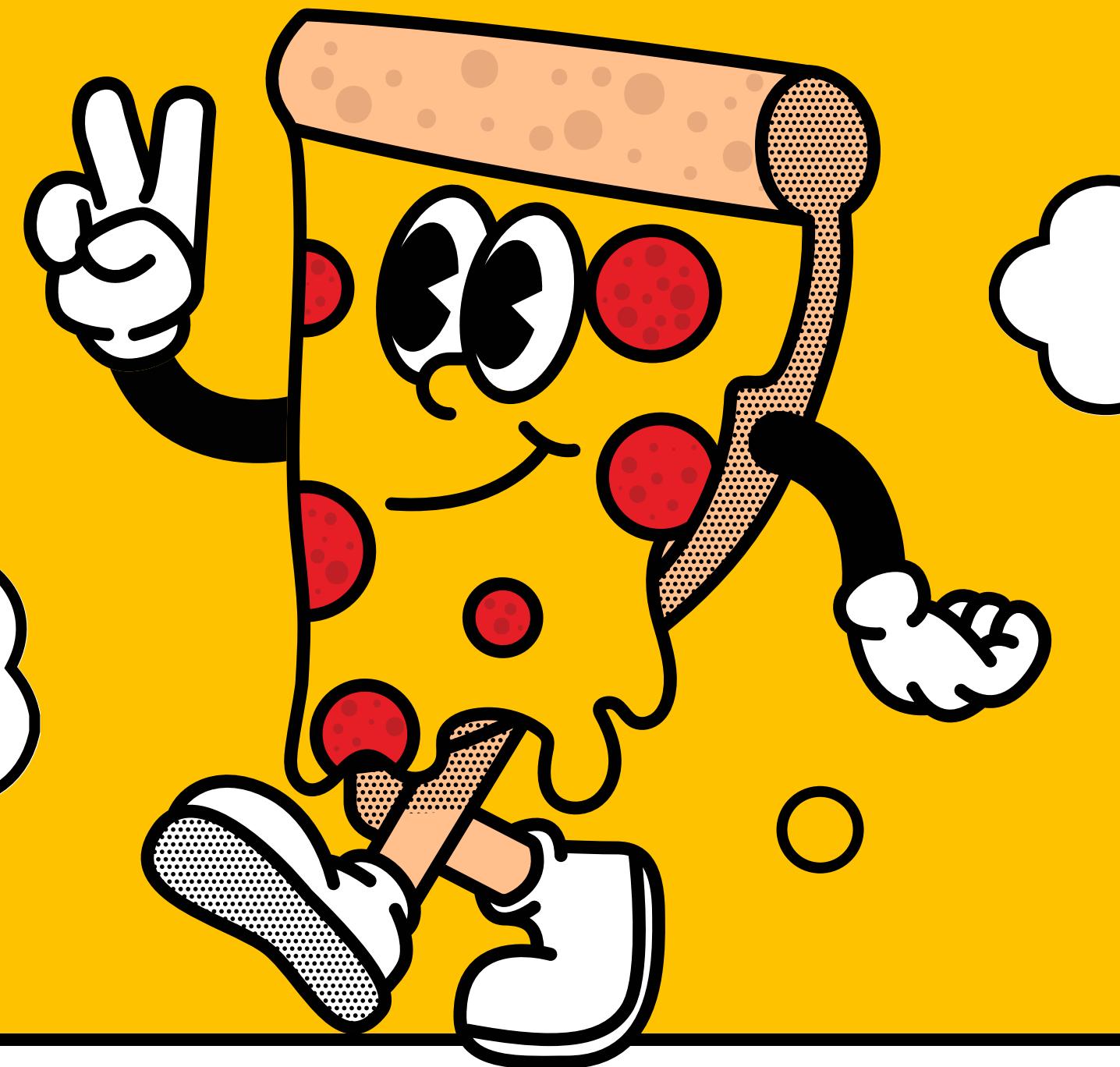


**PIZZA**

**SALE**

**SQL PROJECT**



# HELLO !!

I AM ARYAN DAIMA

IN THIS PROJECT, I ANALYZED A PIZZA SALES DATASET USING SQL TO EXTRACT KEY BUSINESS INSIGHTS.

THE DATA INCLUDED FOUR CSV FILES — ORDERS, ORDER\_DETAILS, PIZZAS, AND PIZZA\_TYPES. I USED JOINS, AGGREGATIONS, AND WINDOW FUNCTIONS TO SOLVE OVER 13 BUSINESS QUESTIONS ACROSS BASIC, INTERMEDIATE, AND ADVANCED LEVELS

THE GOAL WAS TO UNDERSTAND SALES TRENDS, CUSTOMER PREFERENCES, AND REVENUE PERFORMANCE USING DATA-DRIVEN ANALYSIS.



# PREVIEW OF DATASETS

## ORDERS

	order_id	date	time
1	1	1/1/2015	11:38:36 AM
2	2	1/1/2015	11:57:40 AM
3	3	1/1/2015	12:12:28 PM
4	4	1/1/2015	12:16:31 PM
5	5	1/1/2015	12:21:30 PM
6	6	1/1/2015	12:29:36 PM
7	7	1/1/2015	12:50:37 PM
8	8	1/1/2015	12:51:37 PM
9	9	1/1/2015	12:52:01 PM
10	10	1/1/2015	1:00:15 PM
11	11	1/1/2015	1:02:59 PM
12	12	1/1/2015	1:04:41 PM
13	13	1/1/2015	1:11:55 PM
14	14	1/1/2015	1:14:19 PM
15	15	1/1/2015	1:33:00 PM
16	16	1/1/2015	1:34:07 PM
17	17	1/1/2015	1:53:00 PM
18	18	1/1/2015	1:57:08 PM
19	19	1/1/2015	1:59:09 PM
20	20	1/1/2015	2:03:08 PM
21	21	1/1/2015	2:14:29 PM
22	22	1/1/2015	2:16:26 PM
23	23	1/1/2015	2:19:03 PM
24	24	1/1/2015	2:23:01 PM
25	25	1/1/2015	2:44:44 PM

## ORDER DETAILS

	order_details_id	order_id	pizza_id	quantity
1		1	hawaiian_m	1
2		2	classic_dlx_m	1
3		3	five_cheese_l	1
4		4	ital_supr_l	1
5		5	mexicana_m	1
6		6	thai_ckn_l	1
7		7	ital_supr_m	1
8		8	prsc_argla_l	1
9		9	ital_supr_m	1
10		10	ital_supr_m	1
11		11	bbq_ckn_s	1
12		12	the_greek_s	1
13		13	spinach_supr_s	1
14		14	spinach_supr_s	1
15		15	classic_dlx_s	1
16		16	green_garden_s	1
17		17	ital_cpclo_l	1
18		18	ital_supr_l	1
19		19	ital_supr_s	1
20		20	mexicana_s	1
21		21	spicy_ital_l	1
22		22	spin_pesto_l	1
23		23	veggie_veg_s	1
24		24	mexicana_l	1
25		25	southw_ckn_l	1
26		26	bbq_ckn_l	1

## PIZZA TYPES

Column1	Column2	Column3	Column4
1	pizza_type_id	name	category ingredients
2	bbq_ckn	The Barbecue Chicken Pizza	Chicken Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Goat Cheese
3	cali_ckn	The California Chicken Pizza	Chicken Chicken, Red Onions, Red Peppers, Mushrooms, Asiago Cheese, Alfredo Sauce
4	ckn_alfredo	The Chicken Alfredo Pizza	Chicken Chicken, Red Onions, Red Peppers, Mushrooms, Asiago Cheese, Alfredo Sauce
5	ckn_pesto	The Chicken Pesto Pizza	Chicken Chicken, Tomatoes, Red Peppers, Spinach, Garlic, Pesto Sauce
6	southw_ckn	The Southwest Chicken Pizza	Chicken Chicken, Tomatoes, Red Peppers, Red Onions, Jalapeno Peppers, Corn, Cilantro, Pineapple, Tomatoes, Red Peppers, Thai Sweet Chilli Sauce
7	thal_ckn	The Thai Chicken Pizza	Chicken Chicken, Pineapple, Tomatoes, Red Peppers, Thai Sweet Chilli Sauce
8	big_meat	The Big Meat Pizza	Classic Bacon, Pepperoni, Italian Sausage, Chorizo Sausage
9	classic_dlx	The Classic Deluxe Pizza	Classic Pepperoni, Mushrooms, Red Onions, Red Peppers, Bacon
10	hawaiian	The Hawaiian Pizza	Classic Sliced Ham, Pineapple, Mozzarella Cheese
11	ital_cpclo	The Italian Capocollo Pizza	Classic Capocollo, Red Peppers, Tomatoes, Goat Cheese, Garlic, Oregano
12	napolitana	The Napolitana Pizza	Classic Tomatoes, Anchovies, Green Olives, Red Onions, Garlic
13	pep_msh_pep	The Pepperoni, Mushroom, and Peppers Pizza	Classic Pepperoni, Mushrooms, Green Peppers
14	pepperoni	The Pepperoni Pizza	Classic Mozzarella Cheese, Pepperoni
15	the_greek	The Greek Pizza	Classic Kalamata Olives, Feta Cheese, Tomatoes, Garlic, Beef Chuck Roast, Red Onion
16	brie_carre	The Brie Carre Pizza	Supreme Brie Carre Cheese, Prosciutto, Caramelized Onions, Pears, Thyme, Garlic
17	calabrese	The Calabrese Pizza	Supreme 'Nduja Salami, Pancetta, Tomatoes, Red Onions, Friggitello Peppers, Garlic
18	ital_supr	The Italian Supreme Pizza	Supreme Calabrese Salami, Capocollo, Tomatoes, Red Onions, Green Olives, Garlic
19	peppr_salami	The Pepper Salami Pizza	Supreme Genoa Salami, Capocollo, Pepperoni, Tomatoes, Asiago Cheese, Garlic
20	prsc_argla	The Prosciutto and Arugula Pizza	Supreme Prosciutto di San Daniele, Arugula, Mozzarella Cheese
21	sicilian	The Sicilian Pizza	Supreme Coarse Sicilian Salami, Tomatoes, Green Olives, Lunganega Sausage, Onions
22	soppressata	The Soppressata Pizza	Supreme Soppressata Salami, Fontina Cheese, Mozzarella Cheese, Mushrooms, Garlic
23	spicy_ital	The Spicy Italian Pizza	Supreme Capocollo, Tomatoes, Goat Cheese, Artichokes, Peperoncini verdi, Garlic
24	spinach_supr	The Spinach Supreme Pizza	Supreme Spinach, Red Onions, Pepperoni, Tomatoes, Artichokes, Kalamata Olives, Garlic
25	five_cheese	The Five Cheese Pizza	Veggie Mozzarella Cheese, Provolone Cheese, Smoked Gouda Cheese, Romano Cheese
26	four_cheese	The Four Cheese Pizza	Veggie Ricotta Cheese, Gorgonzola Picante Cheese, Mozzarella Cheese, Parmigiano Reggiano

## PIZZAS

	pizza_id	pizza_type_id	size	price
1	bbq_ckn_s	bbq_ckn	S	12.75
2	bbq_ckn_m	bbq_ckn	M	16.75
3	bbq_ckn_l	bbq_ckn	L	20.75
4	cali_ckn_s	cali_ckn	S	12.75
5	cali_ckn_m	cali_ckn	M	16.75
6	cali_ckn_l	cali_ckn	L	20.75
7	ckn_alfredo_s	ckn_alfredo	S	12.75
8	ckn_alfredo_m	ckn_alfredo	M	16.75
9	ckn_alfredo_l	ckn_alfredo	L	20.75
10	ckn_pesto_s	ckn_pesto	S	12.75
11	ckn_pesto_m	ckn_pesto	M	16.75
12	ckn_pesto_l	ckn_pesto	L	20.75
13	southw_ckn_s	southw_ckn	S	12.75
14	southw_ckn_m	southw_ckn	M	16.75
15	southw_ckn_l	southw_ckn	L	20.75
16	thai_ckn_s	thai_ckn	S	12.75
17	thai_ckn_m	thai_ckn	M	16.75
18	thai_ckn_l	thai_ckn	L	20.75
19	big_meat_s	big_meat	S	12
20	big_meat_m	big_meat	M	16
21	big_meat_l	big_meat	L	20.5
22	classic_dlx_s	classic_dlx	S	12
23	classic_dlx_m	classic_dlx	M	16
24	classic_dlx_l	classic_dlx	L	20.5
25	hawaiian_s	hawaiian	S	10.5
26	hawaiian_m	hawaiian	M	13.25

# RETRIEVE THE TOTAL NO. OF ORDERS PLACED?

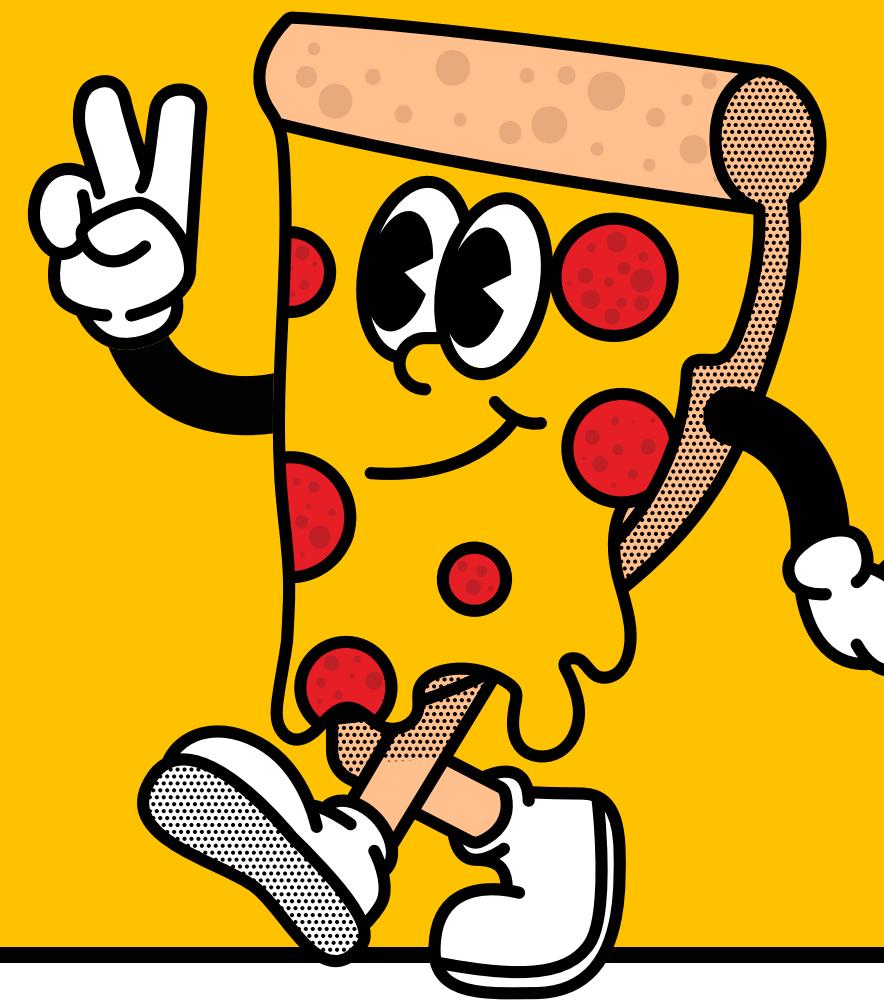
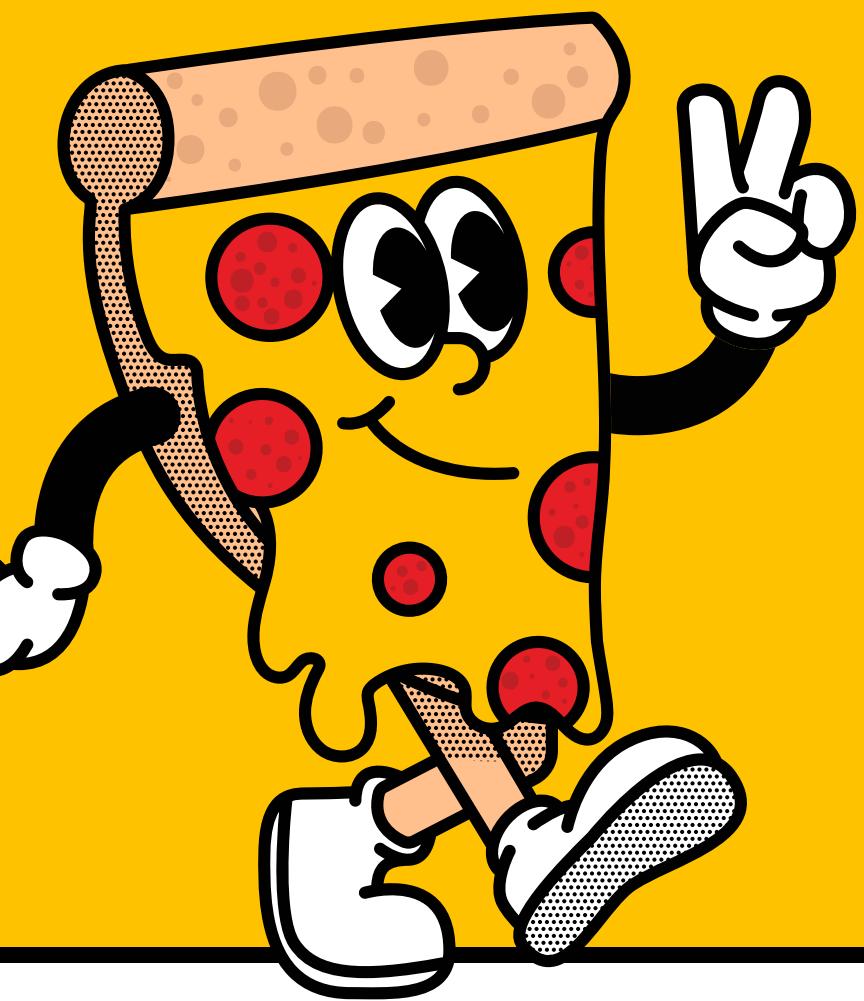
SELECT

COUNT(order\_id) AS Total\_Orders

FROM

orders;

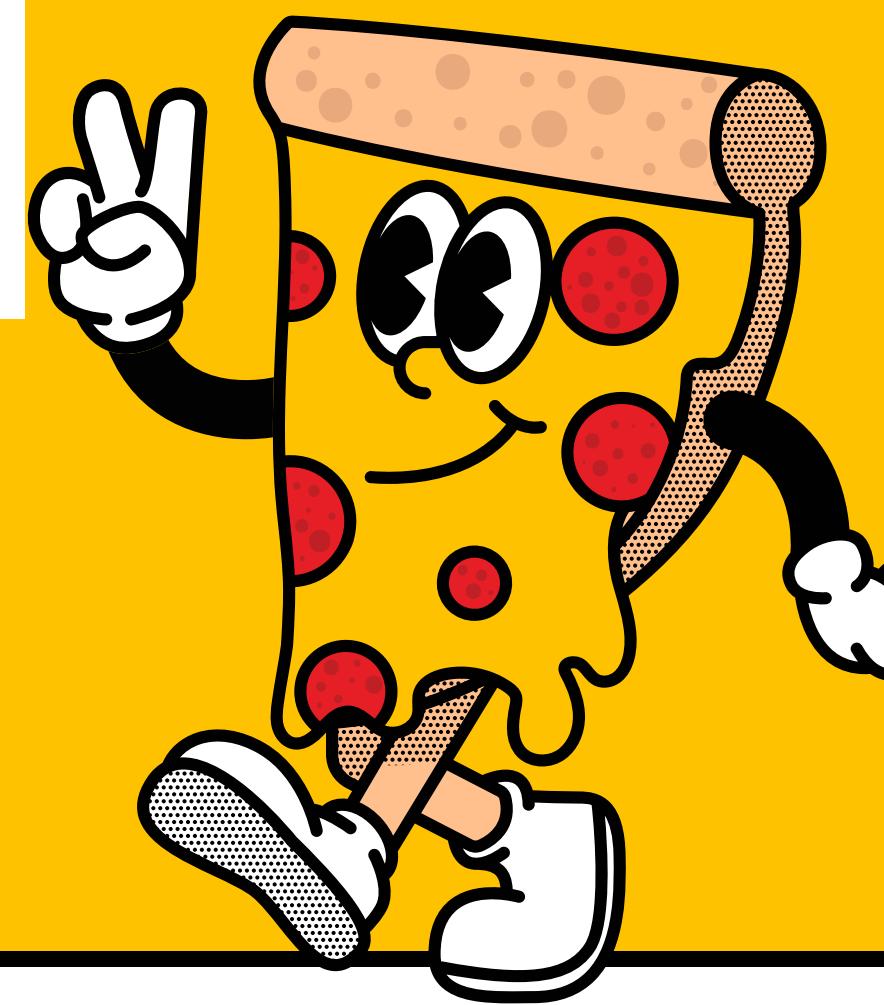
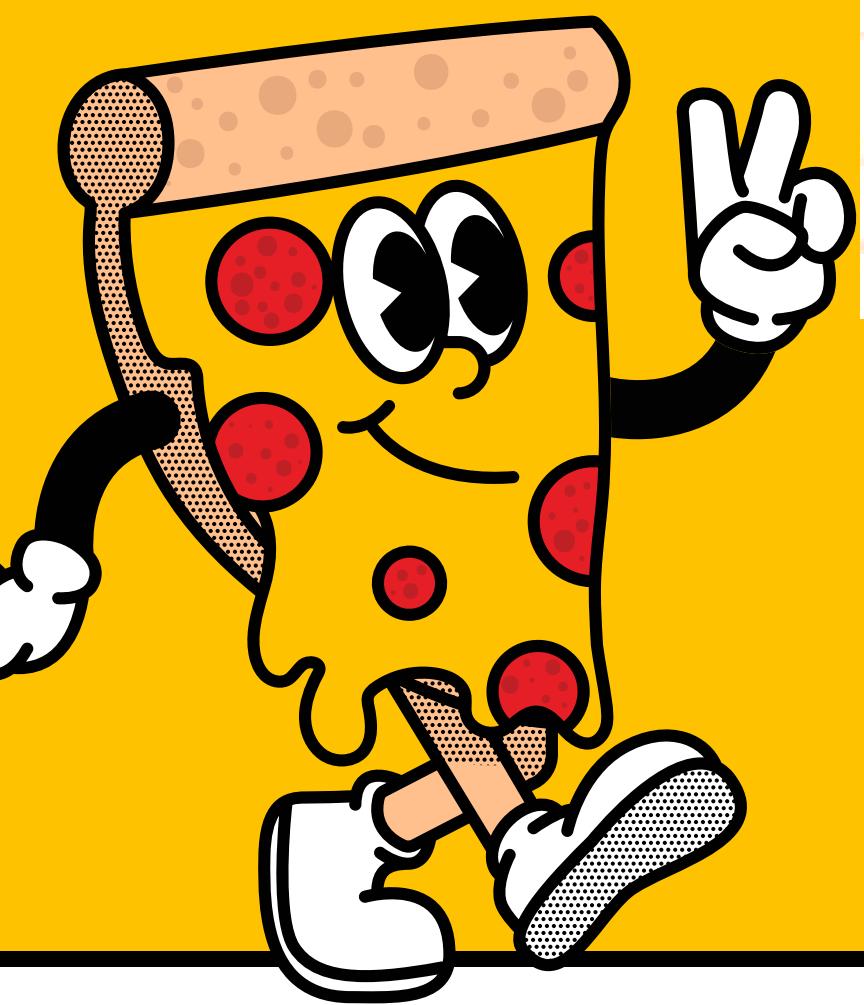
Result Grid	
	Total_Orders
▶	21350



# CALCULATE THE TOTAL REVENUE GENERATED FROM PIZZA SALES?

```
3 •   SELECT
4   ROUND(SUM(order_details.quantity * pizzas.price),
5           2) AS TOTAL_SALES
6
7   FROM
8   order_details
9   JOIN
pizzas ON order_details.pizza_id = pizzas.pizza_id;
```

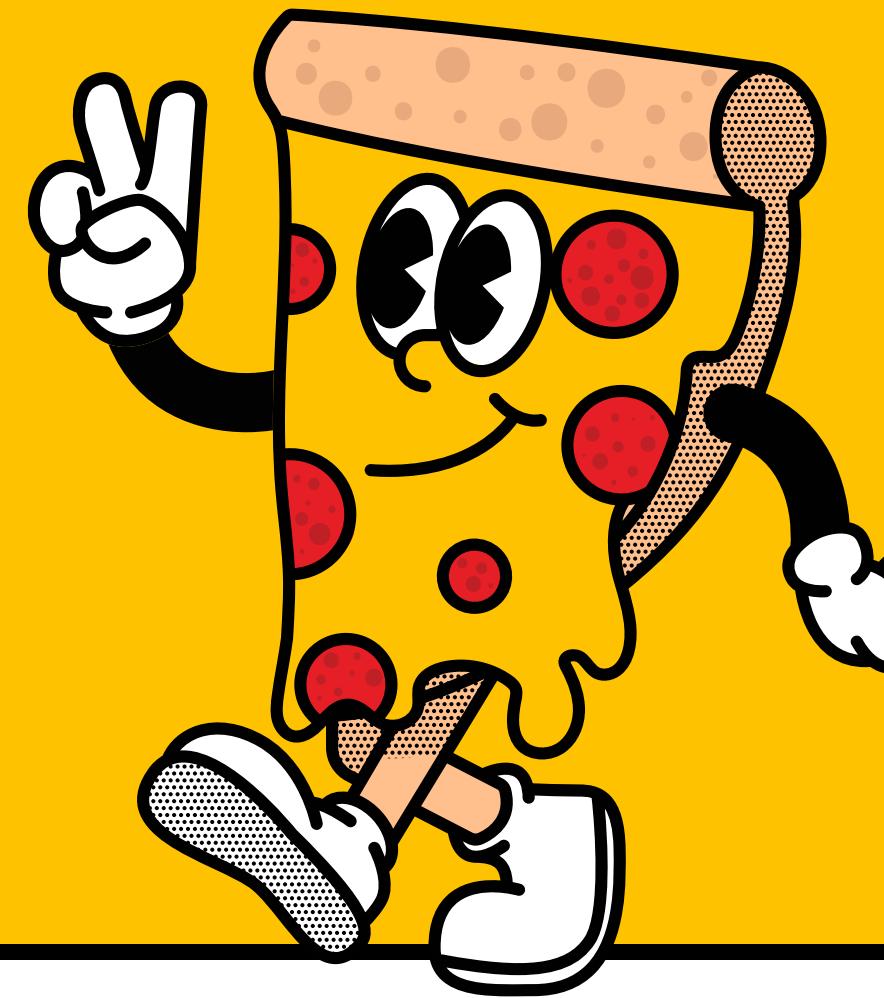
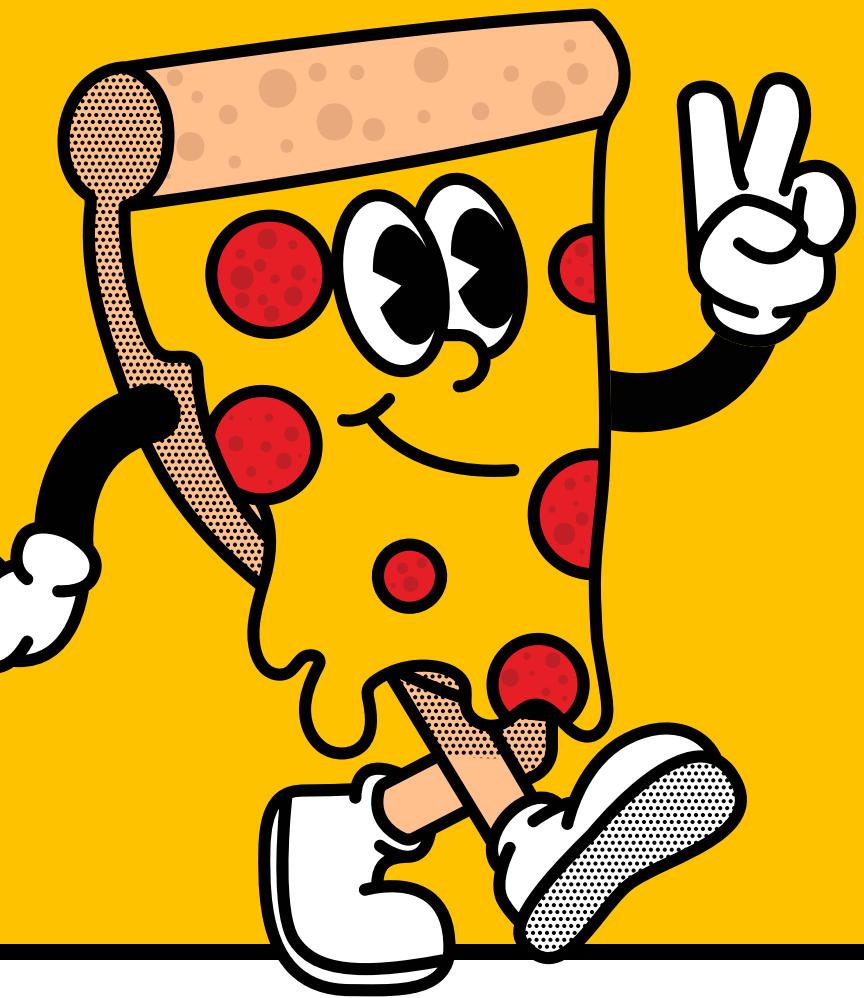
Result Grid	
	TOTAL_SALES
▶	817860.05



# IDENTIFY THE HIGHEST PRICED PIZZA?

```
3 •   SELECT
4       pizza_types.name, pizzas.price
5   FROM
6       pizza_types
7   JOIN
8       pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
9   ORDER BY pizzas.price DESC
10  LIMIT 1;
```

	name	price
▶	The Greek Pizza	35.95



# IDENTIFY THE MOST COMMON PIZZA SIZE ORDERED?

- **SELECT**

```
pizzas.size AS Pizza_Size,  
sum(order_details.quantity) AS Quantity_Ordered
```

```
FROM
```

```
pizzas
```

```
JOIN
```

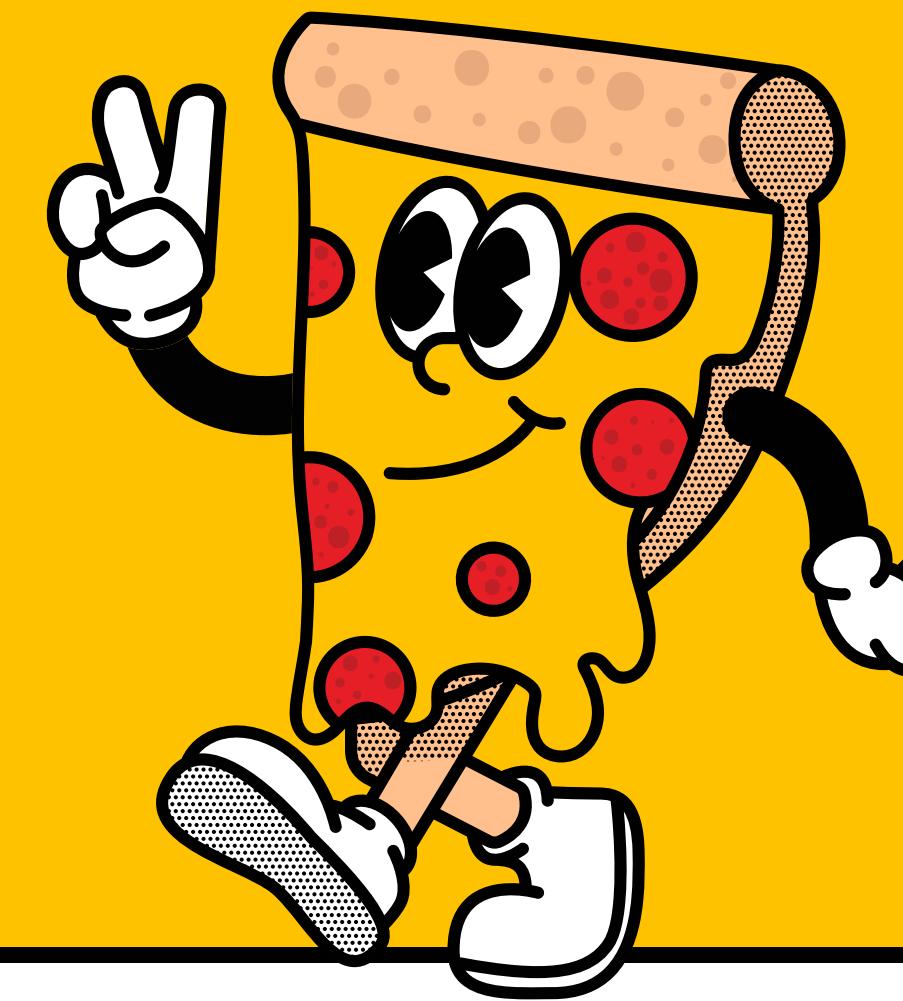
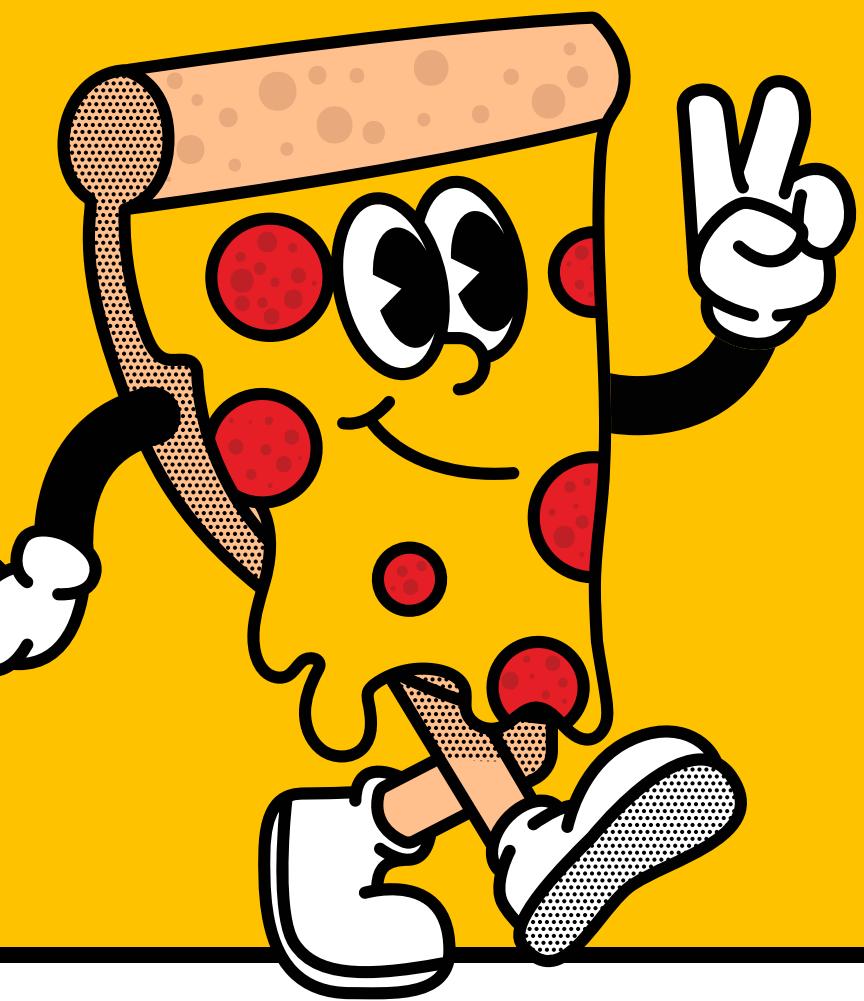
```
order_details ON pizzas.pizza_id = order_details.pizza_id
```

```
GROUP BY size
```

```
ORDER BY Quantity_Ordered DESC
```

```
LIMIT 1;
```

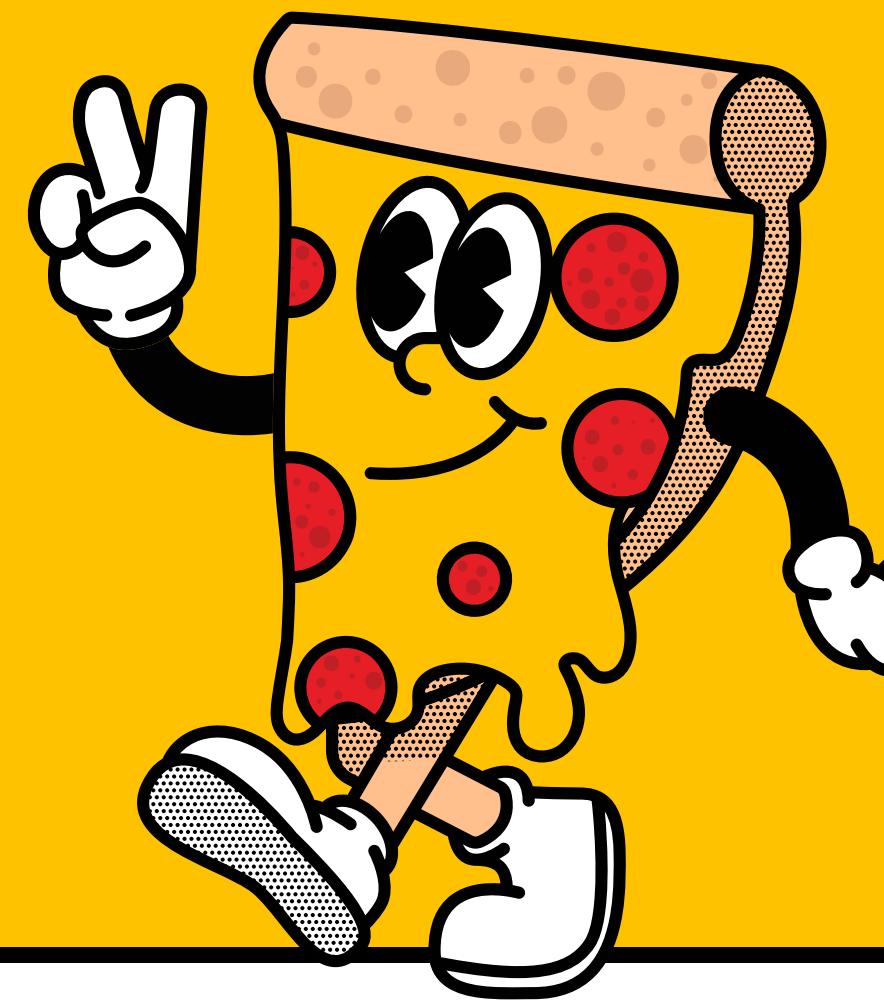
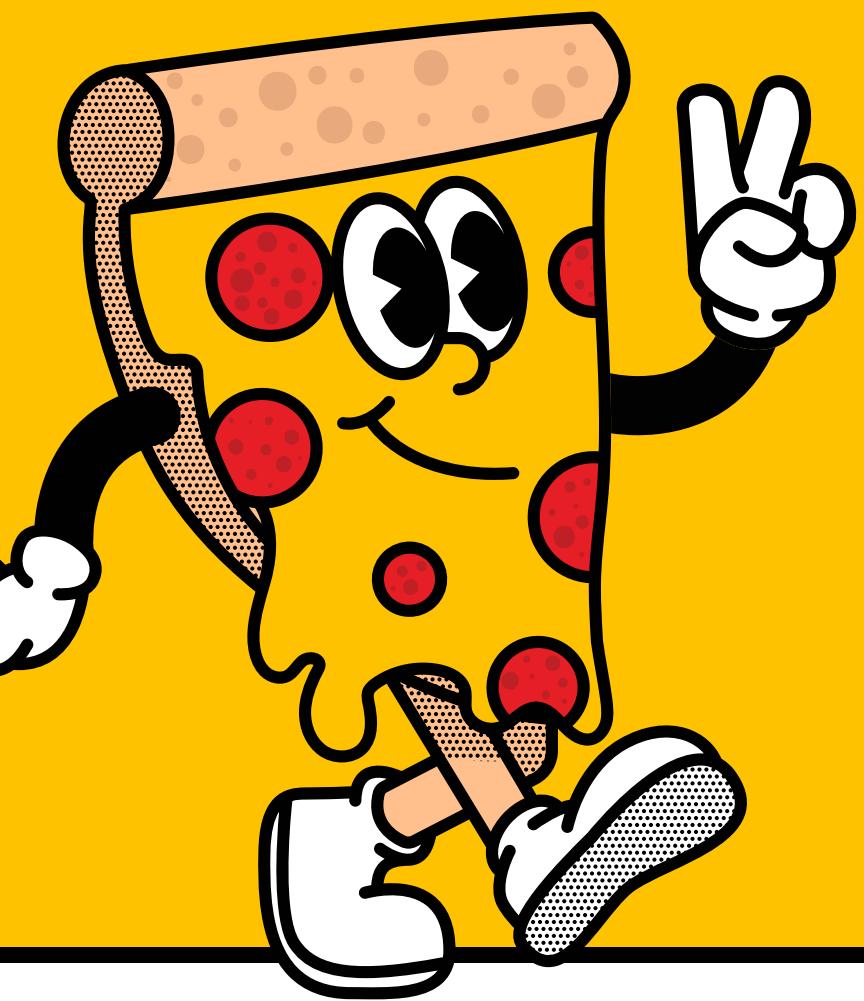
	Pizza_Size	Quantity_Ordered
▶	L	18956



# LIST THE TOP 5 MOST ORDERED PIZZA TYPES ALONG WITH THEIR QUANTITIES?

```
• SELECT  
    pizza_types.name AS Pizza_Type,  
    SUM(order_details.quantity) AS Quantity  
FROM  
    pizza_types  
    JOIN  
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id  
    JOIN  
    order_details ON pizzas.pizza_id = order_details.pizza_id  
GROUP BY name  
ORDER BY quantity DESC  
LIMIT 5;
```

	Pizza_Type	Quantity
▶	The Classic Deluxe Pizza	2453
	The Barbecue Chicken Pizza	2432
	The Hawaiian Pizza	2422
	The Pepperoni Pizza	2418
	The Thai Chicken Pizza	2371

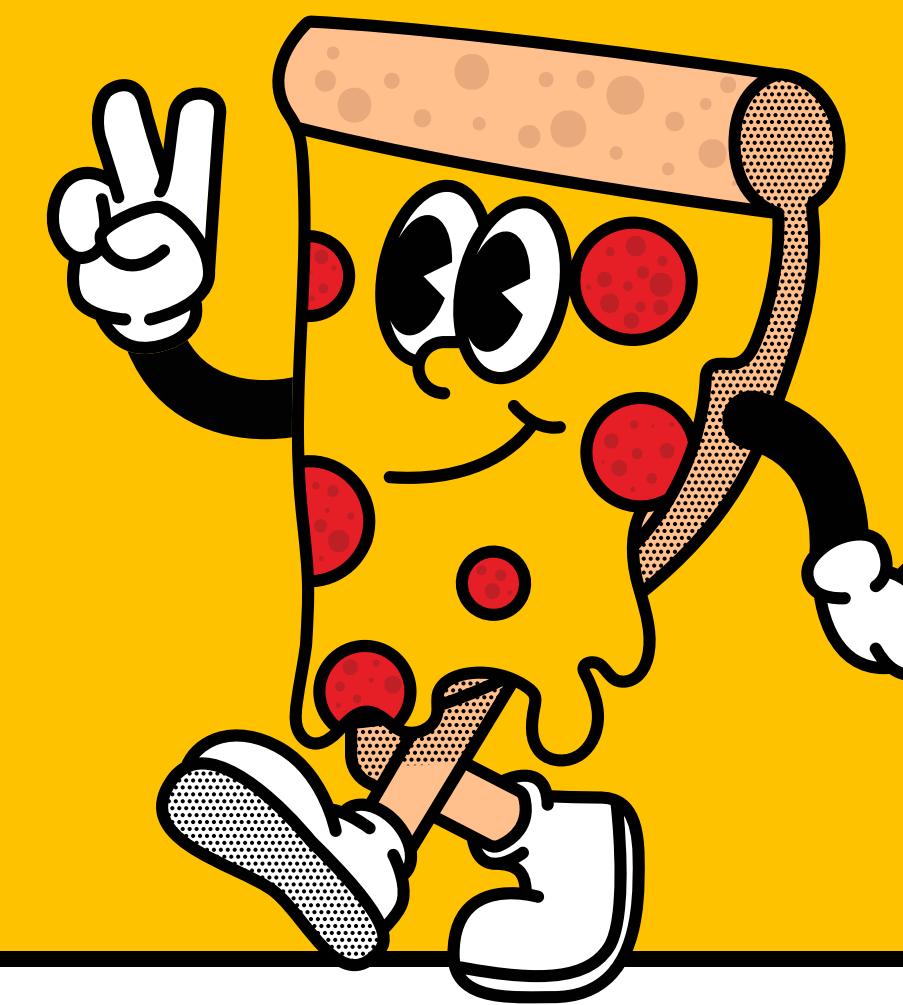
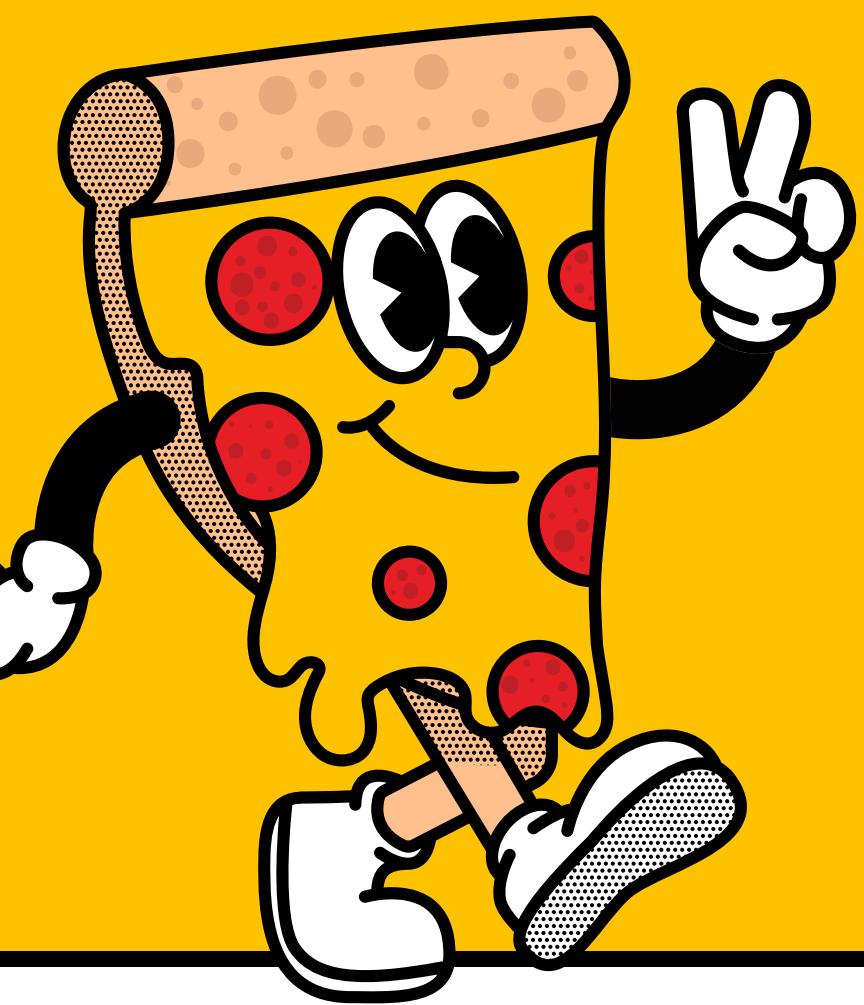


# JOIN THE NECESSARY TABLES TO FIND THE TOTAL QUANTITY OF EACH PIZZA CATEGORY ORDERED?

- **SELECT**

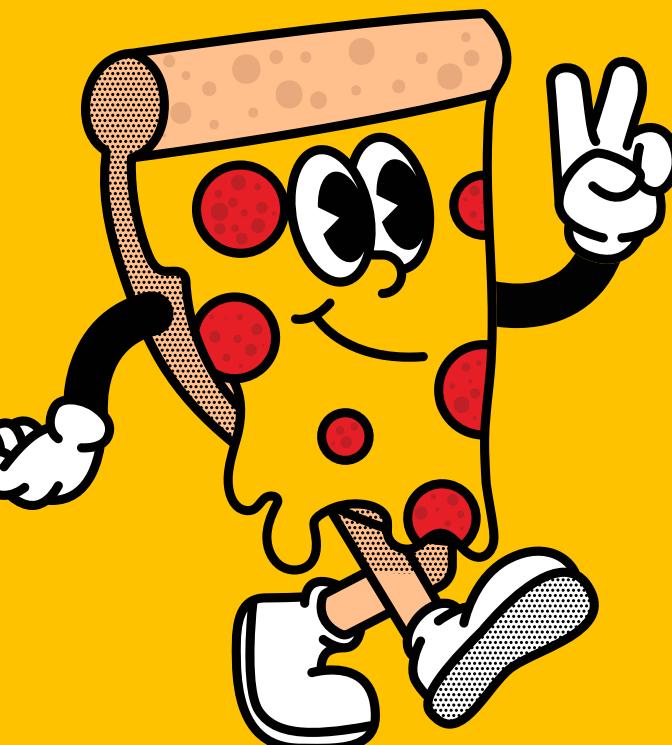
```
    pizza_types.category AS Pizza_Category,  
    SUM(order_details.quantity) AS Quantity  
FROM  
    pizza_types  
    JOIN  
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id  
    JOIN  
    order_details ON pizzas.pizza_id = order_details.pizza_id  
GROUP BY category  
ORDER BY quantity DESC;
```

	Pizza_Category	Quantity
▶	Classic	14888
	Supreme	11987
	Veggie	11649
	Chicken	11050

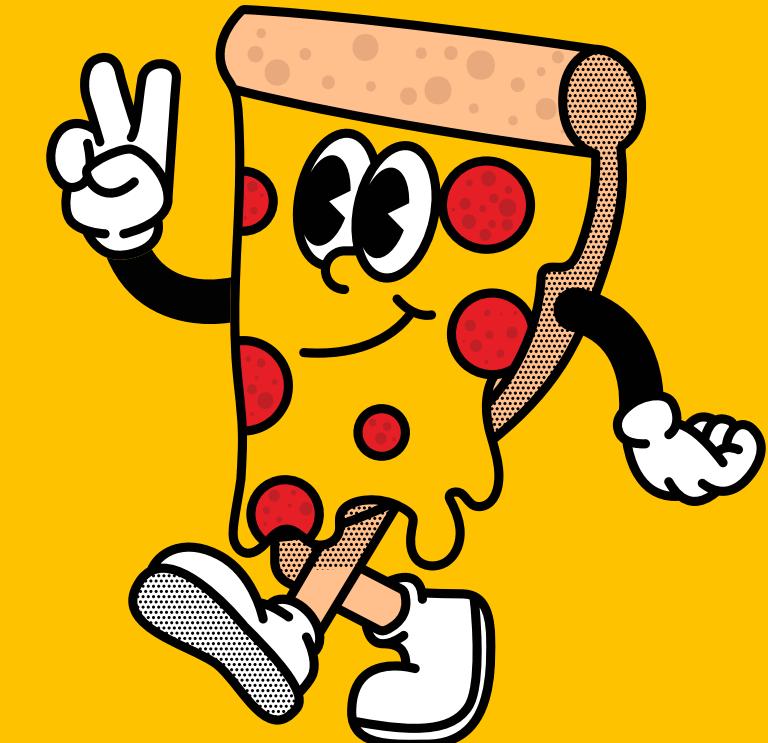


# DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY ?

- **SELECT**  
    **HOUR(order\_time) AS Hours, COUNT(order\_id) AS Orders**  
**FROM**  
    **orders**  
**GROUP BY HOUR(order\_time);**



	Hours	Orders
▶	11	1231
	12	2520
	13	2455
	14	1472
	15	1468
	16	1920
	17	2336
	18	2399
	19	2009
	20	1642
	21	1198
	22	663
	23	28
	10	8
	9	1

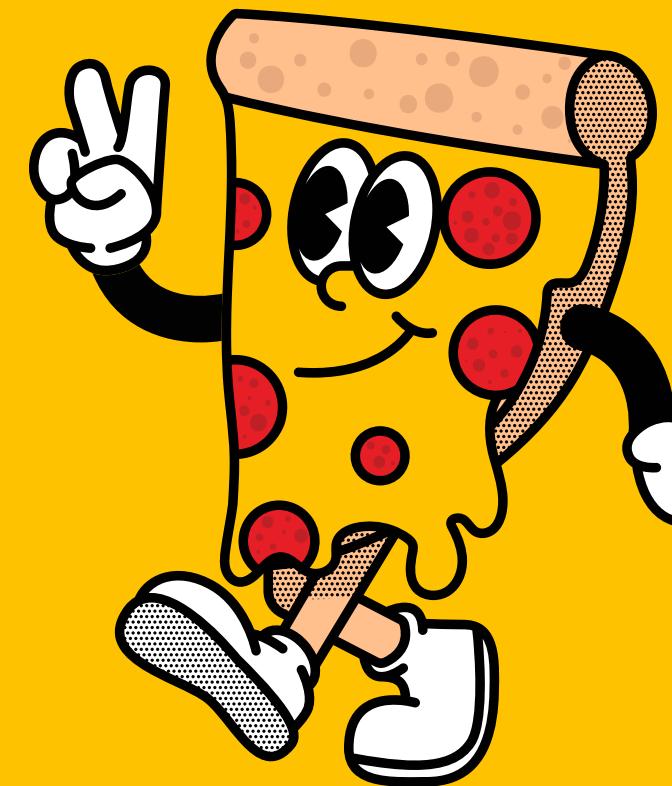
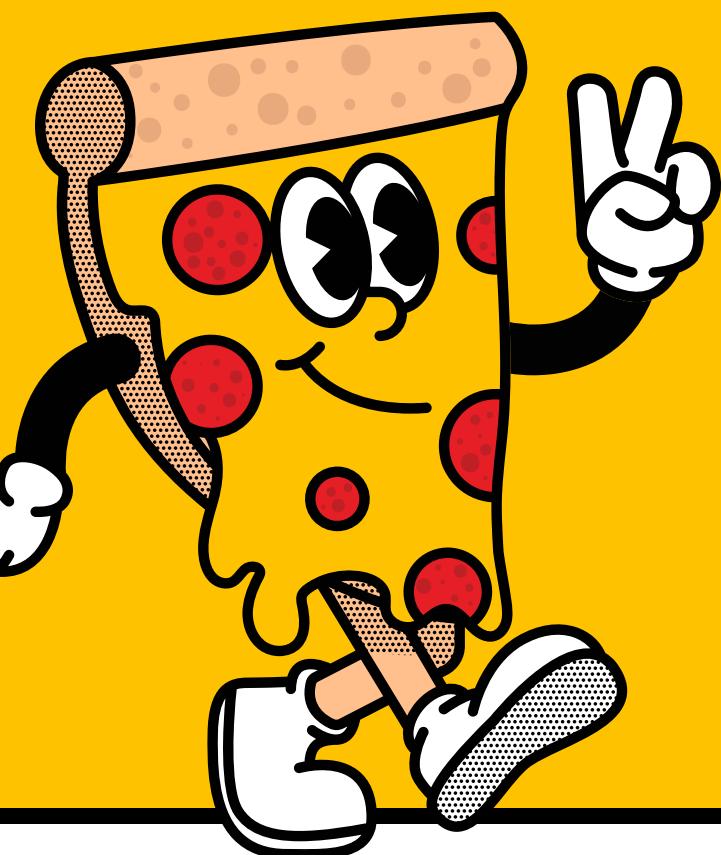


# JOIN RELEVANT TABLES TO FIND THE CATEGORY WISE DISTRIBUTION OF PIZZAS ?

- **SELECT**  
category, COUNT(name)  
**FROM**  
pizza\_types
- **GROUP BY category;**  
**SELECT**  
category, COUNT(name)  
**FROM**  
pizza\_types  
**GROUP BY category;**

Result Grid | Filter Rows:

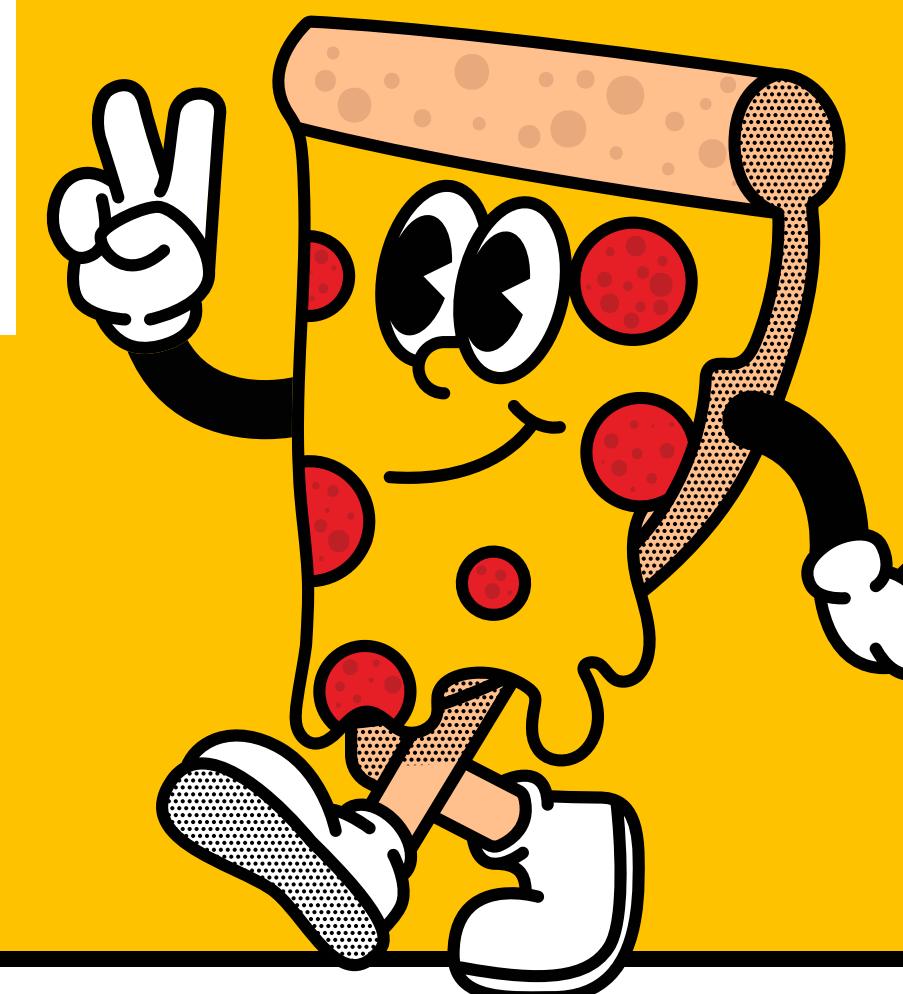
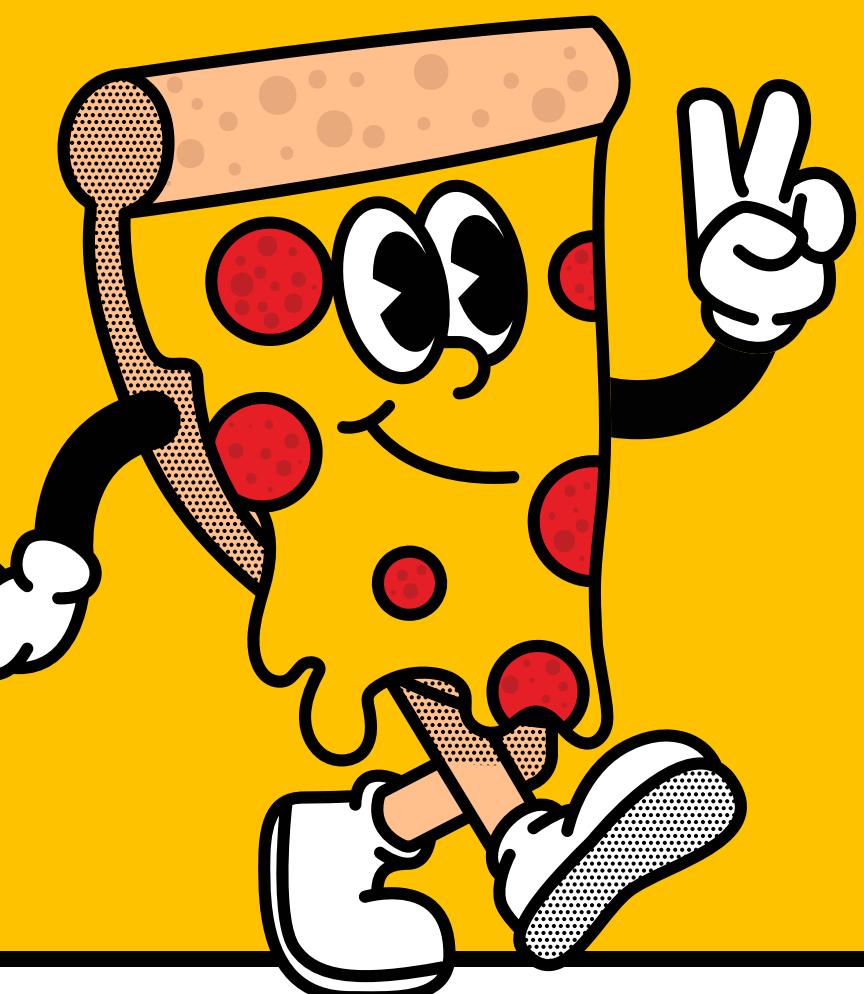
	category	COUNT(name)
▶	Chicken	6
	Classic	8
	Supreme	9
	Veggie	9



# GROUP THE ORDERS BY DATE AND CALCULATE THE AVG NO. OF PIZZAS ORDERED PER DAY ?

```
• SELECT  
    ROUND(AVG(quantity), 0) as AVG_PIZZAS_ORDERED  
  FROM  
    (SELECT  
        order_date, SUM(quantity) AS quantity  
      FROM  
        orders  
     JOIN order_details ON orders.order_id = order_details.order_id  
   GROUP BY order_date) AS Total_quantity;
```

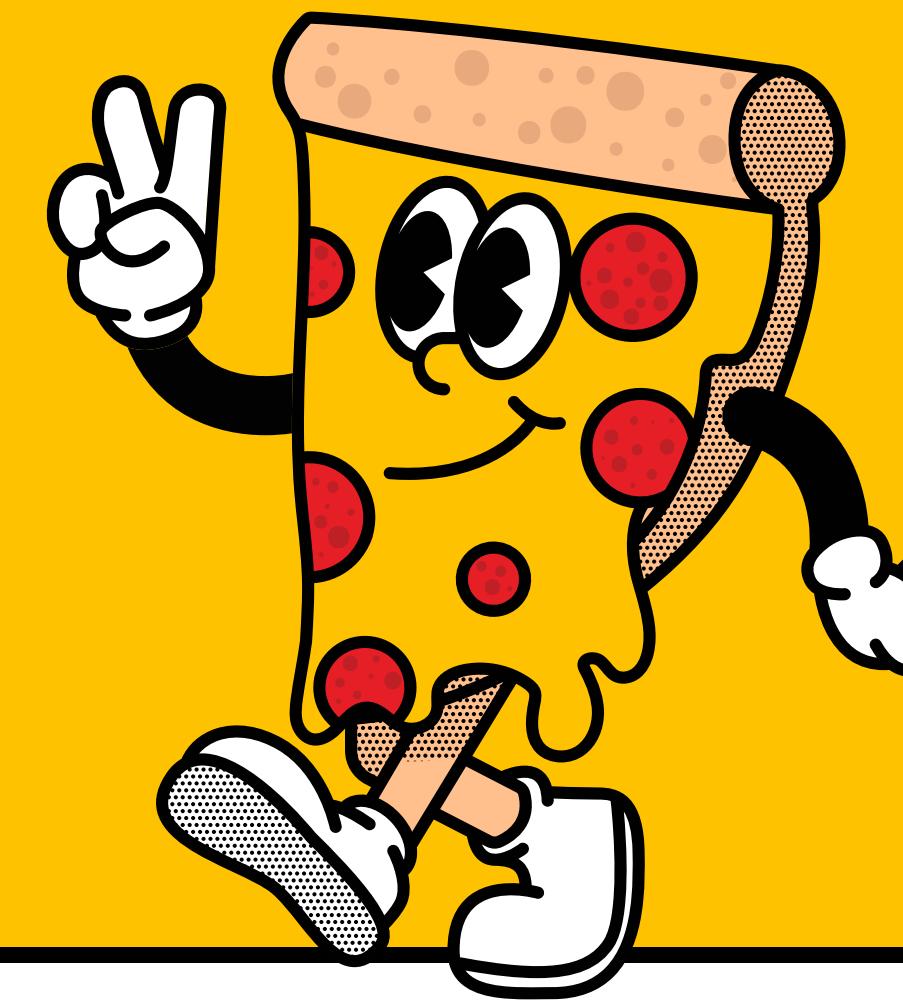
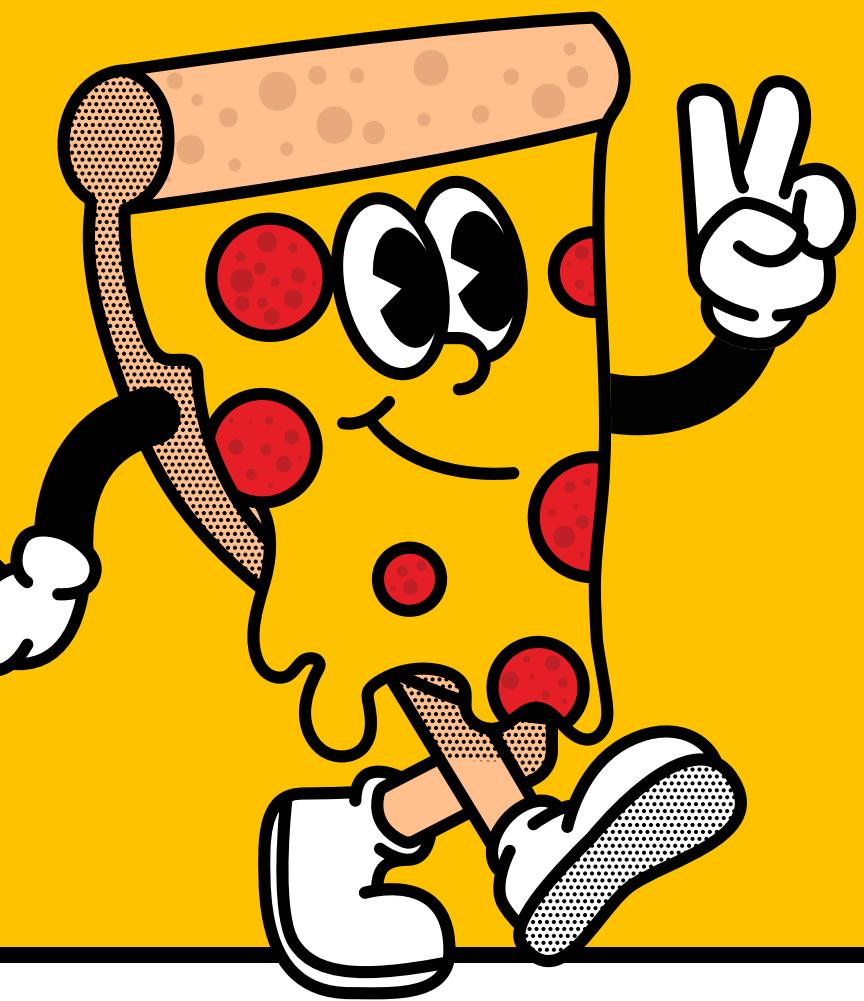
Result Grid	
	AVG_PIZZAS_ORDERED
▶	138



# DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE ?

```
SELECT  
    pizza_types.name AS PIZZA_TYPES,  
    SUM(pizzas.price * order_details.quantity) AS REVENUE  
FROM  
    order_details  
    JOIN  
    pizzas ON order_details.pizza_id = pizzas.pizza_id  
    JOIN  
    pizza_types ON pizzas.pizza_type_id = pizza_types.pizza_type_id  
GROUP BY name  
ORDER BY REVENUE DESC  
LIMIT 3;
```

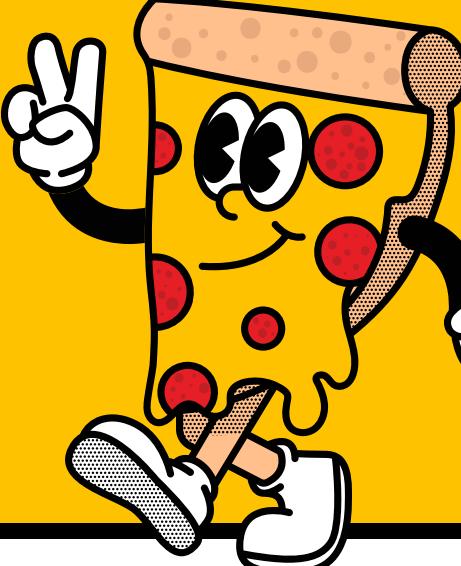
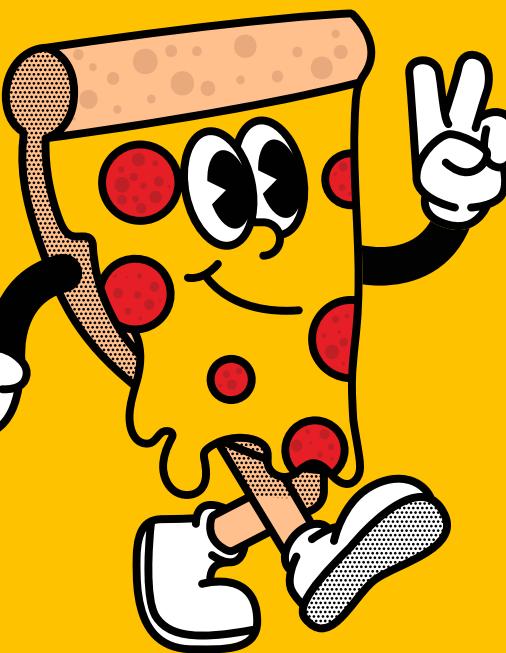
	PIZZA_TYPES	REVENUE
▶	The Thai Chicken Pizza	43434.25
	The Barbecue Chicken Pizza	42768
	The California Chicken Pizza	41409.5



# CALCULATE THE PERCENTAGE DISTRIBUTION OF EACH PIZZA TYPE TO TOTAL REVENUE ?

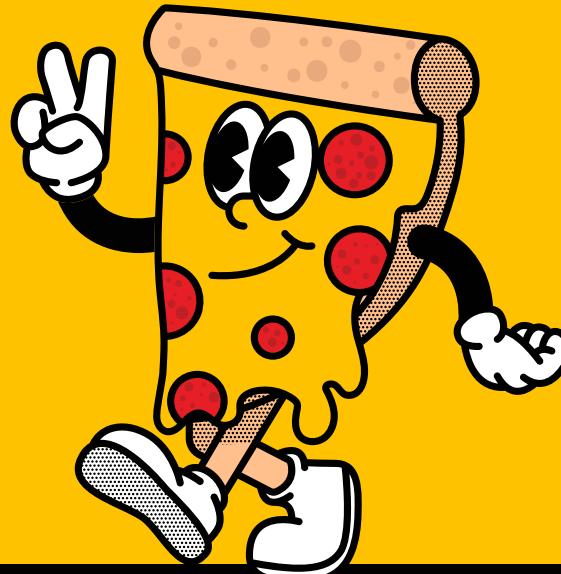
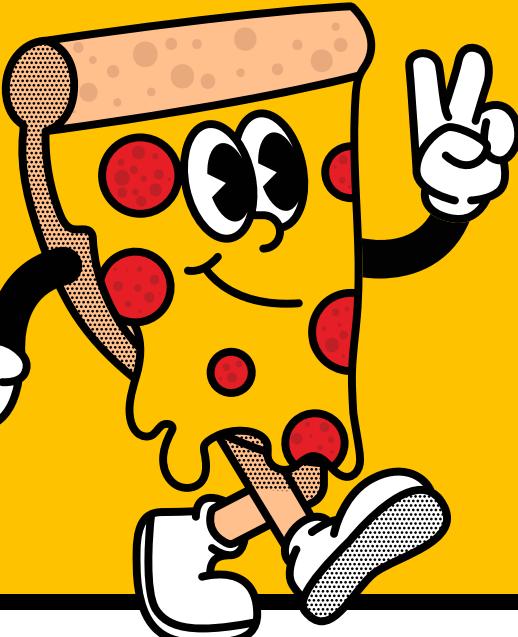
```
4 • SELECT
5     pizza_types.category AS PIZZA_TYPES,
6     round(SUM(pizzas.price * order_details.quantity) /(SELECT
7         ROUND(SUM(order_details.quantity * pizzas.price),
8             2) AS TOTAL_SALES
9     FROM
10        order_details
11        JOIN
12        pizzas ON order_details.pizza_id = pizzas.pizza_id)*100,2) AS REVENUE
13     FROM
14        order_details
15        JOIN
16        pizzas ON order_details.pizza_id = pizzas.pizza_id
17        JOIN
18        pizza_types ON pizzas.pizza_type_id = pizza_types.pizza_type_id
19     GROUP BY category
20     ORDER BY REVENUE DESC;
```

	PIZZA_TYPES	REVENUE
▶	Classic	26.91
	Supreme	25.46
	Chicken	23.96
	Veggie	23.68



# ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME ?

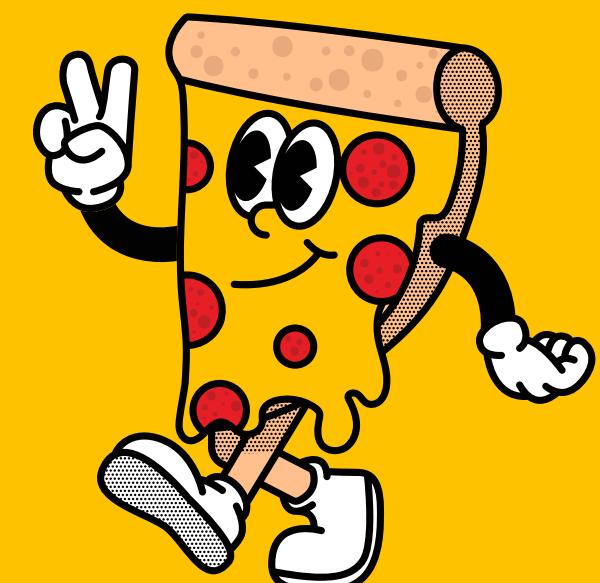
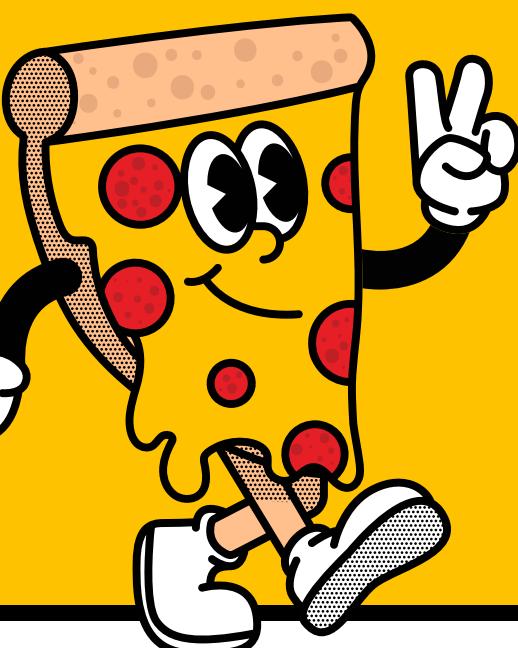
```
4 •  SELECT order_date, SUM(revenue) over (order by order_date) as cum_revenue  
5      FROM  
6      (SELECT orders.order_date, SUM(order_details.quantity*pizzas.price) as revenue FROM orders  
7      JOIN order_details  
8      ON orders.order_id = order_details.order_id  
9      JOIN pizzas  
10     ON order_details.pizza_id= pizzas.pizza_id  
11     GROUP BY order_date)as SALES;
```



	order_date	cum_revenue
▶	2015-01-01	2713.8500000000004
	2015-01-02	5445.75
	2015-01-03	8108.15
	2015-01-04	9863.6
	2015-01-05	11929.55
	2015-01-06	14358.5
	2015-01-07	16560.7
	2015-01-08	19399.05
	2015-01-09	21526.4
	2015-01-10	23990.35000000002
	2015-01-11	25862.65
	2015-01-12	27781.7
	2015-01-13	29831.30000000003
	2015-01-14	32358.70000000004
	2015-01-15	34343.50000000001

# DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED IN REVENUE FOR EACH PIZZA CATEGORY ?

```
3 •  SELECT category, name, revenue
4   from
5   (SELECT category, name, revenue, RANK() OVER(partition by category order by revenue DESC) as rn
6    FROM
7    (SELECT pizza_types.category, pizza_types.name, sum(order_details.quantity* pizzas.price) as revenue
8     FROM
9      order_details
10    JOIN
11      pizzas ON order_details.pizza_id = pizzas.pizza_id
12    JOIN
13      pizza_types ON pizzas.pizza_type_id = pizza_types.pizza_type_id
14    GROUP BY category, name) as a) as b
15   where rn<=3;
```



	category	name	revenue
▶	Chicken	The Thai Chicken Pizza	43434.25
	Chicken	The Barbecue Chicken Pizza	42768
	Chicken	The California Chicken Pizza	41409.5
	Classic	The Classic Deluxe Pizza	38180.5
	Classic	The Hawaiian Pizza	32273.25
	Classic	The Pepperoni Pizza	30161.75
	Supreme	The Spicy Italian Pizza	34831.25
	Supreme	The Italian Supreme Pizza	33476.75
	Supreme	The Sicilian Pizza	30940.5
	Veggie	The Four Cheese Pizza	32265.70000000065
	Veggie	The Mexicana Pizza	26780.75
	Veggie	The Five Cheese Pizza	26066.5

# ○ INSIGHTS FROM ANALYSIS ○

A TOTAL OF 21,350 ORDERS WERE PLACED DURING THE ANALYZED PERIOD, INDICATING STRONG CUSTOMER DEMAND.

AVERAGE DAILY SALES WERE 58 PIZZAS.

THE GREEK PIZZA (L) GENERATED THE HIGHEST REVENUE OF \$128,815.75 CONTRIBUTING 15.75% OF TOTAL REVENUE..

MOST ORDERS WERE PLACED BETWEEN 12 PM AND 1 PM.

## TOP REVENUE PIZZAS BY CATEGORY:

- CLASSIC: CLASSIC DELUXE PIZZA (L)
- CHICKEN: BBQ CHICKEN PIZZA (L)
- SUPREME: THE GREEK PIZZA (L)
- VEGGIE: SPINACH SUPREME PIZZA (L)
- SEAFOOD: SHRIMP ALFREDO PIZZA (L)

TOTAL REVENUE WAS \$817,860.05.

THE GREEK PIZZA (L) WAS THE MOST EXPENSIVE AT \$35.95.

CLASSIC DELUXE PIZZA (L) WAS THE TOP-SELLING PIZZA WITH 3,585 ORDERS.

CLASSIC CATEGORY LED WITH 45,580 PIZZAS SOLD, FOLLOWED BY CHICKEN, SUPREME, VEGGIE, AND SEAFOOD.

