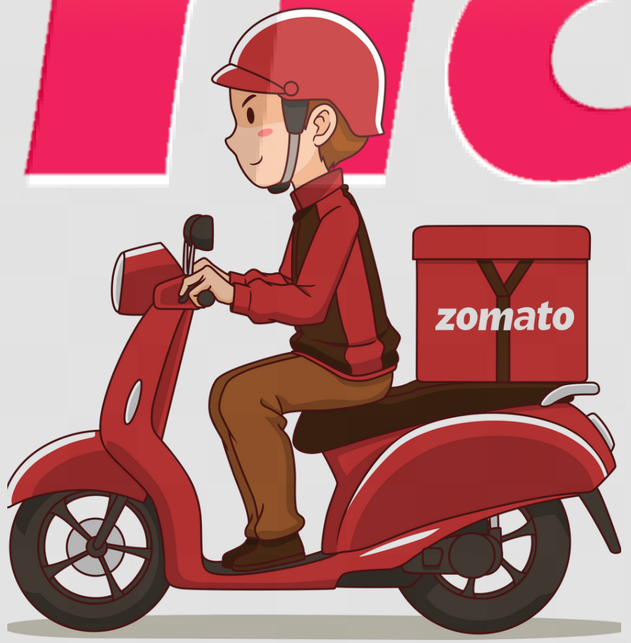
SQL PROJECT

Never have a bad meal

zomato



GOLD

www.zomato.com

Objectives

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- 1. Optimize Zomato Gold program performance through SQL data analysis.
- 2. Enhance user experience by leveraging SQL insights for personalized recommendations.
- 3. Inform strategic decisions by extracting valuable insights from the SQL database.
- 4. Track Zomato Gold usage patterns using SQL queries for data-driven decision-making.
- 5. Ensure database integrity through SQL routines, maintaining data accuracy and security.

Database schema for GOLD Members

Q1. .What is total amount each customer spent on zomato ?

```sql
SELECT
    userid,
    SUM(price) AS total_amount_spent
FROM
    sales s
JOIN
    product p ON s.product_id = p.product_id
GROUP BY
    userid;
```

userid integer	total_amount_spent bigint
3	4570
2	2510
1	5230

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Q2.How many days has each customer visited Zomato?

```
SELECT S.userid, COUNT(DISTINCT S.Created_date) AS Total_Days_visited
FROM Sales S
GROUP BY userid;
```

userid integer	total_days_visited bigint
1	7
2	4
3	5

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Q3. What was the first product purchased by each customer?

```sql
SELECT DISTINCT ON (userid)
    s.userid,
    s.product_id,
    p.product_name,
    s.created_date AS first_purchase_date
FROM
    sales s
JOIN
    product p ON s.product_id = p.product_id
ORDER BY
    s.userid, s.created_date;
```

userid integer	product_id integer	product_name text	first_purchase_date date
3	1	Burger	2016-11-10
2	1	Burger	2017-09-24
1	1	Burger	2016-03-11

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Q4.What is the most purchased item on the menu and how many times was it purchased by all customers ?

```sql
SELECT
    s.product_id,
    COUNT(s.product_id) AS purchase_count,
    p.product_name
FROM
    sales s
JOIN
    product p ON s.product_id = p.product_id
GROUP BY
    s.product_id, p.product_name
ORDER BY
    purchase_count DESC
LIMIT 1;
```

product_id integer	purchase_count bigint	product_name text
2	7	Pizza

Q5.Which item was most popular for each customer?

```sql
WITH PopularProducts AS (
    SELECT
        userid,
        product_id,
        RANK() OVER (PARTITION BY userid ORDER BY COUNT(product_id) DESC) AS rnk
    FROM
        sales
    GROUP BY
        userid, product_id
)

SELECT
    s.userid,
    p.product_id,
    p.product_name,
    COUNT(p.product_id) AS purchase_count
FROM
    sales s
JOIN
    product p ON s.product_id = p.product_id
JOIN
    PopularProducts pp ON s.userid = pp.userid AND s.product_id = pp.product_id
WHERE
    rnk = 1
GROUP BY
    s.userid, p.product_id, p.product_name;
```

userid integer	product_id integer	product_name text	purchase_count bigint
1	2	Pizza	3
2	3	Pasta	2
3	2	Pizza	3

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Q6. Which item was purchased first by the customer after they became a member ?

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```sql
WITH MemberFirstPurchase AS (
    SELECT
        s.userid,
        s.product_id,
        MIN(s.created_date) AS first_purchase_date
    FROM
        sales s
    JOIN
        goldusers_signup g ON s.userid = g.userid
    GROUP BY
        s.userid, s.product_id
)
SELECT
    mfp.userid,
    mfp.product_id,
    p.product_name,
    mfp.first_purchase_date
FROM
    MemberFirstPurchase mfp
JOIN
    product p ON mfp.product_id = p.product_id
WHERE
    mfp.first_purchase_date = (
        SELECT
            MIN(created_date)
        FROM
            sales
        WHERE
```

userid integer	product_id integer	product_name text	first_purchase_date date
1	1	Burger	2016-03-11
1	3	Pasta	2016-05-20
3	1	Burger	2016-11-10
3	2	Pizza	2016-12-15
1	2	Pizza	2017-03-11

Q7. Which item was purchased just before the customer became a member?

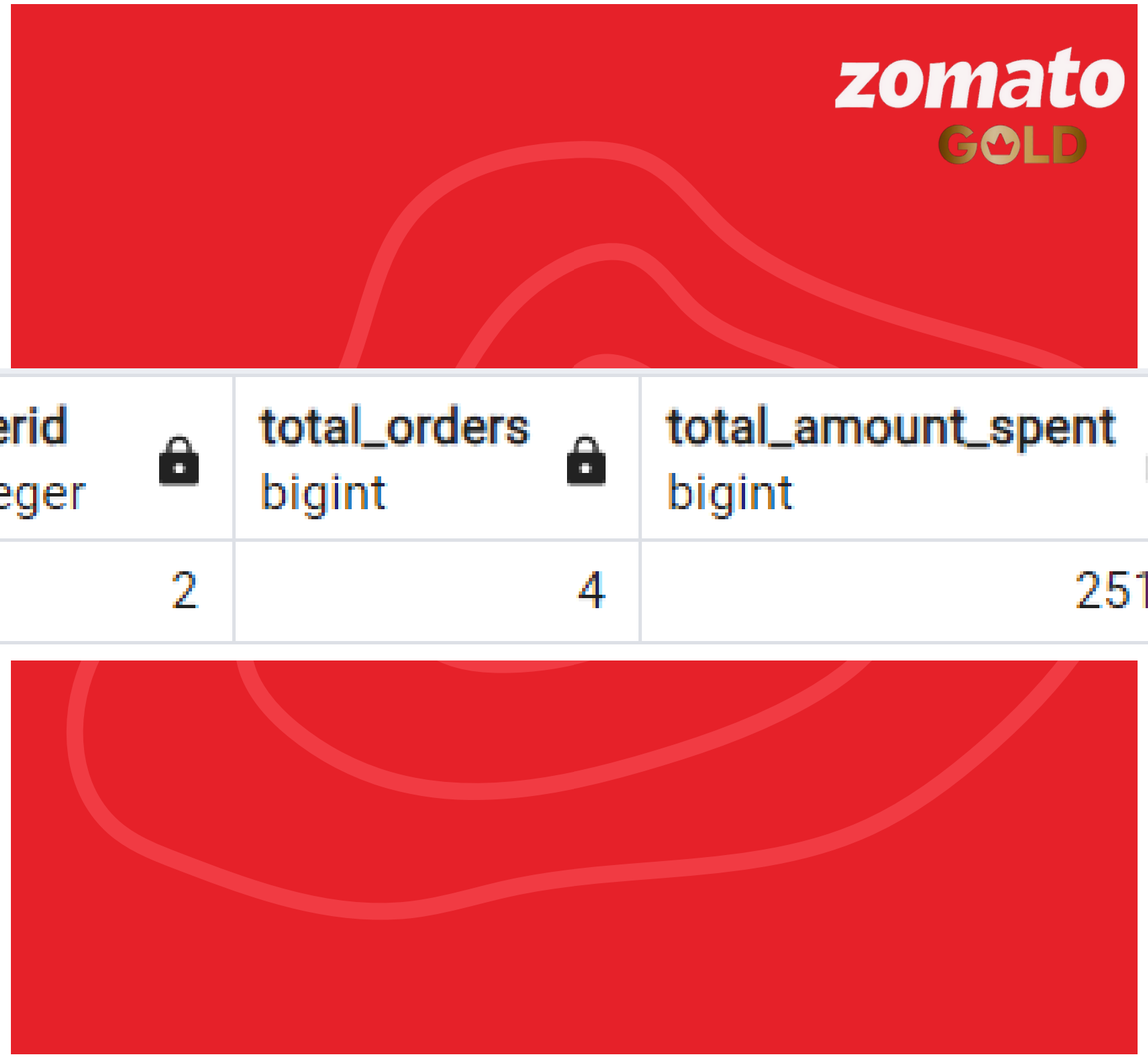
```sql
WITH MemberPreviousPurchase AS (
    SELECT
        s.userid,
        s.product_id,
        MAX(s.created_date) AS last_purchase_date
    FROM sales s
    LEFT JOIN
        goldusers_signup g ON s.userid = g.userid
    WHERE
        g.userid IS NULL -- Exclude purchases after becoming a member
    GROUP BY s.userid, s.product_id
)
SELECT
    mpp.userid,
    mpp.product_id,
    p.product_name,
    mpp.last_purchase_date

FROM MemberPreviousPurchase mpp
JOIN product p ON mpp.product_id = p.product_id

WHERE mpp.last_purchase_date = (
        SELECT MAX(created_date)
        FROM sales
        WHERE
            userid = mpp.userid
            AND product_id = mpp.product_id);
```

userid integer	product_id integer	product_name text	last_purchase_date date
2	3	Pasta	2020-07-20
2	2	Pizza	2017-11-08
2	1	Burger	2017-09-24

Q8. What are the total orders and amount spent for each member before they become a member?



userid integer	total_orders bigint	total_amount_spent bigint
2	4	2510

```sql
WITH MemberPriorOrders AS (
    SELECT
        s.userid,
        COUNT(*) AS total_orders,
        SUM(p.price) AS total_amount_spent
    FROM
        sales s
    JOIN
        product p ON s.product_id = p.product_id
    LEFT JOIN
        goldusers_signup g ON s.userid = g.userid
    WHERE
        g.userid IS NULL
    GROUP BY
        s.userid
)

SELECT
    mpo.userid,
    mpo.total_orders,
    mpo.total_amount_spent
FROM
    MemberPriorOrders mpo;
```

Q9. Calculate Zomato points earned by each customer based on varying rates for product purchases (e.g., P1: 5 Rs = 1 point, P2: 10 Rs = 1 point, P3: 5 Rs = 1 point + 2 Rs = 1 point). Identify the product contributing the highest total points across all customers.

```sql
WITH ProductPoints AS (
    SELECT
        s.userid,
        s.product_id,
        p.product_name,
        COUNT(*) AS total_orders,
        SUM(p.price / 5) AS total_points
    FROM
        sales s
    JOIN
        product p ON s.product_id = p.product_id
    GROUP BY
        s.userid, s.product_id, p.product_name
)

SELECT
    userid,
    SUM(total_points) AS total_zomato_points,
    MAX(product_name) AS most_points_given_for_product
FROM
    ProductPoints
GROUP BY
    userid
ORDER BY
    total_zomato_points DESC
LIMIT 1;
```

userid integer	total_zomato_points numeric	most_points_given_for_product text
1	1046	Pizza

Q10. In the first year of Zomato Gold, customers earn 5 points for every 10 Rs spent. Compare point earnings between customers 1 and 3, considering 1 Zomato point equals 2 Rs. Determine who earned more during this period. yr ? 1zp = 2rs

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```sql
SELECT
    SUM(CASE WHEN userid = 1 THEN CEIL(price / 10) * 5 ELSE 0 END) AS points_user1,
    SUM(CASE WHEN userid = 2 THEN CEIL(price / 10) * 5 ELSE 0 END) AS points_user2,
    SUM(CASE WHEN userid = 3 THEN CEIL(price / 10) * 5 ELSE 0 END) AS points_user3
FROM
    sales s
JOIN
    product p ON s.product_id = p.product_id;
```

points_user1 double precision	points_user2 double precision	points_user3 double precision
2615	1255	2285

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Q11. Rank all transactions of the customers.

```sql
SELECT
    userid,
    product_id,
    created_date,
    DENSE_RANK() OVER (PARTITION BY userid ORDER BY created_date) AS transaction_rank
FROM
    sales;
```

userid integer	product_id integer	created_date date	transaction_rank bigint
1	1	2016-03-11	1
1	3	2016-05-20	2
1	1	2016-11-09	3
1	2	2017-03-11	4
1	2	2017-04-19	5
1	3	2018-03-19	6
1	2	2019-10-23	7
2	1	2017-09-24	1
2	2	2017-11-08	2
2	3	2018-09-10	3
2	3	2020-07-20	4
3	1	2016-11-10	1
3	2	2016-12-15	2
3	2	2016-12-20	3
3	2	2017-12-07	4
3	1	2019-12-18	5

Thank You

For Attention