Transformation Query

```
CREATE VIEW transformed_sales_view AS
SELECT
    order_id,
    item_name,
    item_type,
    item_price,
    quantity,
    transaction_amount,
    -- Standardize date and extract day and month names
    TO_CHAR(TO_DATE(date, 'MM-DD-YY'), 'YYYY-MM-DD') AS standardized_date,
    UPPER(SUBSTRING(TO_CHAR(TO_DATE(date, 'MM-DD-YY'), 'Day'), 1, 3)) AS day_name,
        UPPER(SUBSTRING(TO_CHAR(TO_DATE(date, 'MM-DD-YY'), 'Month'), 1, 3)) AS
month_name,
    -- Transform gender
    CASE
        WHEN received_by = 'Mr.' THEN 'Male'
        WHEN received_by = 'Mrs.' THEN 'Female'
    END AS gender,
    -- Fill missing transaction types
    COALESCE(transaction_type, 'Not Available') AS transaction_type_filled,
    -- Transform time of sale
    CASE time_of_sale
        WHEN 'Morning'   THEN '08:00'
        WHEN 'Afternoon' THEN '13:00'
        WHEN 'Evening'   THEN '18:00'
        WHEN 'Night'     THEN '21:00'
        WHEN 'Midnight'  THEN '00:00'
        ELSE time_of_sale
    END AS time_of_sale_transformed
FROM sales;
```

order_id bigint	item_name character varying (5	item_type character varying (50)	item_price numeric (10,2)	quantity bigint	transaction_amount numeric (10,2)	standardized_da text	day_name text	month_name text	gender text	transaction_type_filled character varying	time_of_sale_transformed character varying
1	Aalopuri	Fastfood	20.00	13	260.00	2022-07-03	SUN	JUL	Male	Not Available	21:00
2	Vadapav	Fastfood	20.00	15	300.00	2022-08-23	TUE	AUG	Male	Cash	13:00
3	Vadapav	Fastfood	20.00	1	20.00	2022-11-20	SUN	NOV	Male	Cash	13:00
4	Sugarcanejuice	Beverages	25.00	6	150.00	2023-02-03	FRI	FEB	Male	Online	21:00
5	Sugarcanejuice	Beverages	25.00	8	200.00	2022-10-02	SUN	OCT	Male	Online	18:00
6	Vadapav	Fastfood	20.00	10	200.00	2022-11-14	MON	NOV	Male	Cash	18:00

KPI’s Requirements Queries

1. Create table

```
CREATE TABLE sales (
        order_id int8 PRIMARY KEY,
        date VARCHAR(50),
        item_name VARCHAR(50),
        item_type VARCHAR(50),
        item_price DECIMAL(10,2),
        quantity int8,
        transaction_amount DECIMAL(10,2),
        transaction_type VARCHAR(50),
        received_by VARCHAR(50),
        time_of_sale VARCHAR(50)
)
```

2. **Total Revenue**

```
SELECT SUM (item_price * quantity) AS total_revenue
FROM sales;
```

	total_revenue numeric
1	275230.00

3. Total Product Sold

```
SELECT SUM (quantity) AS total_product_sold
FROM sales;
```

	total_product_sold numeric
1	8162

4. Total Orders

```
SELECT COUNT(order_id) AS total_orders
FROM sales;
```

	total_orders bigint
1	1000

5. Average Product Per Order

```
SELECT SUM(quantity)/COUNT(order_id)  AS average_product_per_order
FROM sales;
```

	average_product_per_order numeric
1	8.1620000000000000

6. Percentage of 'Not Available' transactions

```
SELECT COUNT(quantity)/1000.00 AS percentage_of_null_transactions
FROM sales
WHERE transaction_type IS NULL;
```

	percentage_of_null_transactions numeric
1	0.107000000000000000

7. Total amount of 'Not Available' transaction type

```
SELECT SUM(transaction_amount)   AS  total_amount_on_non_registered_transaction_type
FROM sales
WHERE transaction_type IS NULL;
```

	total_amount_on_non_registered_transaction_type numeric
1	31795.00

1. **Favorite Products By Gender**

```
SELECT
  CASE
        WHEN received_by = 'Mr.' THEN 'Male'
        WHEN received_by = 'Mrs.' THEN 'Female'
        ELSE received_by
    END AS gender_category,
        item_name,
    SUM(quantity) AS total_quantity
FROM
    sales
GROUP BY
    received_by,
    item_name
ORDER BY
    received_by,
    total_quantity DESC;
```

	gender_category character varying	item_name character varying (50)	total_quantity numeric
1	Male	Panipuri	685
2	Male	Cold coffee	674
3	Male	Sandwich	636
4	Male	Sugarcane juice	616
5	Male	Aalopuri	583
6	Male	Vadapav	538
7	Male	Frankie	536
8	Female	Cold coffee	687
9	Female	Sugarcane juice	662
10	Female	Frankie	614
11	Female	Panipuri	541
12	Female	Vadapav	468
13	Female	Aalopuri	461
14	Female	Sandwich	461

The following queries depend on the view defined above (**transformed_sales_view**).

11. **Daily trend for total orders**

```
SELECT day_name, COUNT(order_id)
FROM  transformed_sales_view
GROUP BY day_name;
```

	day_name text	count bigint
1	MON	141
2	SAT	150
3	TUE	122
4	THU	136
5	SUN	158
6	FRI	134
7	WED	159

12. **Monthly trend for total orders**

```
SELECT month_name, COUNT(order_id)
FROM  transformed_sales_view
GROUP BY month_name;
```

	month_name text	count bigint
1	DEC	90
2	JUN	68
3	MAY	100
4	JUL	79
5	OCT	98
6	APR	66
7	FEB	83
8	SEP	73
9	JAN	90
10	MAR	81
11	AUG	90
12	NOV	82

13. **Hourly trend for total orders**

```
SELECT time_of_sale_transformed, COUNT(order_id)
FROM  transformed_sales_view
GROUP BY time_of_sale_transformed
ORDER BY time_of_sale_transformed;
```

	time_of_sale_transformed character varying	count bigint
1	00:00	199
2	08:00	190
3	13:00	205
4	18:00	201
5	21:00	205

14. **Total of products sold by name**

```
SELECT
        item_name,
        sum(quantity) AS sum_of_quantity
FROM  transformed_sales_view
GROUP BY item_name
ORDER BY sum_of_quantity  DESC;
```

	item_name character varying (50)	sum_of_quantity numeric
1	Cold coffee	1361
2	Sugarcanejuice	1278
3	Panipuri	1226
4	Frankie	1150
5	Sandwich	1097
6	Aalopuri	1044
7	Vadapav	1006

15. **Total of sales by product name**

```
SELECT
        item_name,
        SUM(transaction_amount) AS total_of_sales_by_product_name
FROM  transformed_sales_view
GROUP BY item_name
ORDER BY total_of_sales_by_product_name DESC;
```

	item_name character varying (50)	total_of_sales_by_product_name numeric
1	Sandwich	65820.00
2	Frankie	57500.00
3	Cold coffee	54440.00
4	Sugarcane juice	31950.00
5	Panipuri	24520.00
6	Aalopuri	20880.00
7	Vadapav	20120.00