

Lab2DBGisolfi

Database Management Lab 2

11. Get Dish numbers for dishes ordered from any restaurant by a customer from the same city as that restaurant's headquarters.

```
SELECT DISTINCT O.DNum
FROM Customers AS C, Restaurants AS R, Orders AS O
WHERE R.HQLocation = C.Hometown
AND C.CNum = O.CNum
AND R.RNum = O.RNum;
```

Cardinality = 6

```
Query11
DNum
D1
D2
D3
D4
D5
D6
```

12. Name the restaurants that have orders from at least one customer who is not from the same city as that restaurant's headquarters.

```
SELECT DISTINCT R.RestaurantName
FROM Customers AS C, Restaurants AS R, Orders AS O
WHERE R.HQLocation <> C.Hometown
AND C.CNum = O.CNum
AND R.RNum = O.RNum;
```

Cardinality = 8

RestaurantName
BombayPalace
CheesecakeFactory
Giacomos
GoldenDragon
SiamPalace
SoupPlantation
SzechuanPalace

13. Get all pairs of dish numbers such that some customer has ordered both the indicated dishes.

```
SELECT DISTINCT Dish1.DNum, Dish2.DNum
FROM Orders AS DISH1, Orders AS DISH2
WHERE Dish1.CNum = Dish2.CNum
AND Dish1.DNum <> Dish2.DNum;
```

Cardinality = 30

14. Get the total number of restaurants that have order(s) from customer C500.

```
SELECT COUNT(*) AS R_TOTAL
FROM (SELECT DISTINCT O.RNum
      FROM Orders AS O
      WHERE O.CNum = 'C500');
```

Cardinality = 1

```
Query14
R_TOTAL
4
```

15. Get the total quantity for all orders made by customer C100 of dish D1.

```
SELECT COUNT(*) AS ORDER_QTY
FROM Customers AS C, Restaurants AS R, Orders AS O
WHERE O.CNum = 'C100'
AND O.DNum = 'D1'
AND C.CNum = O.CNum
AND R.RNum = O.RNum;
```

Cardinality = 1

```
Query15
ORDER_QTY
2
```

16. For each dish ordered from a restaurant, get the dish number, the restaurant number, and the total quantity (for that dish ordered from that restaurant).

```
SELECT O.DNum, O.RNum, SUM(O.Quant) AS QTY_SUM
FROM Dishes AS D, Restaurants AS R, Orders AS O
WHERE D.DNum = O.DNum
AND      R.RNum = O.RNum
AND D.DNum = O.DNum
GROUP BY O.DNum, O.RNum;
```

Cardinality = 24

DNum	RNum	QTY_SUM
D1	R10	2
D1	R40	8
D2	R20	2
D2	R40	1
D3	R10	6
D3	R20	2
D3	R30	2
D3	R40	7
D3	R50	6
D3	R60	4
D3	R70	8
D4	R20	5
D4	R40	8
D5	R20	1
D5	R40	4
D5	R50	5
D5	R70	1
D6	R20	2
D6	R30	3
D6	R40	5
D6	R70	3

17. Get dish numbers of dishes ordered with an average quantity of more than 3.

```
SELECT DISTINCT O.DNum
FROM ORDERS AS O, (SELECT DISTINCT AVG(O.Quant > 3) AS ORDER_QTY_AVG FROM ORDERS AS O
);
```

Cardinality = 6

```
DNum
D1
D2
D3
D4
D5
D6
```

18.Name the restaurants that have orders from Sheldon.

```
SELECT R.RestaurantName, COUNT(*) AS ORDERS
FROM Orders AS O, Customers AS C, Restaurants AS R
WHERE C.CustName = 'Sheldon'
AND C.CNum = O.CNum
AND R.RNum = O.RNum
GROUP BY R.RestaurantName;
```

Cardinality = 2

```
Query18
RestaurantName      ORDERS
CheesecakeFactory   1
SiamPalace          1
```

19.Get the ListPrice of dishes ordered by Sheldon.

```
SELECT D.ListPrice
FROM Orders AS O, Customers AS C, Dishes AS D
WHERE C.CustName = 'Sheldon'
AND D.DNum = O.DNum
AND C.CNum = O.CNum;
```

Cardinality = 2

```
Query19
ListPrice
9.99
9.99
```

20.Name the dishes available from any restaurant whose headquarters is in Houston.

```
SELECT DISTINCT D.DishName
FROM Restaurants AS R, Dishes AS D, Orders AS O
WHERE R.HQLocation = 'Houston'
AND D.DNum = O.DNum
AND O.RNum = R.RNum;
```

Cardianlity = 3

```
DishName
BurritoGrande
ChickenSatay
SteamedDumpling
```