# SQL QUERYS AND ANNLYSIS

## OVERALL STATISTICS

```
SELECT
    COUNT(*) as total_products,
    ROUND(AVG(actual_price), 2) as avg_price,
    ROUND(AVG(discount_percentage), 2) as avg_discount,
    ROUND(AVG(rating), 2) as avg_rating,
    ROUND(SUM(rating_count), 0) as total_ratings,
    ROUND(AVG(margin_percent), 2) as avg_margin,
    ROUND(SUM(estimated_profit)/10000000, 2) as total_profit_cr
FROM products;
```

```
        total_products   avg_price  1593          avg_discount 9.53        avg_rating 110.16

        total_ratings 132935      avg_margin 6605.63      total_profit_cr   0.65
```

## PRICE SEGMENT ANALYSIS

```
SELECT
    CASE
        WHEN actual_price < 500 THEN 'Budget (<₹500)'
        WHEN actual_price < 2000 THEN 'Mid-Range (₹500-2000)'
        WHEN actual_price < 5000 THEN 'Premium (₹2000-5000)'
        ELSE 'Luxury (>₹5000)'
    END as price_segment,
    COUNT(*) as product_count,
```

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```
    ROUND(AVG(margin_percent), 2) as avg_margin,
    ROUND(AVG(rating), 2) as avg_rating,
    ROUND(SUM(estimated_profit)/100000, 2) as total_profit_lakhs
FROM products
GROUP BY 1
ORDER BY total_profit_lakhs DESC;
```

```
#       price_segment  ,  product_count,  avg_margin,  avg_rating,      total_profit_lakhs,
1       Luxury (>₹5000),       1608 ,          6605.63,         110.16   ,        65.08
```

## RATING IMPACT ANALYSIS

```
SELECT
    CASE
        WHEN rating < 3 THEN 'Poor (1-3)'
        WHEN rating < 4 THEN 'Average (3-4)'
        ELSE 'Good (4-5)'
    END as rating_category,
    COUNT(*) as product_count,
    ROUND(AVG(margin_percent), 2) as avg_margin,
    ROUND(AVG(discount_percentage), 2) as avg_discount,
    ROUND(SUM(estimated_profit)/100000, 2) as total_profit_lakhs
FROM products
WHERE rating > 0
GROUP BY 1
ORDER BY total_profit_lakhs DESC;
```

```
#       rating_category    product_count    avg_margin       avg_discount     total_profit_lakhs
1       Good (4-5)         12                  313.27                   11.67                 0.03
2       Average (3-4)      1                                                                  0.0
```

# SQL QUERYS AND ANNLYSIS

**PROFITABILITY TIERS**

```
SELECT
   CASE
      WHEN margin_percent < 0 THEN 'Loss Making'
      WHEN margin_percent < 10 THEN 'Low Margin'
      WHEN margin_percent < 20 THEN 'Medium Margin'
      WHEN margin_percent < 30 THEN 'High Margin'
      ELSE 'Super High Margin'
   END as margin_tier,
   COUNT(*) as product_count,
   ROUND(AVG(actual_price), 2) as avg_price,
   ROUND(AVG(discount_percentage), 2) as avg_discount,
   ROUND(SUM(estimated_profit)/100000, 2) as total_profit_lakhs
FROM products
GROUP BY 1
ORDER BY total_profit_lakhs DESC;
```

| # | margin_tier | product_count | avg_price | avg_discount | total_profit_lakhs |
|---|---|---|---|---|---|
| 1 | Super High Margin | 1193 | | 7.38 | 35.69 |
| 2 | High Margin | 58 | | | 20.44 |
| 3 | Medium Margin | 26 | | | 6.48 |
| 4 | Low Margin | 359 | | 12.0 | 2.48 |

## TOP 50 PRODUCTS

```
SELECT
   product_id,
```

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```
   actual_price,
   discount_percentage,
   rating,
   rating_count,
   margin_percent,
   ROUND(estimated_profit, 2) as profit
FROM products
WHERE estimated_profit > 0
ORDER BY estimated_profit DESC
LIMIT 50;
```

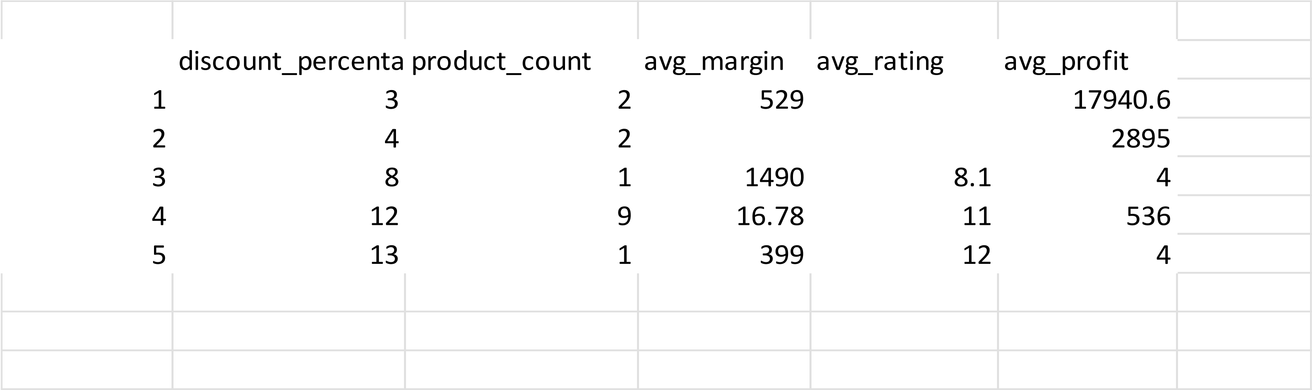
| # | product_id | Margin precnt | profit |
|---|---|---|---|
| 1 | B014I8SX4Y | 78.0 | 426973.0 |
| 2 | B09GFPVD9Y | 23.0 | 313836.0 |
| 3 | B09GFLXVH9 | 24.0 | 313836.0 |
| 4 | B09GFPN6TP | 21.0 | 313832.0 |
| 5 | B09GFM8CGS | 19.0 | 313832.0 |
| 6 | B002SZEOLG | 44.0 | 179692.0 |
| 7 | B08HVL8QN3 | 48.0 | 178912.0 |
| 8 | B09YDFDVNS | 22.0 | 128311.0 |
| 9 | B09YDFKJF8 | 22.0 | 128311.0 |
| 10 | B08HDJ86NZ | 53.0 | 94364.0 |
| 11 | B08HDJ86NZ | 53.0 | 94364.0 |
| 12 | B08HDJ86NZ | 53.0 | 94363.0 |
| 13 | B07232M876 | 50.0 | 92595.0 |
| 14 | B07232M876 | 50.0 | 92595.0 |
| 15 | B00NH13Q8W | 63.0 | 74977.0 |
| 16 | B01D5H8LDM | 59.0 | 69538.0 |
| 17 | B07L8KNP5F | 57.0 | 60026.0 |
| 18 | B08GJ57MKL |  | 59900.0 |
| 19 | B0B19VJXQZ |  | 59900.0 |

| | | | | |
|---|---|---|---|---|
| 20 | B08444S68L | | 22.0 | 58506.0 |
| 21 | B08444S68L | | 22.0 | 58506.0 |
| 22 | B0BD3T6Z1D | | 4.0 | 56098.0 |
| 23 | B009VCGPSY | | 59.0 | 54315.0 |
| 24 | B0BR4F878Q | | 28.0 | 53803.0 |
| 25 | B0819ZZK5K | | 60.0 | 53464.0 |
| 26 | B09QS9X9L8 | | 32.0 | 50772.0 |
| 27 | B09QS8V5N8 | | 28.0 | 50772.0 |
| 28 | B09QS9CWLV | | 32.0 | 50772.0 |
| 29 | B09QS9X16F | | 32.0 | 50772.0 |
| 30 | B008YW8M0G | | 11.0 | 46647.0 |
| 31 | B082T6GVG9 | | 54.0 | 42301.0 |
| 32 | B0972BQ2RS | | 75.0 | 42139.0 |
| 33 | B00HVXS7WC | | 38.0 | 41349.0 |
| 34 | B008QTK47Q | | 8.0 | 37974.0 |
| 35 | B075ZTJ9XR | 3.0 | 59.0 | 35877.0 |
| 36 | B08VB2CMR3 | | 26.0 | 32916.0 |
| 37 | B08VB34KJ1 | | 26.0 | 32916.0 |
| 38 | B08VB34KJ1 | | 26.0 | 32916.0 |
| 39 | B09LHZSMRR | | 19.0 | 31822.0 |
| 40 | B09LHYZ3GJ | | 19.0 | 31822.0 |
| 41 | B09LJ116B5 | | 19.0 | 31822.0 |
| 42 | B005LJQMCK | | 31.0 | 30023.0 |
| 43 | B005LJQMZC | | 76.0 | 30023.0 |
| 44 | B088ZFJY82 | | 79.0 | 28978.0 |
| 45 | B07Q4QV1DL | | 82.0 | 28978.0 |
| 46 | B08VB57558 | | 49.0 | 27790.0 |
| 47 | B07BRKK9JQ | | 19.0 | 27223.0 |
| 48 | B07N42JB4S | | 80.0 | 27139.0 |
| 49 | B01GZSQJPA | | 14.0 | 26543.0 |
| 50 | B075DB1F13 | | 0.0 | 25996.0 |

## DISCOUNT OPTIMIZATION

# SQL QUERYS AND ANNLYSIS

```
SELECT
    discount_percentage,
    COUNT(*) as product_count,
    ROUND(AVG(margin_percent), 2) as avg_margin,
    ROUND(AVG(rating), 2) as avg_rating,
    ROUND(AVG(estimated_profit), 2) as avg_profit
FROM products
WHERE discount_percentage BETWEEN 0 AND 50
GROUP BY discount_percentage
ORDER BY discount_percentage;
```



| | discount_percenta | product_count | avg_margin | avg_rating | avg_profit |
|---|---|---|---|---|---|
| 1 | 3 | 2 | 529 | | 17940.6 |
| 2 | 4 | 2 | | | 2895 |
| 3 | 8 | 1 | 1490 | 8.1 | 4 |
| 4 | 12 | 9 | 16.78 | 11 | 536 |
| 5 | 13 | 1 | 399 | 12 | 4 |