PIZZA SALES ANALYSIS WITH SQL

Hello, my name is Shubham Harde. In this project, I utilized SQL queries to address various questions related to pizza sales.

Shubham-Harde

Shubham-Harde

shubham.harde@yahoo.com

Business Analyst | Data Analyst

PREVIEWING CSV FILES: FIRST 5 ROWS

Shubham-Harde
Shubham-Harde

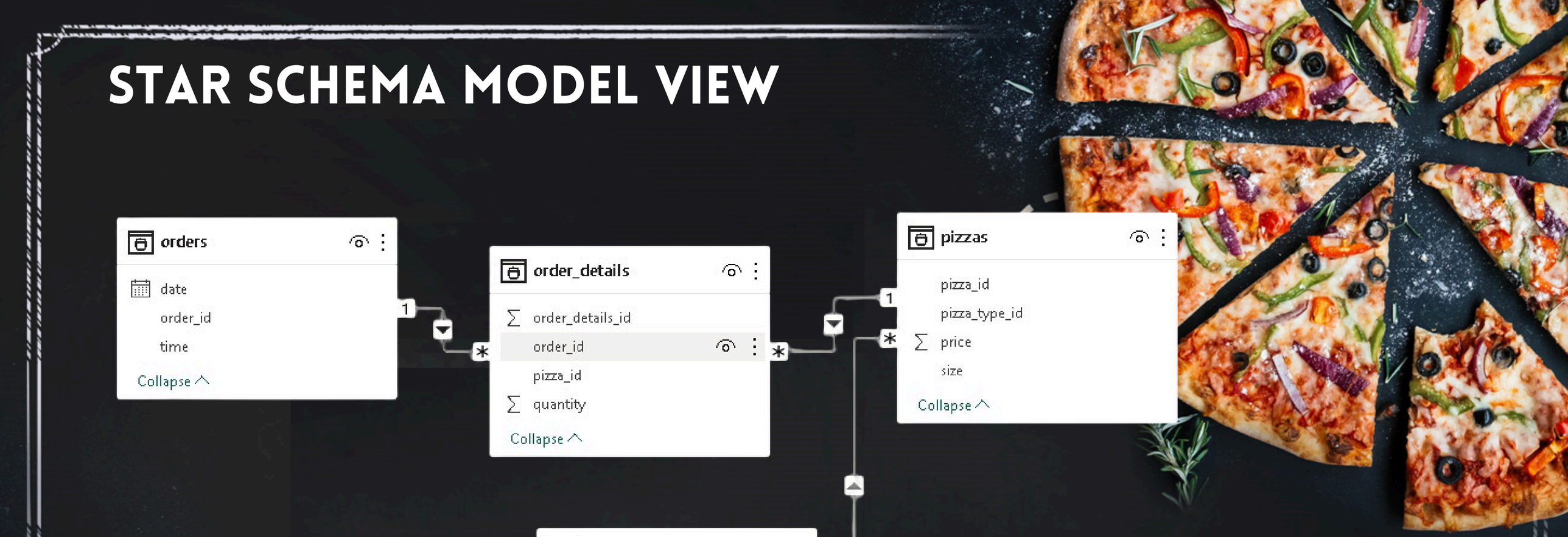
order_id	date	time
19402	Friday, 27 November, 2015	11:21:54 AM
19403	Friday, 27 November, 2015	11:29:51 AM
19404	Friday, 27 November, 2015	11:32:40 AM
19405	Friday, 27 November, 2015	11:36:39 AM
19406	Friday, 27 November, 2015	11:46:40 AM

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

order_details_id	order_id	pizza_id	quantity
36	15	big_meat_s	1
56	20	big_meat_s	1
79	32	big_meat_s	1
101	42	big_meat_s	1
150	64	big_meat_s	1

pizza_type_id	name	category	ingredients
bbq_ckn	The Barbecue Chicken Pizza	Chicken	Barbecued Chicken, Red Peppers, Green Peppers, Tomatoes, Red Onions, Barbecue Sauce
cali_ckn	The California Chicken Pizza	Chicken	Chicken, Artichoke, Spinach, Garlic, Jalapeno Peppers, Fontina Cheese, Gouda Cheese
ckn_alfredo	The Chicken Alfredo Pizza	Chicken	Chicken, Red Onions, Red Peppers, Mushrooms, Asiago Cheese, Alfredo Sauce
ckn_pesto	The Chicken Pesto Pizza	Chicken	Chicken, Tomatoes, Red Peppers, Spinach, Garlic, Pesto Sauce
southw_ckn	The Southwest Chicken Pizza	Chicken	Chicken, Tomatoes, Red Peppers, Red Onions, Jalapeno Peppers, Corn, Cilantro, Chipotle Sauce

STAR SCHEMA MODEL VIEW



Shubham-Harde
Shubham-Harde

SQL QUESTIONS FOR ANALYSIS

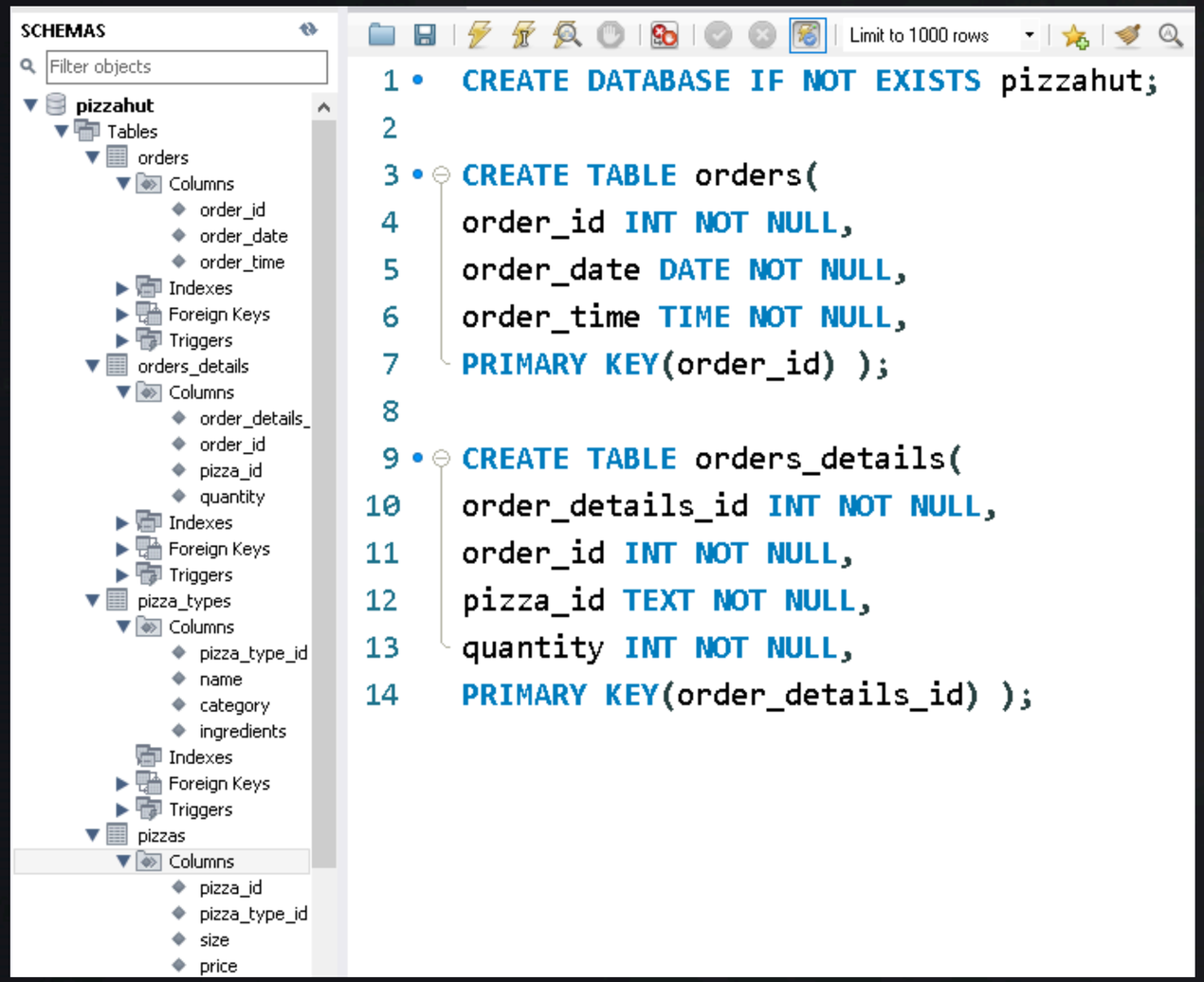
Basic:
Retrieve the total number of orders placed.
Calculate the total revenue generated from pizza sales.
Identify the highest-priced pizza.
Identify the most common pizza size ordered.
List the top 5 most ordered pizza types along with their quantities.

Intermediate:
Join the necessary tables to find the total quantity of each pizza category ordered.
Determine the distribution of orders by hour of the day.
Join relevant tables to find the category-wise distribution of pizzas.
Group the orders by date and calculate the average number of pizzas ordered per day.
Determine the top 3 most ordered pizza types based on revenue.

Advanced:
Calculate the percentage contribution of each pizza type to total revenue.
Analyze the cumulative revenue generated over time.
Determine the top 3 most ordered pizza types based on revenue for each pizza category.

Shubham-Harde
Shubham-Harde

Database Initialization and Data Import



- Created "pizzahut" database.
- Imported "pizzas" and "pizza_types" CSV files into MySQL using the data import wizard.
- Created "orders" and "order_details" tables due to incorrect field types for specific columns during CSV file import in MySQL.
- Imported the same CSV files into the newly created tables in MySQL using the table data import wizard.

Shubham-Harde
Shubham-Harde

Retrieve the total number of orders placed.

Query:

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

Output:

Result Grid

	total_orders
▶	21350

Shubham-Harde
Shubham-Harde

Calculate the total revenue generated from pizza sales.

Query:

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

Output:

Result Grid

	total_sales
▶	817860.05

Shubham-Harde
Shubham-Harde

Identify the highest-priced pizza.

Query:

```
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;
```

Output:

Result Grid | Filter Rows:

	name	price
▶	The Greek Pizza	35.95

Shubham-Harde
Shubham-Harde

Identify the most common pizza size ordered.

Query:

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

Output:

Result Grid | Filter Rows:

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

Shubham-Harde
Shubham-Harde

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

Query:

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

Output:

Result Grid | Filter 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

Shubham-Harde
Shubham-Harde

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

Query:

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

Output:

Result Grid | Filter Rows:

category	quantity_ordered
Classic	14888
Supreme	11987
Veggie	11649
Chicken	11050

Shubham-Harde
Shubham-Harde

Determine the distribution of orders by hour of the day.

Query:

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

Output:

Result Grid | Filte

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

Shubham-Harde
Shubham-Harde

Join relevant tables to find the category-wise distribution of pizzas.

Query:

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

Output:

Result Grid | Filter Rows

category	pizza_count
Chicken	6
Classic	8
Supreme	9
Veggie	9

Shubham-Harde
Shubham-Harde

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

Query:

```sql
SELECT
    ROUND(AVG(quantity), 0) as avg_pizza_ordered_per_day
FROM
    (SELECT
        orders.order_date, SUM(orders_details.quantity) AS quantity
    FROM
        orders
    JOIN orders_details ON orders.order_id = orders_details.order_id
    GROUP BY orders.order_date) AS order_quantity;
```

Output:

Result Grid | Filter Rows:

	avg_pizza_ordered_per_day
▶	138

Shubham-Harde
Shubham-Harde

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

Query:

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

Output:

Result Grid | Filter Rows:

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

Shubham-Harde
Shubham-Harde

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

Query:

```
SELECT
    pizza_types.category,
    CONCAT(ROUND((SUM(orders_details.quantity * pizzas.price) / (SELECT
                    SUM(orders_details.quantity * pizzas.price)
                FROM
                    orders_details
                        JOIN
                    pizzas ON pizzas.pizza_id = orders_details.pizza_id)) * 100,
            2), ' %') AS revenue_percentage
FROM
    pizza_types
        JOIN
    pizzas ON pizza_types.pizza_type_id = pizzas.pizza_type_id
        JOIN
    orders_details ON orders_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category
ORDER BY revenue_percentage DESC;
```

Output:

Result Grid | Filter Rows:

category	revenue_percentage
Classic	26.91 %
Supreme	25.46 %
Chicken	23.96 %
Veggie	23.68 %

Shubham-Harde
Shubham-Harde

Analyze the cumulative revenue generated over time.

Query:

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

Output:

Result Grid | Filter Rows:

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

Shubham-Harde
Shubham-Harde

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

Query:

```
SELECT name, category, 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((orders_details.quantity)*pizzas.price) AS revenue
FROM pizza_types
JOIN pizzas
ON pizza_types.pizza_type_id = pizzas.pizza_type_id
JOIN orders_details
ON orders_details.pizza_id = pizzas.pizza_id
GROUP BY pizza_types.category, pizza_types.name) AS a) AS b
WHERE rn<=3;
```

Output:

Result Grid | Filter Rows: | Export:

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

Shubham-Harde
Shubham-Harde

Pizza Sales Analysis: SQL-Generated Insights and Skills Demonstrate

- Total Orders: 21,350
- Revenue Generated: 817,860.05
- Highest-Priced Pizza: The Greek Pizza at 35.95
- Most Common Pizza Size: Large - 18,526 orders
- Top 5 Most Ordered Pizza Types:
  - Classic Deluxe: 2,453 orders
  - Barbecue Chicken: 2,432 orders
  - Hawaiian: 2,422 orders
  - Pepperoni: 2,418 orders
  - Thai Chicken: 2,371 orders
- Pizza Category Quantities:
  - Classic: 14,888 orders
  - Supreme: 11,987 orders
  - Veggie: 11,649 orders
  - Chicken: 11,050 orders
- Distribution of Orders by Hour
  - 12 PM: 2,520 orders
  - 1 PM: 2,455 orders
- Category-wise Pizza Distribution
  - Chicken: 6 pizzas
  - Classic: 8 pizzas
  - Supreme: 9 pizzas
  - Vegies: 9 pizzas
- Average Pizzas Ordered per Day: 138
- Top 3 Most Ordered Pizza Types by Revenue for Each Category
  - Chicken:
    - Thai Chicken Pizza: 43,434.25
    - Barbecue Chicken Pizza: 42,768
    - California Chicken Pizza: 41,409.5
- Percentage Contribution of Pizza Types to Total Revenue
  - Classic: 26.91%
  - Supreme: 25.46%
  - Chicken: 23.96%
  - Veggie: 23.68%
- Cumulative Revenue Over Time
  - 2015-01-01: 2,713.85
  - 2015-01-02: 5,445.75
- Top 3 Most Ordered Pizza Types by Revenue
  - Thai Chicken Pizza: 43,434.25
  - Barbecue Chicken Pizza: 42,768
  - California Chicken Pizza: 41,409.5

Skills Demonstrate

1) Data Retrieval:
   - SELECT
   - COUNT, SUM, ROUND, AVG
2) Data Filtering and Sorting:
   - ORDER BY, DESC
   - LIMIT
3) Data Aggregation:
   - GROUP BY
4) Joining Tables:
   - JOIN, ON
5) Subqueries
6) Window Functions:
   - OVER
   - PARTITION BY
   - RANK
7) Mathematical Functions:
   - COUNT
   - SUM
   - ROUND
   - AVG
8)Date/Time Functions:
   - HOUR
9) String Functions:
   - CONCAT
10) Aliases Functions:
   - AS

Shubham-Harde
Shubham-Harde

THANK YOU

Shubham-Harde

Shubham-Harde

shubham.harde@yahoo.com

Business Analyst | Data Analyst