PROYECTO:
ANALISIS DE DATOS

Plato's Pizza

CONTENTS

A

UNION TABLAS

```sql
select * from [dbo].[1order_details]        -- VER cadda una de las tablas
select * from [dbo].[2orders]
select * from [dbo].[3pizza_types]
select * from [dbo].[4pizzas]
```

	order_details_id	order_id	pizza_id	quantity
1	1	1	hawaiian_m	1
2	2	2	classic_dlx_m	1
3	3	2	five_cheese_l	1
4	4	2	ital_supr_l	1
5	5	2	mexicana_m	1
6	6	2	thai_ckn_l	1
7	7	3	ital_supr_m	1
8	8	3	prsc_argla_l	1
9	9	4	ital_supr_m	1
10	10	5	ital_supr_m	1

	order_id	date	time
1	1	2015-01-01	11:38:36.0000000
2	2	2015-01-01	11:57:40.0000000
3	3	2015-01-01	12:12:28.0000000
4	4	2015-01-01	12:16:31.0000000
5	5	2015-01-01	12:21:30.0000000
6	6	2015-01-01	12:29:36.0000000
7	7	2015-01-01	12:50:37.0000000
8	8	2015-01-01	12:51:37.0000000
9	9	2015-01-01	12:52:01.0000000
10	10	2015-01-01	13:00:15.0000000

	pizza_type_id	name	category	ingredients
1	bbq_ckn	The Barbecue Chicken Pizza	Chicken	Barbecued Chicken, Red Peppers...
2	big_meat	The Big Meat Pizza	Classic	Bacon, Pepperoni, Italian Sausag...
3	brie_carre	The Brie Carre Pizza	Supreme	Brie Carre Cheese, Prosciutto, Car...
4	calabrese	The Calabrese Pizza	Supreme	❤Nduja Salami, Pancetta, Tomato...
5	cali_ckn	The California Chicken Pizza	Chicken	Chicken, Artichoke, Spinach, Garli...
6	ckn_alfredo	The Chicken Alfredo Pizza	Chicken	Chicken, Red Onions, Red Peppe...
7	ckn_pesto	The Chicken Pesto Pizza	Chicken	Chicken, Tomatoes, Red Peppers,...
8	classic_dlx	The Classic Deluxe Pizza	Classic	Pepperoni, Mushrooms, Red Onio...
9	five_cheese	The Five Cheese Pizza	Veggie	Mozzarella Cheese, Provolone Ch...
10	four_cheese	The Four Cheese Pizza	Veggie	Ricotta Cheese, Gorgonzola Picca...

	pizza_id	pizza_type_id	size	price
1	bbq_ckn_l	bbq_ckn	L	20.75
2	bbq_ckn_m	bbq_ckn	M	16.75
3	bbq_ckn_s	bbq_ckn	S	12.75
4	big_meat_l	big_meat	L	20.50
5	big_meat_m	big_meat	M	16.00
6	big_meat_s	big_meat	S	12.00
7	brie_carre_s	brie_carre	S	23.65
8	calabrese_l	calabrese	L	20.25
9	calabrese_m	calabrese	M	16.25
10	calabrese_s	calabrese	S	12.25

```sql
--UNIR 4 TABLAS
select                                    --2.1 seleccionar de la tabla TRES las siguientes columnas
    TRES.order_details_id,
    TRES.order_id,
    TRES.pizza_id,
    TRES.quantity,
    TRES.date,
    TRES.time,
    TRES.size,
    TRES.price,
    name, category, ingredients

from
        (                                 --1.subquery para unir 3 tablas

            select
                order_details_id,
                OD.order_id,
                OD.pizza_id,
                OD.quantity,
                date,
                time,
                size,
                price,
                pizza_type_id
            from
                [1order_details] as OD
                join [2orders] as O
                    on O.order_id = OD.order_id
                join [4pizzas] as P
                    on P.pizza_id = OD.pizza_id

        ) as TRES                         --con el subquery se unieron 3 tablas y se obtiene una tabla con nombre 'TRES'

        join [3pizza_types] as PT         --2.2 forma parte del query principal y se une lo seleccionado en 2.1 con la t
        on PT.pizza_type_id = TRES.pizza_type_id
```
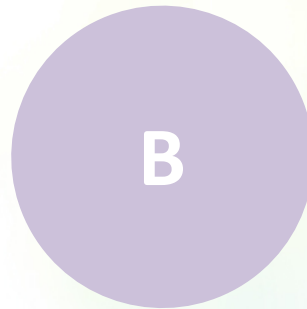
Results | Messages

	order_details_id	order_id	pizza_id	quantity	date	time	size	price	name	category	ingredients
1	1	1	hawaiian_m	1	2015-01-01	11:38:36.0000000	M	13.25	The Hawaiian Pizza	Classic	Sliced Ham, Pineapple, Mozzarella Cheese
2	2	2	classic_dl...	1	2015-01-01	11:57:40.0000000	M	16.00	The Classic Delux...	Classic	Pepperoni, Mushrooms, Red Onions, Re...
3	3	2	five_chee...	1	2015-01-01	11:57:40.0000000	L	18.50	The Five Cheese ...	Veggie	Mozzarella Cheese, Provolone Cheese, ...
4	4	2	ital_supr_l	1	2015-01-01	11:57:40.0000000	L	20.75	The Italian Supre...	Supreme	Calabrese Salami, Capocollo, Tomatoes, ...
5	5	2	mexicana...	1	2015-01-01	11:57:40.0000000	M	16.00	The Mexicana Piz...	Veggie	Tomatoes, Red Peppers, Jalapeno Pepp...
6	6	2	thai_ckn_l	1	2015-01-01	11:57:40.0000000	L	20.75	The Thai Chicken...	Chicken	Chicken, Pineapple, Tomatoes, Red Pep...
7	7	3	ital_supr_m	1	2015-01-01	12:12:28.0000000	M	16.50	The Italian Supre...	Supreme	Calabrese Salami, Capocollo, Tomatoes, ...
8	8	3	prsc_argla_l	1	2015-01-01	12:12:28.0000000	L	20.75	The Prosciutto an...	Supreme	Prosciutto di San Daniele, Arugula, Mozz...
9	9	4	ital_supr_m	1	2015-01-01	12:16:31.0000000	M	16.50	The Italian Supre...	Supreme	Calabrese Salami, Capocollo, Tomatoes, ...
10	10	5	ital_supr_m	1	2015-01-01	12:21:30.0000000	M	16.50	The Italian Supre...	Supreme	Calabrese Salami, Capocollo, Tomatoes, ...

B

REVISAR DATA

```
--1. Entender-revisar la data, tiene 11 columnas
SELECT *
FROM[dbo].[Pizza]
```

	order_details_id	order_id	pizza_id	quantity	date	time	size	price	name	category	ingredients
1	1	1	hawaiian_m	1	2015-01-01	11:38:36.0000000	M	13.25	The Hawaiian Pizza	Classic	Sliced Ham, Pineapple, Mozzarella Cheese
2	2	2	classic_dl...	1	2015-01-01	11:57:40.0000000	M	16.00	The Classic Delux...	Classic	Pepperoni, Mushrooms, Red Onions, Re...
3	3	2	five_chee...	1	2015-01-01	11:57:40.0000000	L	18.50	The Five Cheese ...	Veggie	Mozzarella Cheese, Provolone Cheese, ...
4	4	2	ital_supr_l	1	2015-01-01	11:57:40.0000000	L	20.75	The Italian Supre...	Supreme	Calabrese Salami, Capocollo, Tomatoes, ...
5	5	2	mexicana...	1	2015-01-01	11:57:40.0000000	M	16.00	The Mexicana Piz...	Veggie	Tomatoes, Red Peppers, Jalapeno Pepp...
6	6	2	thai_ckn_l	1	2015-01-01	11:57:40.0000000	L	20.75	The Thai Chicken...	Chicken	Chicken, Pineapple, Tomatoes, Red Pep...
7	7	3	ital_supr_m	1	2015-01-01	12:12:28.0000000	M	16.50	The Italian Supre...	Supreme	Calabrese Salami, Capocollo, Tomatoes, ...
8	8	3	prsc_argla_l	1	2015-01-01	12:12:28.0000000	L	20.75	The Prosciutto an...	Supreme	Prosciutto di San Daniele, Arugula, Mozz...
9	9	4	ital_supr_m	1	2015-01-01	12:16:31.0000000	M	16.50	The Italian Supre...	Supreme	Calabrese Salami, Capocollo, Tomatoes, ...
10	10	5	ital_supr_m	1	2015-01-01	12:21:30.0000000	M	16.50	The Italian Supre...	Supreme	Calabrese Salami, Capocollo, Tomatoes, ...

```sql
--2. Ver si hay datos nulos
SELECT *
FROM [dbo].[Pizza]
WHERE
    order_details_id IS NULL
        OR order_id IS NULL
        OR pizza_id IS NULL
        OR quantity IS NULL
        OR date IS NULL
        OR time IS NULL
        OR size IS NULL
        OR price IS NULL
        OR name IS NULL
        OR category IS NULL
        OR ingredients IS NULL;
```

order_details_id	order_id	pizza_id	quantity	date	time	size	price	name	category	ingredients	total_order

```sql
--3. Agregar la columna 'total_order' a la tabla
ALTER TABLE [dbo].[Pizza]
ADD total_order FLOAT;


--4. Agregar resultados a la columna 'total_order', obtener el total de la orden
UPDATE [dbo].[Pizza]
SET total_order = quantity * price


--Ver data
SELECT *
FROM [dbo].[Pizza]
```
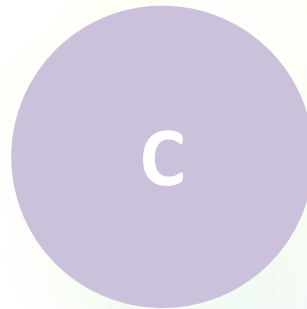
	order_details_id	order_id	pizza_id	quantity	date	time	size	price	name	category	ingredients	total_order
1	1	1	hawaiian_m	1	2015-01-01	11:38:36.0000000	M	13.25	The Hawaiian Pizza	Classic	Sliced Ham, Pineapple, Mozzarella Cheese	13.25
2	2	2	classic_dlx_m	1	2015-01-01	11:57:40.0000000	M	16.00	The Classic Deluxe Pizza	Classic	Pepperoni, Mushrooms, Red Onions, Red Peppers, B...	16
3	3	2	five_cheese_l	1	2015-01-01	11:57:40.0000000	L	18.50	The Five Cheese Pizza	Veggie	Mozzarella Cheese, Provolone Cheese, Smoked Gou...	18.5
4	4	2	ital_supr_l	1	2015-01-01	11:57:40.0000000	L	20.75	The Italian Supreme Pizza	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, ...	20.75
5	5	2	mexicana_m	1	2015-01-01	11:57:40.0000000	M	16.00	The Mexicana Pizza	Veggie	Tomatoes, Red Peppers, Jalapeno Peppers, Red Oni...	16
6	6	2	thai_ckn_l	1	2015-01-01	11:57:40.0000000	L	20.75	The Thai Chicken Pizza	Chicken	Chicken, Pineapple, Tomatoes, Red Peppers, Thai S...	20.75
7	7	3	ital_supr_m	1	2015-01-01	12:12:28.0000000	M	16.50	The Italian Supreme Pizza	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, ...	16.5
8	8	3	prsc_argla_l	1	2015-01-01	12:12:28.0000000	L	20.75	The Prosciutto and Arugula Pizza	Supreme	Prosciutto di San Daniele, Arugula, Mozzarella Cheese	20.75
9	9	4	ital_supr_m	1	2015-01-01	12:16:31.0000000	M	16.50	The Italian Supreme Pizza	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, ...	16.5
10	10	5	ital_supr_m	1	2015-01-01	12:21:30.0000000	M	16.50	The Italian Supreme Pizza	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red Onions, ...	16.5

C

ANALISIS AREA NOMINAL
(ingresos o ventas)

```sql
--5. Total de ventas
SELECT
    FORMAT(SUM(total_order), '#,##0.') AS TotalVentas
FROM
    [dbo].[Pizza]
```

	TotalVentas
1	817,860

```sql
--6. Venta promedio por cada orden
]SELECT
    FORMAT(SUM(total_order) / COUNT (*), '#,##0.0')  AS VentaPromedioporORden
FROM [dbo].[Pizza]
```

	VentaPromedioporORden
1	16.8

```sql
--7. Ventas por category de pizza
SELECT
    category AS Categoria,
    FORMAT(SUM(total_order), '#,##0.0') AS TotalVentasCategoria
FROM [dbo].[Pizza]
    GROUP BY category
        ORDER BY TotalVentasCategoria DESC
```

	Categoria	TotalVentasCategoria
1	Classic	220,053.1
2	Supreme	208,197.0
3	Chicken	195,919.5
4	Veggie	193,690.5

```
--8. Ventas por category y name de la pizza
SELECT
    category ,
    name ,
    FORMAT(SUM(total_order), '#,##0.0') AS TotalOrden
FROM [dbo].[Pizza]
    GROUP BY category , name
        ORDER BY TotalOrden DESC
```

	category	name	TotalOrden
1	Chicken	The Thai Chicken Pizza	43,434.3
2	Chicken	The Barbecue Chicken Pizza	42,768.0
3	Chicken	The California Chicken Pizza	41,409.5
4	Classic	The Classic Deluxe Pizza	38,180.5
5	Supreme	The Spicy Italian Pizza	34,831.3
6	Chicken	The Southwest Chicken Pizza	34,705.8
7	Supreme	The Italian Supreme Pizza	33,476.8
8	Classic	The Hawaiian Pizza	32,273.3
9	Veggie	The Four Cheese Pizza	32,265.7
10	Supreme	The Sicilian Pizza	30,940.5
11	Classic	The Pepperoni Pizza	30,161.8
12	Classic	The Greek Pizza	28,454.1
13	Veggie	The Mexicana Pizza	26,780.8
14	Veggie	The Five Cheese Pizza	26,066.5
15	Supreme	The Pepper Salami Pizza	25,529.0
16	Classic	The Italian Capocollo Pizza	25,094.0
17	Veggie	The Vegetables + Vegetabl...	24,374.8
18	Supreme	The Prosciutto and Arugula ...	24,193.3
19	Classic	The Napolitana Pizza	24,087.0
20	Veggie	The Spinach and Feta Pizza	23,271.3

```sql
--9. Ventas por category y nombre de la pizza mayores a 10,000 (o teniendo en cuenta)
SELECT
    category AS Categoria,
    name AS NombrePizza ,
    FORMAT(SUM(total_order), '#,##0.0') AS TotalOrden
FROM [dbo].[Pizza]
    GROUP BY category, name
    HAVING SUM(total_order) > 10000
        ORDER BY TotalOrden DESC
```

Results | Messages

	Categoria	NombrePizza	TotalOrden
1	Chicken	The Thai Chicken Pizza	43,434.3
2	Chicken	The Barbecue Chicken Pizza	42,768.0
3	Chicken	The California Chicken Pizza	41,409.5
4	Classic	The Classic Deluxe Pizza	38,180.5
5	Supreme	The Spicy Italian Pizza	34,831.3
6	Chicken	The Southwest Chicken Pizza	34,705.8
7	Supreme	The Italian Supreme Pizza	33,476.8
8	Classic	The Hawaiian Pizza	32,273.3
9	Veggie	The Four Cheese Pizza	32,265.7
10	Supreme	The Sicilian Pizza	30,940.5
11	Classic	The Pepperoni Pizza	30,161.8
12	Classic	The Greek Pizza	28,454.1
13	Veggie	The Mexicana Pizza	26,780.8
14	Veggie	The Five Cheese Pizza	26,066.5
15	Supreme	The Pepper Salami Pizza	25,529.0
16	Classic	The Italian Capocollo Pizza	25,094.0
17	Veggie	The Vegetables + Vegetabl...	24,374.8
18	Supreme	The Prosciutto and Arugula ...	24,193.3
19	Classic	The Napolitana Pizza	24,087.0
20	Veggie	The Spinach and Feta Pizza	23,271.3

```sql
--10. Ventas por categoria entre 100,000 y 200,000, ordenados descendente por category
SELECT
    category ,
    FORMAT(SUM(total_order), '#,##0.0') AS TotalOrden
FROM  [dbo].[Pizza]
    GROUP BY category
    HAVING SUM(total_order) BETWEEN 100000 AND 200000
        ORDER BY category DESC
```

	category	TotalOrden
1	Veggie	193,690.5
2	Chicken	195,919.5

```
--11. Precio promedio por categoria
]SELECT
    category ,
    FORMAT(AVG (total_order), '#,##0.0') AS PrecioPromedio_Categoria
FROM [dbo].[Pizza]
    GROUP BY category
        ORDER BY PrecioPromedio_Categoria
```

	category	PrecioPromedio_Categoria
1	Classic	15.1
2	Veggie	16.9
3	Supreme	17.7
4	Chicken	18.1

```
--12. Precio maximo por categoria
SELECT
    category,
    MAX (price) AS PrecioMaximo_Categoria
FROM  [dbo].[Pizza]
    GROUP BY category
        ORDER BY PrecioMaximo_Categoria
```

	category	PrecioMaximo_Categoria
1	Chicken	20.75
2	Veggie	21.00
3	Supreme	23.65
4	Classic	35.95

```
--13. Precio minimo por categoria
SELECT
    category,
    MIN (price) AS PrecioMinimo_Categoria
FROM [dbo].[Pizza]
    GROUP BY category
        ORDER BY PrecioMinimo_Categoria
```

	category	PrecioMinimo_Categoria
1	Classic	9.75
2	Veggie	12.00
3	Supreme	12.25
4	Chicken	12.75

D

ANALISIS AREA REAL

(PRODUCTO)

```sql
--12. Total de pizzas vendidas
SELECT
    FORMAT(SUM(quantity), '#,##0.') AS TotalPizzas_Vendidas
FROM[dbo].[Pizza]
```

	TotalPizzas_Vendidas
1	49,574

```sql
--13. Pizzas vendidas por categoria ordenadas ascendente
SELECT
    category,
    FORMAT(SUM(quantity), '#,##0.') AS PizzasVendidasCategoria
FROM[dbo].[Pizza]
    GROUP BY category
        ORDER BY PizzasVendidasCategoria DESC
```

	category	PizzasVendidasCategoria
1	Classic	14,888
2	Supreme	11,987
3	Veggie	11,649
4	Chicken	11,050

```sql
--14.Pizzas vendidas por numero de mes
SELECT
    DATEPART(month,date) AS Mes,
    FORMAT(SUM(quantity), '#,##0.') AS PizzasVendidas_Mes
FROM [dbo].[Pizza]
    GROUP BY DATEPART(month,date)
        ORDER BY Mes ASC
```

	Mes	PizzasVendidas_Mes
1	1	4,232
2	2	3,961
3	3	4,261
4	4	4,151
5	5	4,328
6	6	4,107
7	7	4,392
8	8	4,168
9	9	3,890
10	10	3,883
11	11	4,266
12	12	3,935

```sql
--14.1 Pizzas vendidas por nombre mes
SELECT
    FORMAT(date, 'MMMM') AS Mes,
    FORMAT(SUM(quantity), '#,##0.') AS PizzasVendidas_Mes
FROM [dbo].[Pizza]
    GROUP BY FORMAT(date, 'MMMM')
        ORDER BY Mes DESC
```

	Mes	PizzasVendidas_Mes
1	September	3,890
2	October	3,883
3	November	4,266
4	May	4,328
5	March	4,261
6	June	4,107
7	July	4,392
8	January	4,232
9	February	3,961
10	December	3,935
11	August	4,168
12	April	4,151

```sql
--15. Pizzas vendidas en enero
SELECT
    FORMAT(SUM(quantity), '#,##0.') AS PizzasVendidas_Enero
FROM[dbo].[Pizza]
WHERE date >= '2015-01-01' AND date<= '2015-01-31';
```

	PizzasVendidas_Enero
1	4,232

```sql
--16. Pizzas vendidas por dia
SELECT
    FORMAT(date, 'ddd') AS Dia,
    FORMAT(SUM(quantity), '#,##0.') AS PizzasVendidas_Dia
FROM [dbo].[Pizza]
    GROUP BY FORMAT(date, 'ddd')
        ORDER BY Dia
```

	Dia	PizzasVendidas_Dia
1	Fri	8,242
2	Mon	6,485
3	Sat	7,493
4	Sun	6,035
5	Thu	7,478
6	Tue	6,895
7	Wed	6,946

```sql
--17. Pizzas vendidas por hora
SELECT
    FORMAT(time, 'hh') AS Hora,
    FORMAT(SUM(quantity), '#,##0.') AS PizzasVendidas_Hora
FROM [dbo].[Pizza]
    GROUP BY FORMAT(time, 'hh' )
        ORDER BY Hora
```

	Hora	PizzasVendidas_Hora
1	09	4
2	10	18
3	11	2,728
4	12	6,776
5	13	6,413
6	14	3,613
7	15	3,216
8	16	4,239
9	17	5,211
10	18	5,417
11	19	4,406
12	20	3,534
13	21	2,545
14	22	1,386
15	23	68

```sql
--18. Pizzas vendidas por tamano ordenadas ascendente
SELECT
    size , FORMAT(SUM(quantity), '#,##0.') AS PizzasVendidas_Tamano
FROM [dbo].[Pizza]
    GROUP BY size
        ORDER BY size ASC
```

	size	PizzasVendidas_Tamano
1	L	18,956
2	M	15,635
3	S	14,403
4	XL	552
5	XXL	28

```sql
--19. Top 10 pizzas vendidas
SELECT TOP (10)
    name,
    FORMAT(SUM(quantity), '#,##0.') AS Top10
FROM
    [dbo].[Pizza]
    GROUP BY name
        ORDER BY Top10 DESC
```

	name	Top10
1	The Green Garden Pizza	997
2	The Chicken Alfredo Pizza	987
3	The Italian Vegetables Pizza	981
4	The Chicken Pesto Pizza	973
5	The Spinach Pesto Pizza	970
6	The Soppressata Pizza	961
7	The Spinach Supreme Pizza	950
8	The Calabrese Pizza	937
9	The Mediterranean Pizza	934
10	The Brie Carre Pizza	490

```sql
--20. Las 5 pizzas menos vendidas
SELECT TOP (5)
     name,
     SUM(quantity) AS Top5
FROM [dbo].[Pizza]
     GROUP BY name
          ORDER BY Top5 ASC
```

	name	Top5
1	The Brie Carre Pizza	490
2	The Mediterranean Pizza	934
3	The Calabrese Pizza	937
4	The Spinach Supreme Pizza	950
5	The Soppressata Pizza	961

E

ANALISIS POR ORDENES

```sql
--21. Total de ordenes
SELECT
    FORMAT(COUNT (DISTINCT order_id), '#,##0.' ) AS TotalOrdenes
FROM[dbo].[Pizza]
```

	TotalOrdenes
1	21,350

```
--22. Total de ordenes por categoria ordenadas ascendente
SELECT category AS Categoria,
    FORMAT(COUNT (DISTINCT order_id), '#,##0.')  AS TotalOrdenes_Categoria
FROM[dbo].[Pizza]
    GROUP BY category
        ORDER BY TotalOrdenes_Categoria ASC
```

Results | Messages

	Categoria	TotalOrdenes_Categoria
1	Classic	10,859
2	Chicken	8,536
3	Veggie	8,941
4	Supreme	9,085

```sql
--23. Total de ordenes por name de pizza
SELECT name AS NombrePizza,
    FORMAT(COUNT (DISTINCT order_id), '#,##0.')  AS TotalOrdenes_Pizza
FROM[dbo].[Pizza]
    GROUP BY name
        ORDER BY TotalOrdenes_Pizza ASC
```

	NombrePizza	TotalOrdenes_Pizza
1	The Pepperoni, Mushroom, and Peppers Pizza	1,316
2	The Five Cheese Pizza	1,359
3	The Greek Pizza	1,361
4	The Italian Capocollo Pizza	1,380
5	The Pepper Salami Pizza	1,383
6	The Prosciutto and Arugula Pizza	1,398
7	The Spinach and Feta Pizza	1,402
8	The Napolitana Pizza	1,421
9	The Mexicana Pizza	1,426
10	The Vegetables + Vegetables Pizza	1,463
11	The Italian Supreme Pizza	1,791
12	The Four Cheese Pizza	1,809
13	The Big Meat Pizza	1,811
14	The Sicilian Pizza	1,820
15	The Spicy Italian Pizza	1,822
16	The Southwest Chicken Pizza	1,825
17	The California Chicken Pizza	2,197
18	The Thai Chicken Pizza	2,225
19	The Barbecue Chicken Pizza	2,273
20	The Pepperoni Pizza	2,278

THANK YOU

Evelyn ORTIZ