

Amazon Products SQL Queries

1. Average Rating by Category

category	avg_rating
OfficeProducts	4.3
Computers & Accessories	4.15
Electronics	4.08
Home & Kitchen	4.04

Query:

```
SELECT category, ROUND(AVG(rating), 2) AS avg_rating
FROM amazon_data
GROUP BY category
ORDER BY avg_rating DESC;
```

2. Average Discount by Category

category	avg_discount
Computers & Accessories	0.53
Electronics	0.49
Home & Kitchen	0.4
OfficeProducts	0.12

Query:

```
SELECT category, ROUND(AVG(discount_percentage), 2) AS avg_discount
FROM amazon_data
GROUP BY category
ORDER BY avg_discount DESC;
```

3. Rating Count Buckets (Customer Engagement Segments)

rating_volume_group	product_count
1,000+ ratings	914
100–499 ratings	143
500–999 ratings	77
Less than 100 ratings	69

Query:

```
SELECT
CASE
  WHEN CAST(REPLACE(rating_count, ',', '')) AS UNSIGNED) >= 1000 THEN '1,000+
ratings'
```

```

    WHEN CAST(REPLACE(rating_count, ',', '')) AS UNSIGNED) >= 500 THEN '500–999
ratings'

```

```

    WHEN CAST(REPLACE(rating_count, ',', '')) AS UNSIGNED) >= 100 THEN '100–499
ratings'

```

```

    ELSE 'Less than 100 ratings'
END AS rating_volume_group,
COUNT(*) AS product_count
FROM amazon_data
GROUP BY rating_volume_group
ORDER BY product_count DESC;

```

4. Discount Range vs Average Rating

discount_range	avg_rating	product_count
10–29%	4.14	223
30–49%	4.1	338
50–69%	4.07	400
70%+	4.02	177
Less than 10%	4.21	65

Query:

```

SELECT
CASE
    WHEN discount_percentage >= 0.70 THEN '70%+'
    WHEN discount_percentage >= 0.50 THEN '50–69%'
    WHEN discount_percentage >= 0.30 THEN '30–49%'
    WHEN discount_percentage >= 0.10 THEN '10–29%'
    ELSE 'Less than 10%'
END AS discount_range,
ROUND(AVG(rating), 2) AS avg_rating,
COUNT(*) AS product_count
FROM amazon
GROUP BY discount_range
ORDER BY discount_range;

```

5. Number of Products per Category

category	product_count
Home & Kitchen	430
Electronics	408
Computers & Accessories	336
OfficeProducts	29

Query:

```

SELECT category,
       COUNT(*) AS product_count
FROM amazon
GROUP BY category
ORDER BY product_count DESC;

```

6. Top 5 Highest-Rated Products (with at least 50 reviews)

product_name	rating	rating_count	discounted_price	category
Swiffer Instant Electric ...	4.8	53803	17.268	Home & Kitchen
Instant Pot Air Fryer, Vo...	4.8	3964	59.94	Home & Kitchen
Sony Bravia 164 cm (65 in...	4.7	5935	935.88	Electronics
Campfire Spring Chef Prol...	4.7	2591	17.988	Home & Kitchen
Multifunctional 2 in 1 El...	4.7	2300	8.388	Home & Kitchen

Query:

```

SELECT product_name, rating, rating_count, discounted_price, category
FROM amazon_data
WHERE rating_count >= 50
ORDER BY rating DESC, rating_count DESC
LIMIT 5;

```

7. Bottom 5 Lowest-Rated Products (with at least 50 reviews)

product_name	rating	rating_count	discounted_price	category
Eureka Forbes car Vac 100...	2.5	992	25.188	Home & Kitchen
MR. BRAND Portable USB Ju...	2.8	109	5.988	Home & Kitchen
SHREENOVA ID116 Plus Blue...	2.8	87	3.372	Electronics
IONIX Tap filter Multilay...	2.9	159	2.388	Home & Kitchen
Tokdis MX-1 Pro Bluetooth...	3	681	10.788	Electronics

Query:

```

SELECT product_name, rating, rating_count, discounted_price, category
FROM amazon_data
WHERE rating_count >= 50
ORDER BY rating ASC
LIMIT 5;

```

8. Top 5 Most Reviewed Products Overall

product_name	rating_count	rating	category
AmazonBasics Flexible Pre...	426973	4.4	Electronics
Amazon Basics High-Speed ...	426973	4.4	Electronics
boAt Bassheads 100 in Ear...	363713	4.1	Electronics
boAt BassHeads 100 in-Ear...	363711	4.1	Electronics
Redmi 9 Activ (Carbon Bla...	313836	4.1	Electronics

Query:

```
SELECT product_name, rating_count, rating, category
FROM amazon_data
ORDER BY rating_count DESC
LIMIT 5;
```

9. Bottom 5 Least Reviewed Products Overall

product_name	rating_count	rating	category
Khaitan ORFin Fan heater ...	2	2	Home & Kitchen
NGI Store 2 Pieces Pet Ha...	2	3.1	Home & Kitchen
VAPJA?? Portable Mini Jui...	4	3.6	Home & Kitchen
Longway Blaze 2 Rod Quart...	4	3.7	Home & Kitchen
Lifelong LLQH925 Dyno Qua...	4	3.8	Home & Kitchen

Query:

```
SELECT product_name, rating_count, rating, category
FROM amazon_data
ORDER BY rating_count ASC
LIMIT 5;
```

10. Top 5 Discounted Products with Good Ratings (Rating ≥ 4)

product_name	discount_percentage	rating	rating_count	actual_price	discounted_price
rts [2 Pack] Mini USB C T...	0.94	4.3	4426	59.988	3.528
Fire-Boltt Ninja Call Pro...	0.91	4.2	13937	239.988	21.588
LAPSTER 12pcs Spiral Cabl...	0.9	4.4	305	11.988	1.188
LAPSTER Spiral Charger Sp...	0.9	4.1	8751	11.988	1.188
Source Spiral Charger Cab...	0.9	4	1396	11.988	1.188

Query:

```
SELECT product_name, discount_percentage, rating, rating_count, actual_price,
discounted_price
FROM amazon_data
WHERE rating >= 4
ORDER BY discount_percentage DESC
LIMIT 5;
```

11. Bottom 5 Low-Rated Products with High Review Counts

product_name	rating	rating_count	category
Eureka Forbes car Vac 100...	2.5	992	Home & Kitchen
MR. BRAND Portable USB Ju...	2.8	109	Home & Kitchen
IONIX Tap filter Multilay...	2.9	159	Home & Kitchen
7SEVEN Compatible LG TV R...	3	103	Electronics
Amazon Brand - Solimo 65W...	3	16500	Computers & Accessories

Query:

```
SELECT product_name, rating, rating_count, category
FROM amazon_data
WHERE rating <= 3 AND rating_count >= 100
ORDER BY rating ASC
LIMIT 5;
```

12. Top 5 Products by Rating (Price vs Rating Correlation Sample)

product_name	category	actual_price	discounted_price	rating
REDTECH USB-C to Lightnin...	Computers & Accessories	11.988	2.988	5
Amazon Basics Wireless Mo...	Computers & Accessories	12	5.988	5
Synowire LTG to USB Cable...	Computers & Accessories	23.988	4.788	5
Swiffer Instant Electric ...	Home & Kitchen	23.988	17.268	4.8
Instant Pot Air Fryer, Vo...	Home & Kitchen	240.588	59.94	4.8

Query:

```
SELECT product_name, category, actual_price, discounted_price, rating
FROM amazon_data
WHERE rating IS NOT NULL AND actual_price > 0
ORDER BY rating DESC
LIMIT 5;
```

13. Bottom 5 Products by Rating (Price vs Rating Correlation Sample)

product_name	category	actual_price	discounted_price	rating
Khaitan ORFin Fan heater ...	Home & Kitchen	29.94	15.588	2
Personal Size Blender, Po...	Home & Kitchen	17.988	8.028	2.3
Eureka Forbes car Vac 100...	Home & Kitchen	29.988	25.188	2.5
Green Tales Heat Seal Min...	Home & Kitchen	3.6	1.932	2.6
SHREENOVA ID116 Plus Blue...	Electronics	23.988	3.372	2.8

Query:

```
SELECT product_name, category, actual_price, discounted_price, rating
FROM amazon_data
```

WHERE rating IS NOT NULL AND actual_price > 0
ORDER BY rating ASC
LIMIT 5;

KPI's:

- Sales & Pricing Metrics:**

1. Average Discounted Price

Avg Discounted Price
38.77

Query:

```
SELECT ROUND(AVG(discounted_price), 2) AS "Avg Discounted Price" FROM  
amazon_data;
```

2. Average Actual Price

Avg Actual Price
66.35

Query:

```
SELECT ROUND(AVG(actual_price), 2) AS "Avg Actual Price" FROM amazon_data;
```

3. Average Discount Percentage

Avg Discounted Pct
0.46

Query:

```
SELECT ROUND(AVG(discount_percentage), 2) As "Avg Discounted Pct" FROM  
amazon_data;
```

4. Maximum Discount Given

Maximum Discount Given
0.94

Query:

```
SELECT MAX(discount_percentage) As "Maximum Discount Given" FROM amazon_data;
```

5. Minimum Discounted Price

Minimum Discounted Price
0.468

Query:

```
SELECT MIN(discounted_price) As "Minimum Discounted Price" FROM amazon_data;
```

• Rating & Review Metrics:

6. Average Product Rating

Avg Product Rating
4.09

Query:

```
SELECT ROUND(AVG(rating), 2) As "Avg Product Rating" FROM amazon_data;
```

7. Highest Product Rating

Highest Product Rating
5

Query:

```
SELECT MAX(rating) As "Highest Product Rating" FROM amazon_data;
```

8. Total Number of Ratings (sum of all rating counts)

Total # of Rating
19898199

Query:

```
SELECT SUM(rating_count) As "Total # of Rating" FROM amazon_data;
```

9. Average Number of Ratings per Product

Avg # of Ratings per Product
16540

Query:

```
SELECT ROUND(AVG(rating_count), 0) AS "Avg # of Ratings per Product" FROM amazon_data;
```

10. Number of 5-Star Rating Products

5-Star Products Count
3

Query:

```
SELECT COUNT(*) AS "5-Star Products Count" FROM amazon_data WHERE rating = 5;
```

• Product Count Metrics

11. Total Number of Products

Total # of Products
1203

Query:

```
SELECT COUNT(*) As "Total # of Products" FROM amazon_data;
```

12. Number of Unique Categories

Number of Categories
4

Query:

```
SELECT COUNT(DISTINCT category) As "Number of Categories" FROM amazon_data;
```

13. Number of Products with Rating Count ≥ 100

of Products with High Rating Count
1134

Query:

```
SELECT COUNT(*) AS "# of Products with High Rating Count" FROM amazon_data  
WHERE rating_count >= 100;
```

14. Number of Products with Rating ≤ 3

of Products with Low Rating
11

Query:

```
SELECT COUNT(*) AS "# of Products with Low Rating" FROM amazon_data WHERE  
rating <= 3;
```


15. Number of Products with Discount \geq 50%

of Products with Discount \geq 50%
577

Query:

```
SELECT COUNT(*) AS "# of Products with Discount  $\geq$  50%" FROM amazon_data WHERE  
discount_percentage >= 0.50;
```