amazon

Key SQL Data Insights for E-Commerce Analysis

amazon

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SQL Case Study

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Amazon SQL Case Study –
Key Sections

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Project Overview
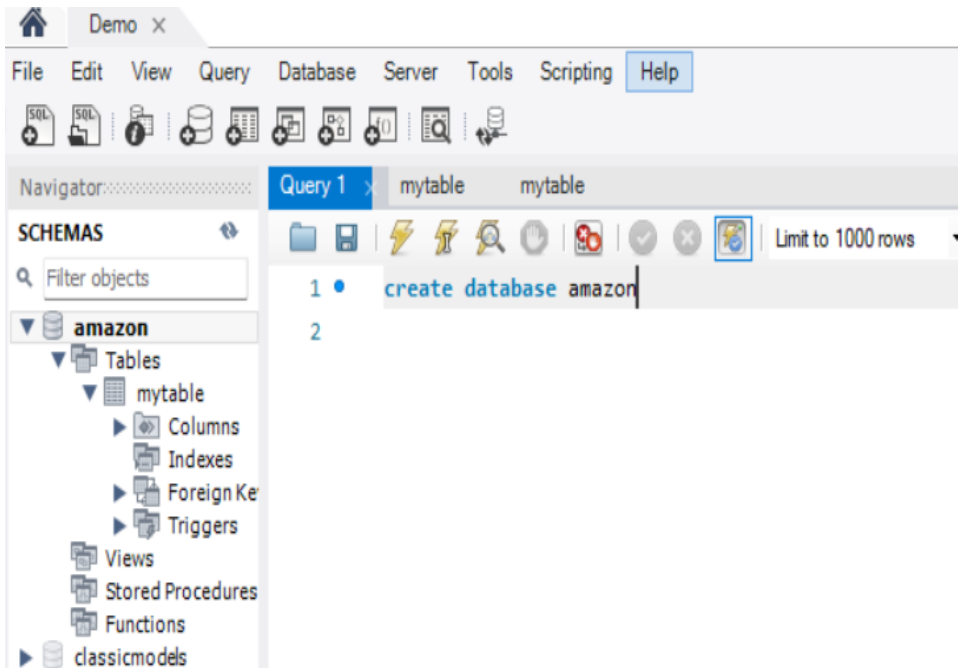
Objective & Dataset Introduction

Through structured queries, we aim to analyze product pricing, discount patterns, customer reviews, and category-level trends to support data-driven decision-making for marketing, sales, and product strategy optimization.

Dataset Introduction

Amazon SQL Dataset

1. **Create a Data Base**

   Create database amazon;

List all products with a discounted price below ₹500.

```sql
SELECT * FROM amazon.mytable WHERE discounted_price < 500;
```

	product_id	product_name	category	discounted_price	actual_price	discount_percentage	rating	rating_count	abou
▶	B07JW9H4J1	Wayona Nylon Braided USB to Lightning Fast Ch...	Computers&Accessories|Accessories&Peripheral...	399	1099	0.64	4.2	24269	High (
	B098NS6PVG	Ambrane Unbreakable 60W / 3A Fast Charging ...	Computers&Accessories|Accessories&Peripheral...	199	349	0.43	4	43994	Comp
	B096MSW6CT	Sounce Fast Phone Charging Cable & Data Sync...	Computers&Accessories|Accessories&Peripheral...	199	1899	0.9	3.9	7928	【Fas
	B08HDJ86NZ	boAt Deuce USB 300 2 in 1 Type-C & Micro USB ...	Computers&Accessories|Accessories&Peripheral...	329	699	0.53	4.2	94363	The b
	B08CF3B7N1	Portronics Konnect L 1.2M Fast Charging 3A 8 P...	Computers&Accessories|Accessories&Peripheral...	154	399	0.61	4.2	16905	[CHAF
	B08Y1TFSP6	pTron Solero TB301 3A Type-C Data and Fast C...	Computers&Accessories|Accessories&Peripheral...	149	1000	0.85	3.9	24871	Fast (
	B08WRWPM22	boAt Micro USB 55 Tangle-free, Sturdy Micro US...	Computers&Accessories|Accessories&Peripheral...	176.63	499	0.65	4.1	15188	It Ens
	B08DDRGWTJ	MI Usb Type-C Cable Smartphone (Black)	Computers&Accessories|Accessories&Peripheral...	229	299	0.23	4.3	30411	1m lor

Objective:- Analyze how lower-priced items perform in terms of sales and reviews

Find products with a discount percentage of 50% or more

```sql
SELECT   product_id,   product_name,   discounted_price,
actual_price,   discount_percentage  FROM amazon.mytable
WHERE   discount_percentage >= 0.50;
```

	Result Grid		Filter Rows:	Export:	Wrap Cell Content:	
	product_id	product_name	discounted_price	actual_price	discount_percentage	
	B07JW9H4J1	Wayona Nylon Braided USB to Lightning Fast Ch...	399	1099	0.64	
	B096MSW6CT	Sounce Fast Phone Charging Cable & Data Sync...	199	1899	0.9	
	B08HDJ86NZ	boAt Deuce USB 300 2 in 1 Type-C & Micro USB ...	329	699	0.53	
	B08CF3B7N1	Portronics Konnect L 1.2M Fast Charging 3A 8 P...	154	399	0.61	
	B08Y1TFSP6	pTron Solero TB301 3A Type-C Data and Fast C...	149	1000	0.85	
	B08WRWPM22	boAt Micro USB 55 Tangle-free, Sturdy Micro US...	176.63	499	0.65	
	B008IFXQFU	TP-Link USB WiFi Adapter for PC(TL-WN725N), ...	499	999	0.5	
	B08CF3D7QR	Portronics Konnect L POR-1081 Fast Charging 3...	154	339	0.55	
	B0789LZTCJ	boAt Rugged v3 Extra Tough Unbreakable Braid...	299	799	0.63	

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Objective:- Track high-discount product trends for promotional strategy
Identify products that may be part of clearance sales or special offers

Retrieve all products where the name contains the word "Cable."

```sql
SELECT    product_name, product_id  FROM
amazon.mytable
WHERE    product_name  LIKE "%Cable%";
```

product_name	product_id
Wayona Nylon Braided USB to Lightning Fast Ch...	B07JW9H4J1
Ambrane Unbreakable 60W / 3A Fast Charging ...	B098NS6PVG
Sounce Fast Phone Charging Cable & Data Sync...	B096MSW6CT
boAt Deuce USB 300 2 in 1 Type-C & Micro USB ...	B08HDJ86NZ
Portronics Konnect L 1.2M Fast Charging 3A 8 P...	B08CF3B7N1
pTron Solero TB301 3A Type-C Data and Fast C...	B08Y1TFSP6
boAt Micro USB 55 Tangle-free, Sturdy Micro US...	B08WRWPM22
MI Usb Type-C Cable Smartphone (Black)	B08DDRGWTJ
Ambrane Unbreakable 60W / 3A Fast Charging ...	B082LZGK39

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Objective: Study the performance of cable products in terms of price, discount, and customer feedback

Display the difference between the average of the actual price and the average of discounted price for each product

```
select product_id, product_name
avg(actual_price) as avg_actual_price,
avg(discounted_price) as avg_discounted_price,
avg
as price_differnce
from amazon.mytable
group by product_id , product_name
```

product_name	product_id	avg_actual_price	avg_discounted_price	price_differnce
Wayona Nylon Braided USB to Lightning Fast Ch...	B07JW9H4J1	1099	399	700
Ambrane Unbreakable 60W / 3A Fast Charging ...	B098NS6PVG	349	199	150
Sounce Fast Phone Charging Cable & Data Sync...	B096MSW6CT	1299	199	1100
boAt Deuce USB 300 2 in 1 Type-C & Micro USB ...	B08HDJ86NZ	699	329	370
Portronics Konnect L 1.2M Fast Charging 3A 8 P...	B08CF3B7N1	399	154	245
pTron Solero TB301 3A Type-C Data and Fast C...	B08Y1TFSP6	1000	149	851
boAt Micro USB 55 Tangle-free, Sturdy Micro US...	B08WRWPM22	499	176.63	322.37
MI Usb Type-C Cable Smartphone (Black)	B08DDRGWTJ	299	229	70
TP-Link USB WiFi Adapter for PC(TL-WN725N), ...	B008IFXQFU	999	499	500
Ambrane Unbreakable 60W / 3A Fast Charging	B0074 7CK30	300	100	100

Objective:- Identifying which products offer the highest average discount value
Supporting decisions on pricing adjustments, profit margins, and promotional planning

Query reviews that mention "fast charging" in their content.

Select product_id, product_name, review_id, review_content
From amazon.mytable **WHERE** review_content **LIKE** "%fast charging%";

Objective:- Understand how frequently "fast charging" is mentioned in reviews

product_id	product_name	review_id	review_content
B098NS6PVG	Ambrane Unbreakable 60W / 3A Fast Charging ...	RGIQEG07R9HS2,R1SMWZQ86XIN8U,R2J3Y1W...	I ordered this cable to connect my phone to An...
B08HDJ86NZ	boAt Deuce USB 300 2 in 1 Type-C & Micro USB ...	R3EEUZKKK9J36I,R3HJVYCLYOY554,REDECAZ7...	Good product,long wire,Charges good,Nice,I bo...
B082LZGK39	Ambrane Unbreakable 60W / 3A Fast Charging ...	RGIQEG07R9HS2,R1SMWZQ86XIN8U,R2J3Y1W...	I ordered this cable to connect my phone to An...
B08CF3D7QR	Portronics Konnect L POR-1081 Fast Charging 3...	R11MQS7WD9C3I0,R2AKH69XQY8BY4,R8GBOL...	The cable is efficient in fast charging but in quic...
B0789LZTCJ	boAt Rugged v3 Extra Tough Unbreakable Braid...	R3EEUZKKK9J36I,R3HJVYCLYOY554,REDECAZ7...	Good product,long wire,Charges good,Nice,I bo...
B085DTN6R2	Portronics Konnect CL 20W POR-1067 Type-C t...	R1QETDIPRCX4S0,RARQYQ8POOFA9,R952F93...	Definitely isn't as good as the original cord but ...
B083342NKJ	MI Braided USB Type-C Cable for Charging Ada...	R2JPQNKCOE10UK,RQI80JG2WZXNF,R2LYZ4C...	I like it ⚌ ⚌,Best charging power . I used this c...
B082LSVT4B	Ambrane Unbreakable 60W / 3A Fast Charging ...	RGIQEG07R9HS2,R1SMWZQ86XIN8U,R2J3Y1W...	I ordered this cable to connect my phone to An...
B08WRBG3XW	boAt Type C A325 Tangle-free, Sturdy Type C ...	R2BP8Y5OJXKJLF,R218813TNRHNSY,R3VIKEVJ...	Check for offera before buying,18w charging c...

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Identify products with a discount percentage between 20% and 40%.

```sql
select product_id, Product_name, discount_percentage from amazon.mytable where discount_percentage between 0.20 and 0.40;
```

product_id	Product_name	discount_percentage
B08DDRGWTJ	MI Usb Type-C Cable Smartphone (Black)	0.23
B082LZGK39	Ambrane Unbreakable 60W / 3A Fast Charging ...	0.33
B082LSVT4B	Ambrane Unbreakable 60W / 3A Fast Charging ...	0.38
B08DPLCM6T	LG 80 cm (32 inches) HD Ready Smart LED TV 3...	0.39
B08B42LWKN	OnePlus 80 cm (32 inches) Y Series HD Ready L...	0.25
B094JNXNPV	Ambrane Unbreakable 3 in 1 Fast Charging Brai...	0.25
B0B3MMYHYW	OnePlus 126 cm (50 inches) Y Series 4K Ultra H...	0.28
B07KRCW6LZ	TP-Link Nano AC600 USB Wi-Fi Adapter(Archer ...	0.38
B014I8SSD0	Amazon Basics High-Speed HDMI Cable, 6 Feet ...	0.35

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Objective:- Discover products positioned in the optimal discount zone for conversions
Compare performance of these products against those with deeper or minimal   discounts

Find products that have an actual price above ₹1,000 and are rated 4 stars or above.

```sql
select product_id, product_name, actual_price, rating from amazon.mytable
where actual_price > 1000 and rating>=4;
```

product_id	product_name	actual_price	rating
B07JW9H4J1	Wayona Nylon Braided USB to Lightning Fast Ch...	1099	4.2
B0B6F7LX4C	MI 80 cm (32 inches) 5A Series HD Ready Smart...	24999	4.2
B08DPLCM6T	LG 80 cm (32 inches) HD Ready Smart LED TV 3...	21990	4.3
B09C6HXFC1	Duracell USB Lightning Apple Certified (Mfi) Brai...	1799	4.5
B09F6S8BT6	Samsung 80 cm (32 Inches) Wondertainment Se...	22900	4.3
B0B1YVCJ2Y	Acer 80 cm (32 inches) I Series HD Ready Andr...	19990	4.3
B08B42LWKN	OnePlus 80 cm (32 inches) Y Series HD Ready L...	19999	4.2
B09W5XR9RT	Duracell USB C To Lightning Apple Certified (Mfi)...	1999	4.4
B08QSC1XY8	Zoul USB C 60W Fast Charging 3A 6ft/2M Long ...	1099	4.3

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Objective:- Highlight premium products that are well-received by customers
Understand which expensive products justify their price through positive customer feedback

Find products where the discounted price ends with a 9 ?

select product_id, product_name, discounted_price from amazon.mytable where discounted_price like "%9";

product_id	product_name	discounted_price
▶ B07JW9H4J1	Wayona Nylon Braided USB to Lightning Fast Ch...	399
B098NS6PVG	Ambrane Unbreakable 60W / 3A Fast Charging ...	199
B096MSW6CT	Sounce Fast Phone Charging Cable & Data Sync...	199
B08HDJ86NZ	boAt Deuce USB 300 2 in 1 Type-C & Micro USB ...	329
B08Y1TFSP6	pTron Solero TB301 3A Type-C Data and Fast C...	149
B08DDRGWTJ	MI Usb Type-C Cable Smartphone (Black)	229
B008IFXQFU	TP-Link USB WiFi Adapter for PC(TL-WN725N), ...	499
B082LZGK39	Ambrane Unbreakable 60W / 3A Fast Charging ...	199
B0789LZTCJ	boAt Rugged v3 Extra Tough Unbreakable Braid...	299

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Objective:- Detect the usage of charm pricing across the product catalog Evaluate whether such pricing correlates with higher customer interest or sales

Display review contents that contains words like worst, waste, poor, or not good.

```sql
select product_id, product_name, review_id, review_content from
amazon.mytable where review_content like "%worst%"  or review_content
like '%waste%'  or review_content like '%poor%'  or review_content like
'%not good%';
```

product_id	product_name	review_id	review_content
B08DDRGWTJ	MI Usb Type-C Cable Smartphone (Black)	R2X090D1YHACKR,R32ZCIH9AFNJ60,R3N57EV...	Worth for money - suitable for Android auto... ...
B08WRBG3XW	boAt Type C A325 Tangle-free, Sturdy Type C ...	R2BP8Y5OJXKJLF,R218813TNRHNSY,R3VIKEVJ...	Check for offera before buying,18w charging c...
B08DPLCM6T	LG 80 cm (32 inches) HD Ready Smart LED TV 3...	R2PNR69G0BQG2F,R31A0WWDEYMKEW,R2C4...	LG was always Good , correct delivery, good se...
B085194JFL	tizum HDMI to VGA Adapter Cable 1080P for Pr...	R1GYK05NN67470,R1J21BZ29NGQF9,R16JCHE...	This connector has provided as a boon for my ol...
B09F6S8BT6	Samsung 80 cm (32 Inches) Wondertainment Se...	R1SN0D4DFBKAZI,R1SX5L77L2CD6V,R1NAZ6M...	Overall good.,TV picture ok smart betterSound ...
B0B1YVCJ2Y	Acer 80 cm (32 inches) I Series HD Ready Andr...	R1EBS3566VCSCG,R24MB66WRPSN2A,R25UU2...	About the TV - Wonderful--------------------...
B08B42LWKN	OnePlus 80 cm (32 inches) Y Series HD Ready L...	R3COVVOP2R7Z28,R2T6WHEO2ONNDD,RUFFV...	This OnePlus TV is great if you want a affordabl...
B008FWZGSG	Samsung Original Type C to C Cable - 3.28 Feet...	R2Z9ENI1BK4EAB,R2JTBG4GO7WPMG,R3GKCN...	Buy it,Received in good condition and is working...
B0B3MMYHYW	OnePlus 126 cm (50 inches) Y Series 4K Ultra H...	R2J3Q3BUHJ2S7E,R2H2ELE1DG24VY,R1U1S7X...	I am posting this after a few weeks of using the...

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Objective:- Detect products with frequent dissatisfaction or quality issues Support product improvement by highlighting areas needing attention

List all products where the category includes "Accessories."

```sql
select  product_id, product_name,  category  from   amazon.mytable
where  category like  "%Accessories%";
```

product_id	product_name	category
B07JW9H4J1	Wayona Nylon Braided USB to Lightning Fast Charging and Data Sync Cable ...	Computers&Accessories|Accessories&Peripheral...
B098NS6PVG	Ambrane Unbreakable 60W / 3A Fast Charging 1.5m Braided Type C Cable f...	Computers&Accessories|Accessories&Peripheral...
B096MSW6CT	Sounce Fast Phone Charging Cable & Data Sync USB Cable Compatible for iP...	Computers&Accessories|Accessories&Peripheral...
B08HDJ86NZ	boAt Deuce USB 300 2 in 1 Type-C & Micro USB Stress Resistant, Tangle-Fre...	Computers&Accessories|Accessories&Peripheral...
B08CF3B7N1	Portronics Konnect L 1.2M Fast Charging 3A 8 Pin USB Cable with Charge & ...	Computers&Accessories|Accessories&Peripheral...
B08Y1TFSP6	pTron Solero TB301 3A Type-C Data and Fast Charging Cable, Made in India...	Computers&Accessories|Accessories&Peripheral...
B08WRWPM22	boAt Micro USB 55 Tangle-free, Sturdy Micro USB Cable with 3A Fast Chargi...	Computers&Accessories|Accessories&Peripheral...
B08DDRGWTJ	MI Usb Type-C Cable Smartphone (Black)	Computers&Accessories|Accessories&Peripheral...
B008IFXQFU	TP-Link USB WiFi Adapter for PC(TL-WN725N), N150 Wireless Network Adap...	Computers&Accessories|NetworkingDevices|Ne...

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Objective:- Understand the range and performance of accessory products
Identify top-performing or underperforming accessory items