Views

1.MenuItem_v – For each menu item, give it's spiciness, and all of the different costs for that item. If a given item is not on a particular menu, then report "N/A" for that particular item for that particular menu. Also, if an item only appears as a single serving portion, put in "N/A" into the report for the gallon, … prices.

```sql
CREATE OR REPLACE VIEW MenuItem_v AS
SELECT itemName, spiceLevel, price, 'Children' AS 'Menu type', size FROM menuMenuItem
WHERE type = 'Children'
UNION
SELECT itemName, spiceLevel, price, 'Children' AS 'Menu type', 'NA' as size FROM menuMenuItem
WHERE type != 'Children'
UNION
SELECT itemName, spiceLevel, price, 'Lunch' AS 'Menu type', size FROM menuMenuItem
WHERE type = 'Lunch'
UNION
SELECT itemName, spiceLevel, price, 'Lunch' AS 'Menu type', 'NA' as size FROM menuMenuItem
WHERE type != 'Lunch'
UNION
SELECT itemName, spiceLevel, price, 'Dinner' AS 'Menu type', size FROM menuMenuItem
WHERE type = 'Evening'
UNION
SELECT itemName, spiceLevel, price, 'Dinner' AS 'Menu type', 'NA' as size FROM menuMenuItem
WHERE type != 'Evening'
UNION
SELECT itemName, spiceLevel, price, 'Sunday brunch buffet' AS 'Menu type', size FROM menuMenuItem
WHERE type = 'Sunday brunch buffet'
UNION
SELECT itemName, spiceLevel, price, 'Sunday brunch buffet' AS 'Menu type', 'NA' as size FROM menuMenuItem
WHERE type != 'Sunday brunch buffet'
ORDER BY itemName, spiceLevel;
```

#	itemName	spiceLevel	price	Menu type	size
1	Beef Chow Mein	Hot	10.0	Sunday brunch buffet	NA
2	Beef Chow Mein	Hot	10.0	Lunch	NA
3	Beef Chow Mein	Hot	10.0	Children	NA
4	Beef Chow Mein	Hot	10.0	Dinner	large
5	Beef Chow Mein	Mild	8.0	Children	NA
6	Beef Chow Mein	Mild	6.0	Dinner	NA
7	Beef Chow Mein	Mild	8.0	Sunday brunch buffet	NA
8	Beef Chow Mein	Mild	6.0	Children	x-small
9	Beef Chow Mein	Mild	8.0	Lunch	small
10	Beef Chow Mein	Mild	6.0	Sunday brunch buffet	NA
11	Beef Chow Mein	Mild	8.0	Dinner	NA
12	Beef Chow Mein	Mild	6.0	Lunch	NA
13	Beef Chow Mein	Piquant	10.0	Sunday brunch buffet	NA
14	Beef Chow Mein	Piquant	20.0	Lunch	NA
15	Beef Chow Mein	Piquant	10.0	Dinner	large
16	Beef Chow Mein	Piquant	20.0	Children	NA
17	Beef Chow Mein	Piquant	20.0	Dinner	NA
18	Beef Chow Mein	Piquant	10.0	Lunch	NA
19	Beef Chow Mein	Piquant	10.0	Children	NA
20	Beef Chow Mein	Piquant	20.0	Sunday brunch buffet	buffet
21	Beef Sheets	Hot	10.0	Dinner	large
22	Beef Sheets	Hot	10.0	Children	NA
23	Beef Sheets	Hot	8.0	Dinner	NA
24	Beef Sheets	Hot	8.0	Sunday brunch buffet	NA
25	Beef Sheets	Hot	8.0	Lunch	small
26	Beef Sheets	Hot	20.0	Children	NA
27	Beef Sheets	Hot	20.0	Sunday brunch buffet	buffet
28	Beef Sheets	Hot	20.0	Lunch	NA
29	Beef Sheets	Hot	10.0	Sunday brunch buffet	NA

2.Customer_addresses_v – for each customer, indicate whether they are an individual or a corporate account, and display all of the information that we are managing for that customer.

```
CREATE OR REPLACE VIEW Customer_addresses_v AS
SELECT name AS 'Full Name', snailMailAddress AS 'Address', 'Private' AS 'Category' FROM contact INNER JOIN
privateCustomer USING (CID)
UNION
SELECT name AS 'Full Name', officeAddress AS 'Address', 'Corporate' AS 'Category' FROM contact INNER JOIN
corporateCustomer USING (CID);
```

#	Full Name	Address	Category
1	Connor Robertson	17 Winding Way Street Casselberry, FL 32701	Private
2	Andrew Mathis	9710 Shub Farm Street Beaver Falls, FL 32701	Private
3	John Vance	7793 Lafayette Ave.Lagrange, FL 32701	Private
4	Isaac Wilkins	98 Hill Field Ave. Matthews, FL 32701	Private
5	Emma Roberts	9907 Birchwood St.Ridgecrest, FL 32701	Private
6	Tim Rampling	37 West Wayne St. Danville, FL 32701	Private
7	Jan Walsh	584 Addison Dr. Kennesaw, FL 32701	Private
8	Charles Walsh	96 Virginia Drive Lincolnton, FL 32701	Private
9	Molly Rampling	584 Addison Dr. Kennesaw, FL 32701	Private
10	Lucas Churchill	9714 Cypress Ave. Wheaton, FL 32701	Private
11	Nicola MacDonald	1908 Griffin Street, FL 32701	Private
12	Boris Wright	77 Sulphur Springs Street Franklin, FL 32701	Private
13	Edward Stewart	73 Jennings Ave. Horn Lake, FL 32701	Private
14	Nicola MacDonald	303 Galvin Dr. Goodlettsville, FL 32701	Corporate
15	Colin Skinner	416 Brickyard St. Floral Park, FL 32701	Corporate
16	Boris Wright	7554 Newcastle Dr. East Meadow, FL 32701	Corporate
17	Alan Gibson	78 Arch Street Fenton, FL 32701	Corporate
18	Robert Sharp	9668 Devon Dr. Madisonville, FL 32701	Corporate
19	Gavin Allan	78 Lancaster Ave. Camden, FL 32701	Corporate
20	Kylie Bower	9058 N. Henry St. Framingham, FL 32701	Corporate
21	David Sutherland	24 School Ave. Woonsocket, FL 32701	Corporate
22	Grace Randall	39 Fairway Drive Benton Harbor, FL 32701	Corporate
23	Edward Stewart	9604 Primrose Court Canfield, FL 32701	Corporate

3.Sous_mentor_v – reports all of the mentor/mentee relationships at Miming's, sorted by the name of the mentor, then the name of the mentee. Show the skill that the mentorship passes, as well as the start date.

```sql
CREATE OR REPLACE VIEW Sous_mentor_v AS
SELECT c1.name AS 'Mentor', c2.name AS 'Mentee', m.itemName AS 'Item Name', m.startDate AS 'Start Date' FROM
contact c1
CROSS JOIN contact c2
CROSS JOIN mentorship m
WHERE c1.CID = m.mentorID
AND c2.CID = m.menteeID
ORDER BY c1.name, c2.name;
```

#	Mentor	Mentee	Item Name	Start Date
1	Carol Gill	Julia Kerr	Chicken Food Young	2018-02-12
2	Carol Gill	Robert Underwood	Clam Sycee	2019-02-20
3	Carol Gill	Robert Underwood	Prawn Soup	2017-07-17
4	Carol Gill	Vanessa Buckland	Pork Chow Mein	2017-09-30
5	Carol Gill	Vanessa Buckland	Pork Chop Suey	2017-08-30
6	Julia Kerr	Carol Gill	Pork with Bean Sauce	2019-01-29
7	Julia Kerr	Carol Gill	Chicken Spring Rolls	2018-04-13
8	Julia Kerr	Richard Cornish	Pork Overloaded	2018-02-23
9	Julia Kerr	Richard Cornish	Pork Chop Suey	2018-07-23
10	Julia Kerr	Robert Underwood	Chicken Chop Suey	2019-03-23
11	Michelle Gibson	Carol Gill	Vegetables Chop Suey	2018-02-21
12	Michelle Gibson	Carol Gill	Seafood Chop Suey	2018-02-12
13	Michelle Gibson	Julia Kerr	Moo Shy Beef	2019-05-02
14	Michelle Gibson	Julia Kerr	Vegetables Chop Suey	2017-02-21
15	Michelle Gibson	Julia Kerr	One Pot Curry Noodles	2018-06-29
16	Michelle Gibson	Julia Kerr	Kung Pao Chicken	2017-05-08
17	Michelle Gibson	Richard Cornish	Vegetables Chop Suey	2019-02-21
18	Michelle Gibson	Richard Cornish	Eggplant Parmesan	2018-05-11
19	Michelle Gibson	Robert Underwood	Honey Glazed Shrimp	2018-04-20
20	Michelle Gibson	Robert Underwood	Pork Chop Suey	2019-02-13
21	Michelle Gibson	Vanessa Buckland	Kung Pao Chicken	2019-05-01
22	Michelle Gibson	Vanessa Buckland	Honey Glazed Gourmet	2017-12-12
23	Richard Cornish	Carol Gill	Grilled Veggies with wontons	2017-04-23
24	Richard Cornish	Carol Gill	Pork Egg Food Young	2017-04-12
25	Richard Cornish	Michelle Gibson	Cashew Chicken	2017-06-01
26	Richard Cornish	Robert Underwood	Cashew Chicken	2018-07-21
27	Richard Cornish	Robert Underwood	Grilled Veggies with wontons	2019-03-23
28	Richard Cornish	Vanessa Buckland	Vegetables Chow Mein	2018-02-12
29	Richard Cornish	Vanessa Buckland	Grilled Veggies with wontons	2018-03-23
30	Robert Underwood	Carol Gill	Egg Flower Soup	2018-02-23
31	Robert Underwood	Michelle Gibson	Deep Fried Fish	2017-08-23
32	Vanessa Buckland	Julia Kerr	Roasted Meats	2018-06-23
33	Vanessa Buckland	Michelle Gibson	Orange Beef	2017-12-02

4.Customer_Sales_v – On a year by year basis, show how much each customer has spent at Miming's.

```
CREATE OR REPLACE VIEW Customer_Sales_v AS
select o.cid, c.Name, year(o.orderDate) as 'Year',  SUM(oi.quantity * m.price) AS 'Money Spent'
FROM menuMenuItem m
JOIN orderItem oi
on m.itemName = oi.itemName
and m.spicelevel = oi.spicelevel
```

```
and m.type = oi.type
JOIN orders o
on oi.orderid = o.orderid
join contact c
on o.cid = c.cid
GROUP BY o.cid, c.Name, year(o.orderDate)
ORDER BY o.cid, c.Name, SUM(oi.quantity * m.price) desc;
```

#	cid	Name	Year	Money Spent
1	1	Connor Robertson	2018	126.0
2	1	Connor Robertson	2017	40.0
3	2	Andrew Mathis	2018	66.0
4	2	Andrew Mathis	2017	40.0
5	3	John Vance	2018	70.0
6	3	John Vance	2017	30.0
7	4	Isaac Wilkins	2018	100.0
8	4	Isaac Wilkins	2019	42.0
9	5	Emma Roberts	2019	100.0
10	6	Tim Rampling	2018	50.0
11	6	Tim Rampling	2019	50.0
12	7	Jan Walsh	2018	100.0
13	7	Jan Walsh	2019	48.0
14	8	Charles Walsh	2019	100.0
15	8	Charles Walsh	2018	48.0
16	9	Molly Rampling	2019	44.0
17	10	Lucas Churchill	2019	26.0
18	51	Nicola MacDonald	2018	40.0
19	51	Nicola MacDonald	2019	32.0
20	52	Colin Skinner	2018	212.0
21	52	Colin Skinner	2017	72.0
22	52	Colin Skinner	2019	60.0
23	53	Boris Wright	2019	196.0
24	53	Boris Wright	2017	116.0
25	54	Alan Gibson	2019	40.0
26	55	Robert Sharp	2019	58.0
27	56	Gavin Allan	2018	72.0
28	56	Gavin Allan	2019	42.0
29	57	Kylie Bower	2018	104.0
30	57	Kylie Bower	2019	90.0
31	58	David Sutherland	2019	140.0
32	59	Grace Randall	2018	62.0
33	59	Grace Randall	2019	20.0
34	60	Edward Stewart	2018	126.0
35	60	Edward Stewart	2019	16.0

5.Customer_Value_v – List each customer and the total $ amount of their orders for the past year, in order of the value of customer orders, from highest to the lowest.

```
CREATE OR REPLACE VIEW Customer_Value_v AS
SELECT name, year(orderDate) AS "Year of Order", SUM(quantity * price)AS "Total"
FROM contact NATURAL JOIN customer
NATURAL JOIN orders NATURAL JOIN menuMenuItem NATURAL JOIN orderItem
WHERE year(orderDate) = year (CURDATE())
GROUP BY CID
ORDER BY SUM(quantity * price) DESC;
```

#	name	Year of Order	Total
1	Boris Wright	2019	196.0
2	David Sutherland	2019	140.0
3	Charles Walsh	2019	100.0
4	Emma Roberts	2019	100.0
5	Kylie Bower	2019	90.0
6	Colin Skinner	2019	60.0
7	Robert Sharp	2019	58.0
8	Tim Rampling	2019	50.0
9	Jan Walsh	2019	48.0
10	Molly Rampling	2019	44.0
11	Gavin Allan	2019	42.0
12	Isaac Wilkins	2019	42.0
13	Alan Gibson	2019	40.0
14	Nicola MacDonald	2019	32.0
15	Lucas Churchill	2019	26.0
16	Grace Randall	2019	20.0
17	Edward Stewart	2019	16.0

Queries

1. List the customers. For each customer, indicate which category he or she fall into, and his or her contact information. If you have more than one independent categorization of customers, please indicate which category the customer falls into for all of the categorizations.

```sql
SELECT name AS 'Full Name','Private' AS 'Category',email AS 'Email',snailMailAddress AS 'Address'
FROM contact INNER JOIN privateCustomer USING(CID)
UNION
SELECT name AS 'Full Name','Corporate' AS 'Category', email AS 'Email',officeAddress AS 'Address'
FROM contact INNER JOIN corporateCustomer USING(CID);
```

#	Full Name	Category	Email	Address
1	Connor Robertson	Private	connor.robertson@gmail.com	17 Winding Way Street Casselberry, FL 32701
2	Andrew Mathis	Private	andrew.mathis@gmail.com	9710 Shub Farm Street Beaver Falls, FL 32701
3	John Vance	Private	john.vance@gmail.com	7793 Lafayette Ave.Lagrange, FL 32701
4	Isaac Wilkins	Private	isaac.wilkins@gmail.com	98 Hill Field Ave. Matthews, FL 32701
5	Emma Roberts	Private	emma.roberts@gmail.com	9907 Birchwood St.Ridgecrest, FL 32701
6	Tim Rampling	Private	tim.rampling@gmail.com	37 West Wayne St. Danville, FL 32701
7	Jan Walsh	Private	jan.walsh@gmail.com	584 Addison Dr. Kennesaw, FL 32701
8	Charles Walsh	Private	charles.walsh@gmail.com	96 Virginia Drive Lincolnton, FL 32701
9	Molly Rampling	Private	molly.rampling@gmail.com	584 Addison Dr. Kennesaw, FL 32701
10	Lucas Churchill	Private	lucas.churchill@gmail.com	9714 Cypress Ave. Wheaton, FL 32701
11	Nicola MacDonald	Private	nicola.macdonald@gmail.com	1908 Griffin Street, FL 32701
12	Boris Wright	Private	boris.wright@gmail.com	77 Sulphur Springs Street Franklin, FL 32701
13	Edward Stewart	Private	edward.stewart@gmail.com	73 Jennings Ave. Horn Lake, FL 32701
14	Nicola MacDonald	Corporate	nicola.macdonald@gmail.com	303 Galvin Dr. Goodlettsville, FL 32701
15	Colin Skinner	Corporate	colin.skinner@gmail.com	416 Brickyard St. Floral Park, FL 32701
16	Boris Wright	Corporate	boris.wright@gmail.com	7554 Newcastle Dr. East Meadow, FL 32701
17	Alan Gibson	Corporate	alan.gibson@gmail.com	78 Arch Street Fenton, FL 32701
18	Robert Sharp	Corporate	robert.sharp@gmail.com	9668 Devon Dr. Madisonville, FL 32701
19	Gavin Allan	Corporate	gavin.allan@gmail.com	78 Lancaster Ave. Camden, FL 32701
20	Kylie Bower	Corporate	kylie.bower@gmail.com	9058 N. Henry St. Framingham, FL 32701
21	David Sutherland	Corporate	david.sutherland@gmail.com	24 School Ave. Woonsocket, FL 32701
22	Grace Randall	Corporate	grace.randall@gmail.com	39 Fairway Drive Benton Harbor, FL 32701
23	Edward Stewart	Corporate	edward.stewart@gmail.com	9604 Primrose Court Canfield, FL 32701

2.For each order, list the total cost to the customer for that order. Sometimes, a group of customers will come in and split the order up into multiple checks. Treat that as though you had two separate parties at the same table.

```sql
SELECT orders.orderID, name, SUM(quantity * price) AS 'Total Cost'
```

```
FROM customer
NATURAL JOIN contact
INNER JOIN orders
ON customer.CID = orders.CID
INNER JOIN orderItem
ON orders.orderID = orderItem.orderID
NATURAL JOIN menuMenuItem
GROUP BY orders.orderID;
```

#	orderID	name	Total Cost
1		1 Connor Robertson	40.0
2		2 Andrew Mathis	40.0
3		3 John Vance	30.0
4		4 Connor Robertson	42.0
5		5 Isaac Wilkins	100.0
6		6 Tim Rampling	50.0
7		7 Charles Walsh	48.0
8		8 Jan Walsh	100.0
9		9 Connor Robertson	44.0
10		10 Andrew Mathis	26.0
11		11 Connor Robertson	40.0
12		12 Andrew Mathis	40.0
13		13 John Vance	30.0
14		14 Isaac Wilkins	42.0
15		15 Emma Roberts	100.0
16		16 Tim Rampling	50.0
17		17 Jan Walsh	48.0
18		18 Charles Walsh	100.0
19		19 Molly Rampling	44.0
20		20 Lucas Churchill	26.0
21		21 John Vance	40.0
22		101 Boris Wright	56.0
23		102 Colin Skinner	72.0
24		103 Boris Wright	60.0
25		104 Nicola MacDonald	40.0
26		105 Gavin Allan	72.0
27		106 Colin Skinner	212.0
28		107 Kylie Bower	104.0
29		108 Grace Randall	62.0
30		109 Edward Stewart	96.0

3.List the top three customers in terms of their net spending for the past two years, and the total that they have spent in that period.

```
SELECT name, SUM(quantity * price) AS 'Net Spending'
FROM customer
NATURAL JOIN contact
INNER JOIN orders ON customer.CID = orders.CID
INNER JOIN orderItem ON orders.orderID = orderItem.orderID
NATURAL JOIN menuMenuItem
WHERE YEAR(orders.orderDate) = YEAR(CURDATE())
OR YEAR(orders.orderDate) = YEAR(CURDATE()) - 1
GROUP BY customer.CID
ORDER BY SUM(quantity * price) DESC limit 3;
```

#	name	Net Spending
1	Colin Skinner	272.0
2	Boris Wright	196.0
3	Kylie Bower	194.0

4. Find all of the sous chefs who have three or more menu items that they can prepare. For each sous chef, list their name, the number of menu items that they can prepare, and each of the menu items. You can use group_concat to get all of a given sous chef's data on one row, or print out one row per mechanic per skill.

```
SELECT CID, name, GROUP_CONCAT(expertise), COUNT(expertise)
FROM sousChefExpertise
INNER JOIN contact USING (CID)
GROUP BY CID
HAVING COUNT(CID) >= 3;
```

#	CID	name	GROUP_CONCAT(expertise)	COUNT(expertise)
1	103	Michelle Gibson	Beef with Orange Curd,Eggplant Parmesan,Honey Glazed Go...	12
2	104	Vanessa Buckland	Orange Beef,Roasted Meats,Seaweed Health Soup	3
3	105	Julia Kerr	Chef Special Chop Suey,Chicken Chop Suey,Chicken Corn S...	17
4	106	Robert Underwood	Beef Chow Mein,Beef Sheets,Chicken Chow Mein,Deep Fried...	8
5	107	Carol Gill	Beef with Orange Curd,Chicken Food Young,Clam Sycee,Ho...	9
6	108	Richard Cornish	Beef Chow Mein,Cashew Chicken,Chicken Chop Suey,Chicke...	14

5. Find all of the sous chefs who have three or more menu items in common.

```sql
SELECT
s1.cid,
(SELECT name FROM contact where CID = s1.CID) AS SousChef1,
s2.cid,
(SELECT name FROM contact where CID = s2.CID) AS SousChef2,
count(s2.expertise) AS 'items',
GROUP_CONCAT(s1.expertise) AS 'expertises'
FROM sousChefExpertise s1
INNER JOIN sousChefExpertise s2
on s1.expertise = s2.expertise
and s1.cid < s2.cid
group by s1.cid, s2.cid
having count(s2.expertise) >= 3
order by s1.cid, s2.cid;
```

#	cid	SousChef1	cid	SousChef2	items	expertises
1	103	Michelle Gibson	105	Julia Kerr	4	Pork Chop Suey,Honey Glazed Gourmet,Por...
2	103	Michelle Gibson	107	Carol Gill	3	Pork Chop Suey,Honey Glazed Gourmet,Be...
3	103	Michelle Gibson	108	Richard Cornish	3	Pork Chop Suey,Pork with Bean Sauce,One...
4	105	Julia Kerr	107	Carol Gill	6	Prawn Soup,Clam Sycee,Pork Chop Suey,V...
5	105	Julia Kerr	108	Richard Cornish	5	Pork Chop Suey,Vegetables Chow Mein,Chi...
6	106	Robert Underwood	107	Carol Gill	3	Stir Fried Vegetables,Vegetables Chow Mei...
7	106	Robert Underwood	108	Richard Cornish	4	Deep Fried Fish,Stir Fried Vegetables,Beef ...
8	107	Carol Gill	108	Richard Cornish	3	Stir Fried Vegetables,Pork Chop Suey,Vege...

6.Find the three menu items most often ordered from the Children's menu and order them from most frequently ordered to least frequently ordered.

```
SELECT itemName, type, SUM(quantity) AS 'COUNT' from menuItem
NATURAL JOIN menu NATURAL JOIN orderItem where type = 'Children'
group by itemName order by SUM(quantity) DESC limit 3;
```

#	itemName	type	COUNT
1	Beef Chow Mein	Children	24
2	Vegetables Chow Mein	Children	14
3	Seafood Chop Suey	Children	10

7.List all of the menu items, the shift in which the menu item was ordered, and the sous chef on duty at the time, when the sous chef was not an expert in that menu item.

```
SELECT crewShift.crewName, itemName, name AS 'Sous Chef', type
FROM menuMenuItem
INNER JOIN sousChefExpertise
ON itemName = expertise
INNER JOIN crewEmployee
ON crewEmployee.CID = sousChefExpertise.CID
INNER JOIN contact
ON crewEmployee.CID = contact.CID
INNER JOIN crewShift
ON crewShift.crewName = crewEmployee.crewName
WHERE type != shiftTime
GROUP BY crewName;
```

#	crewName	itemName	Sous Chef	type
1	Fandango	Beef with Orange Curd	Carol Gill	Lunch
2	Meat Masters	Chef Special Chop Suey	Julia Kerr	Evening
3	Meat Masters	Beef with Orange Curd	Michelle Gibson	Evening
4	Fandango	Beef Chow Mein	Richard Cornish	Children
5	Fandango	Beef Chow Mein	Robert Underwood	Children
6	Meat Masters	Orange Beef	Vanessa Buckland	Sunday brunch buffet

8.List the customers, sorted by the amount of Miming's Money that they have, from largest to smallest.

```
SELECT name, mimingsMoney
FROM contact NATURAL JOIN customer
ORDER BY mimingsMoney DESC;
```

#	name	mimingsMoney
1	Grace Randall	54
2	Tim Rampling	34
3	John Vance	33
4	Isaac Wilkins	31
5	Kylie Bower	31
6	Molly Rampling	23
7	Charles Walsh	14
8	Jan Walsh	13
9	Lucas Churchill	13
10	Nicola MacDonald	12
11	Colin Skinner	11
12	Robert Sharp	9
13	Alan Gibson	6
14	David Sutherland	5
15	Gavin Allan	5
16	Edward Stewart	4
17	Boris Wright	4
18	Emma Roberts	3
19	Andrew Mathis	3
20	Connor Robertson	2

9.List the customers and the total that they have spent at Miming's ever, in descending order by the amount that they have spent.

```
SELECT name, SUM(quantity * price) AS "Total"
FROM customer NATURAL JOIN contact NATURAL JOIN menuMenuItem NATURAL JOIN orderItem NATURAL JOIN orders
GROUP BY CID
ORDER BY SUM(quantity * price) DESC;
```

#	name	Total
1	Colin Skinner	344.0
2	Boris Wright	312.0
3	Kylie Bower	194.0
4	Connor Robertson	166.0
5	Jan Walsh	148.0
6	Charles Walsh	148.0
7	Edward Stewart	142.0
8	Isaac Wilkins	142.0
9	David Sutherland	140.0
10	Gavin Allan	114.0
11	Andrew Mathis	106.0
12	Tim Rampling	100.0
13	John Vance	100.0
14	Emma Roberts	100.0
15	Grace Randall	82.0
16	Nicola MacDonald	72.0
17	Robert Sharp	58.0
18	Molly Rampling	44.0
19	Alan Gibson	40.0
20	Lucas Churchill	26.0

10.Report on the customers at Miming's by the number of times that they come in by month, and order the report from most frequent to the least frequent.

```sql
SELECT cid, name, MonthName(orderDate) AS "Month",
COUNT(CID) AS timesVisited, GROUP_CONCAT(orderID)
FROM contact
NATURAL JOIN orders
GROUP BY name, month(orderDate)
ORDER BY timesVisited DESC;
```

#	cid	name	Month	timesVisited	GROUP_CONCAT(orderID)
1		2 Andrew Mathis	October	2	2,12
2		60 Edward Stewart	May	2	120,121
3		7 Jan Walsh	April	2	17,8
4		3 John Vance	November	2	21,3
5		54 Alan Gibson	March	1	114
6		2 Andrew Mathis	July	1	10
7		53 Boris Wright	March	1	113
8		53 Boris Wright	September	1	101
9		53 Boris Wright	November	1	103
10		8 Charles Walsh	March	1	7
11		8 Charles Walsh	May	1	18
12		52 Colin Skinner	February	1	112
13		52 Colin Skinner	March	1	106
14		52 Colin Skinner	October	1	102
15		1 Connor Robertson	January	1	4
16		1 Connor Robertson	June	1	9
17		1 Connor Robertson	August	1	11
18		1 Connor Robertson	September	1	1
19		58 David Sutherland	May	1	118
20		60 Edward Stewart	October	1	109
21		5 Emma Roberts	February	1	15
22		56 Gavin Allan	February	1	105
23		56 Gavin Allan	April	1	116
24		59 Grace Randall	May	1	119
25		59 Grace Randall	July	1	108
26		4 Isaac Wilkins	January	1	14
27		4 Isaac Wilkins	February	1	5
28		3 John Vance	December	1	13
29		57 Kylie Bower	January	1	110
30		57 Kylie Bower	April	1	117
31		57 Kylie Bower	May	1	107
32		10 Lucas Churchill	May	1	20
33		9 Molly Rampling	May	1	19
34		51 Nicola MacDonald	January	1	104
35		51 Nicola MacDonald	February	1	111
36		55 Robert Sharp	April	1	115
37		6 Tim Rampling	February	1	6
38		6 Tim Rampling	March	1	16

11.List the three customers who have spent the most at Miming's over the past year. Order by the amount that they spent, from largest to smallest.

```
SELECT CID AS "Customer ID",
```

```
name AS "Customer Name",
SUM(quantity * price) AS "Total"
FROM contact
NATURAL JOIN menuMenuItem
NATURAL JOIN orderItem
NATURAL JOIN orders
WHERE year(orderDate) = year(CURDATE()) - 1
GROUP BY CID
ORDER BY SUM(quantity * price) DESC Limit 3;
```

#	Customer ID	Customer Name	Total
1	52	Colin Skinner	212.0
2	60	Edward Stewart	126.0
3	1	Connor Robertson	126.0

12. List the five menu items that have generated the most revenue for Miming's over the past year.

```
select itemName AS "Item Name",  SUM(quantity * price) AS "Highest"
FROM menuMenuItem NATURAL JOIN orderItem NATURAL JOIN orders
WHERE year(orderDate) = year (CURDATE())
GROUP BY itemName
ORDER BY Highest desc limit 5;
```

#	Item Name	Highest
1	Chef Special Chop Suey	212.0
2	Prawn Soup	144.0
3	Beef Chow Mein	72.0
4	Pork Chow Mein	72.0
5	Seafood Chop Suey	62.0

13. Find the sous chef who is mentoring the most other sous chef. List the menu items that the sous chef is passing along to the other sous chefs.

```
SELECT sous_chef.mentorID, MAX(sous_chef.items) AS 'Items', name, sous_chef.names
FROM
(SELECT mentorID, COUNT(itemName) AS items, GROUP_CONCAT(itemName) AS names
FROM mentorship
GROUP BY mentorID
) sous_chef
INNER JOIN contact
ON mentorID = CID;
```

#	mentorID	Items	name	names
1	103	12	Michelle Gibson	Honey Glazed Gourmet,Kung Pao Chicken,Vegetables Chop ...

14. Find the three menu items that have the fewest sous chefs skilled in those menu items.

```
SELECT expertise, COUNT(CID) FROM sousChefExpertise
GROUP BY (expertise)
ORDER BY COUNT(CID) ASC limit 3;
```

#	expertise	COUNT(CID)
1	Chicken Chow Mein	1
2	Ginger Pork Noodle	1
3	Kung Pao Chicken	1

15. List all of the customers who eat at Miming's on their own as well as ordering for their corporation.

```
SELECT name FROM contact
NATURAL JOIN corporateCustomer
NATURAL JOIN privateCustomer
WHERE corporateCustomer.CID = privateCustomer.CID;
```

#	name
1	Nicola MacDonald
2	Boris Wright
3	Edward Stewart

16. List the contents and prices of each of the menus.

```sql
SELECT type AS 'Menu Type', itemName AS 'Item Name',
categoryName AS 'Category Name', spiceLevel AS 'Spice Level',
size AS 'Size', price AS 'Price'
FROM menuItem
NATURAL JOIN menuMenuItem
ORDER BY type;
```

Page Size: 5000 | Total Rows: 157 Page: 1 of 1 | Matching Rows:

#	Menu Type	Item Name	Category Name	Spice Level	Size	Price
1	Children	Roasted Meats	Appetizer	Piquant	x-small	6.0
2	Children	Sweet and Sour Chicken	Meat Entrees	Tangy	x-small	6.0
3	Children	Pork with Bean Sauce	Appetizer	Mild	x-small	6.0
4	Children	Vegetables Chow Mein	Main Course	Mild	x-small	6.0
5	Children	Beef Chow Mein	Main Course	Mild	x-small	6.0
6	Children	Chicken Food Young	Main Course	Mild	x-small	6.0
7	Children	Vegetables Chop Suey	Main Course	Mild	x-small	6.0
8	Children	Moo Shy Beef	Appetizer	Tangy	x-small	6.0
9	Children	Kung Pao Shrimp	Appetizer	Mild	x-small	6.0
10	Children	Stir Fried Vegetables	Appetizer	Piquant	x-small	6.0
11	Children	Deep Fried Fish	Meat Entrees	Mild	x-small	6.0
12	Children	Prawn Soup	Soup	Mild	cup	6.0
13	Children	Eggplant Parmesan	Appetizer	Piquant	x-small	6.0
14	Children	Pork Overloaded	Meat Entrees	Mild	x-small	6.0
15	Children	Chicken Chow Mein	Main Course	Tangy	x-small	6.0
16	Children	Moo Goo Gai Pan	Appetizer	Tangy	x-small	6.0
17	Children	Seaweed Health Soup	Soup	Tangy	cup	6.0
18	Children	Kung Pao Chicken	Appetizer	Mild	x-small	6.0
19	Children	Orange Beef	Appetizer	Tangy	x-small	6.0
20	Children	Vegetable Soup	Soup	Mild	cup	6.0
21	Children	Seafood Chop Suey	Main Course	Mild	x-small	6.0
22	Evening	Stir Fried Vegetables	Appetizer	Piquant	large	10.0
23	Evening	Pork Egg Food Young	Main Course	Hot	large	10.0
24	Evening	Beef with Orange Curd	Meat Entrees	Mild	large	10.0
25	Evening	Beef Sheets	Meat Entrees	Hot	large	10.0

17.List each of the different shifts, who works during that shift and what their job is for that shift.

```sql
SELECT shiftDay, shiftTime, crewName, contact.name, jobTitle FROM crewEmployee
NATURAL JOIN employee
INNER JOIN crewShift USING (crewName)
INNER JOIN contact USING (CID)
ORDER BY shiftDay, shiftTime DESC;
```

Page Size: 5000   Total Rows: 260   Page: 1 of 1   Matching Rows:

#	shiftDay	shiftTime	crewName	name	jobTitle
1	Friday	lunch	Meat Masters	Kevin Simpson	Wait Staff
2	Friday	lunch	Meat Masters	Benjamin Churchill	Line Cook
3	Friday	lunch	Meat Masters	Jessica Hardacre	Line Cook
4	Friday	lunch	Meat Masters	Jack McDonald	Wait Staff
5	Friday	lunch	Meat Masters	Gavin Parsons	Line Cook
6	Friday	lunch	Meat Masters	Michelle Gibson	Sous Chef
7	Friday	lunch	Meat Masters	Alison Lambert	Line Cook
8	Friday	lunch	Meat Masters	Piers Hill	Head Chef
9	Friday	lunch	Meat Masters	Julia Kerr	Sous Chef
10	Friday	lunch	Meat Masters	Adam Poole	Wait Staff
11	Friday	lunch	Meat Masters	Steven North	Line Cook
12	Friday	lunch	Meat Masters	Matt Parsons	Wait Staff
13	Friday	lunch	Meat Masters	Heather Nash	Manager
14	Friday	lunch	Meat Masters	Elizabeth Alsop	Dishwasher
15	Friday	lunch	Meat Masters	Adrian Alsop	Line Cook
16	Friday	lunch	Meat Masters	Steven Payne	Wait Staff
17	Friday	lunch	Meat Masters	William Baker	Line Cook
18	Friday	lunch	Meat Masters	Joseph Marshall	Maitre d
19	Friday	lunch	Meat Masters	Vanessa Buckland	Sous Chef
20	Friday	lunch	Meat Masters	Jake Hunter	Line Cook
21	Friday	Evening	Smoke Daddys	Bella Gibson	Dishwasher
22	Friday	Evening	Smoke Daddys	Xuan Chenault	Line Cook
23	Friday	Evening	Smoke Daddys	Ruth Slater	Wait Staff
24	Friday	Evening	Smoke Daddys	Richard Cornish	Sous Chef
25	Friday	Evening	Smoke Daddys	Fabian File	Line Cook
26	Friday	Evening	Smoke Daddys	Claire Blake	Wait Staff
27	Friday	Evening	Smoke Daddys	Carol McDonald	Maitre d
28	Friday	Evening	Smoke Daddys	Yesenia Gaydos	Line Cook

18. Three additional queries that demonstrate the five additional business rules. Feel free to create additional views to support these queries if you so desire.

1. List all orders where the customer ordered more than one item. List the order details with customer name and items.
   Business Rule.: Minimum number of items in every order must be two.

```sql
SELECT orderID, name, COUNT(itemName) as itemQuantity, GROUP_CONCAT(itemName)
FROM orderItem
INNER JOIN orders USING (orderID)
INNER JOIN contact USING (CID)
GROUP BY orderID
ORDER BY itemQuantity;
```

#	orderID	name	itemQuantity	GROUP_CONCAT(itemName)
1	1	Connor Robertson	2	Seafood Chop Suey,Moo Goo Gai Pan
2	2	Andrew Mathis	2	Seafood Chop Suey,Pork Chop Suey
3	3	John Vance	2	Seafood Chop Suey,Pork Chop Suey
4	4	Connor Robertson	2	Chef Special Chop Suey,Chicken Food Young
5	6	Tim Rampling	2	Beef with Orange Curd,Pork Chow Mein
6	7	Charles Walsh	2	Pork Chow Mein,Beef with Orange Curd
7	9	Connor Robertson	2	Seafood Chop Suey,Honey Glazed Shrimp
8	10	Andrew Mathis	2	Honey Glazed Shrimp,Seafood Chop Suey
9	11	Connor Robertson	2	Seafood Chop Suey,Moo Goo Gai Pan
10	12	Andrew Mathis	2	Pork Chop Suey,Seafood Chop Suey
11	13	John Vance	2	Seafood Chop Suey,Pork Chop Suey
12	14	Isaac Wilkins	2	Chicken Food Young,Chef Special Chop Suey
13	16	Tim Rampling	2	Pork Chow Mein,Beef with Orange Curd
14	17	Jan Walsh	2	Pork Chow Mein,Beef with Orange Curd
15	19	Molly Rampling	2	Honey Glazed Shrimp,Seafood Chop Suey
16	20	Lucas Churchill	2	Seafood Chop Suey,Honey Glazed Shrimp
17	21	John Vance	2	Pork Chow Mein,Chef Special Chop Suey
18	101	Boris Wright	2	Moo Shy Beef,Ginger Pork Noodle
19	102	Colin Skinner	2	Moo Shy Beef,Ginger Pork Noodle
20	103	Boris Wright	2	Chef Special Chop Suey,Seafood Chop Suey

Page Size: 5000 Total Rows: 42 Page: 1 of 1   Matching Rows:

2. List the time differences between the food pick up time and food ready time for all to-go orders.

   Business Rule.: For to-go orders, the time difference between food pick up time and food ready time has to be 15 minutes or less.

```sql
SELECT orderID, pickupTime, foodReadyTime,
TIMEDIFF(pickupTime,foodReadyTime) AS "Time Difference"
FROM toGo;
```

#	orderID	pickupTime	foodReadyTime	Time Difference
1	1	15:00:00	14:49:21	00:10:39
2	10	12:00:00	11:47:39	00:12:21
3	11	12:00:00	11:47:39	00:12:21
4	12	15:00:00	14:49:21	00:10:39
5	103	12:00:00	11:47:39	00:12:21
6	106	16:00:00	15:49:21	00:10:39
7	109	12:00:00	11:47:39	00:12:21
8	110	16:00:00	15:55:21	00:04:39
9	111	15:00:00	14:47:39	00:12:21
10	120	16:00:00	15:49:21	00:10:39

3. List all the bill payers names, order date and payment type per order for all the orders.

   Business Rule: There should be only one bill payer per order.

```
SELECT name, orderID, orderDate, paymentType from orders
INNER JOIN contact USING (CID);
```

#	name	orderID	orderDate	paymentType
1	Connor Robertson	1	2017-09-11	cash
2	Andrew Mathis	2	2017-10-01	cash
3	John Vance	3	2017-11-11	credit card
4	Connor Robertson	4	2018-01-10	cash
5	Isaac Wilkins	5	2018-02-02	cash
6	Tim Rampling	6	2018-02-23	credit card
7	Charles Walsh	7	2018-03-12	debit card
8	Jan Walsh	8	2018-04-04	cash
9	Connor Robertson	9	2018-06-10	cash
10	Andrew Mathis	10	2018-07-30	credit card
11	Connor Robertson	11	2018-08-01	cash
12	Andrew Mathis	12	2018-10-01	debit card
13	John Vance	13	2018-12-02	credit card
14	Isaac Wilkins	14	2019-01-02	cash
15	Emma Roberts	15	2019-02-03	debit card
16	Tim Rampling	16	2019-03-03	credit card
17	Jan Walsh	17	2019-04-04	cash
18	Charles Walsh	18	2019-05-04	debit card
19	Molly Rampling	19	2019-05-05	credit card
20	Lucas Churchill	20	2019-05-05	cash
21	John Vance	21	2018-11-11	credit card
22	Boris Wright	101	2017-09-11	credit card
23	Colin Skinner	102	2017-10-01	debit card
24	Boris Wright	103	2017-11-11	credit card
25	Nicola MacDonald	104	2018-01-10	cash
26	Gavin Allan	105	2018-02-03	debit card
27	Colin Skinner	106	2018-03-13	credit card
28	Kylie Bower	107	2018-05-02	credit card
29	Grace Randall	108	2018-07-05	credit card
30	Edward Stewart	109	2018-10-23	cash