SQL PROJECT

ON

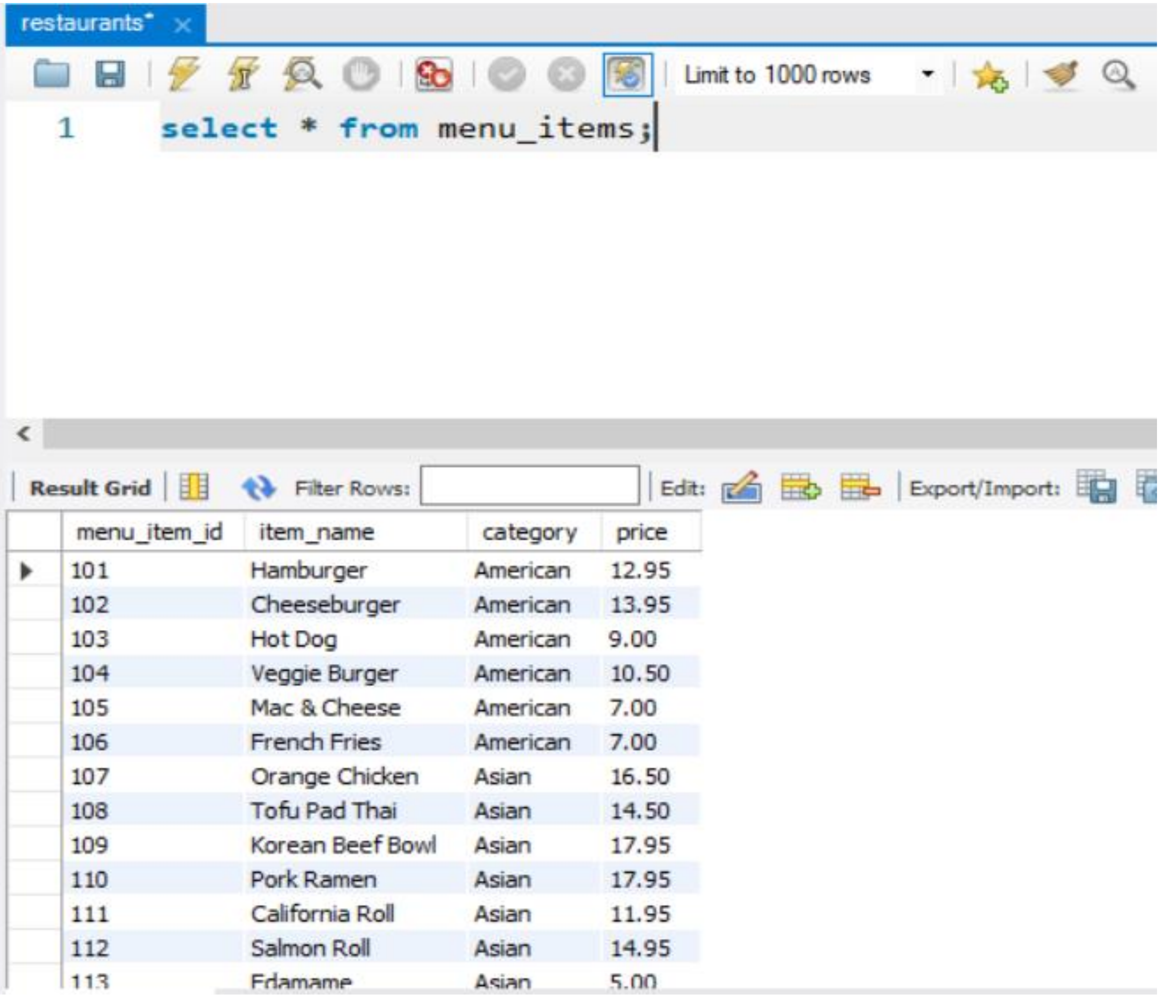
RESTAURANT ORDER

ANALYSIS

Objective – 1 Explore the items table

Task 1: View the menu_items table and write a query to find the number of items on the menu

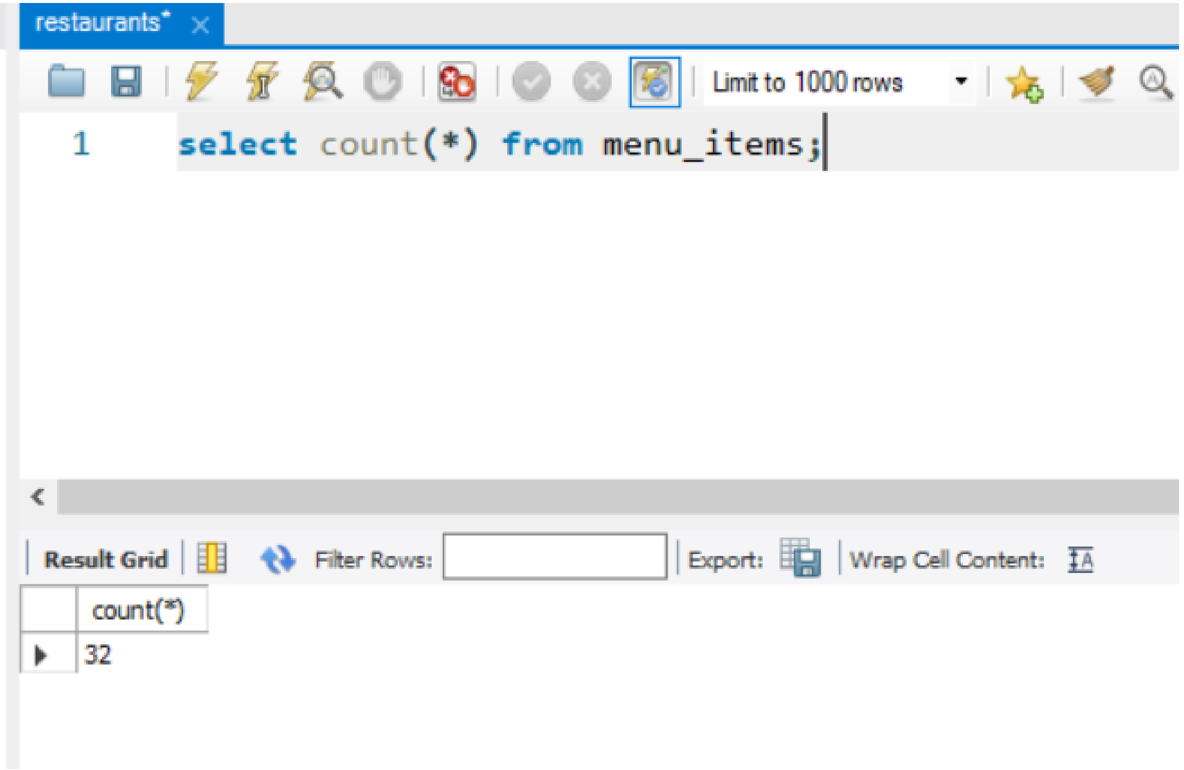
Query1- View the menu_items table



```sql
select * from menu_items;
```

menu_item_id	item_name	category	price
101	Hamburger	American	12.95
102	Cheeseburger	American	13.95
103	Hot Dog	American	9.00
104	Veggie Burger	American	10.50
105	Mac & Cheese	American	7.00
106	French Fries	American	7.00
107	Orange Chicken	Asian	16.50
108	Tofu Pad Thai	Asian	14.50
109	Korean Beef Bowl	Asian	17.95
110	Pork Ramen	Asian	17.95
111	California Roll	Asian	11.95
112	Salmon Roll	Asian	14.95
113	Edamame	Asian	5.00

Query2- To find the number of items on the menu



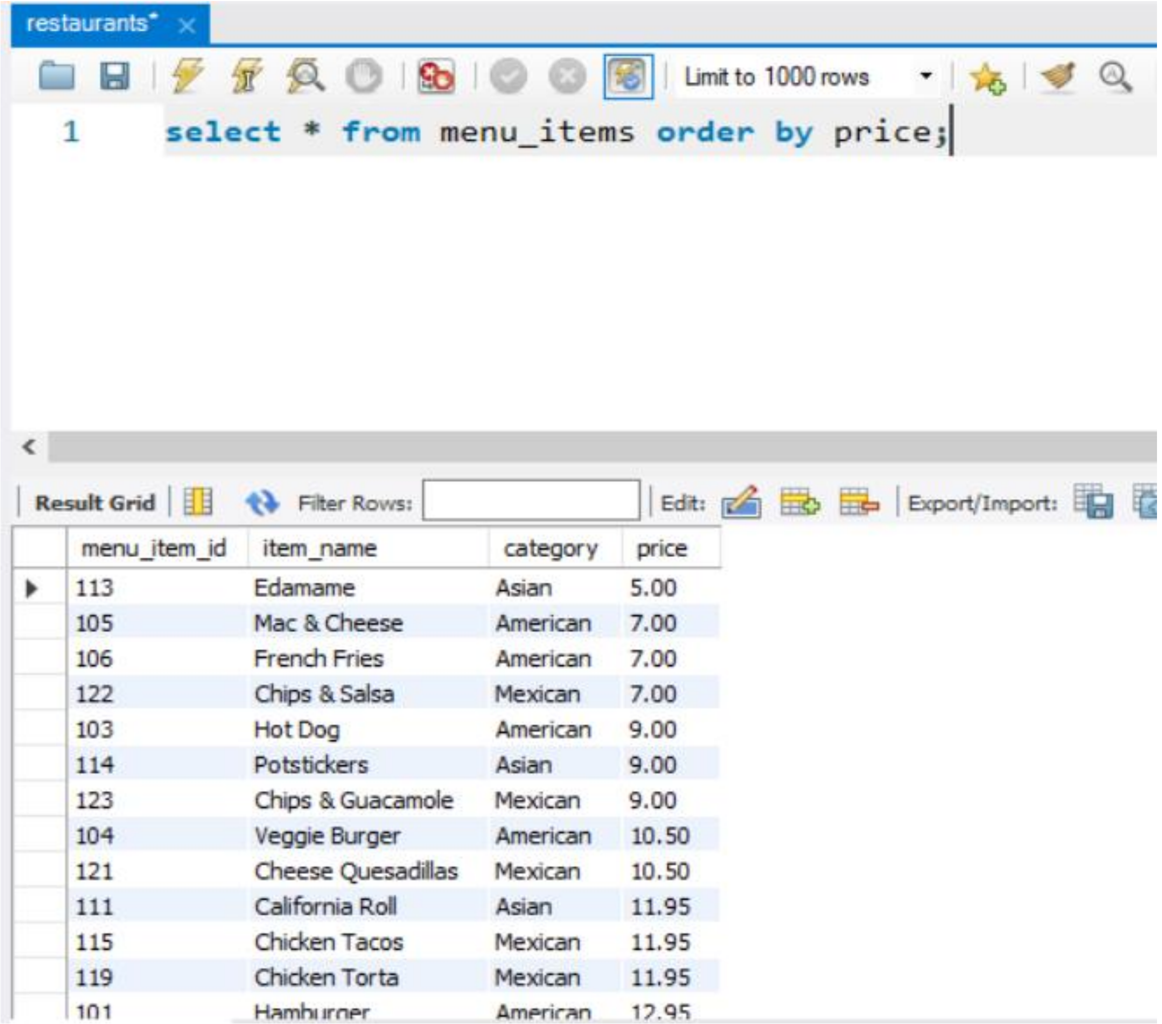
```sql
select count(*) from menu_items;
```

count(*)
32

Objective – 1 Explore the items table

Task 2: What are the least and most expensive items on the menu?

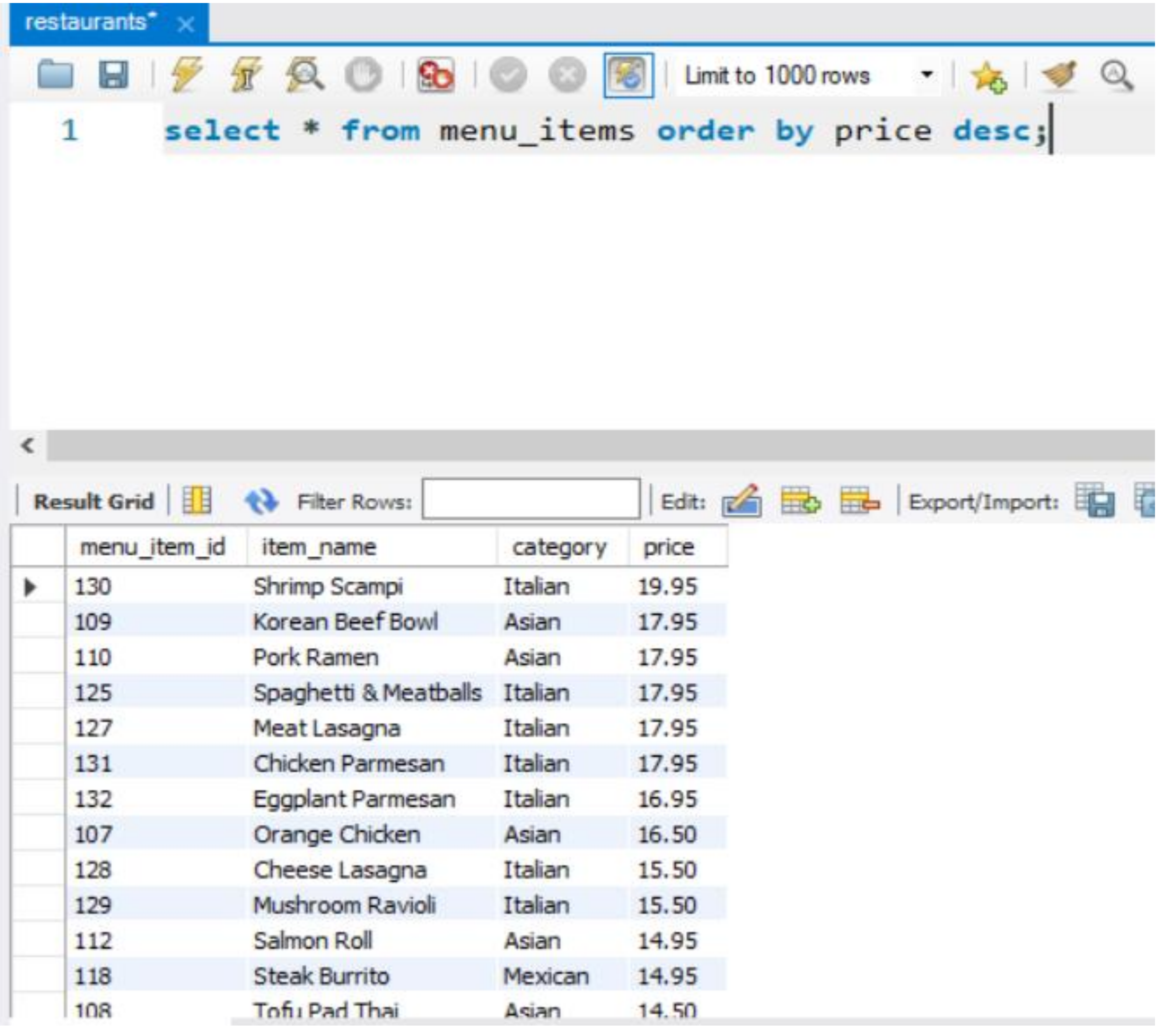
Query1: To view the least expensive items



```sql
select * from menu_items order by price;
```

menu_item_id	item_name	category	price
113	Edamame	Asian	5.00
105	Mac & Cheese	American	7.00
106	French Fries	American	7.00
122	Chips & Salsa	Mexican	7.00
103	Hot Dog	American	9.00
114	Potstickers	Asian	9.00
123	Chips & Guacamole	Mexican	9.00
104	Veggie Burger	American	10.50
121	Cheese Quesadillas	Mexican	10.50
111	California Roll	Asian	11.95
115	Chicken Tacos	Mexican	11.95
119	Chicken Torta	Mexican	11.95
101	Hamburger	American	12.95

Query2:To view the most expensive items



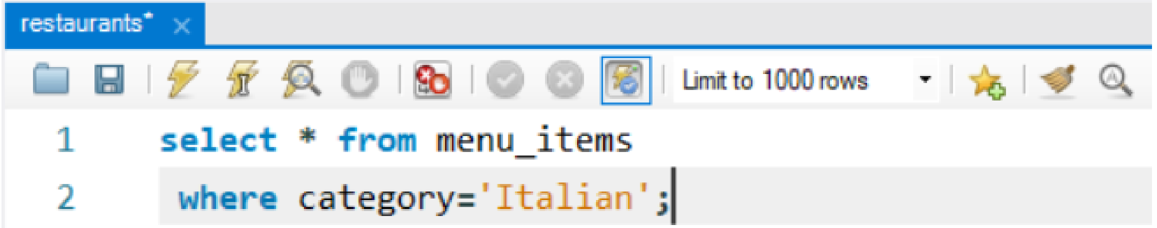
```sql
select * from menu_items order by price desc;
```

menu_item_id	item_name	category	price
130	Shrimp Scampi	Italian	19.95
109	Korean Beef Bowl	Asian	17.95
110	Pork Ramen	Asian	17.95
125	Spaghetti & Meatballs	Italian	17.95
127	Meat Lasagna	Italian	17.95
131	Chicken Parmesan	Italian	17.95
132	Eggplant Parmesan	Italian	16.95
107	Orange Chicken	Asian	16.50
128	Cheese Lasagna	Italian	15.50
129	Mushroom Ravioli	Italian	15.50
112	Salmon Roll	Asian	14.95
118	Steak Burrito	Mexican	14.95
108	Tofu Pad Thai	Asian	14.50

Objective – 1 Explore the items table

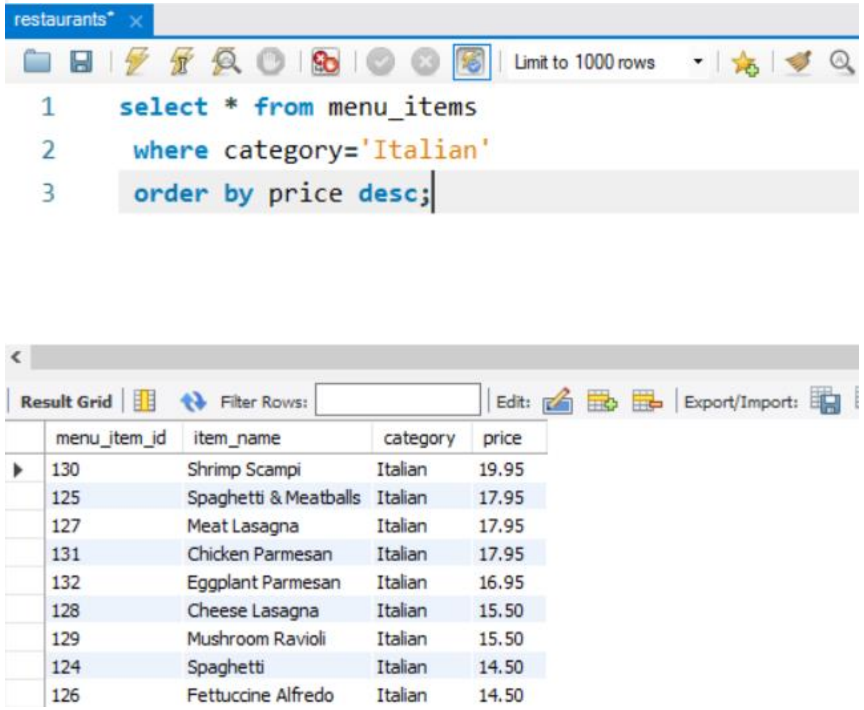
Task3:How many Italian dishes are on the menu? What are the least and most expensive Italian dishes on the menu?

Query1: How many Italian dishes are on the menu.



```sql
select * from menu_items
 where category='Italian';
```

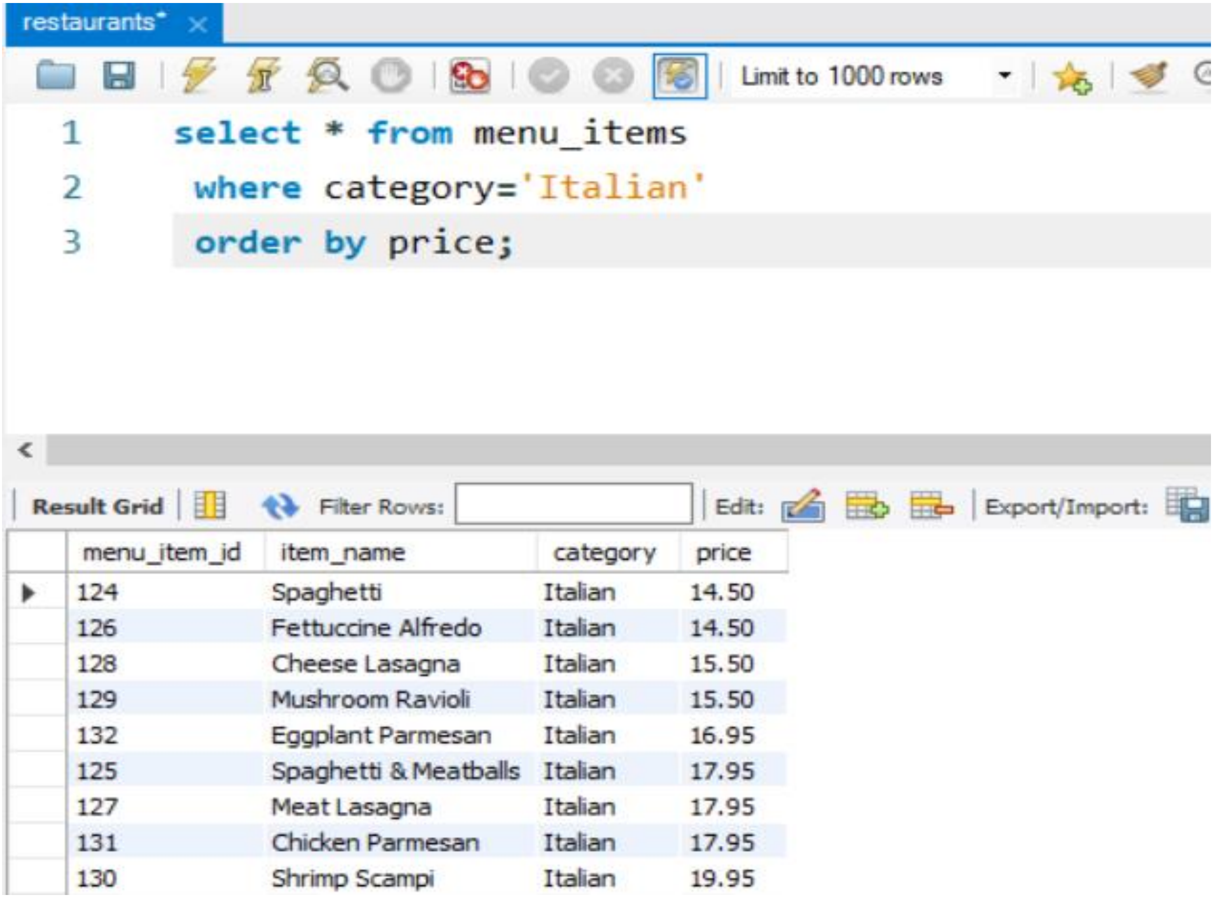
Query3:
To view the most expensive Italian dishes on the menu.



```sql
select * from menu_items
 where category='Italian'
 order by price desc;
```

menu_item_id	item_name	category	price
130	Shrimp Scampi	Italian	19.95
125	Spaghetti & Meatballs	Italian	17.95
127	Meat Lasagna	Italian	17.95
131	Chicken Parmesan	Italian	17.95
132	Eggplant Parmesan	Italian	16.95
128	Cheese Lasagna	Italian	15.50
129	Mushroom Ravioli	Italian	15.50
124	Spaghetti	Italian	14.50
126	Fettuccine Alfredo	Italian	14.50

Query2: To view the least expensive dishes on the menu.



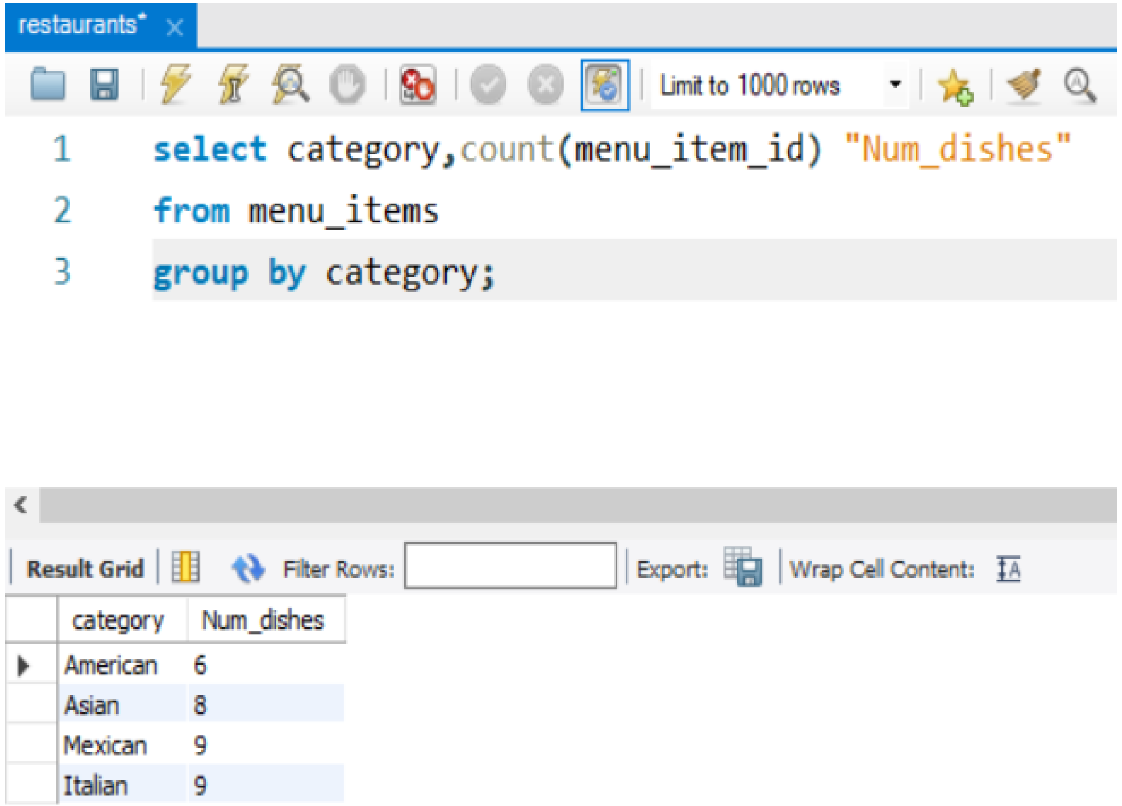
```sql
select * from menu_items
 where category='Italian'
 order by price;
```

menu_item_id	item_name	category	price
124	Spaghetti	Italian	14.50
126	Fettuccine Alfredo	Italian	14.50
128	Cheese Lasagna	Italian	15.50
129	Mushroom Ravioli	Italian	15.50
132	Eggplant Parmesan	Italian	16.95
125	Spaghetti & Meatballs	Italian	17.95
127	Meat Lasagna	Italian	17.95
131	Chicken Parmesan	Italian	17.95
130	Shrimp Scampi	Italian	19.95

Objective – 1 Explore the items table

Task 4: How many dishes are in each category? What is the average dish price within each category?

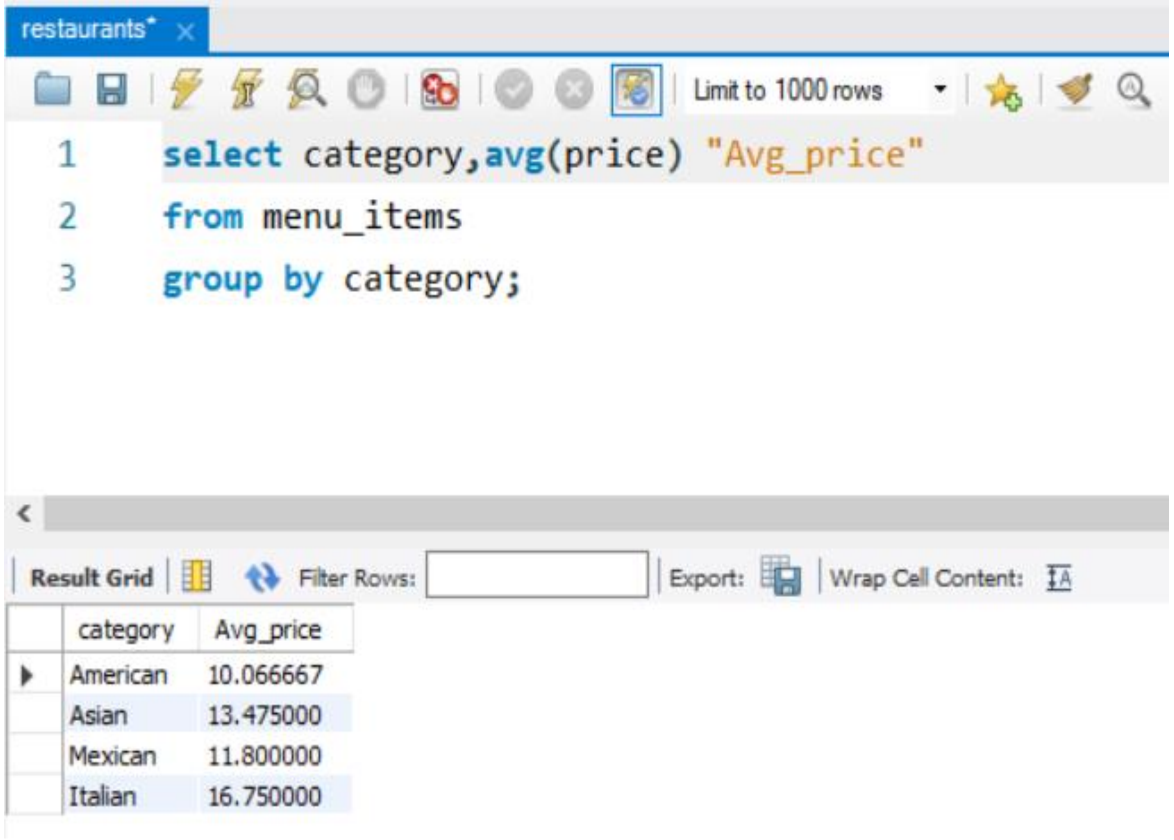
Query1: To view the dishes in each category



```sql
select category,count(menu_item_id) "Num_dishes"
from menu_items
group by category;
```

category	Num_dishes
American	6
Asian	8
Mexican	9
Italian	9

Query2: To view the Average price within each category



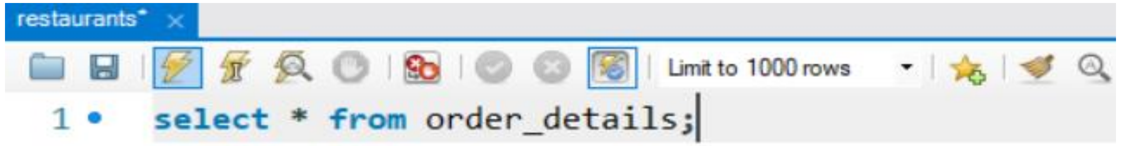
```sql
select category,avg(price) "Avg_price"
from menu_items
group by category;
```

category	Avg_price
American	10.066667
Asian	13.475000
Mexican	11.800000
Italian	16.750000

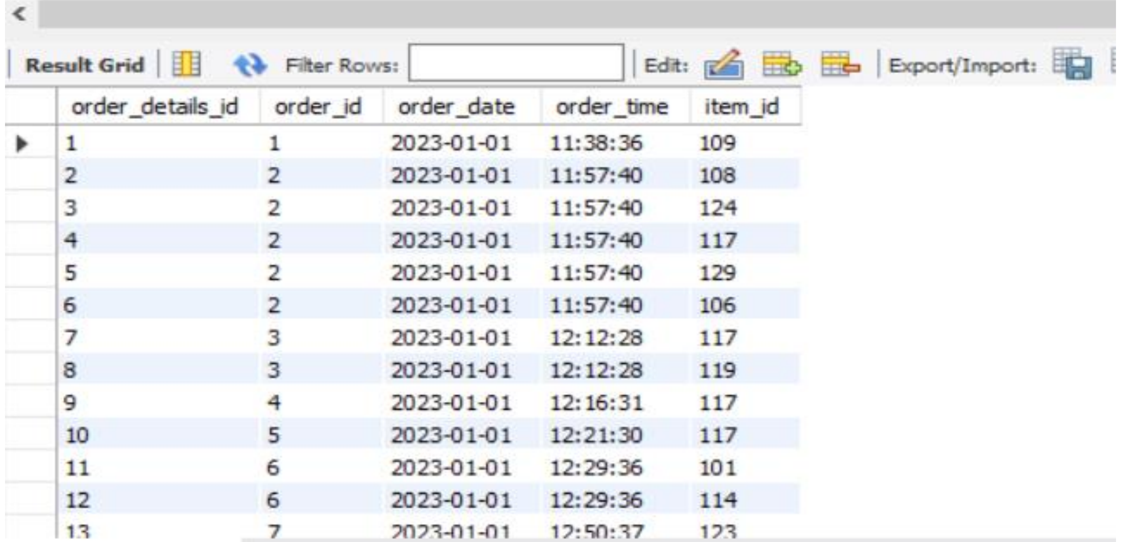
Objective – 2 Explore the orders table

Task 1: View the order_details table. What is the date range of the table?

Query1: To view the order_details table

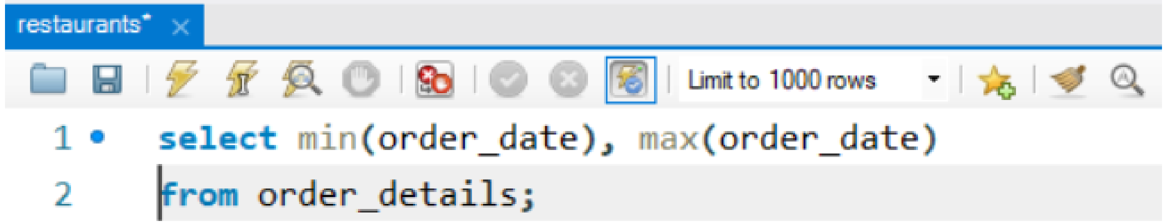


```
select * from order_details;
```

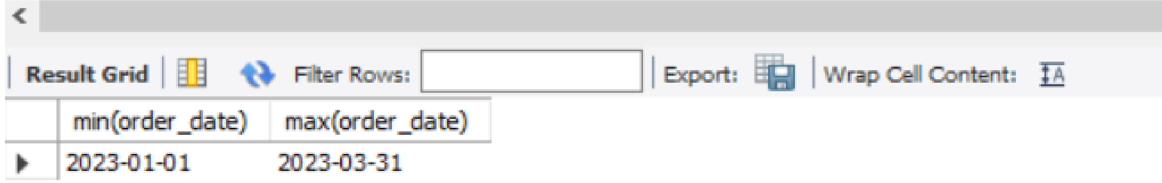


order_details_id	order_id	order_date	order_time	item_id
1	1	2023-01-01	11:38:36	109
2	2	2023-01-01	11:57:40	108
3	2	2023-01-01	11:57:40	124
4	2	2023-01-01	11:57:40	117
5	2	2023-01-01	11:57:40	129
6	2	2023-01-01	11:57:40	106
7	3	2023-01-01	12:12:28	117
8	3	2023-01-01	12:12:28	119
9	4	2023-01-01	12:16:31	117
10	5	2023-01-01	12:21:30	117
11	6	2023-01-01	12:29:36	101
12	6	2023-01-01	12:29:36	114
13	7	2023-01-01	12:50:37	123

Query2: To view the date range of the table



```
select min(order_date), max(order_date)
from order_details;
```

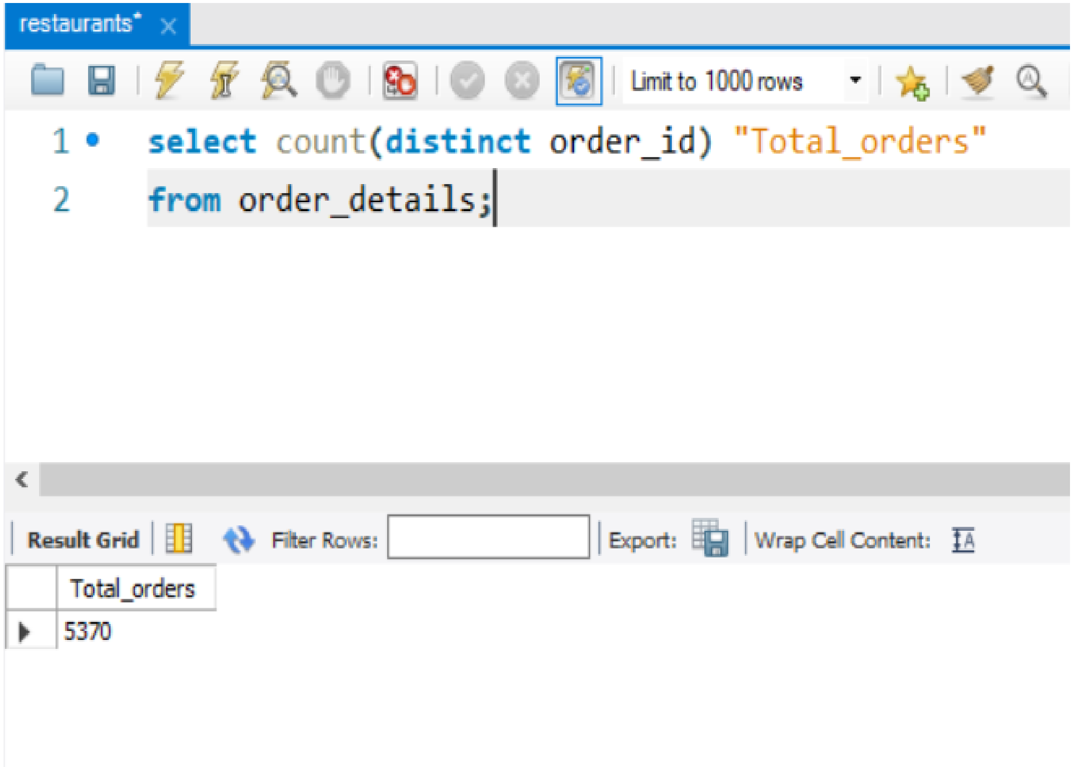


min(order_date)	max(order_date)
2023-01-01	2023-03-31

Objective – 2 Explore the orders table

Task 2: How many orders were made within this date range? How many items were ordered within this date range?

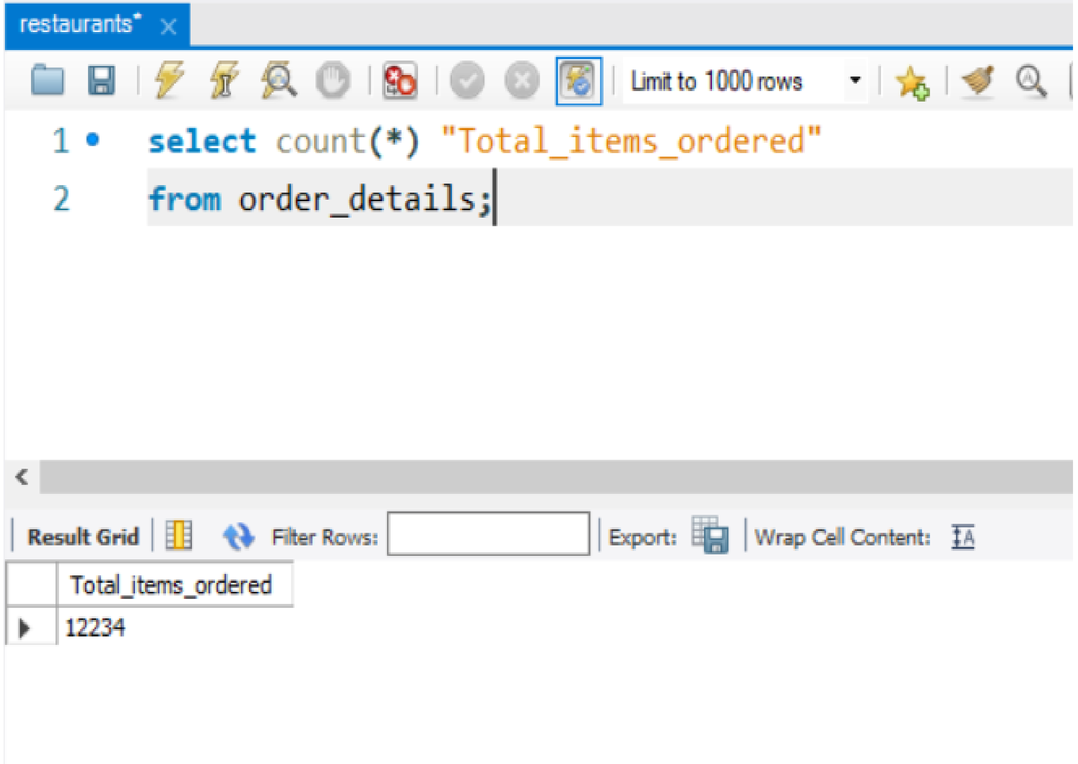
Query1: To view the orders made within date range



```
select count(distinct order_id) "Total_orders"
from order_details;
```

```
Total_orders
5370
```

Query2: To view the items ordered within date range



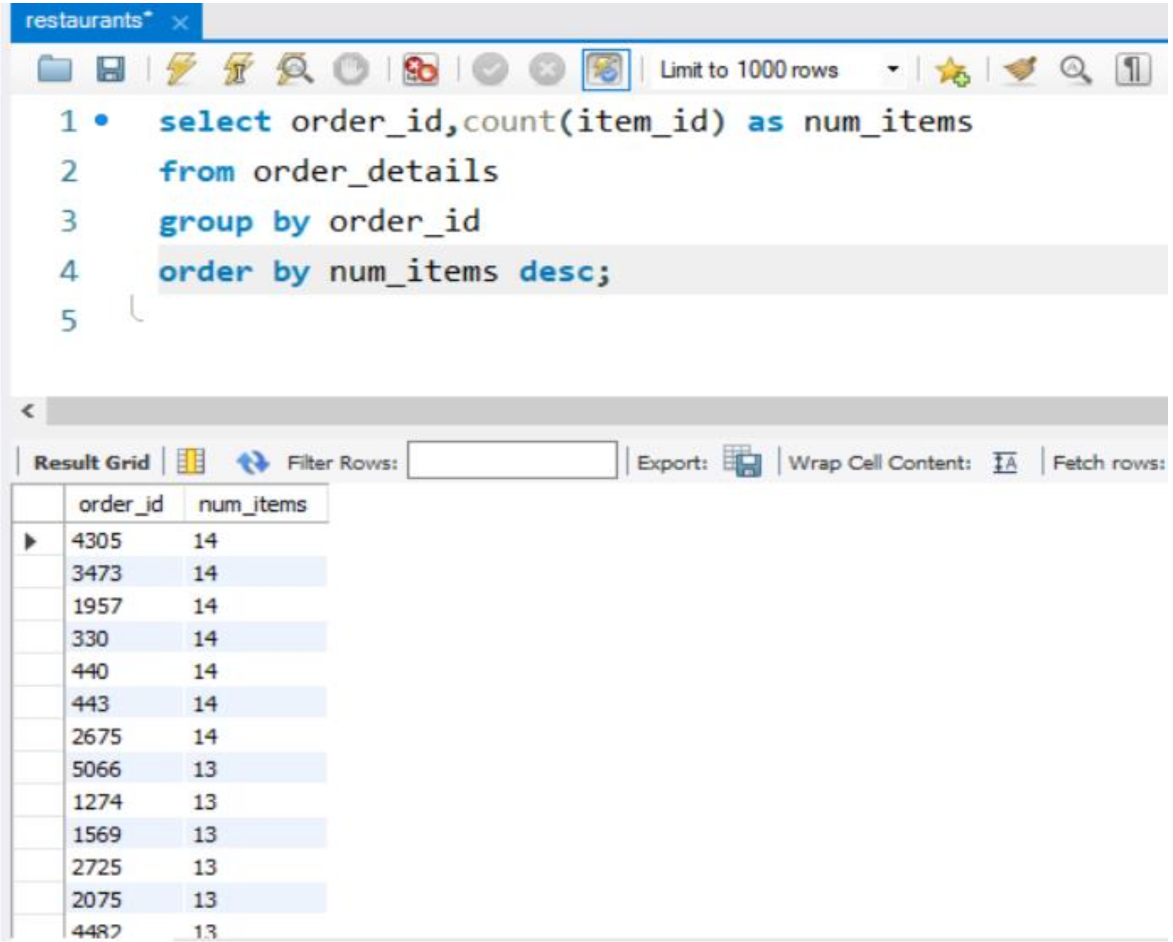
```
select count(*) "Total_items_ordered"
from order_details;
```

```
Total_items_ordered
12234
```

Objective – 2 Explore the orders table

Task 2: Which orders had the most number of items? How many orders had more than 12 items?

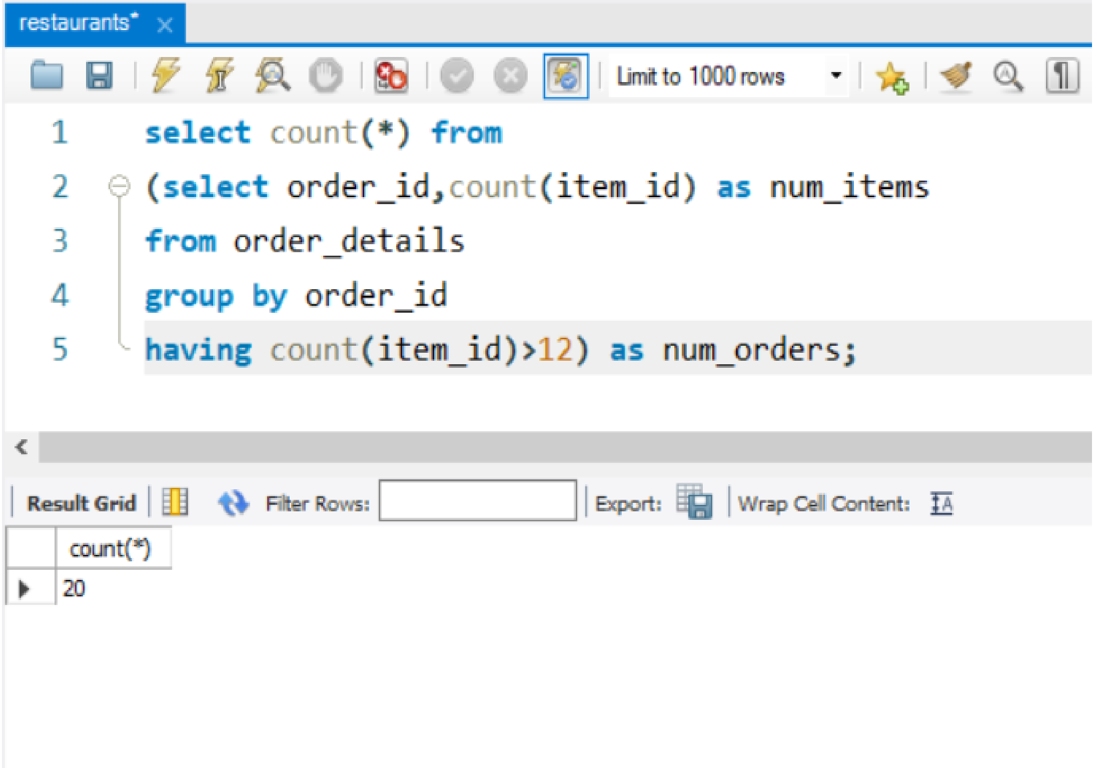
Query1: To view the orders with most items



```sql
select order_id,count(item_id) as num_items
from order_details
group by order_id
order by num_items desc;
```

order_id	num_items
4305	14
3473	14
1957	14
330	14
440	14
443	14
2675	14
5066	13
1274	13
1569	13
2725	13
2075	13
4482	13

Query2: To view orders having more than 12 items

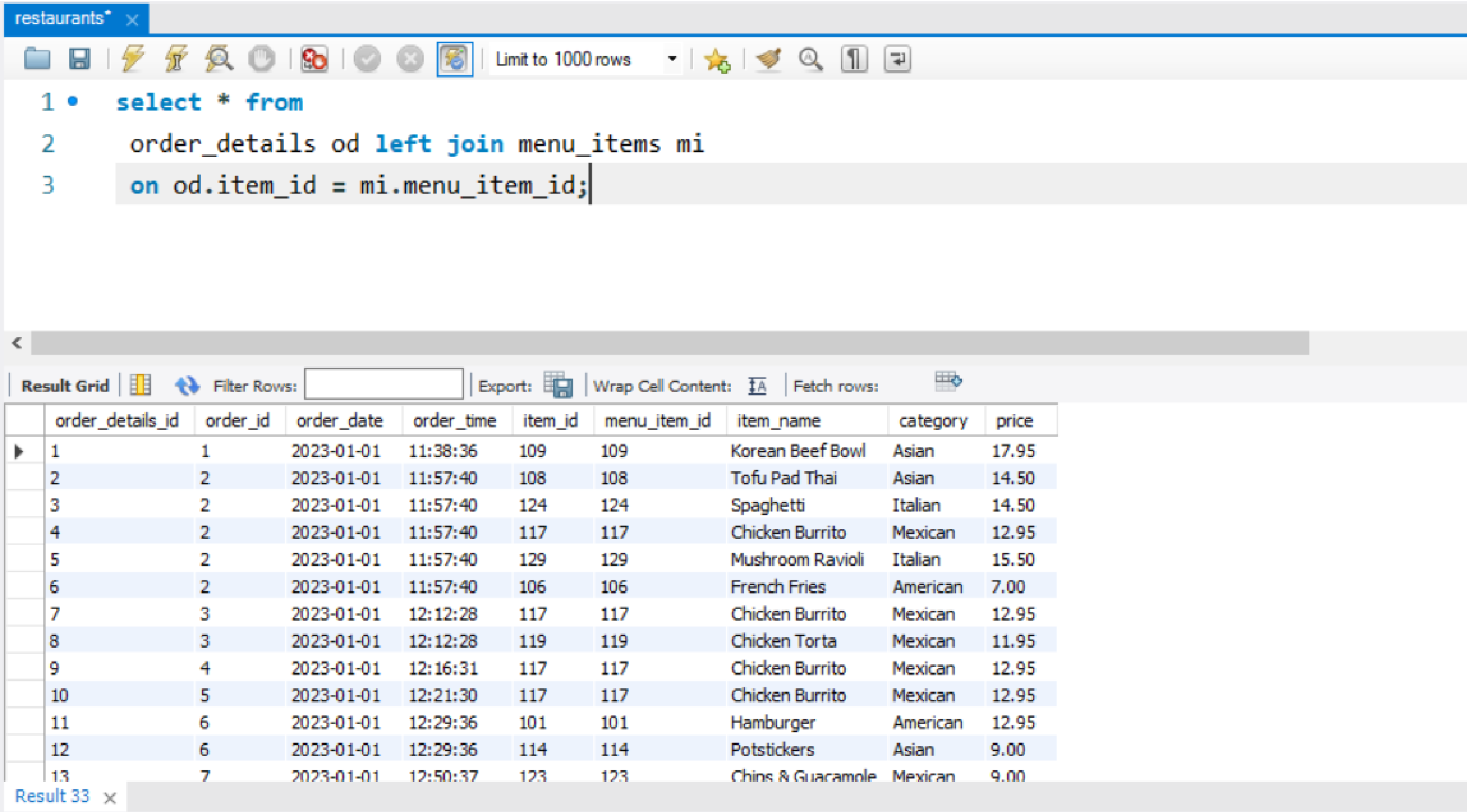


```sql
select count(*) from
(select order_id,count(item_id) as num_items
from order_details
group by order_id
having count(item_id)>12) as num_orders;
```

count(*)
20

Objective – 3 Analyze customer behavior

Task 1: Combine the menu_items and order_details tables into a single table



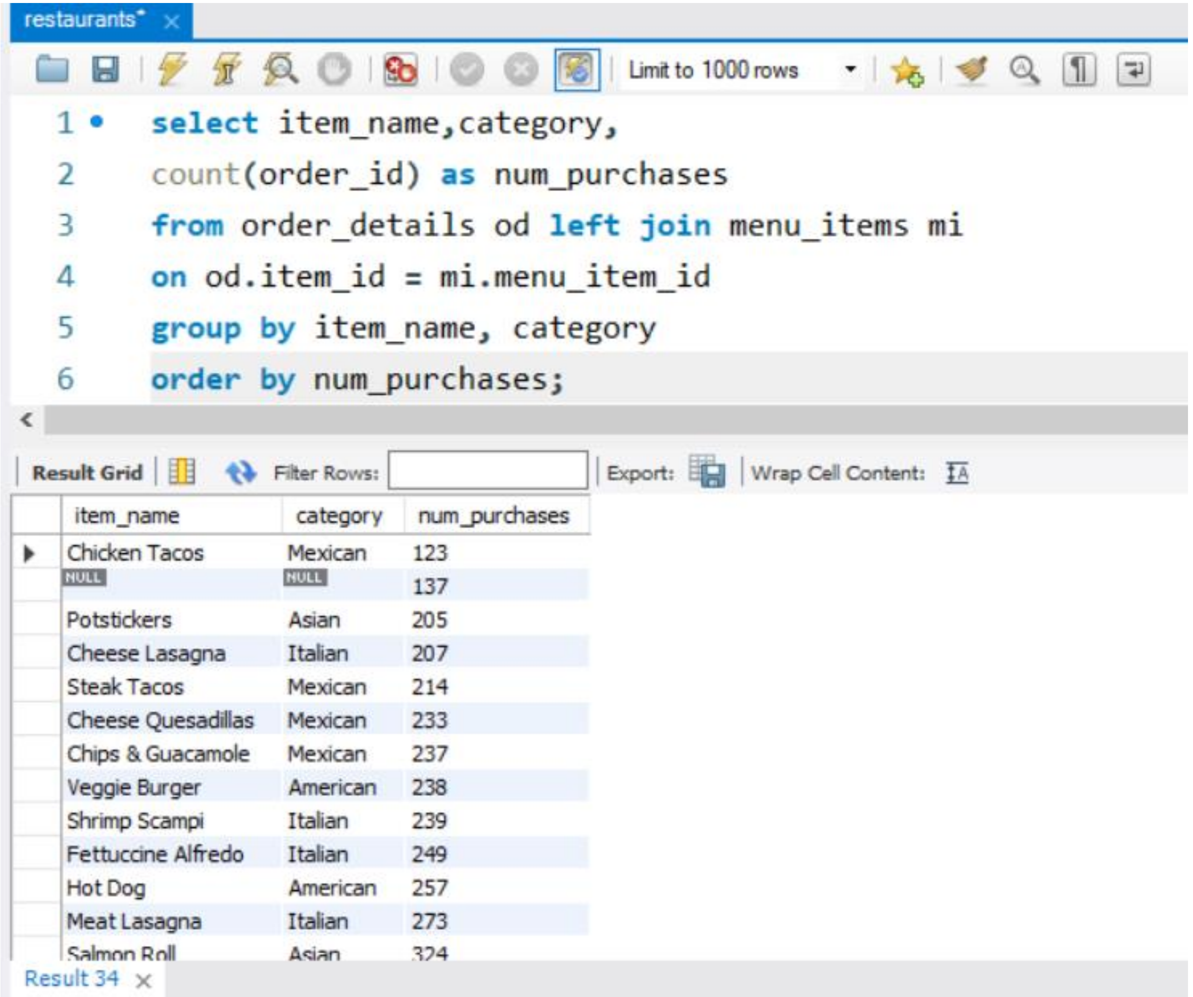
```sql
select * from
 order_details od left join menu_items mi
 on od.item_id = mi.menu_item_id;
```

order_details_id	order_id	order_date	order_time	item_id	menu_item_id	item_name	category	price
1	1	2023-01-01	11:38:36	109	109	Korean Beef Bowl	Asian	17.95
2	2	2023-01-01	11:57:40	108	108	Tofu Pad Thai	Asian	14.50
3	2	2023-01-01	11:57:40	124	124	Spaghetti	Italian	14.50
4	2	2023-01-01	11:57:40	117	117	Chicken Burrito	Mexican	12.95
5	2	2023-01-01	11:57:40	129	129	Mushroom Ravioli	Italian	15.50
6	2	2023-01-01	11:57:40	106	106	French Fries	American	7.00
7	3	2023-01-01	12:12:28	117	117	Chicken Burrito	Mexican	12.95
8	3	2023-01-01	12:12:28	119	119	Chicken Torta	Mexican	11.95
9	4	2023-01-01	12:16:31	117	117	Chicken Burrito	Mexican	12.95
10	5	2023-01-01	12:21:30	117	117	Chicken Burrito	Mexican	12.95
11	6	2023-01-01	12:29:36	101	101	Hamburger	American	12.95
12	6	2023-01-01	12:29:36	114	114	Potstickers	Asian	9.00
13	7	2023-01-01	12:50:37	123	123	Chips & Guacamole	Mexican	9.00

Objective – 3 Analyze customer behavior

Task 2:What were the least and most ordered items? What categories were they in?

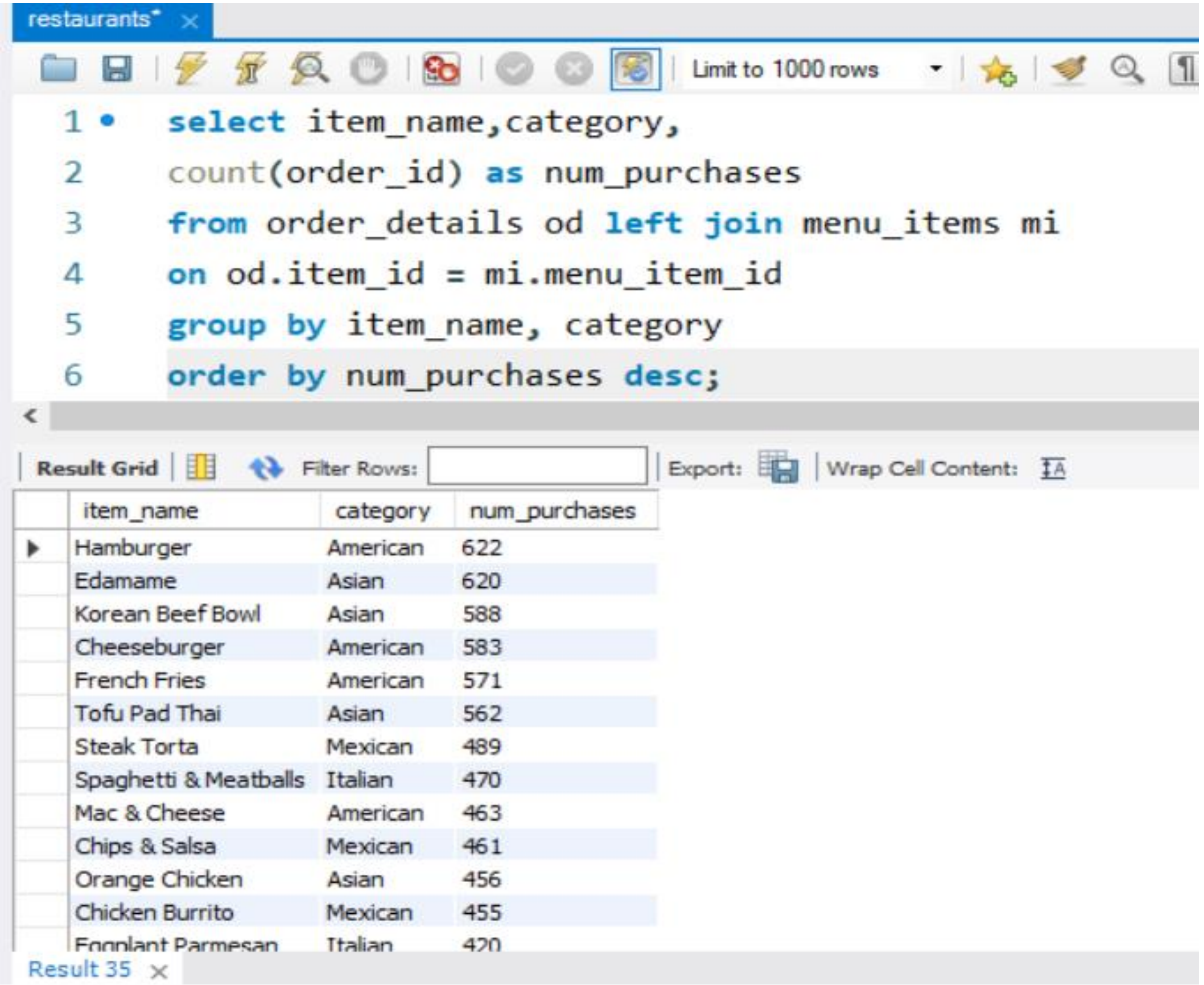
Query1: To view the least ordered items



```
select item_name,category,
count(order_id) as num_purchases
from order_details od left join menu_items mi
on od.item_id = mi.menu_item_id
group by item_name, category
order by num_purchases;
```

item_name	category	num_purchases
Chicken Tacos	Mexican	123
NULL	NULL	137
Potstickers	Asian	205
Cheese Lasagna	Italian	207
Steak Tacos	Mexican	214
Cheese Quesadillas	Mexican	233
Chips & Guacamole	Mexican	237
Veggie Burger	American	238
Shrimp Scampi	Italian	239
Fettuccine Alfredo	Italian	249
Hot Dog	American	257
Meat Lasagna	Italian	273
Salmon Roll	Asian	324

Query2: To view the most ordered items



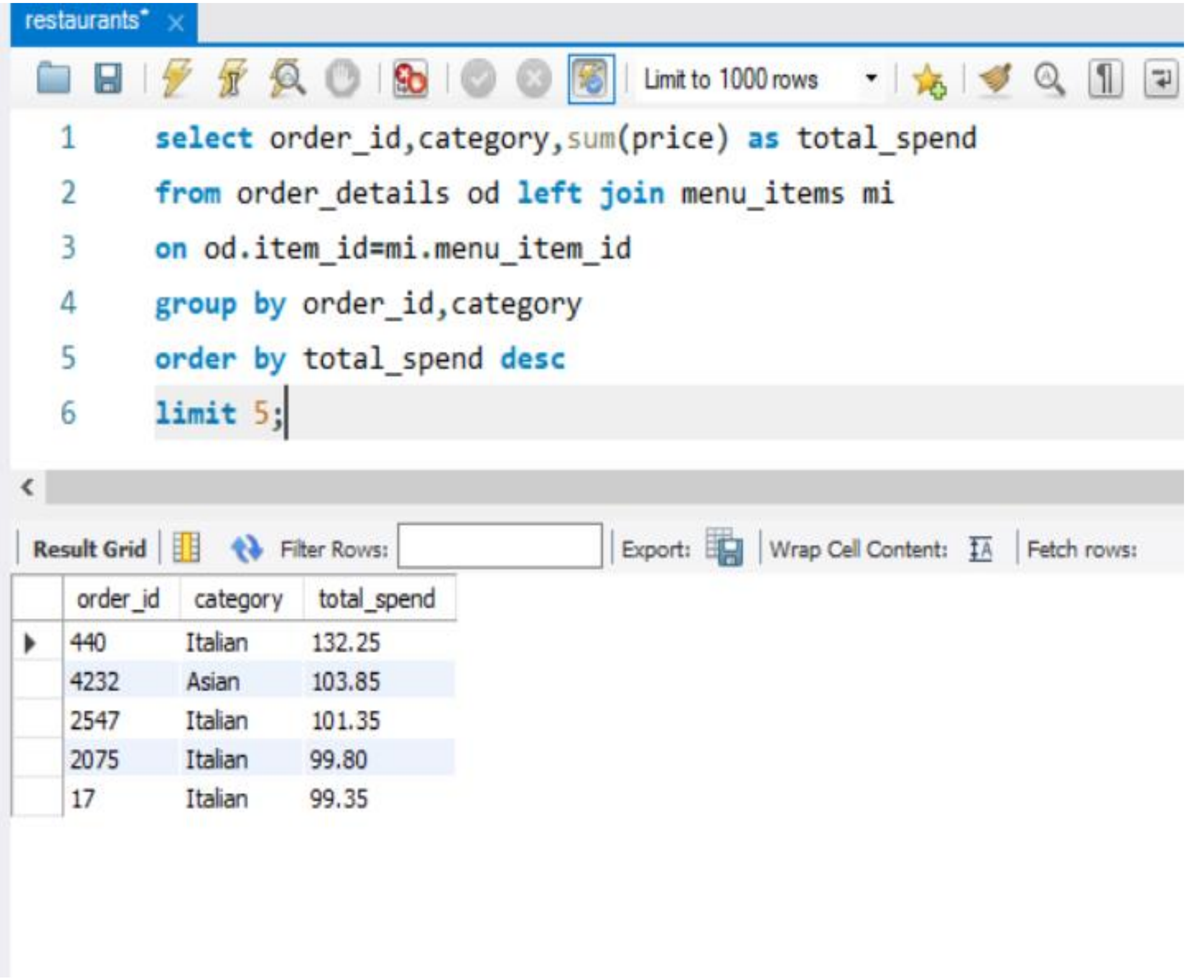
```
select item_name,category,
count(order_id) as num_purchases
from order_details od left join menu_items mi
on od.item_id = mi.menu_item_id
group by item_name, category
order by num_purchases desc;
```

item_name	category	num_purchases
Hamburger	American	622
Edamame	Asian	620
Korean Beef Bowl	Asian	588
Cheeseburger	American	583
French Fries	American	571
Tofu Pad Thai	Asian	562
Steak Torta	Mexican	489
Spaghetti & Meatballs	Italian	470
Mac & Cheese	American	463
Chips & Salsa	Mexican	461
Orange Chicken	Asian	456
Chicken Burrito	Mexican	455
Eggplant Parmesan	Italian	420

Objective – 3 Analyze customer behavior

Task 3&4: What were the top 5 orders that spent the most money? View the details of the highest spend order. Which specific items were purchased?

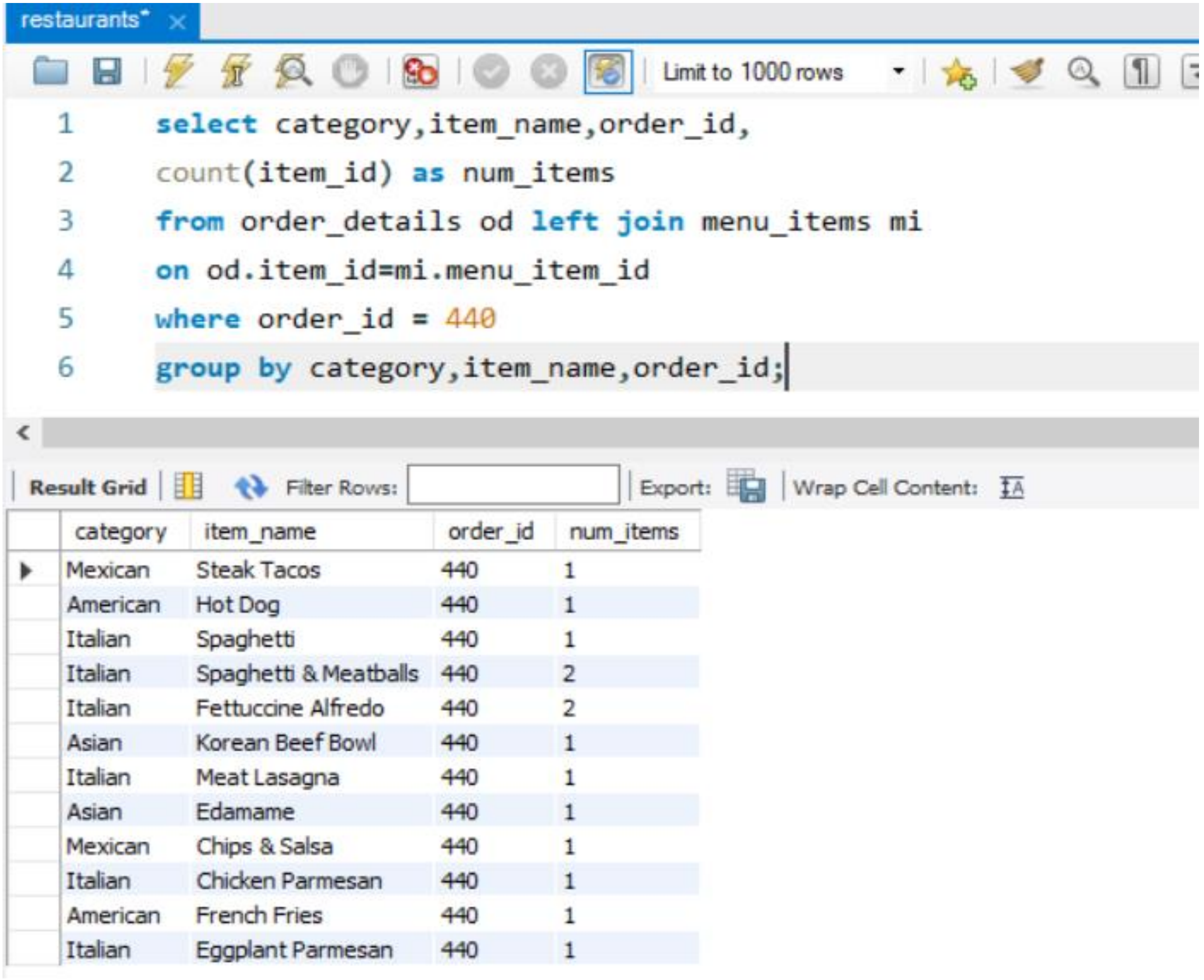
Query1: To view the Top 5 Orders by spending



```
select order_id,category,sum(price) as total_spend
from order_details od left join menu_items mi
on od.item_id=mi.menu_item_id
group by order_id,category
order by total_spend desc
limit 5;
```

order_id	category	total_spend
440	Italian	132.25
4232	Asian	103.85
2547	Italian	101.35
2075	Italian	99.80
17	Italian	99.35

Query2: To view the Highest spend order and items purchased



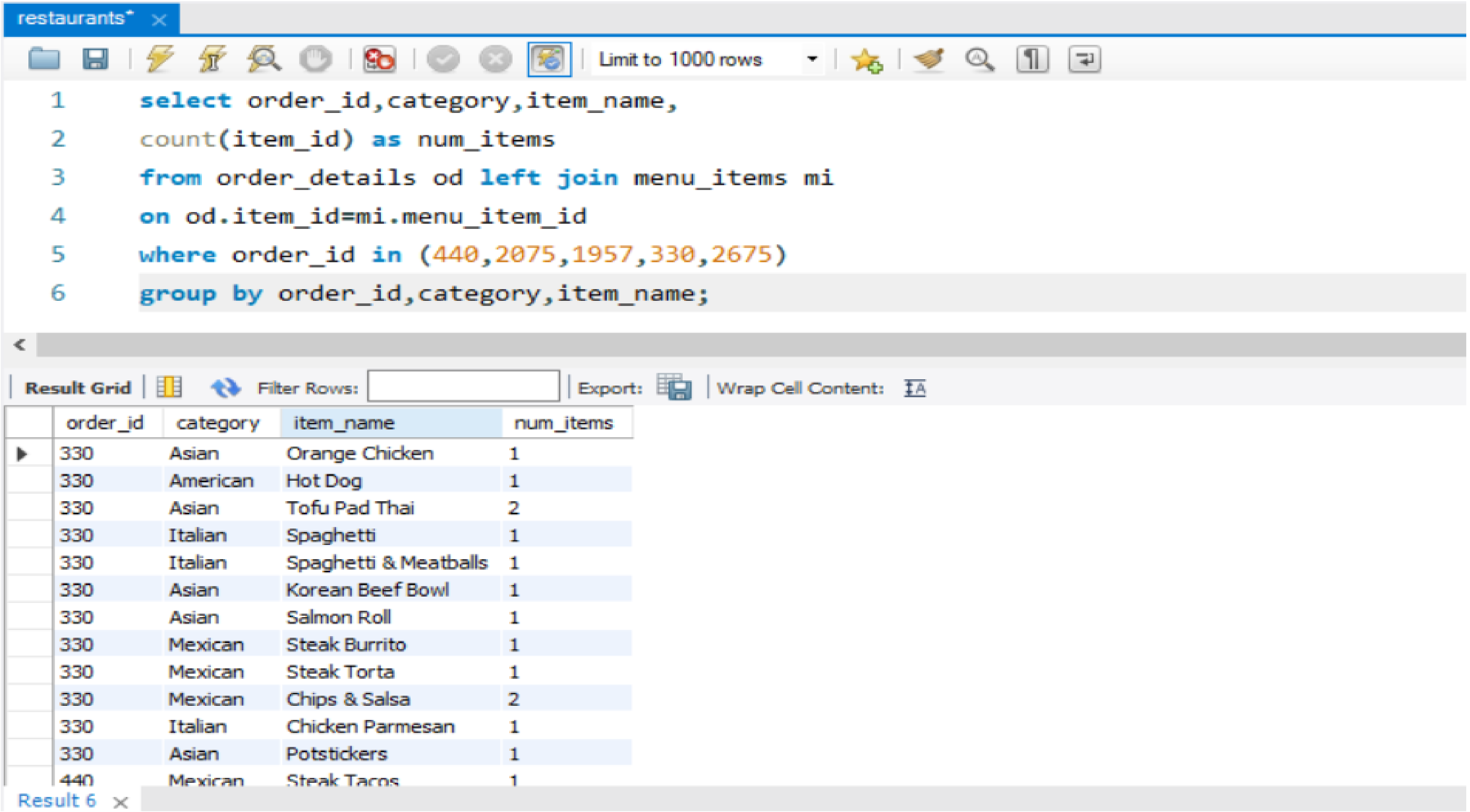
```
select category,item_name,order_id,
count(item_id) as num_items
from order_details od left join menu_items mi
on od.item_id=mi.menu_item_id
where order_id = 440
group by category,item_name,order_id;
```

category	item_name	order_id	num_items
Mexican	Steak Tacos	440	1
American	Hot Dog	440	1
Italian	Spaghetti	440	1
Italian	Spaghetti & Meatballs	440	2
Italian	Fettuccine Alfredo	440	2
Asian	Korean Beef Bowl	440	1
Italian	Meat Lasagna	440	1
Asian	Edamame	440	1
Mexican	Chips & Salsa	440	1
Italian	Chicken Parmesan	440	1
American	French Fries	440	1
Italian	Eggplant Parmesan	440	1

Objective – 3 Analyze customer behavior

Task 5: View the details of the top 5 highest spend orders.

Query1: To view the Top 5 orders by spending



```sql
select order_id,category,item_name,
count(item_id) as num_items
from order_details od left join menu_items mi
on od.item_id=mi.menu_item_id
where order_id in (440,2075,1957,330,2675)
group by order_id,category,item_name;
```

order_id	category	item_name	num_items
330	Asian	Orange Chicken	1
330	American	Hot Dog	1
330	Asian	Tofu Pad Thai	2
330	Italian	Spaghetti	1
330	Italian	Spaghetti & Meatballs	1
330	Asian	Korean Beef Bowl	1
330	Asian	Salmon Roll	1
330	Mexican	Steak Burrito	1
330	Mexican	Steak Torta	1
330	Mexican	Chips & Salsa	2
330	Italian	Chicken Parmesan	1
330	Asian	Potstickers	1
440	Mexican	Steak Tacos	1

SQL Queries Learned in this Project:

- Count
- Order By
- Group By
- Sorting (Ascending & Descending)
- Where
- Min and Max
- Average and Sum
- Having
- Join Queries