

Query 1:

 $\sigma \text{ gender} = 'F' \wedge \text{address_city} = 'Irvine' \text{ (Customer)}$

Results 1:

*All attributes are Customer attributes

cid	SSN	gender	email	street	city	state	Zip code
2	582902877	F	gimodc@qq5a543.com	9091 Watermarke Place	Irvine	CA	92612
6	830930154	F	2ldx.6l9@pk11l2s.com	90915241 Laguna Canyon Road	Irvine	CA	92618
19	22152601	F	5-@rblrzxw-ql9c.com	90931 Creek Road	Irvine	CA	92604

Query 2:

 $\pi \text{ name } (\sigma \text{ lid} = 113 \text{ (Dish)})$

Results 2:

Dish.name
Grilled Free Range Chicken
Grilled Steak
Oven Baked Salmon
Tempura

Query 3:

 $\pi \text{ card_number, expr_date } (\sigma \text{ cid} = 16 \text{ (Credit_Card)})$

Results 3:

Credit_Card.card_number	Credit_Card.expr_date
67718812245978283	201803

Query 4:

 $\pi \text{ gender, address_street, address_city } (\text{Customer join } (\pi \text{ cid } ((\sigma \text{ name} = 'wafu \text{ steak}' \text{ (DishOrder_Contains_Dish)) join DishOrder)))$

Results 4:

Customer.gender	Customer.address_street	Customer.address_city
F	90917772 17 th Street	Tustin

Query 5:

$X = \pi \text{ cid } (\sigma \text{ flight_number} = 'N124' \wedge \text{projected_departure_datetime} = '2015-09-07 08:21:00' \wedge \text{quantity} = 1 (\text{Customer_Reserves_Flight}))$

$\pi \text{ name, quantity } ((\pi \text{ oid } (X \text{ join DishOrder})) \text{ join DishOrder_Contains_Dish})$

Results 5:

DishOrder_Contains_Dish.name	DishOrder_Contains_Dish.quantity
Hummus	10
The Burger Combo	5
The Karma Burger	3

Query 6:

$X = \text{Customer join } (\pi \text{ cid } (\text{Customer}) - \pi \text{ cid } (\text{DishOrder}))$

$\pi \text{ cid, email } (X)$

Results 6:

Customer.cid	Customer.email
4	r1d0800121@8w-4lb.com
5	eu3@4l4ligbm2d4.com
6	2ldx.6l9@pk11l2s.com
7	ijv5v5hx@e0z8o6w.com
8	iz4tv5j0e.@otiw34ymv68z.com
9	xhrh8pptf0bm2@ki4jwmsiek.com
10	93nwu_g3pow65d@0zekopshz.com
11	gmzs@hdm9q8rpd.com
13	42-8b8@l0m1bttskf3.com
15	9zsiot3@8aab4f3tj.com
16	4ikmvae@xsvx5etrv2.com
17	s3et50zvq-9b1@dlayle.com
18	2-z6sf@oh-sz1whst6.com
19	5-@rblrzxw-ql9c.com
20	iuxh@al8wsoem.com

Query 7:

$X = \pi \text{ cid, lid } (\text{DishOrder})$

$Y = \pi \text{ lid } (\text{Lounge})$

$(\pi \text{ cid, ssn } \text{Customer}) \text{ join } (X \div Y)$

Results 7:

Customer.cid	Customer.ssn
1	988843736

Query 8:

$A = \pi \text{ ssn, address_city } (\text{Pilot})$

$B = \pi \text{ ssn, address_city } (\text{MaintenanceEngineer})$

$C = \pi \text{ ssn, address_city } (\text{OperationStaff})$

$D = \pi \text{ ssn, address_city } (\text{FlightAttendant})$

$\pi \text{ ssn } (\sigma \text{ address_city} = 'New \text{ Jersey}' (A \cup B \cup C \cup D))$

Results 8:

None

Query 9:

```
SELECT DISTINCT cid
FROM Customer_Reserves_Flight
```

Results 9:

Customer_Reserves_Flight.cid
1
13
14

Query 10:

```
SELECT *
FROM Customer
WHERE address_street LIKE '%Warner Avenue'
```

Results 10:

*All attributes are Customer attributes

cid	SSN	gender	email	street	city	state	Zip code
7	481161938	F	ijvbx5hx@e0z8o6w.com	9091536 East Warner Avenue	Santa Ana	CA	92705
8	340130873	M	iz4tvg5j0e.@otiw34ymv68z.com	9091536 West Warner Avenue	Santa Ana	CA	92705

Query 11:

```
SELECT C.cid
FROM Customer as C, Customer_Reserves_Flight as R, DishOrder as D
WHERE C.cid = R.cid AND C.cid = D.cid
```

Results 11:

C.cid
1
14

Query 12:

```
SELECT L.location
FROM Lounge as L, Dish as D
WHERE L.lid = D.lid AND (D.name = 'tacos' OR D.name = 'hummus')
```

Results 12:

L.location
section D32
section D12

Query 13:

```
((SELECT cid FROM Customer)  
EXCEPT (SELECT DISTINCT cid FROM DishOrder))  
EXCEPT (SELECT DISTINCT cid FROM Customer_Reserves_Flight)
```

Results 13:

Customer.cid
4
5
6
7
8
9
10
11
15
16
17
18
19
20