PIZZA SALES ANALYSIS WITH SQL

PROJECT OVERVIEW

This project involves creating a comprehensive database management system to track and analyze pizza sales. The project includes SQL scripts, CSV data files, and detailed analysis questions related to the pizza sales data.

Database details

Table: order_details

Columns:	
order_details_id	int PK
order_id	int
pizza_id	text
quantity	int

Table: orders

Columns:	
order_id	int PK
order_date	date
order_time	time

Table: pizza_types

Columns:	
pizza_type_id	varchar(50) PK
name	varchar(100)
category	varchar(50)
ingredients	text

Table: pizzas

Columns:	
pizza_id	text
pizza_type_id	text
size	text
price	float

Retrieve the total number of orders placed.

```sql
SELECT
    COUNT(order_id) AS total_orders
FROM
    orders;
```

total_orders
21350

Calculate the total revenue generated from pizza sales.

```sql
SELECT
    ROUND(SUM(order_details.quantity * pizzas.price),
            2) AS total_sales
FROM
    order_details
        JOIN
    pizzas ON order_details.pizza_id = pizzas.pizza_id;
```

total_sales
817860.05

Identify the highest-priced pizza.

```
SELECT
    pizza_types.name, pizzas.price
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
ORDER BY pizzas.price DESC
LIMIT 1;
```

name	price
The Greek Pizza	35.95

Identify the most common pizza size ordered.

```sql
SELECT
    pizzas.size,
    COUNT(order_details.order_details_id) AS order_count
FROM
    pizzas
        JOIN
    order_details ON pizzas.pizza_id = order_details.pizza_id
GROUP BY (pizzas.size)
ORDER BY order_count DESC;
```

size	order_count
L	18526
M	15385
S	14137
XL	544
XXL	28

List the top 5 most ordered pizza types along with their quantities.

```sql
SELECT
    pizza_types.name, 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 order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.name
ORDER BY quantity DESC
LIMIT 5;
```

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

Join the necessary tables to find the total quantity of each pizza category ordered.

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

category	quantity
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

Determine the distribution of orders by hour of the day.

```sql
SELECT
    HOUR(order_time) AS hour, COUNT(order_id) AS order_count
FROM
    orders
GROUP BY hour;
```

hour	order_count
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.

```sql
SELECT
    category, COUNT(name) AS count
FROM
    pizza_types
GROUP BY category;
```

category	count
Chicken	6
Classic	8
Supreme	9
Veggie	9

Group the orders by date and calculate the average number of pizzas ordered per day.

```sql
SELECT
    ROUND(AVG(quantity), 0) AS average_pizzaz_order_per_day
FROM
    (SELECT
        DATE(orders.order_date) AS date,
            SUM(order_details.quantity) AS quantity
    FROM
        orders
    JOIN order_details ON orders.order_id = order_details.order_id
    GROUP BY date) AS order_quantity;
```

average_pizzaz_order_per_day
138

Determine the top 3 most ordered pizza types based on revenue.

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

name	revenue
The Thai Chicken Pizza	43434.25
The Barbecue Chicken Pizza	42768
The California Chicken Pizza	41409.5

Calculate the percentage contribution of each pizza type to total revenue.

```sql
SELECT
    pizza_types.category,
    ROUND(SUM(order_details.quantity * pizzas.price) / (SELECT
                    ROUND(SUM(order_details.quantity * pizzas.price),
                                2) AS total_sales
                FROM
                    order_details
                        JOIN
                    pizzas ON pizzas.pizza_id = order_details.pizza_id) * 100,
            2) AS revenue
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    order_details ON order_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category
ORDER BY revenue DESC;
```

category	revenue
Classic	26.91
Supreme	25.46
Chicken	23.96
Veggie	23.68

Analyze the cumulative revenue generated over time.

```sql
SELECT
    order_date,
    SUM(revenue) OVER (ORDER BY order_date) AS cum_revenue
FROM (
    SELECT
        orders.order_date,
        SUM(order_details.quantity * pizzas.price) AS revenue
    FROM
        order_details
    JOIN
        pizzas ON order_details.pizza_id = pizzas.pizza_id
    JOIN
        orders ON order_details.order_id = orders.order_id
    GROUP BY
        orders.order_date
) AS sales;
```

order_date	cum_revenue
2015-01-01	2713.8500022888184
2015-01-02	5445.750003814697
2015-01-03	8108.150007247925
2015-01-04	9863.600008010864
2015-01-05	11929.550008773804
2015-01-06	14358.500011444092
2015-01-07	16560.70001220703
2015-01-08	19399.050018310547
2015-01-09	21526.400022506714
2015-01-10	23990.350025177002
2015-01-11	25862.65002632141
2015-01-12	27781.70002746582
2015-01-13	29831.30002784729
2015-01-14	32358.70002937317
2015-01-15	34343.50003242493
2015-01-16	36937.650033950806
2015-01-17	39001.750034332275
2015-01-18	40978.600036621094
2015-01-19	43365.75004005432
2015-01-20	45763.6500415802
2015-01-21	47804.20004653931
2015-01-22	50300.900047302246
2015-01-23	52724.60005187988
2015-01-24	55013.85005187988
2015-01-25	56631.40005302429

Determine the top 3 most ordered pizza types based on revenue for each pizza category.

```sql
SELECT
    category,name,revenue
FROM (
    SELECT
        category,name,revenue,
        RANK() OVER (PARTITION BY category ORDER BY revenue DESC) AS rn
    FROM (
        SELECT
            pizza_types.category,
            pizza_types.name,
            SUM(order_details.quantity * pizzas.price) AS revenue
        FROM
            pizza_types
        JOIN
            pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
            order_details ON order_details.pizza_id = pizzas.pizza_id
        GROUP BY
            pizza_types.category,
            pizza_types.name
    ) AS a
) AS b
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	32265.70100402832
Veggie	The Mexicana Pizza	26780.75
Veggie	The Five Cheese Pizza	26066.5

THANK YOU!