



# CRUST PIZZA DATA ANALYSIS



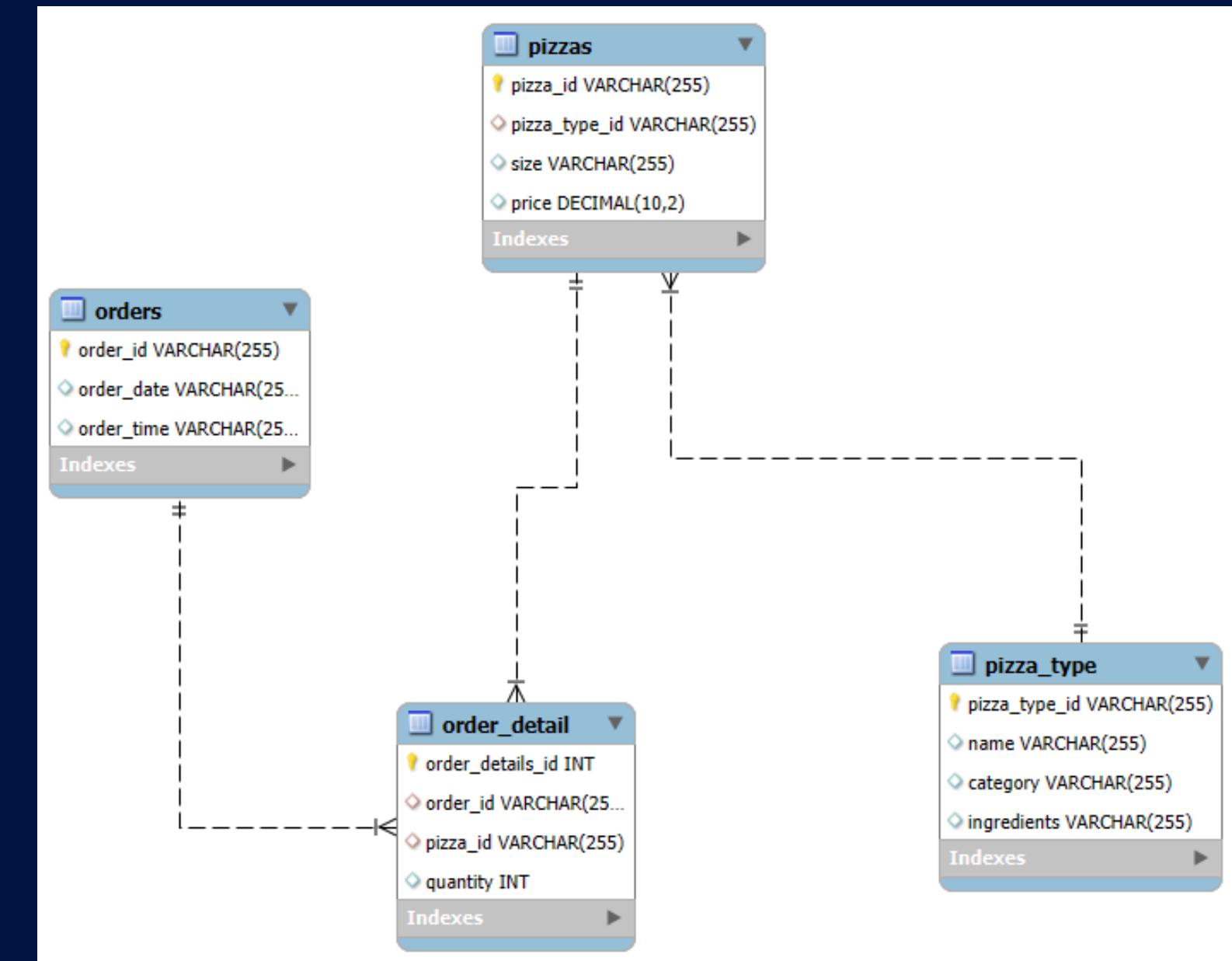
# ABOUT THE PROJECT

This project focuses on analyzing sales data from a pizza business to identify trends and insights. The database is designed to capture essential information about pizza types, orders, and sales. Key objectives include determining top-selling pizzas, understanding revenue contributions by category, identifying peak order times, and calculating cumulative revenue over time. The analysis helps inform business decisions such as menu optimization and marketing strategies.



# ER-DIAGRAM FOR CRUST PIZZA

Table Name	Description
pizza_type	Stores types of pizzas with their categories and ingredients
orders	Records order IDs, dates, and times
pizzas	Contains pizza details (size, price, linked to pizza_type)
order_detail	Captures pizza quantities per order (linked to pizzas and orders)



# 1. RETRIEVE THE TOTAL NUMBER OF ORDERS PLACED.

```
select count(o1.order_id) as total_order_placed  
from crustpizza.orders o1;
```



Result Grid	
	total_order_placed
▶	21350



## 2. CALCULATE THE TOTAL REVENUE GENERATED FROM PIZZA SALES.



```
select sum(p1.price * d1.quantity) as total_revenue  
from crustpizza.pizzas p1  
join crustpizza.order_detail d1  
on d1.pizza_id = p1.pizza_id;
```

Result Grid | Filter Rows:

	total_revenue
▶	817860.05



### 3. IDENTIFY THE HIGHEST-PRICED PIZZA.

```
select p2.name, p1.size, p1.price  
from crustpizza.pizzas p1  
inner join crustpizza.pizza_type p2  
on p1.pizza_type_id = p2.pizza_type_id  
where price = (select max(p3.price)  
from crustpizza.pizzas p3  
);
```

Result Grid |  Filter Rows:

	name	size	price
▶	The Greek Pizza	XXL	35.95

## 4. IDENTIFY THE MOST COMMON PIZZA SIZE ORDERED.

```
select p1.size, count(*) as total_orders
from crustpizza.pizzas p1
inner join crustpizza.order_detail d1
on d1.pizza_id = p1.pizza_id
group by p1.size
order by total_orders desc
limit 1;
```

Result Grid |  Filter Rows:

	size	total_orders
▶	L	18526

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



```
select t1.name, sum(d1.quantity) as total_order
from crustpizza.pizza_type t1
join crustpizza.pizzas p1
on p1.pizza_type_id = t1.pizza_type_id
join crustpizza.order_detail d1
on d1.pizza_id = p1.pizza_id
group by t1.name
order by total_quantity desc
limit 5;
```

name	total_order
The Classic Deluxe Pizza	2453
The Barbecue Chicken Pizza	2432
The Hawaiian Pizza	2422
The Pepperoni Pizza	2418
The Thai Chicken Pizza	2371

## 6. DETERMINE THE DISTRIBUTION OF ORDERS BY HOUR OF THE DAY.

```
select hour(o1.order_time) as order_hour,  
count(*) as total_orders  
from crustpizza.orders o1  
group by order_hour  
order by order_hour;
```

order_hour	total_orders
1	2455
2	1472
3	1468
4	1920
5	2336
6	2399
7	2009
8	1642
9	1199
10	671
11	1259
12	2520



## 7. CALCULATE THE AVERAGE NUMBER OF PIZZAS ORDERED PER DAY.



```
select round(avg(x.total_pizzas)) as Average_pizza_per_day
from
(select str_to_date(o1.order_date, '%Y-%c-%e') as Order_date, sum(d1.quantity) as total_pizzas
from crustpizza.orders o1
inner join crustpizza.order_detail d1
on d1.order_id = o1.order_id
group by str_to_date(o1.order_date, '%Y-%c-%e')) x;
```

Result Grid	
	Average_pizza_per_day
▶	138



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

```
select pt1.pizza_type_id, pt1.name, round(sum(p1.price * d1.quantity)) as total_revenue
from crustpizza.pizza_type pt1
inner join crustpizza.pizzas p1
on pt1.pizza_type_id = p1.pizza_type_id
inner join crustpizza.order_detail d1
on d1.pizza_id = p1.pizza_id
group by pt1.pizza_type_id
order by total_revenue desc
limit 3;
```

pizza_type_id	name	total_revenue
thai_ckn	The Thai Chicken Pizza	43434
bbq_ckn	The Barbecue Chicken Pizza	42768
cali_ckn	The California Chicken Pizza	41410



## 9. CALCULATE THE PERCENTAGE CONTRIBUTION OF EACH PIZZA TYPE TO TOTAL REVENUE.

```

with total_revenue as (
  select sum(p1.price * d1.quantity) as total
  from crustpizza.pizzas p1
  inner join crustpizza.order_detail d1
  on d1.pizza_id = p1.pizza_id
),
individual_revenue as (
  select pt1.pizza_type_id, pt1.name, sum(p1.price * d1.quantity) as total
  from crustpizza.pizza_type pt1
  inner join crustpizza.pizzas p1
  on pt1.pizza_type_id = p1.pizza_type_id
  inner join crustpizza.order_detail d1
  on d1.pizza_id = p1.pizza_id
  group by pt1.pizza_type_id, pt1.name
)
select ir.pizza_type_id, ir.name,
ir.total,
round(ir.total / tr.total * 100, 2) as percentage_contribution
from total_revenue tr
cross join individual_revenue ir
order by percentage_contribution desc;

```

pizza_type_id	name	total	percentage_contribution
thai_ckn	The Thai Chicken Pizza	43434.25	5.31
bbq_ckn	The Barbecue Chicken Pizza	42768.00	5.23
cali_ckn	The California Chicken Pizza	41409.50	5.06
classic_dlx	The Classic Deluxe Pizza	38180.50	4.67
spicy_ital	The Spicy Italian Pizza	34831.25	4.26
southw_ckn	The Southwest Chicken Pizza	34705.75	4.24
ital_supr	The Italian Supreme Pizza	33476.75	4.09
four_cheese	The Four Cheese Pizza	32265.70	3.95
hawaiian	The Hawaiian Pizza	32273.25	3.95
sicilian	The Sicilian Pizza	30940.50	3.78
pepperoni	The Pepperoni Pizza	30161.75	3.69
the_greek	The Greek Pizza	28454.10	3.48
mexicana	The Mexicana Pizza	26780.75	3.27
five_cheese	The Five Cheese Pizza	26066.50	3.19
peppr_salami	The Pepper Salami Pizza	25529.00	3.12
ital_cpcollo	The Italian Capocollo Pizza	25094.00	3.07
veggie_veg	The Vegetables + Vegetable...	24374.75	2.98
prsc_argla	The Prosciutto and Arugula ...	24193.25	2.96
napolitana	The Napolitana Pizza	24087.00	2.95
spinach_fet	The Spinach and Feta Pizza	23271.25	2.85
big_meat	The Big Meat Pizza	22968.00	2.81
pep_msh_pep	The Pepperoni, Mushroom, ...	18834.50	2.30
ckn_alfredo	The Chicken Alfredo Pizza	16900.25	2.07
ckn_pesto	The Chicken Pesto Pizza	16701.75	2.04
soppressata	The Soppressata Pizza	16425.75	2.01
ital_veggie	The Italian Vegetables Pizza	16019.25	1.96
calabrese	The Calabrese Pizza	15934.25	1.95
spin_pesto	The Spinach Pesto Pizza	15596.00	1.91
mediterraneo	The Mediterranean Pizza	15360.50	1.88
spinach_supr	The Spinach Supreme Pizza	15277.75	1.87

## 10. ANALYZE THE CUMULATIVE REVENUE GENERATED OVER TIME.

```
with daily_revenue as (
    select
        STR_TO_DATE(o.order_date, '%Y-%c-%e') as order_date,
        ROUND(SUM(p.price * d.quantity), 2) as daily_revenue
    from crustpizza.orders o
    inner join crustpizza.order_detail d
    on d.order_id = o.order_id
    inner join crustpizza.pizzas p
    on p.pizza_id = d.pizza_id
    group by STR_TO_DATE(o.order_date, '%Y-%c-%e')
)
select order_date, daily_revenue ,
sum(daily_revenue) over(order by order_date) as cumulative_revenue
from daily_revenue
order by order_date;
```

order_date	daily_revenue	cumulative_revenue
2015-01-01	2713.85	2713.85
2015-01-02	2731.90	5445.75
2015-01-03	2662.40	8108.15
2015-01-04	1755.45	9863.60
2015-01-05	2065.95	11929.55
2015-01-06	2428.95	14358.50
2015-01-07	2202.20	16560.70
2015-01-08	2838.35	19399.05
2015-01-09	2127.35	21526.40
2015-01-10	2463.95	23990.35
2015-01-11	1872.30	25862.65
2015-01-12	1919.05	27781.70
2015-01-13	2049.60	29831.30
2015-01-14	2527.40	32358.70
2015-01-15	1984.80	34343.50
2015-01-16	2594.15	36937.65
2015-01-17	2064.10	39001.75
2015-01-18	1976.85	40978.60
2015-01-19	2387.15	43365.75
2015-01-20	2397.90	45763.65
2015-01-21	2040.55	47804.20
2015-01-22	2496.70	50300.90
2015-01-23	2423.70	52724.60

# 11. DETERMINE THE TOP 3 MOST ORDERED PIZZA TYPES BASED ON REVENUE FOR EACH PIZZA CATEGORY.

```
with pizza_revenue as (
    select
        pt.category,
        pt.name as pizza_name,
        pt.pizza_type_id,
        sum(p.price * d.quantity) as revenue
    from crustpizza.pizza_type pt
    join crustpizza.pizzas p on pt.pizza_type_id = p.pizza_type_id
    join crustpizza.order_detail d on d.pizza_id = p.pizza_id
    group by pt.category, pt.pizza_type_id, pt.name
),
ranked_pizzas as (
    select *,
        rank() over (partition by category order by revenue desc) AS rank_in_category
    from pizza_revenue
)
select
    category,
    pizza_name,
    revenue
from ranked_pizzas
where rank_in_category <= 3
order by category, revenue desc;
```

category	pizza_name	revenue
Chicken	The Thai Chicken Pizza	43434.25
Chicken	The Barbecue Chicken Pizza	42768.00
Chicken	The California Chicken Pizza	41409.50
Classic	The Classic Deluxe Pizza	38180.50
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	30940.50
Veggie	The Four Cheese Pizza	32265.70
Veggie	The Mexicana Pizza	26780.75
Veggie	The Five Cheese Pizza	26066.50



# THANK YOU



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