Title: DB Assignment 2

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Problem 1

SELECT restaurants.restID, restaurants.name, AVG(foods.price)

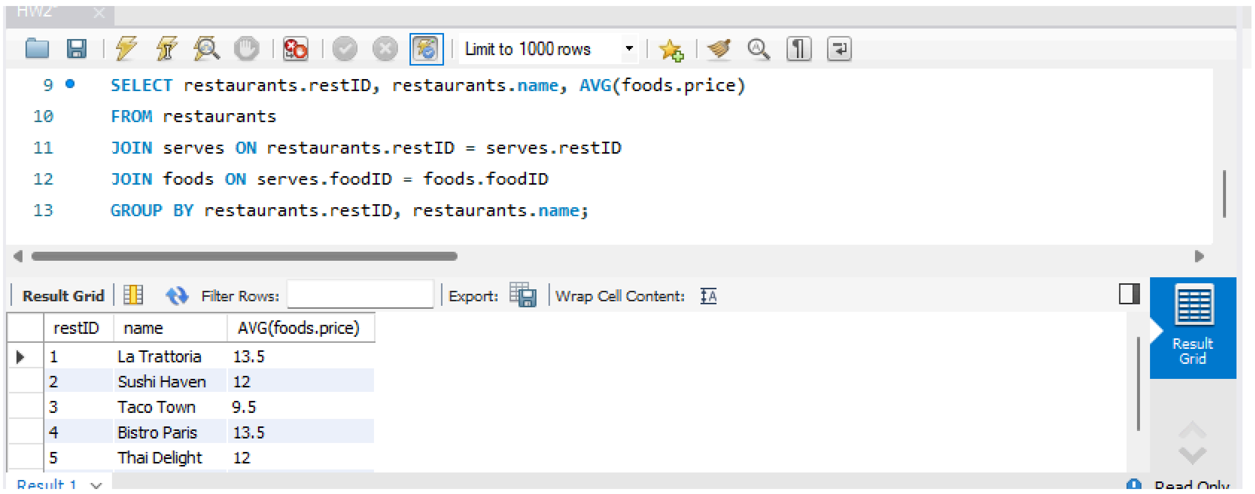
FROM restaurants

JOIN serves ON restaurants.restID = serves.restID

JOIN foods ON serves.foodID = foods.foodID

GROUP BY restaurants.restID, restaurants.name;

In this query, we join serves to restaurants and then foods to serves. Aggregation of the price is done with the AVG function.



```
SELECT restaurants.restID, restaurants.name, AVG(foods.price)
FROM restaurants
JOIN serves ON restaurants.restID = serves.restID
JOIN foods ON serves.foodID = foods.foodID
GROUP BY restaurants.restID, restaurants.name;
```

restID	name	AVG(foods.price)
1	La Trattoria	13.5
2	Sushi Haven	12
3	Taco Town	9.5
4	Bistro Paris	13.5
5	Thai Delight	12

Problem 2

SELECT restaurants.restID, restaurants.name, MAX(foods.price)

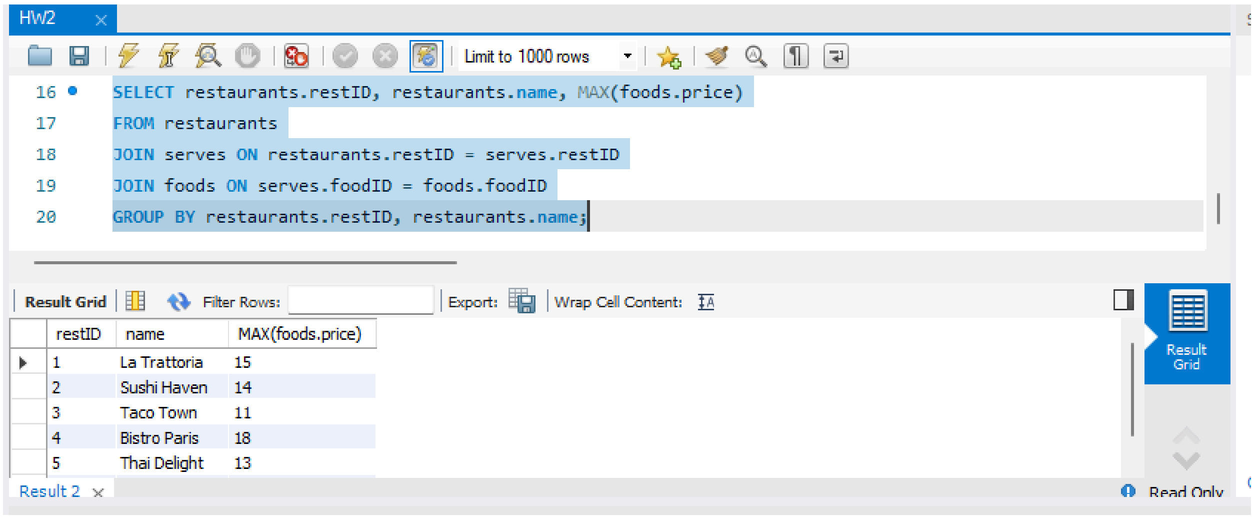
FROM restaurants

JOIN serves ON restaurants.restID = serves.restID

JOIN foods ON serves.foodID = foods.foodID

GROUP BY restaurants.restID, restaurants.name;

The same as above, except with MAX.



```sql
SELECT restaurants.restID, restaurants.name, MAX(foods.price)
FROM restaurants
JOIN serves ON restaurants.restID = serves.restID
JOIN foods ON serves.foodID = foods.foodID
GROUP BY restaurants.restID, restaurants.name;
```

restID	name	MAX(foods.price)
1	La Trattoria	15
2	Sushi Haven	14
3	Taco Town	11
4	Bistro Paris	18
5	Thai Delight	13

Problem 3

SELECT restaurants.restID, restaurants.name, COUNT(DISTINCT foods.type)

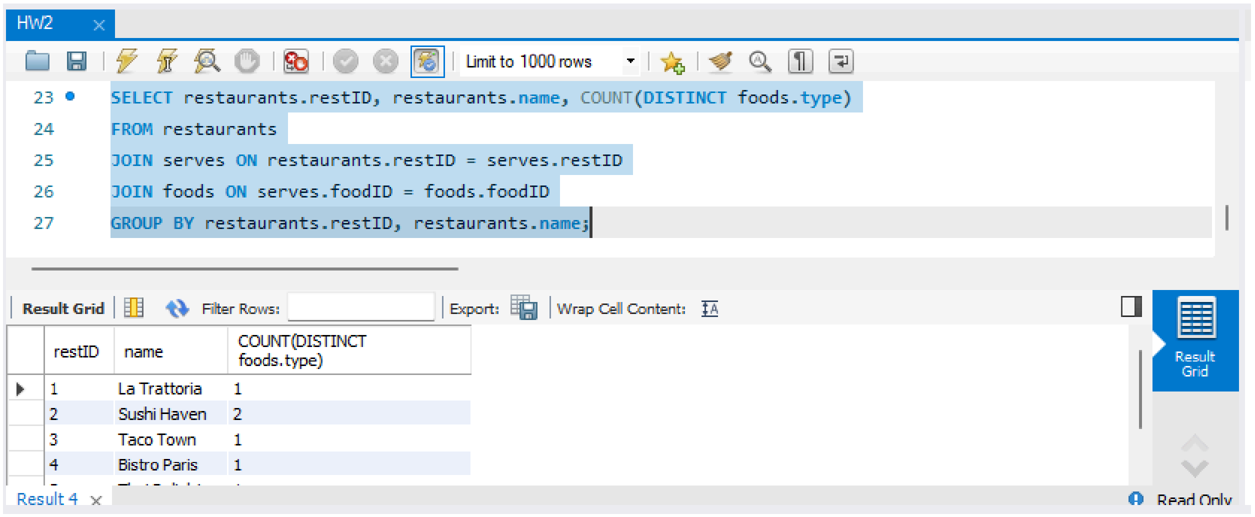
FROM restaurants

JOIN serves ON restaurants.restID = serves.restID

JOIN foods ON serves.foodID = foods.foodID

GROUP BY restaurants.restID, restaurants.name;

The same as above, except with COUNT DISTINCT.



```sql
SELECT restaurants.restID, restaurants.name, COUNT(DISTINCT foods.type)
FROM restaurants
JOIN serves ON restaurants.restID = serves.restID
JOIN foods ON serves.foodID = foods.foodID
GROUP BY restaurants.restID, restaurants.name;
```

restID	name	COUNT(DISTINCT foods.type)
1	La Trattoria	1
2	Sushi Haven	2
3	Taco Town	1
4	Bistro Paris	1

Problem 4

SELECT chefs.chefID, chefs.name, AVG(foods.price)

FROM chefs

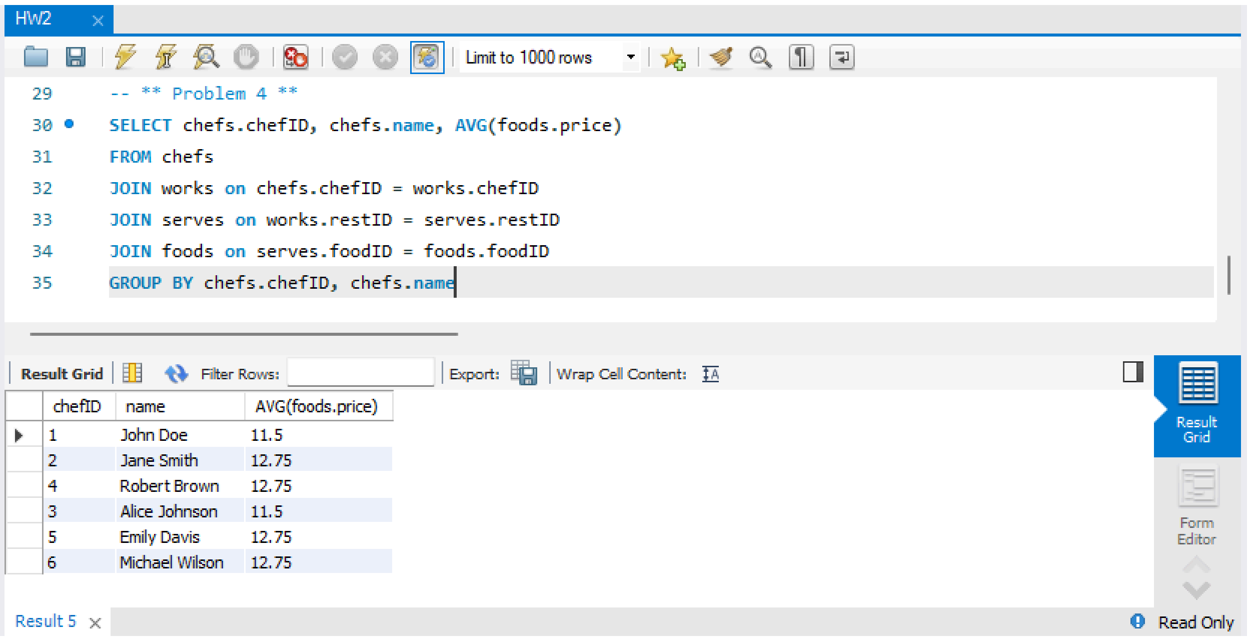
JOIN works on chefs.chefID = works.chefID

JOIN serves on works.restID = serves.restID

JOIN foods on serves.foodID = foods.foodID

GROUP BY chefs.chefID, chefs.name;

In this query, we join chefs -> works -> serves -> foods. From there, we can get the average of the price of foods for each chef.



```sql
-- ** Problem 4 **
SELECT chefs.chefID, chefs.name, AVG(foods.price)
FROM chefs
JOIN works on chefs.chefID = works.chefID
JOIN serves on works.restID = serves.restID
JOIN foods on serves.foodID = foods.foodID
GROUP BY chefs.chefID, chefs.name
```

chefID	name	AVG(foods.price)
1	John Doe	11.5
2	Jane Smith	12.75
4	Robert Brown	12.75
3	Alice Johnson	11.5
5	Emily Davis	12.75
6	Michael Wilson	12.75

Problem 5

SELECT restaurants.name, AVG(foods.price)

FROM restaurants

JOIN serves ON restaurants.restID = serves.restID

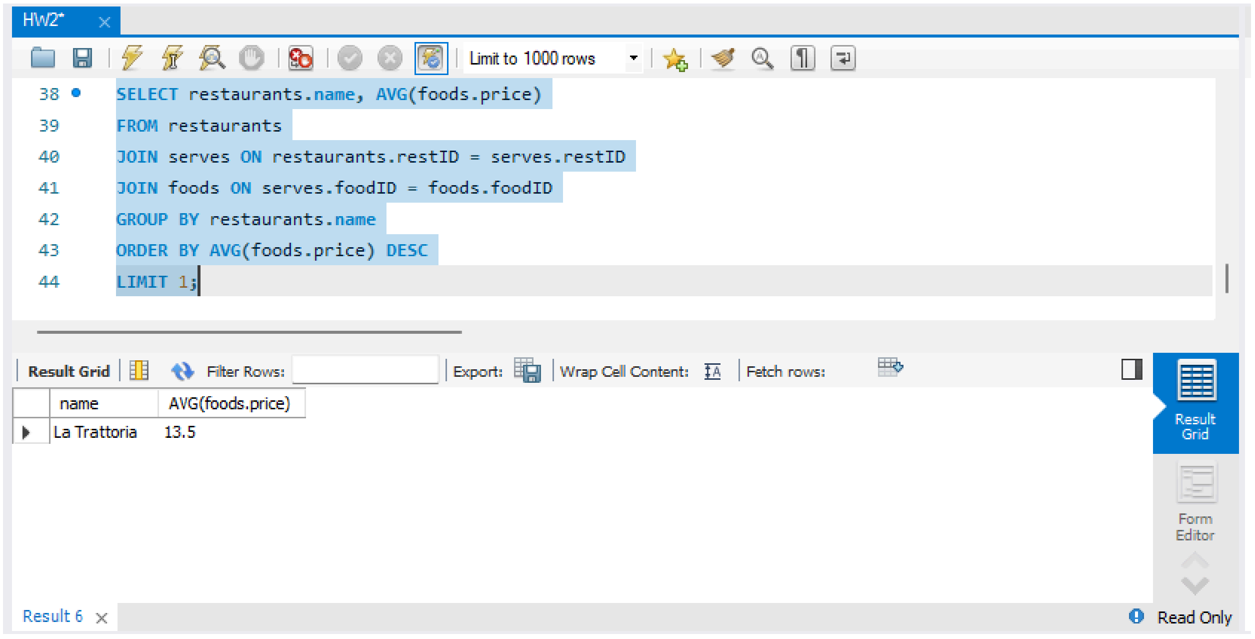
JOIN foods ON serves.foodID = foods.foodID

GROUP BY restaurants.name

ORDER BY AVG(foods.price) DESC

LIMIT 1;

Here, we are joining restaurants -> serves -> foods and getting the average of foods price. To only get the first, we order by descending and limit to 1.



```sql
SELECT restaurants.name, AVG(foods.price)
FROM restaurants
JOIN serves ON restaurants.restID = serves.restID
JOIN foods ON serves.foodID = foods.foodID
GROUP BY restaurants.name
ORDER BY AVG(foods.price) DESC
LIMIT 1;
```

name	AVG(foods.price)
La Trattoria	13.5