BIGBASKET

"INDIA'S LAST MINUTE APP"

India's biggest online grocery platform.

SQL PROJECT ON BIGBASKET DATASET

INTRODUCTION:

THIS PROJECT ANALYZES A DATASET OF PRODUCTS FROM BIGBASKET, INDIA'S LARGEST ONLINE GROCERY PLATFORM. THE GOAL IS TO EXTRACT INSIGHTS ABOUT PRODUCT PRICING, BRAND DISCOUNTS, RATINGS, AND CATEGORY-WISE DISTRIBUTION USING SQL QUERIES.

OBJECTIVES:

1 UNDERSTAND PRODUCT DISTRIBUTION

2 DATA CLEANING / PREPROCESSING

3 CTES (COMMON TABLE EXPRESSIONS)

4 WINDOW FUNCTIONS

5 ANALYTICAL QUERIES

🛠️ **TOOLS USED:**
SQL, MySQL, VS CODE (FOR VISUALIZATIONS)

BIGBASKET TABLE VIEW:

```
• select * from bigbasket;
```

product	category	sub_category	brand	sale_price	market_price	Type	rating
Garlic Oil - Vegetarian Capsule 500 mg	Beauty & Hygiene	Hair Care	Sri Sri Ayurveda	220	220	Hair Oil & Serum	4.1
Water Bottle - Orange	Kitchen, Garden & Pets	Storage & Accessories	Mastercook	180	180	Water & Fridge Bottles	2.3
Brass Angle Deep - Plain, No.2	Cleaning & Household	Pooja Needs	Trm	119	250	Lamp & Lamp Oil	3.4
Cereal Flip Lid Container/Storage Jar - Assorted...	Cleaning & Household	Bins & Bathroom Ware	Nakoda	149	176	Laundry, Storage Baskets	3.7
Creme Soft Soap - For Hands & Body	Beauty & Hygiene	Bath & Hand Wash	Nivea	162	162	Bathing Bars & Soaps	4.4

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

PRODUCTS WHERE SALE_PRICE > MARKET_PRICE (PRICING ANOMALY).

```sql
SELECT product,brand,category, sale_price, market_price
FROM bigbasket
WHERE sale_price > market_price;
```

product	brand	category	sale_price	market_price
4mm Aluminium Induction Base Chapati Roti Ta...	HAZEL	Kitchen, Garden & Pets	111649	1289
Arrabbiata Tomato Pasta Sauce With Chilli	Montanini	Gourmet & World Food	22325	325
Original Care Lip Balm For 24h Moisture With Sh...	Nivea	Beauty & Hygiene	1114.8	140
Balloon - Polka Dot, 12 Inch	B Vishal	Cleaning & Household	88899	129
Beard Kit	Uncle Tony	Beauty & Hygiene	112475	3300

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

STANDARDIZE BRAND NAMES (REMOVE SPACES, LOWERCASE).

- ```sql
  SELECT DISTINCT  TRIM(LOWER(brand)) AS clean_brand
  FROM bigbasket;
  ```

Result Grid		
clean_brand		
▶	sri sri ayurveda	
	mastercook	
	trm	
	nakoda	
	nivea	
	nature protect	
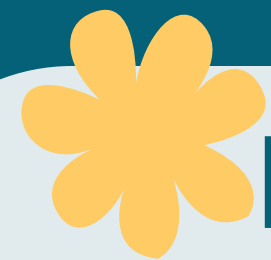
REPLACE MISSING RATINGS WITH SUB-CATEGORY AVERAGE.

```sql
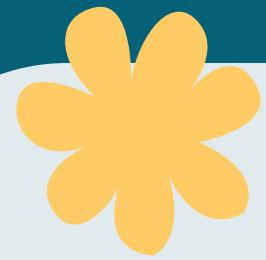SET SQL_SAFE_UPDATES = 0;


UPDATE bigbasket b
JOIN ( SELECT  sub_category, AVG(rating) as avg_rating
       FROM bigbasket WHERE rating is not null
       group by sub_category ) s on b.sub_category  = s.sub_category
       SET b.rating = s.avg_rating
       WHERE b.rating is not null;
```

rating	sub_category
3.16226	Hair Care
2.40837	Storage & Accessories
3.36175	Pooja Needs
2.88648	Bins & Bathroom Ware
3.33363	Bath & Hand Wash
2.65621	All Purpose Cleaners

RANK SUB-CATEGORIES BY AVERAGE RATING AND RETURN TOP 5.

```sql
WITH sub_avg AS (
    SELECT sub_category, AVG(rating) AS avg_rating
    FROM bigbasket
    WHERE rating IS NOT NULL
    GROUP BY sub_category
)
SELECT sub_category, avg_rating,
    RANK() OVER (ORDER BY avg_rating DESC) AS ranking
FROM sub_avg LIMIT 5;
```

Result Grid	Filter Rows:		Export:
sub_category	avg_rating	ranking
Water	3.9294116497039795	1
Baby Food & Formula	3.91458344595337	2
Chocolates & Candies	3.8766422271728516	3
Dairy	3.8233766555786133	4

TOP 3 MOST EXPENSIVE PRODUCTS IN EACH CATEGORY.

```sql
SELECT category, product, sale_price ,
 RANK() OVER(PARTITION BY category ORDER BY sale_price) as rnk
FROM bigbasket WHERE sale_price is not null
LIMIT 3;
```

category	product	sale_price	rnk
Baby Care	Toothbrush - Junior	15	1
Baby Care	New Born - 2 Diaper Pants	18	2
Baby Care	New Medium - 2 Diaper Pants	24	3

DIVIDE PRODUCTS INTO PRICE QUARTILES.

```sql
SELECT sub_category,product, sale_price ,
NTILE(4) OVER (ORDER BY sub_category ) as price_quantile
FROM bigbasket
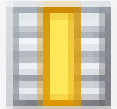WHERE sale_price is not null;
```

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

sub_category	product	sale_price	price_quantile
All Purpose Cleaners	Herbal Fruit & Vegetables Wash Sanitize Disinfe...	225	1
All Purpose Cleaners	Masterblaster Liquid Handwash 750 ml + Multi-p...	225.5	1
All Purpose Cleaners	Kitchen Power Cleaner Spray - Removes 99.9%...	129	1
All Purpose Cleaners	Disinfectant, Floor cleaner & Insect Repellent	316	1
All Purpose Cleaners	Anti-Bacterial Floor Cleaner - Spring Fresh	399	1
All Purpose Cleaners	Visible Power Toilet Cleaner	75	1
All Purpose Cleaners	Disinfectant Surface & Floor Cleaner Liquid - La...	671	1
All Purpose Cleaners	Floor Clean - Ocean	249	1

CATEGORY WHERE DISCOUNTS CONTRIBUTE THE MOST.

```sql
• SELECT category , SUM(market_price - sale_price) AS total_discount
  FROM bigbasket
  WHERE market_price is not null AND sale_price is not null
  GROUP BY category
  ORDER BY total_discount DESC LIMIT 1;
```

Result Grid	Filter Rows:	
	category	total_discount
▶	Beauty & Hygiene	477892.98076820374

BRAND WITH THE HIGHEST RATING CONSISTENCY (LOWEST VARIANCE).

```sql
SELECT brand, VARIANCE(rating) as rating_variance
FROM bigbasket GROUP BY brand
ORDER BY rating_variance ASC LIMIT 1;
```

Result Grid | Filter Rows:

brand	rating_variance
▶ Baron De Bercy	0

CONCLUSION OF BIGBASKET PRODUCT ANALYSIS

1. **PRICING ANOMALY:**
Products where sale_price is higher than market_price indicate possible data or pricing errors.

BRAND STANDARDIZATION:
BRAND NAMES WERE STANDARDIZED BY TRIMMING SPACES AND CONVERTING TO LOWERCASE.

MISSING RATINGS IMPUTATION:
MISSING RATINGS WERE REPLACED WITH SUB-CATEGORY AVERAGES FOR CONSISTENCY.

TOP-RATED SUB-CATEGORIES :
THE TOP 5 SUB-CATEGORIES WITH THE HIGHEST AVERAGE RATINGS WERE IDENTIFIED.

MOST EXPENSIVE PRODUCTS :
THE TOP 3 MOST EXPENSIVE PRODUCTS IN EACH CATEGORY WERE RETRIEVED

PRICE QUARTILE SEGMENTATION :
PRODUCTS WERE DIVIDED INTO FOUR QUARTILES FOR PRICE DISTRIBUTION ANALYSIS.

CATEGORY WITH MAXIMUM DISCOUNTS →
THE CATEGORY WITH THE HIGHEST TOTAL DISCOUNT VALUE WAS IDENTIFIED.

RATING CONSISTENCY BY BRAND →
THE BRAND WITH THE LOWEST VARIANCE IN RATINGS WAS FOUND, INDICATING HIGHEST CONSISTENCY.

THANKS FOR WATCHING