

# Data Analysis Project on Pizza Sales through MySQL

## Dataset Schema

Orders Table

	order_id	order_date	order_time
▶	1	2015-01-01	11:38:36
	2	2015-01-01	11:57:40
	3	2015-01-01	12:12:28
	4	2015-01-01	12:16:31
	5	2015-01-01	12:21:30
	6	2015-01-01	12:29:36
	7	2015-01-01	12:50:37
	8	2015-01-01	12:51:37
	9	2015-01-01	12:52:01
	10	2015-01-01	13:00:15
	11	2015-01-01	13:02:59
	12	2015-01-01	13:04:41
	13	2015-01-01	13:11:55
	14	2015-01-01	13:14:19
	15	2015-01-01	13:33:00
	16	2015-01-01	13:34:07
	17	2015-01-01	13:53:00
	18	2015-01-01	13:57:08

Orders\_details Table

	order_details_id	order_id	pizza_id	quantity
▶	1	1	hawaiian_m	1
	2	2	classic_dlx_m	1
	3	2	five_cheese_l	1
	4	2	ital_supr_l	1
	5	2	mexicana_m	1
	6	2	thai_ckn_l	1
	7	3	ital_supr_m	1
	8	3	prsc_argla_l	1
	9	4	ital_supr_m	1
	10	5	ital_supr_m	1
	11	6	bbq_ckn_s	1
	12	6	the_greek_s	1
	13	7	spinach_supr_s	1
	14	8	spinach_supr_s	1
	15	9	classic_dlx_s	1
	16	9	green_garde...	1
	17	9	ital_cpdllo_l	1
	18	9	ital_supr_l	1

Pizzas Table

	pizza_id	pizza_type_id	size	price
▶	bbq_ckn_s	bbq_ckn	S	12.75
	bbq_ckn_m	bbq_ckn	M	16.75
	bbq_ckn_l	bbq_ckn	L	20.75
	cali_ckn_s	cali_ckn	S	12.75
	cali_ckn_m	cali_ckn	M	16.75
	cali_ckn_l	cali_ckn	L	20.75
	ckn_alfredo_s	ckn_alfredo	S	12.75
	ckn_alfredo_m	ckn_alfredo	M	16.75
	ckn_alfredo_l	ckn_alfredo	L	20.75
	ckn_pesto_s	ckn_pesto	S	12.75
	ckn_pesto_m	ckn_pesto	M	16.75
	ckn_pesto_l	ckn_pesto	L	20.75
	southw_ckn_s	southw_ckn	S	12.75
	southw_ckn_m	southw_ckn	M	16.75
	southw_ckn_l	southw_ckn	L	20.75
	thai_ckn_s	thai_ckn	S	12.75
	thai_ckn_m	thai_ckn	M	16.75
	thai_ckn_l	thai_ckn	L	20.75

Pizza\_types Table

	pizza_type_id	name	category	ingredients
▶	bbq_ckn	The Barbecue Chicken Pizza	Chicken	Barbecued Chicken, Red Peppers, Green Pepp...
	cali_ckn	The California Chicken Pizza	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno P...
	ckn_alfredo	The Chicken Alfredo Pizza	Chicken	Chicken, Red Onions, Red Peppers, Mushrooms...
	ckn_pesto	The Chicken Pesto Pizza	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garl...
	southw_ckn	The Southwest Chicken Pizza	Chicken	Chicken, Tomatoes, Red Peppers, Red Onions, ...
	thai_ckn	The Thai Chicken Pizza	Chicken	Chicken, Pineapple, Tomatoes, Red Peppers, T...
	big_meat	The Big Meat Pizza	Classic	Bacon, Pepperoni, Italian Sausage, Chorizo Sau...
	classic_dlx	The Classic Deluxe Pizza	Classic	Pepperoni, Mushrooms, Red Onions, Red Pepp...
	hawaiian	The Hawaiian Pizza	Classic	Sliced Ham, Pineapple, Mozzarella Cheese
	ital_cpdllo	The Italian Capocollo Pizza	Classic	Capocollo, Red Peppers, Tomatoes, Goat Chee...
	napolitana	The Napolitana Pizza	Classic	Tomatoes, Anchovies, Green Olives, Red Onion...
	pep_msh_pep	The Pepperoni, Mushroom, ...	Classic	Pepperoni, Mushrooms, Green Peppers
	pepperoni	The Pepperoni Pizza	Classic	Mozzarella Cheese, Pepperoni
	the_greek	The Greek Pizza	Classic	Kalamata Olives, Feta Cheese, Tomatoes, Garli...
	brie_carre	The Brie Carre Pizza	Supreme	Brie Carre Cheese, Prosciutto, Caramelized Oni...
	calabrese	The Calabrese Pizza	Supreme	Nduja Salami, Pancetta, Tomatoes, Red Onions...
	ital_supr	The Italian Supreme Pizza	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red O...
	penner_salami	The Penner Salami Pizza	Supreme	Genna Salami, Capocollo, Pepperoni, Tomatoes...

```

1  -- Retrieve the total number of orders placed.
2  • SELECT
3      COUNT(order_id) AS total_orders
4  FROM
5      orders;

```

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	total_orders
▶	21350

```

1  -- Calculate the total revenue generated from pizza sales.
2  • SELECT
3      ROUND(SUM(orders_details.quantity * pizzas.price),
4      2) AS total_revenue
5  FROM
6      orders_details
7      JOIN
8      pizzas ON orders_details.pizza_id = pizzas.pizza_id;

```

Result Grid | Filter Rows:  | Export: | Wrap Cell Content:

	total_revenue
▶	817860.05

```

1  -- Identify the highest-priced pizza.
2  SELECT
3      pizza_types.name, pizzas.price
4  FROM
5      pizzas
6      JOIN
7      pizza_types ON pizza_types.pizza_type_id = pizzas.pizza_type_id
8  ORDER BY pizzas.price DESC
9  LIMIT 1;

```

Result Grid | Filter Rows:  | Export: | Wrap Cell Content: | Fetch rows:

	name	price
▶	The Greek Pizza	35.95

```

1  -- Identify the most common pizza size ordered.
2  • SELECT
3      pizzas.size,
4      COUNT(orders_details.order_details_id) AS order_count
5  FROM
6      pizzas
7      JOIN
8      orders_details ON pizzas.pizza_id = orders_details.pizza_id
9  GROUP BY pizzas.size
10 ORDER BY order_count DESC;

```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	size	order_count			
▶	L	18526			
	M	15385			
	S	14137			
	XL	544			
	XXL	28			

```

1  -- List the top 5 most ordered pizza types along with their quantities.
2  • SELECT
3      pizza_types.name, SUM(orders_details.quantity) AS quantity
4  FROM
5      pizza_types
6      JOIN
7      pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
8      JOIN
9      orders_details ON pizzas.pizza_id = orders_details.pizza_id
10 GROUP BY pizza_types.name
11 ORDER BY quantity DESC limit 5;

```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
	name	quantity				
▶	The Classic Deluxe Pizza	2453				
	The Barbecue Chicken Pizza	2432				
	The Hawaiian Pizza	2422				
	The Pepperoni Pizza	2418				
	The Thai Chicken Pizza	2371				

```

1  -- Join the necessary tables to find the total quantity of each pizza category ordered
2  • SELECT
3      pizza_types.category,
4      SUM(orders_details.quantity) AS quantity
5  FROM
6      pizza_types
7      JOIN
8      pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
9      JOIN
10     orders_details ON pizzas.pizza_id = orders_details.pizza_id
11  GROUP BY pizza_types.category;

```


Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	category	quantity
▶	Classic	14888
	Veggie	11649
	Supreme	11987
	Chicken	11050

```

1  -- Determine the distribution of orders by hour of the day.
2  • SELECT
3      HOUR(order_time) AS order_hour, COUNT(order_id)
4  FROM
5      orders
6  GROUP BY order_hour
7  ORDER BY order_hour ASC;

```

Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	order_hour	count(order_id)
▶	9	1
	10	8
	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



```

1  -- Join relevant tables to find the category-wise distribution of pizzas.
2  • SELECT
3      category, COUNT(name)
4  FROM
5      pizza_types
6  GROUP BY category;

```

category	COUNT(name)
Chicken	6
Classic	8
Supreme	9
Vannie	0

```

1  -- Group the orders by date and calculate the average number of pizzas ordered per day.
2  • SELECT
3      ROUND(AVG(quantity), 0) AS avg_order_per_day
4  FROM
5      (SELECT
6          orders.order_date, SUM(orders_details.quantity) AS quantity
7      FROM
8          orders
9      JOIN orders_details ON orders.order_id = orders_details.order_id
10     GROUP BY orders.order_date) AS order_quantity;

```

avg_order_per_day
122

```

1  -- Determine the top 3 most ordered pizza types based on revenue.
2  • SELECT
3      pizza_types.name,
4      ROUND(SUM(pizzas.price * orders_details.quantity),
5             2) AS revenue
6  FROM
7      orders_details
8      JOIN
9      pizzas ON orders_details.pizza_id = pizzas.pizza_id
10     JOIN
11     pizza_types ON pizzas.pizza_type_id = pizza_types.pizza_type_id
12 GROUP BY pizza_types.name
13 ORDER BY revenue DESC
14 LIMIT 3;

```

name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41400.5

```

1  -- Calculate the percentage contribution of each pizza type to total revenue.
2  •  SELECT
3      pizza_types.category,
4      ROUND((SUM(pizzas.price * orders_details.quantity) / (SELECT
5          SUM(orders_details.quantity * pizzas.price)
6          FROM
7              orders_details
8              JOIN
9                  pizzas ON orders_details.pizza_id = pizzas.pizza_id) * 100),
10         2) AS revenue_percentage
11  FROM
12      orders_details
13      JOIN
14          pizzas ON orders_details.pizza_id = pizzas.pizza_id
15      JOIN
16          pizza_types ON pizzas.pizza_type_id = pizza_types.pizza_type_id
17  GROUP BY pizza_types.category;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	category	revenue_percentage
▶	Classic	26.91
	Veggie	23.68
	Supreme	25.46
	Chicken	23.95

```

1  -- Analyze the cumulative revenue generated over time.
2  •  select order_date, sum(revenue) over (order by order_date) as cumulative_revenue
3  ◉  from (select orders.order_date, sum(orders_details.quantity * pizzas.price) as revenue
4      from orders_details join pizzas
5      on orders_details.pizza_id = pizzas.pizza_id
6      join orders
7      on orders.order_id = orders_details.order_id
8      group by orders.order_date) as sales;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	order_date	cumulative_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	23990.350000000002
	2015-01-11	25862.65
	2015-01-12	27781.7
	2015-01-13	29831.300000000003
	2015-01-14	32358.700000000004
	2015-01-15	34343.500000000001
	2015-01-16	36937.650000000001
	2015-01-17	39001.750000000001
	2015-01-18	40978.600000000006
	2015-01-19	43365.750000000001
	2015-01-20	45763.650000000001
	2015-01-21	47804.200000000001
	2015-01-22	50300.900000000001
	2015-01-23	52724.600000000006
	2015-01-24	55013.850000000006

```

1  -- Determine the top 3 most ordered pizza types based on revenue for each pizza category.
2  • select name, revenue from
3  (select category, name, revenue,
4   rank() over(partition by category order by revenue desc) as rn
5  from(select pizza_types.category, pizza_types.name, sum((orders_details.quantity) * pizzas.price) as revenue
6   from pizza_types join pizzas
7   on pizza_types.pizza_type_id = pizzas.pizza_type_id
8   join orders_details
9   on orders_details.pizza_id = pizzas.pizza_id
10  group by pizza_types.category, pizza_types.name) as a) as b where rn <= 3;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: [15](#)

	name	revenue
▶	The Thai Chicken Pizza	43434.25
	The Barbecue Chicken Pizza	42768
	The California Chicken Pizza	41409.5
	The Classic Deluxe Pizza	38180.5
	The Hawaiian Pizza	32273.25
	The Pepperoni Pizza	30161.75
	The Spicy Italian Pizza	34831.25
	The Italian Supreme Pizza	33476.75
	The Sicilian Pizza	30940.5
	The Four Cheese Pizza	32265.700000000065
	The Mexicana Pizza	26780.75
	The Five Cheese Pizza	26066.5