

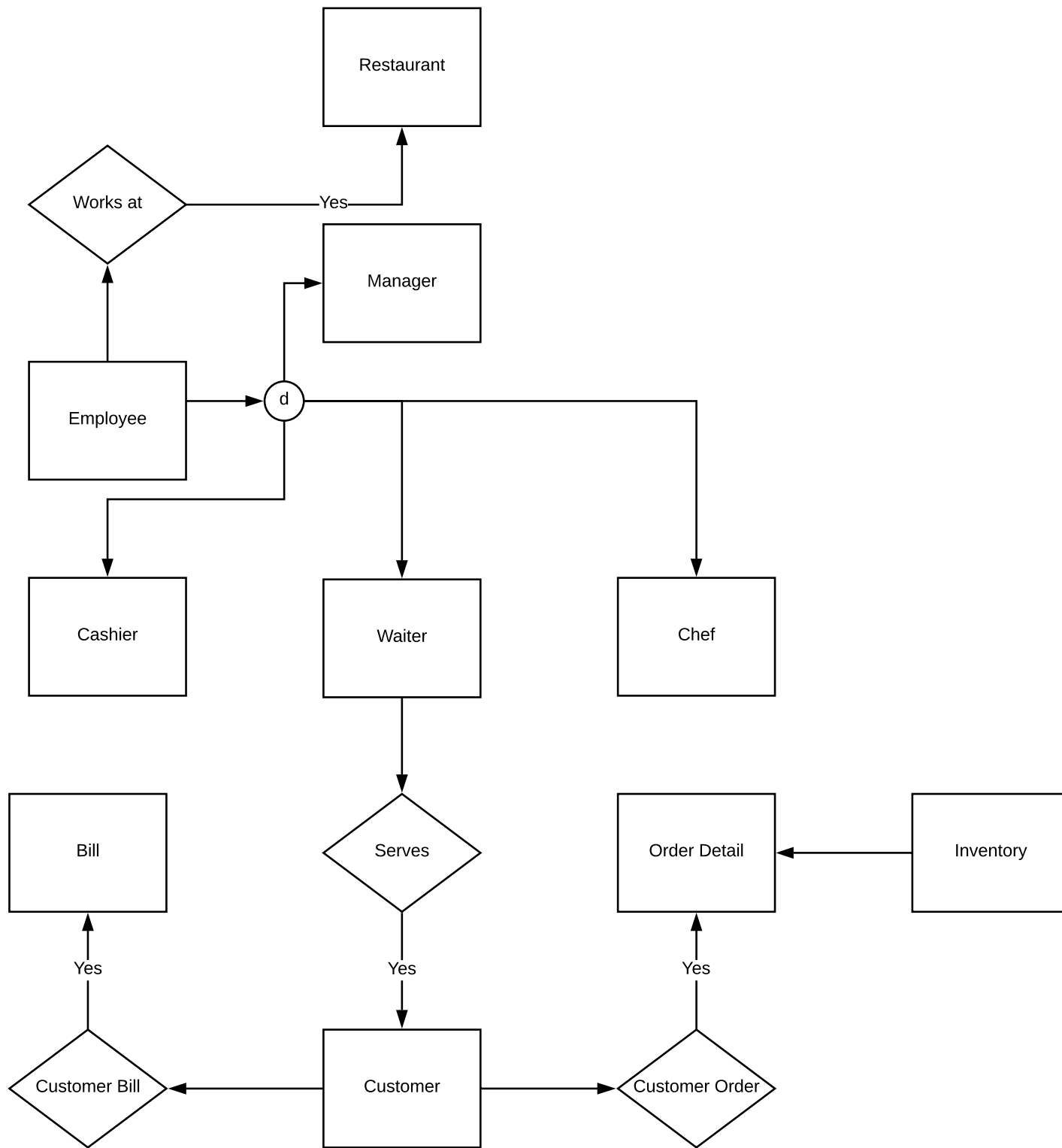
RESTAURANT MANAGEMENT

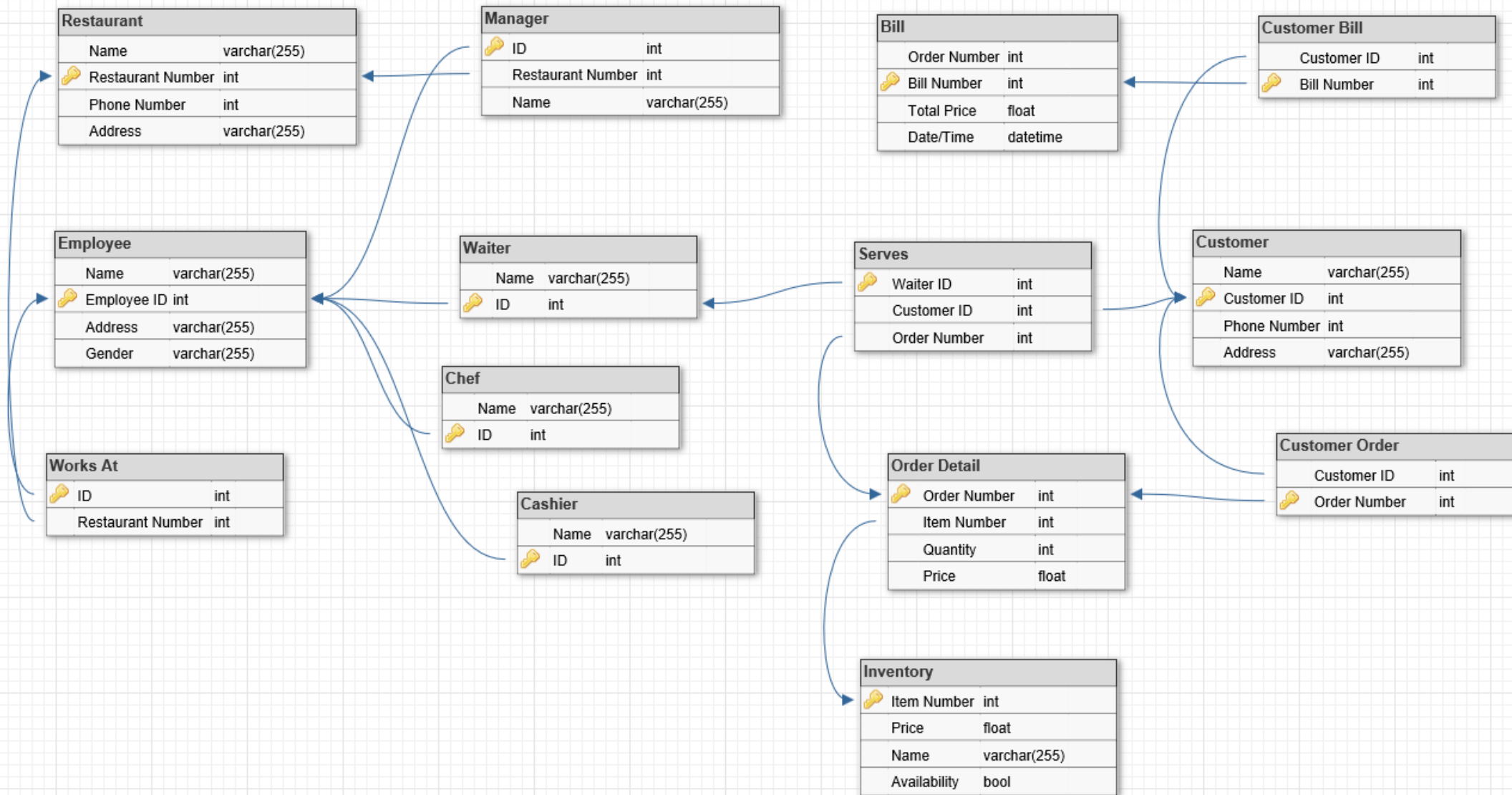
Group 18

Mohammad Mahad Qureshi (20100021)

Muhammad Hassan Iqbal (20100245)

Bilal Masood (20100034)





Group 18

Mohammad mahad qureshi (20100021)

Muhammad hassan iqbal (20100245)

Bilal masood (20100034)

Query 1

```
SELECT Name
FROM Inventory
INNER JOIN (SELECT Item_Number
FROM `Order Detail`
GROUP BY Item_Number
ORDER BY COUNT(*) DESC LIMIT 1) as t1
ON t1.Item_Number = Inventory.Item_Number;
```

Query 2

```
SELECT Name
FROM Waiter
INNER JOIN (SELECT Waiter_ID
FROM `Serves`
GROUP BY Waiter_ID
ORDER BY COUNT(*) DESC LIMIT 1) as t1
ON t1.Waiter_ID = Waiter.ID;
```

Query 3

```
SELECT SUM(Total_Price)
FROM BILL
WHERE `Date/Time` = '$givenDate';
```

Query 4

```
SELECT COUNT(Order_Number)

FROM BILL

WHERE `Date/Time` = '$givenDate';
```

Query 5

```
SELECT *

FROM Customer

INNER JOIN (SELECT Customer_ID

FROM `Customer Order`

GROUP BY Customer_ID

ORDER BY COUNT(*) DESC LIMIT 1) as t1

ON t1.Customer_ID = Customer.Customer_ID;
```

Query 6

```
SELECT *

FROM `Order Detail`

INNER JOIN (SELECT Order_Number

FROM `Customer Order`

WHERE Customer_ID='$givenCustomer_ID'

) as t1

ON t1.Order_Number = `Order Detail`.Order_Number;
```

Query 7

```
SELECT Inventory.Item_Number,Inventory.Price,Inventory.Name

FROM Inventory

INNER JOIN (SELECT *

FROM `Order Detail`

WHERE Order_Number='$givenOrder_Number_ID'

) as t1
```

ON t1.Item_Number = Inventory.Item_Number;

Query 8

```
SELECT Availability
FROM Inventory
WHERE Item_Number = '$givenItem';
```

Query 9

```
SELECT Name
FROM Inventory
WHERE Inventory.Price >= '$start' AND Inventory.Price <= '$end';
```

Query 10

```
SELECT COUNT(Item_Number)
FROM `Order Detail`
INNER JOIN (SELECT Order_Number
FROM `Customer Order`
WHERE Customer_ID='$givencus'
) as t1
ON t1.Order_Number = `Order Detail`.Order_Number
WHERE Item_Number='$givenitem';
```

Inputs

localhost

Restaurant Management System

Microsoft Word Online

Document.docx

Restauraunt Management System

run query

- Query1
- Query2

Date for Query3:

2018-11-25

Submit

Date query4:

2018-11-25

Submit

- query5

Customer ID for query6:

10

Submit

Order Number for query7:

110

Submit

item Number for query8:

3

Submit

prices for query9:

500

600

Submit

Customer ID for query10:

5

Item Number for query10:

1

Submit

[Back to Homepage](#)

Query1 output

localhost

phpMyAdmin

Server: localhost:8889 • Database: Restaurant • Table: Order Detail

Browse Structure SQL Search Insert Export Import More

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Options

	Order_Number	Item_Number	Quantity	Price
✖ Edit	2	3	1	56
✖ Edit	3	2	3	1695
✖ Edit	4	2	2	1130
✖ Edit	69	2	4	2260
✖ Edit	110	3	5	280
✖ Edit	111	3	6	336
✖ Edit	112	3	2	112
✖ Edit	113	3	2	112
✖ Edit	200	1	3	151.5
✖ Edit	301	1	5	252.5
✖ Edit	302	1	5	252.5
✖ Edit	303	1	5	252.5

☐ Check all
 With selected:
 [✖ Edit](#)
[✖ Copy](#)
[✖ Delete](#)
[✖ Export](#)

localhost

phpMyAdmin

Server: localhost:8889 • Database: Restaurant • Table: Inventory

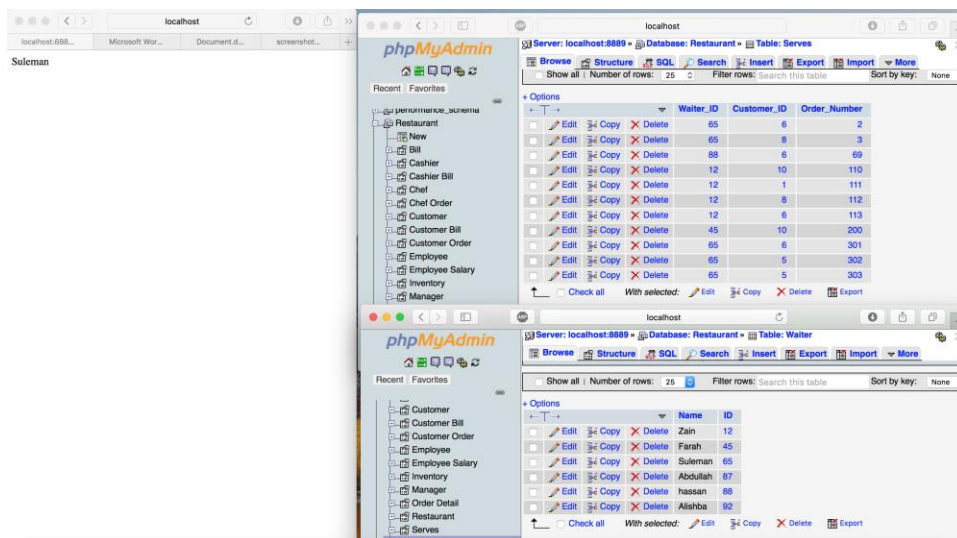
Browse Structure SQL Search Insert Export Import More

Options

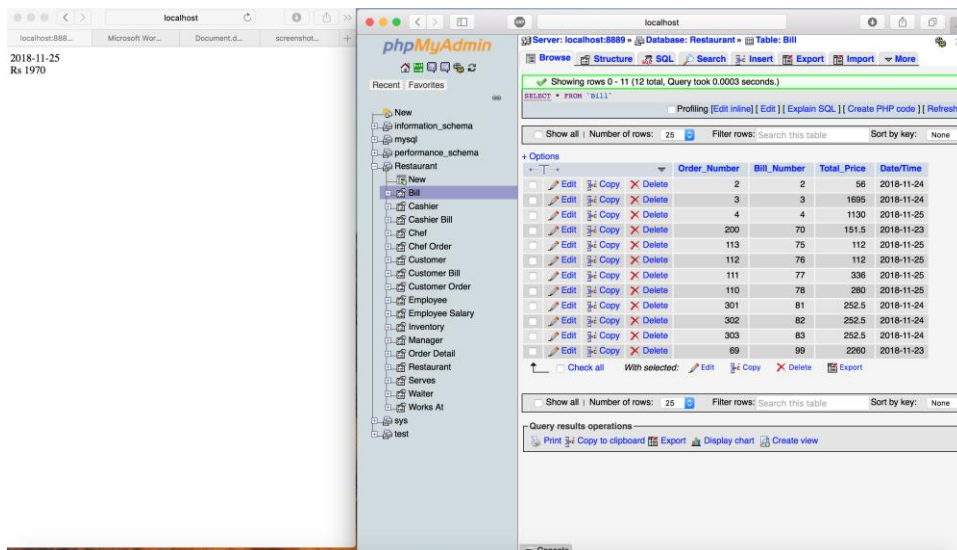
	Item_Number	Price	Name	Availability
✖ Edit	1	50.5	burger	1
✖ Edit	2	565	pizza	1
✖ Edit	3	56	sabzi	6
✖ Edit	4	899.99	wrap	2
✖ Edit	5	577	chicken steak	5
✖ Edit	6	553	biryani	34

☐ Check all
 With selected:
 [✖ Edit](#)
[✖ Copy](#)
[✖ Delete](#)
[✖ Export](#)

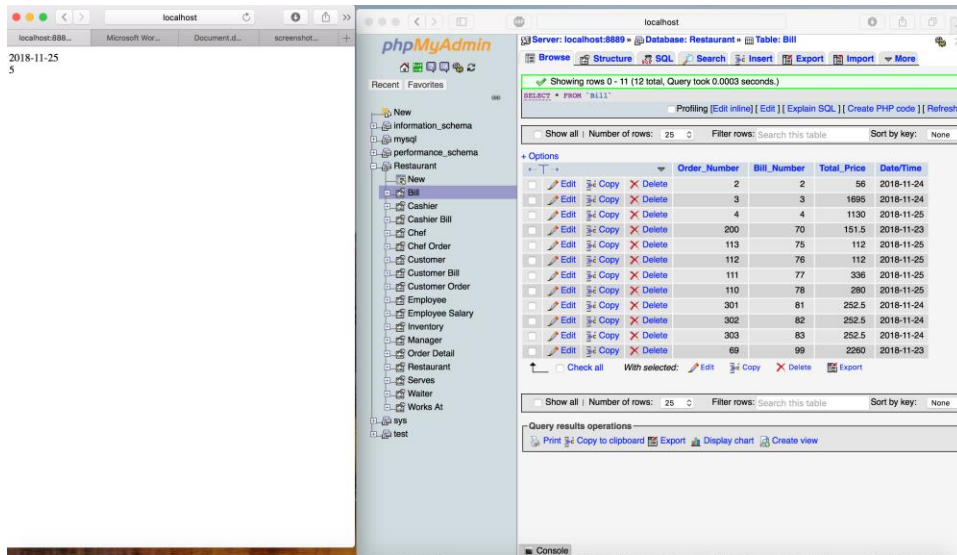
Query2 output



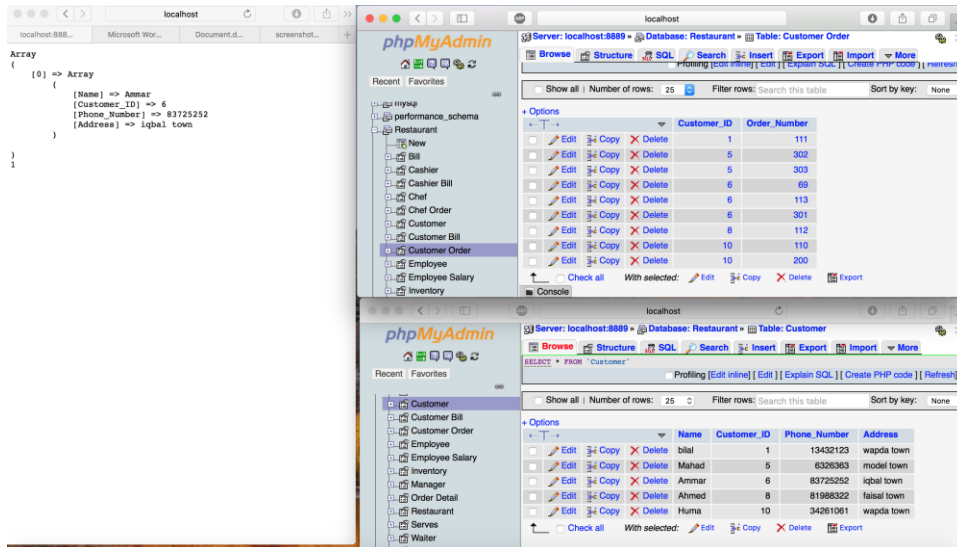
Query3 output



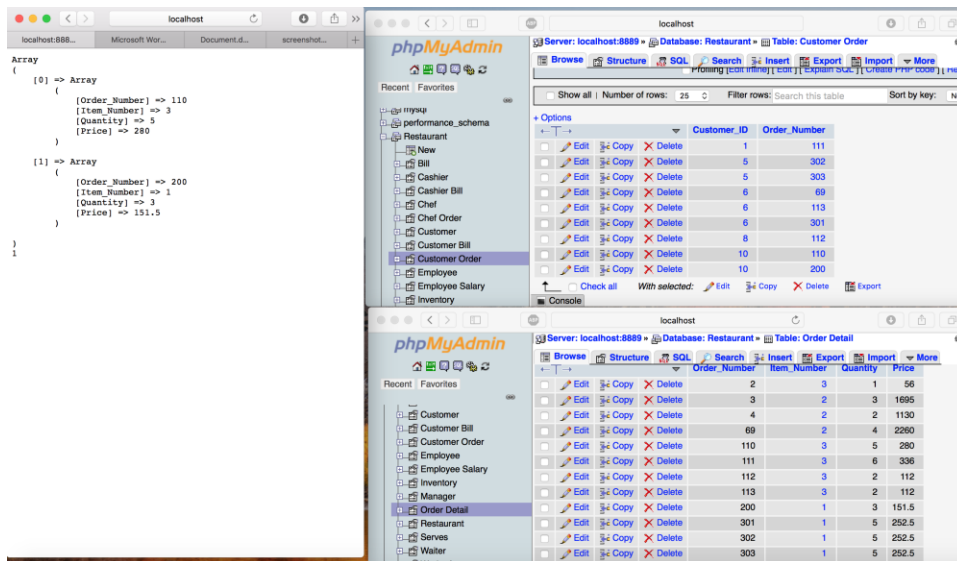
Query4 output



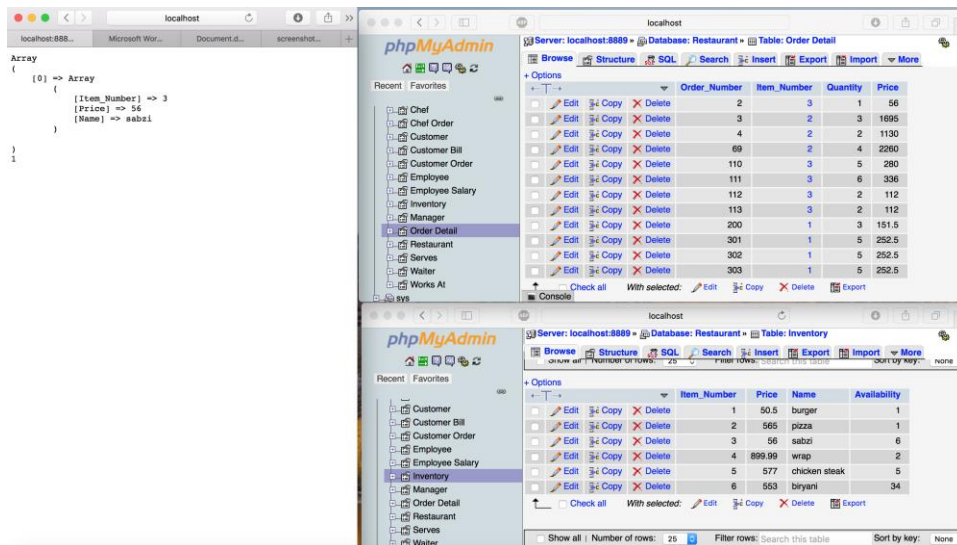
Query5 output



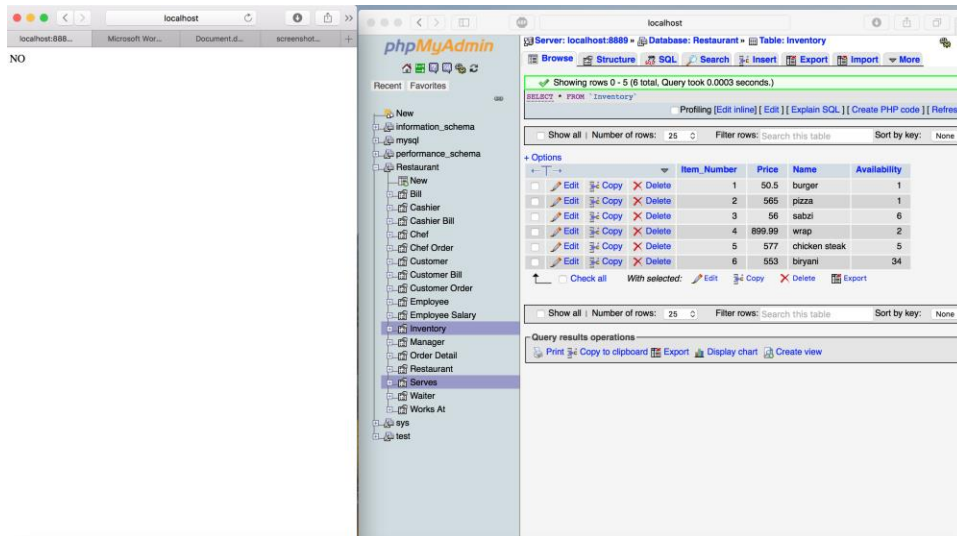
Query6 output



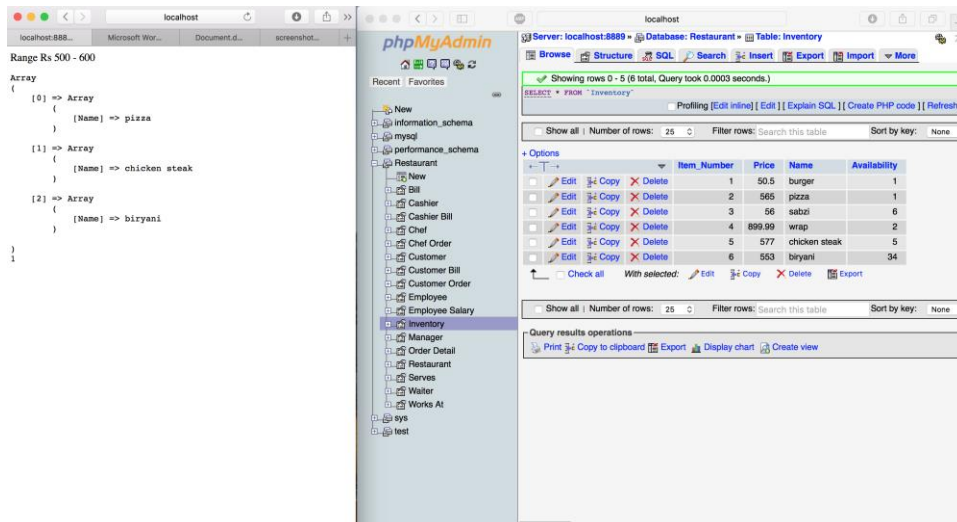
Query7 output



Query8 output



Query9 output



Query10 output

Customer with ID 5 Ordered Item with Item Number 1
2 times

localhost

phpMyAdmin

Server: localhost:8889 • Database: Restaurant • Table: Customer Order

Customer_ID	Order_Number
1	111
5	302
5	303
6	69
6	113
6	301
8	112
10	110
10	200

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

localhost

phpMyAdmin

Server: localhost:8889 • Database: Restaurant • Table: Order Detail

Order_Number	Item_Number	Quantity	Price
2	3	1	56
3	2	3	1695
4	2	2	1130
69	2	4	2260
110	3	5	280
111	3	6	336
112	3	2	112
113	3	2	112
200	1	3	151.5
301	1	5	252.5
302	1	5	252.5
303	1	5	252.5

Query Optimization

All queries are optimized by selecting tables before joining them to avoid large table being formed then selecting from it.

Query 1

```
SELECT Name
FROM Inventory
INNER JOIN (SELECT Item_Number
FROM `Order Detail`
GROUP BY Item_Number
ORDER BY COUNT(*) DESC LIMIT 1) as t1
ON t1.Item_Number = Inventory.Item_Number
```

Time Complexity= $O(\log(m)+n)$

Query 2

```
SELECT Name
FROM Waiter
INNER JOIN (SELECT Waiter_ID
FROM `Serves`
GROUP BY Waiter_ID
ORDER BY COUNT(*) DESC LIMIT 1) as t1
ON t1.Waiter_ID = Waiter.ID
```

Time Complexity= $O(\log(m)+n)$

Query 3

```
SELECT SUM(Total_Price)
FROM BILL
WHERE `Date/Time` = '$givenDate'
```

Time Complexity= $O(\log(m))$

Query 4

```
SELECT COUNT(Order_Number)
FROM BILL
WHERE `Date/Time` = '$givenDate'
```

Time Complexity= $O(\log(m))$

Query 5

```
SELECT *
FROM Customer
INNER JOIN (SELECT Customer_ID
FROM `Customer Order`
GROUP BY Customer_ID
ORDER BY COUNT(*) DESC LIMIT 1) as t1
ON t1.Customer_ID = Customer.Customer_ID
```

Time Complexity= $O(\log(m)+n)$

Query 6

```

SELECT *
FROM `Order Detail`
INNER JOIN (SELECT Order_Number
FROM `Customer Order`
WHERE Customer_ID='$givenCustomer_ID'
) as t1
ON t1.Order_Number = `Order Detail`.Order_Number

```

Time Complexity= $O(\log(m)+n)$

Query 7

```

SELECT Inventory.Item_Number,Inventory.Price,Inventory.Name
FROM Inventory
INNER JOIN (SELECT *
FROM `Order Detail`
WHERE Order_Number='$givenOrder_Number_ID'
) as t1
ON t1.Item_Number = Inventory.Item_Number

```

Time Complexity= $O(\log(m)+n)$

Query 8

```

SELECT Availability
FROM Inventory
WHERE Item_Number = '$givenItem'

```

Time Complexity= $O(\log(m))$

Query 9

```

SELECT Name
FROM Inventory
WHERE Inventory.Price >= '$start' AND Inventory.Price <= '$end'

```

Time Complexity= $O(\log(m))$

Query 10

```

SELECT COUNT(Item_Number)
FROM `Order Detail`
INNER JOIN (SELECT Order_Number
FROM `Customer Order`
WHERE Customer_ID='$givencus'
) as t1
ON t1.Order_Number = `Order Detail`.Order_Number
WHERE Item_Number='$givenitem'

```

Time Complexity= $O(\log(m)+\log(n))$