql
-- Calculate the total quantity sold for each month
select month(transaction_date)as month,
sum(transaction_qty) as total_qty
from coffeeshopsales
group by month
order by month;
```

month	total_qty
1	36492
2	23550
3	30406
4	47841
5	48233
6	50942

```sql
-- Determine the month on month increase or decrease in total qty sales
select month(transaction_date)as month,
sum(transaction_qty) as total_qty,
concat(round((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)) * 100,2),'%')as mom_qty_sales
 from coffeeshopsales
 group by month
 order by month;
```

month	total_qty	mom_qty_sales
1	36492	NULL
2	23550	-35.47%
5	48233	0.82%
3	30406	29.11%
6	50942	5.62%
4	47841	57.34%

Sales Analysis

day_type	total_sales
weekday	54K
weekends	22.1K

```sql
-- weekdays and weekends sales
select case when dayofweek(transaction_date) in (1,7) then 'weekends'
else 'weekday'
end as day_type,
concat(round(sum(unit_price* transaction_qty)/1000,1),'K')as total_sales
from coffeeshopsales
where month(transaction_date) = 2
group by case when dayofweek(transaction_date) in (1,7) then 'weekends'
else 'weekday' end;
```

```sql
-- Total Sales by different Store locations
select store_location,
concat(round(sum(unit_price*transaction_qty)/1000,1),'K') as total_sales
 from coffeeshopsales
 where month(transaction_date) = 6
 group by store_location
 order by 2 desc;
```

store_location	total_sales
Hell's Kitchen	57K
Astoria	55.1K
Lower Manhattan	54.4K

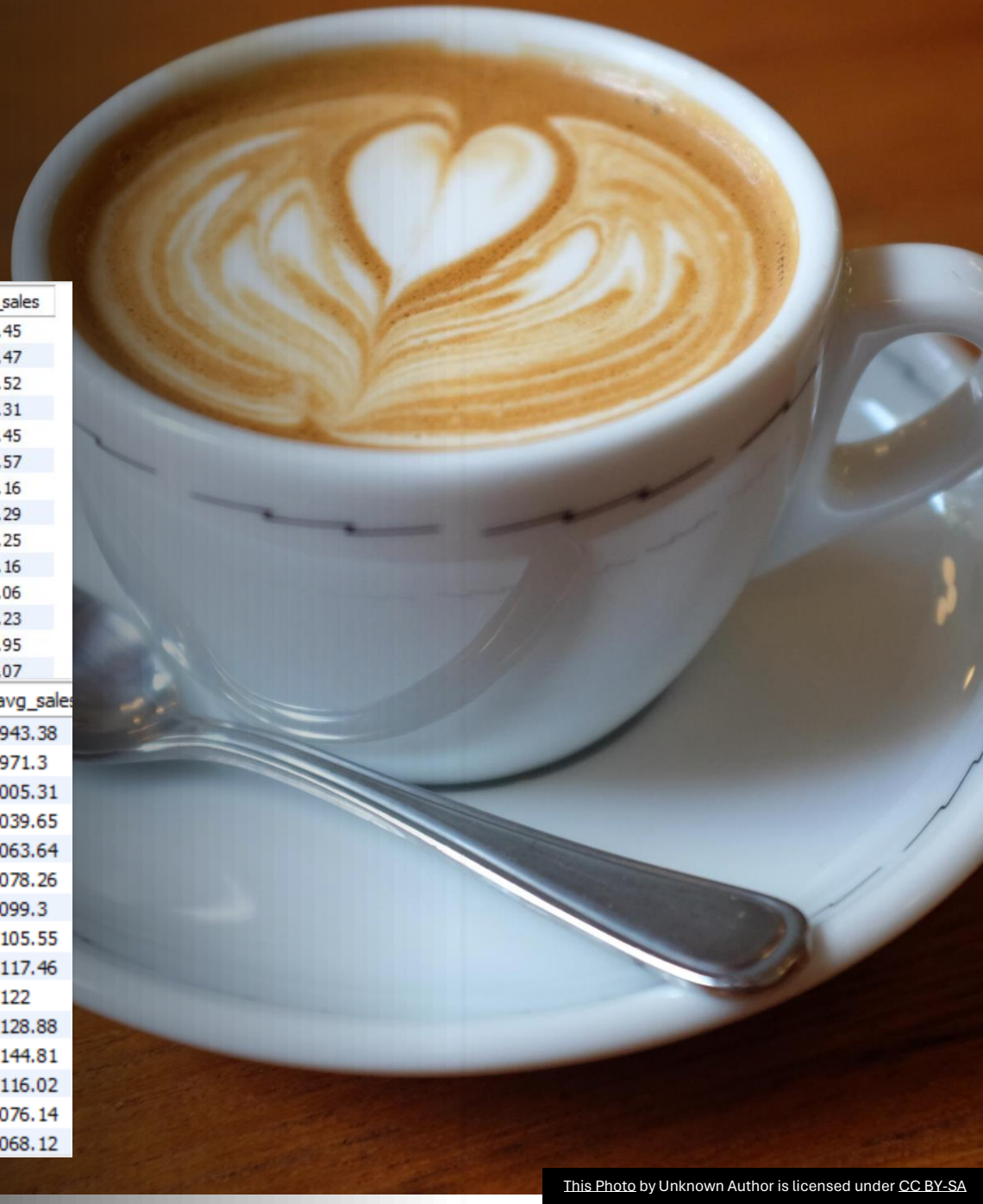
Sales Analysis

```sql
-- Average sales in April
 select concat(round(avg(total_sales)/1000,1),'K') as Avg_Sales
 from
 (select sum(unit_price*transaction_qty) as total_sales from
  coffeeshopsales
  where month(transaction_date)=4
  group by transaction_date)as a;
```

Avg_Sales
5.2K

```sql
-- Day by day total and avg sales in the month of May
select day(transaction_date) as day_of_month,
round(sum(unit_price*transaction_qty),1) as total_sales,
round(avg(sum(unit_price*transaction_qty))
over(order by day(transaction_date)),2) as avg_sales
from coffeeshopsales
where month(transaction_date)=5
group by day(transaction_date)
order by day(transaction_date);
```

day_of_month	total_sales	avg_sales
1	4731.4	4731.45
2	4625.5	4678.47
3	4714.6	4690.52
4	4589.7	4665.31
5	4701	4672.45
6	4205.1	4594.57
7	4542.7	4587.16
8	5604.2	4714.29
9	5101	4757.25
10	5256.3	4807.16
11	4850.1	4811.06
12	4681.1	4800.23
13	5511.5	4854.95
14	5052.6	4869.07
16	5542.1	4943.38
17	5418	4971.3
18	5583.5	5005.31
19	5657.9	5039.65
20	5519.3	5063.64
21	5370.8	5078.26
22	5541.2	5099.3
23	5242.9	5105.55
24	5391.4	5117.46
25	5230.8	5122
26	5300.9	5128.88
27	5559.2	5144.81
28	4338.6	5116.02
29	3959.5	5076.14
30	4835.5	5068.12



Sales Analysis

```sql
-- Top 10 products by sales
select product_type,
concat(round(sum(unit_price*transaction_qty)/1000,2),'K')
as total_sales
from coffeeshopsales
group by product_type
order by sum(unit_price*transaction_qty) desc limit 10;
```

product_type	total_sales
Barista Espresso	100.47K
Brewed Chai tea	85.44K
Hot chocolate	79.61K
Gourmet brewed coffee	77.09K
Brewed Black tea	53.19K
Brewed herbal tea	52.18K
Premium brewed coffee	43.03K
Organic brewed coffee	41.6K
Scone	41.37K
Drip coffee	35.57K

```sql
-- Hourly Sales in the month of May
select hour(transaction_time) as Hour,
round(sum(unit_price*transaction_qty),2) as total_sales
from coffeeshopsales
where month(transaction_date)=5
group by hour(transaction_time)
order by hour(transaction_time);
```

Hour	total_sales
6	4912.93
7	14350.68
8	18822.31
9	19145.27
10	19639.13
11	10312.16
12	8869.79
13	9379.21
14	9057.66
15	9525.15
16	9154.31
17	8966.85
18	7679.91
19	6256.47
20	655.93

Sales Analysis

```sql
--  Sales based on days of the week in the month of May
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 'Thursday'
when dayofweek(transaction_date) = 6 then 'Friday'
when dayofweek(transaction_date) = 7 then 'Saturday'
when dayofweek(transaction_date) = 1 then 'Sunday'
end as Day_of_the_week,
round(sum(unit_price*transaction_qty),2) as total_sales
from coffeeshopsales
where month(transaction_date)=5
group by 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 'Thursday'
when dayofweek(transaction_date) = 6 then 'Friday'
when dayofweek(transaction_date) = 7 then 'Saturday'
when dayofweek(transaction_date) = 1 then 'Sunday'
end;
```

Day_of_the_week	total_sales
Monday	25221.3
Tuesday	25346.99
Wednesday	25464.51
Thursday	20254.08
Friday	20340.96
Saturday	20795.11
Sunday	19304.81

Thank you