

Project documentation

Laptop Products

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Objective

- Identify the most suitable laptop brand by considering both price and customer reviews.



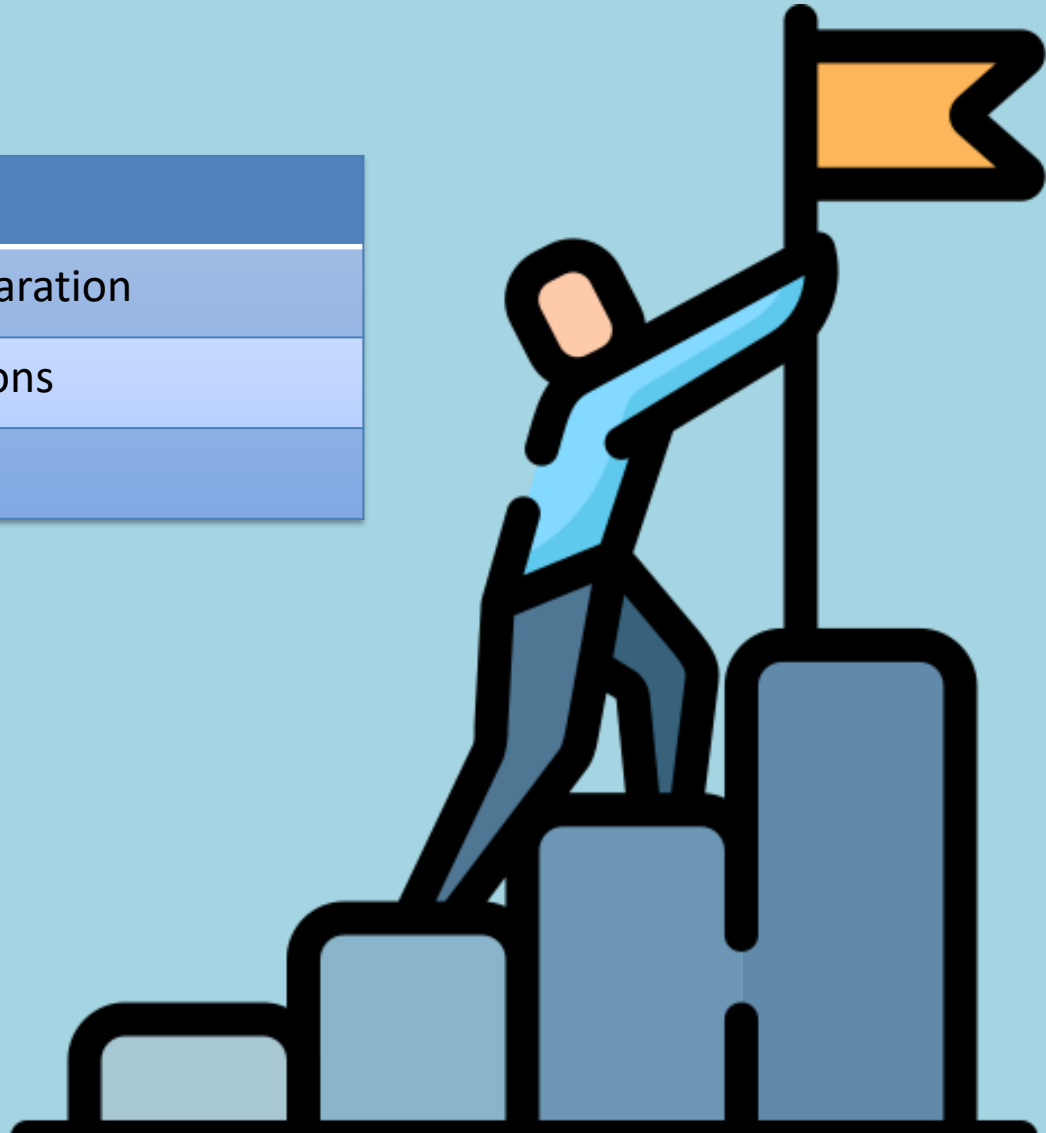
Agenda

Data Description

Data Cleaning and Preparation

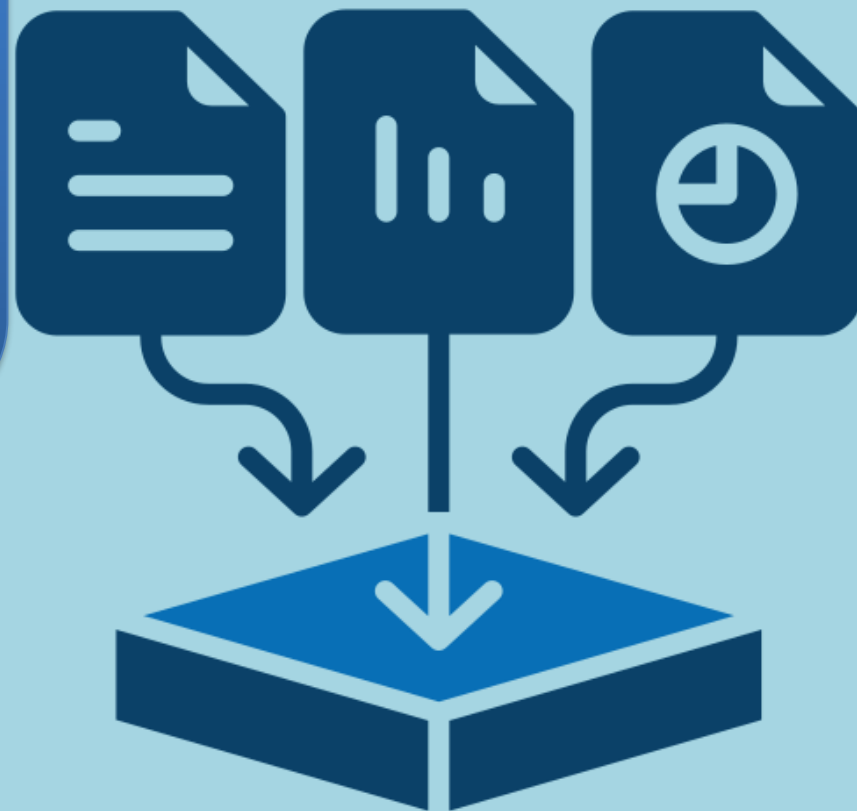
Analysis and Visualizations

Findings and Insights



Data Collection

collecting data from Amazon by scraping information about laptops, which included the laptop name, price, and customer reviews.



Tools Used

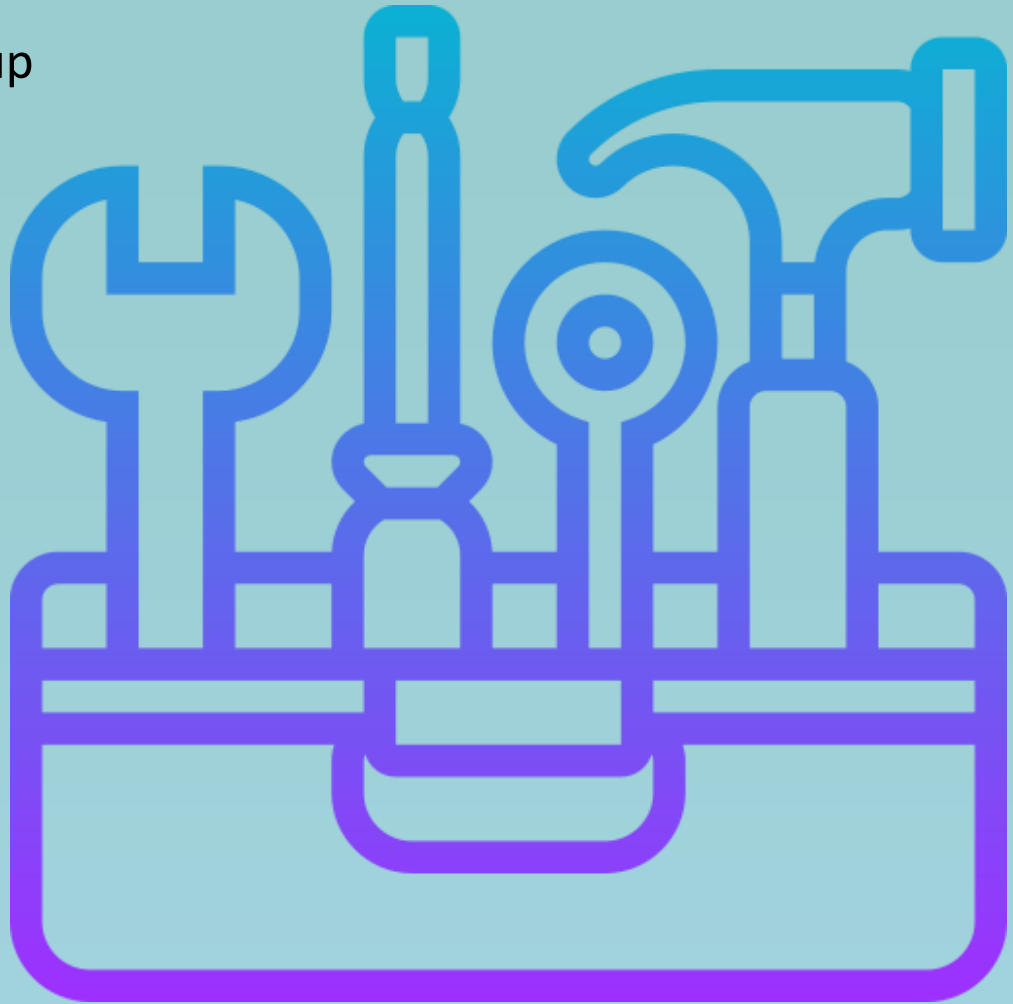
Python libraries such as BeautifulSoup for web scraping.

Pandas for data manipulation.

Requests for making HTTP requests.

CSV for saving the data.

After scraping, the data is organized and saved into a CSV file for easier analysis.



Data Cleaning and Preparation

steps in the data cleaning and preparation phase, which are essential for making the dataset ready for analysis and visualization:

- Remove Duplicates: Ensured each record is unique.
- Find and Replace Values: Corrected inconsistencies in data (e.g., "Male" vs "male").
- Categorize Data: Grouped values like income into categories (e.g., low, medium, high).

Other important cleaning tasks to focus on:

- Handling Missing Data.
- Converting Data Types.



Analysis and Visualizations

The final Power BI report contains:

- A **Brand Distribution Bar Chart** showing product availability by brand.
- A **Rating Gauge** that displays the average customer rating.
- A **Price Comparison Bar Chart** highlighting the average prices for each brand.
- A **Summary of Total Reviews** to demonstrate the strength of the data.



Findings and Insights

HP

33 products, 4,151 reviews, 4.41 rating, \$1,000+
(Premium, high satisfaction).

Acer

25 products, 71,000 reviews, 4.31 rating, \$700–\$800
(Affordable, well-rated).

Lenovo

19 products, 7,067 reviews, 4.18 rating, \$800–\$900
(Balanced pricing & rating).

Dell

14 products, 79 reviews, 3.51 rating, ~\$2,000
(High-end, lower satisfaction).

Samsung

10 products, 7,025 reviews, 4.4 rating, ~\$1,000 (Best rating, mid-range).



Attachment

Row Dataset

Automatisches Speichern

Amazon_laptob_products - Auf "diesem PC" gespeichert

Suchen

DatiStartEinfügenSeitenlayoutFormelnDatenÜberprüfenAnsichtHilfe

Einfügen

Schriftart

Ausrichtung

Zahl

Bedingte Formatierung

Als Tabelle formatieren

Zellenformatvorlagen

Einfügen

Löschen

Format

AutoSumme

Ausfüllen

Löschen

Sortieren und Filtern

Suchen und Auswählen

Add-Ins

Datenanalyse

Copilot

Kommentare

Freigeben

A26

SAMSUNG 13.3â€ Galaxy Book2 Pro Laptop Computer, i5 / 8GB / 256GB, 12th Gen Intel Core Processor, Evo Certified, Lightweight, 2022 Model, Graphite

	A	B	C	D	E	F	G	H	I	J	K	L
1	Description	Price	Review	Rating								
2	Lenovo 2022 Newest Ideapad 3 Laptop, 15.6" HD Touchscreen, 11th Gen Intel Core i3-1115G4 Processor, 8GB DDR4 RAM, 256GB PCIe NVMe SSD, HDMI, Webcam, Wi-Fi 5, Bluetooth, Windows 11 Home, Almond	959	1.730	4.4 out of 5 stars								
3	Acer Aspire 5 A515-46-R3UB 15.6" Full HD IPS Display AMD Ryzen 3 3350U Quad-Core Mobile Processor 4GB DDR4 128GB NVMe SSD Wi-Fi 6 Backlit KB FPR Amazon Alexa Windows 11 Home in S mode	352	39.338	4.5 out of 5 stars								
4	Acer Nitro 5 AN515-55-53E5 Gaming Laptop Intel Core i5-10300H NVIDIA GeForce RTX 3050 GPU 15.6" FHD 144Hz IPS Display 8GB DDR4 256GB NVMe SSD Wi-Fi 6 Backlit Keyboard	775	5.180	4.5 out of 5 stars								
5	Lenovo 2022 Newest Ideapad 3 Laptop, 15.6" HD Touchscreen, 11th Gen Intel Core i3-1115G4 Processor, 8GB DDR4 RAM, 256GB PCIe NVMe SSD, HDMI, Webcam, Wi-Fi 5, Bluetooth, Windows 11 Home, Platinum Grey	365	148	4.4 out of 5 stars								
6	HP 2020 Flagship 14 Chromebook Laptop Computer 14-Inch HD SVA Anti-Glare Display Intel Celeron N5000 Processor 4GB DDR4 64GB eMMC WiFi Webcam Chrome OS (Renewed)	139	2.331	4.4 out of 5 stars								
7	Acer Aspire Vero AV15-51-51S5 Green PC 15.6" FHD IPS 100% sRGB Display 11th Gen Intel Core i5-1155G7 Intel Iris Xe Graphics 8GB DDR4 256GB SSD Wi-Fi 6 PCR Materials Windows 11 Home	559	261	4.5 out of 5 stars								
8	Acer Swift X SFX14-41G-R1S6 Creator Laptop 14" Full HD 100% sRGB AMD Ryzen 7 5800U NVIDIA RTX 3050Ti GPU 16GB LPDDR4X 512GB SSD Wi-Fi 6 Backlit KB Amazon Alexa Windows 10 Home	775	653	4.4 out of 5 stars								
9	Acer Chromebook 311 Laptop AMD A-Series Dual-Core A4-9120C 11.6" HD Display AMD Radeon R4 Graphics 4GB DDR4 64GB eMMC 802.11ac Wi-Fi 5 Bluetooth 4.2 Chrome OS CB311-10H-42LY	145	513	4.3 out of 5 stars								
10	Dell Precision 5000 5760 17" Mobile Workstation - Full HD Plus - 1920 x 1200 - Intel Core i7 11th Gen i7-11850H Octa-core (8 Core) 2.50 GHz - 32 GB RAM - 512 GB SSD - Gray	2.356,00	1	4.0 out of 5 stars								
11	Acer 2022 15inch HD IPS Chromebook, Intel Dual-Core Celeron Processor Up to 2.55GHz, 4GB RAM, 32GB Storage, Super-Fast WiFi Up to 1300 Mbps, Chrome OS-(Renewed) (Dale Silver)	399	711	4.4 out of 5 stars								
12	Samsung Chromebook 4 Chrome OS 11.6" HD Intel Celeron Processor N4000 4GB RAM 32GB eMMC Gigabit Wi-Fi - XE310X8A-K01U5	139	2.327	4.4 out of 5 stars								
13	Lenovo - Legion 5 - Gaming Laptop - AMD Ryzen 5 5600H - 8GB DDR4 RAM - 512GB NVMe TLC SSD - NVIDIA GeForce RTX 3060 Graphics - 15.6" FHD 120 Hz - Windows 11 Home - Phantom Blue	899	19	4.7 out of 5 stars								
14	Acer Aspire 5 A515-56-347N Slim Laptop - 15.6" Full HD IPS Display - 11th Gen Intel i3-1115G4 Dual Core Processor - 8GB DDR4 - 128GB NVMe SSD - Wi-Fi 6 - Amazon Alexa - Windows 11 Home in S Mode	360	3.960	4.3 out of 5 stars								
15	Lenovo IdeaPad 1 Laptop, 14.0" HD Display, Intel Celeron N4020, 4GB RAM, 64GB Storage, Intel UHD Graphics 600, Windows 11 in S Mode, Ice Blue	215	1.232	4.2 out of 5 stars								
16	Lenovo IdeaPad 1 14 Laptop, 14.0" HD Display, Intel Celeron N4020, 4GB RAM, 64GB Storage, Intel UHD Graphics 600, Win 10 in S Mode, Ice Blue	251	1.634	4.4 out of 5 stars								
17	Acer Nitro 5 AN515-58-725A Gaming Laptop Intel Core i7-12700H NVIDIA GeForce RTX 3060 GPU 15.6" FHD 144Hz 3ms IPS Display 16GB DDR4 512GB Gen 4 SSD Killer Wi-Fi 6 RGB Keyboard	1.449,00	5.243	4.6 out of 5 stars								
18	Lenovo - 2021 - IdeaPad Gaming 3 - Laptop Computer - 15.6" FHD Display -120Hz - AMD Ryzen 5 5600H - 8GB RAM - 256GB Storage - NVIDIA GeForce GTX 1650 - Windows 11 Home	807	1.240	4.4 out of 5 stars								
19	Lenovo - Legion 5i - Gaming Laptop - Intel Core i7-11800H - 8GB DDR4 RAM - 1TB NVMe TLC SSD - NVIDIA GeForce RTX 3050 Ti Graphics - 17.3" FHD 144Hz - Windows 11 Home - Phantom Blue	999	6	3.1 out of 5 stars								
20	Lenovo - Legion 5 - Gaming Laptop - 15.6" FHD - AMD Ryzen 5 5600H - 8GB DDR4 RAM - 512GB NVMe TLC SSD - NVIDIA GeForce RTX 3050 Ti Graphics - Windows 11 Home - Phantom Blue	863	15	4.8 out of 5 stars								
21	Lenovo - 2022 - IdeaPad Flex 5i - 2-in-1 Chromebook Laptop Computer - Intel Core i3-1115G4 - 13.3" FHD Touch Display - 8GB Memory - 256GB Storage - Chrome OS	329	537	4.5 out of 5 stars								
22	Acer Predator Helios 300 Gaming Laptop 12th Gen Intel i7-12700H GeForce RTX 3060 Laptop GPU 17.3" Full HD 144Hz 3ms IPS Display 16GB DDR5 512GB Gen 4 SSD Killer Wi-Fi 6E PH317-56-70XJ	1.702,00	3.597	4.6 out of 5 stars								
23	Lenovo - Legion Slim 7 - Gaming Laptop - AMD Ryzen 7 5800H - 16GB DDR4 RAM - 2 x 1TB NVMe TLC SSD - NVIDIA GeForce RTX 3060 Max-Q Graphics - 15.6" FHD 165 Hz - Windows	1.199,00	40	4.8 out of 5 stars								
24	Acer Swift 3 Intel Evo Thin & Light Laptop 14.0" Full HD IPS Intel i7-1165G7 Intel Iris Xe Graphics 8GB LPDDR4X 512GB SSD Wi-Fi 6 Fingerprint Reader Back-lit KB SF314-511-7412	863	238	4.3 out of 5 stars								
25	Acer Chromebook Spin 311 Convertible Laptop Intel Celeron N4000 11.6" HD Touch Corning Gorilla Glass Display 4GB LPDDR4 64GB eMMC Intel 802.11ac Gigabit WiFi 5 Chrome OS CP311-2H-C7QD	185	11.245	4.6 out of 5 stars								
26	SAMSUNG 13.3â€ Galaxy Book2 Pro Laptop Computer, i5 / 8GB / 256GB, 12th Gen Intel Core Processor, Evo Certified, Lightweight, 2022 Model, Graphite	810	11	4.2 out of 5 stars								
27	Acer Swift X SFX14-51G-71Y1 Creator Laptop 14" 2240 x 1400 100% sRGB 12th Gen Intel i7-1260P NVIDIA RTX 3050 Laptop GPU 16GB LPDDR5 512GB NVMe SSD Wi-Fi 6E Backlit Keyboard Windows 11	1.148,00	11	4.0 out of 5 stars								
28	Acer Predator Helios 300 Gaming Laptop 12th Gen Intel i7-12700H GeForce RTX 3060 Laptop GPU 17.3" Full HD 144Hz 3ms IPS Display 16GB DDR5 512GB Gen 4 SSD Killer Wi-Fi 6E PH317-56-70XJ	1.702,00	3.598	4.6 out of 5 stars								
29	Acer ConceptD 3 Pro CN315-71P-58N0 Creator Laptop, Intel i5-9300H, NVIDIA Quadro T1000, NVIDIA Studio, 15.6" FHD IPS, 100% DCI-P3 Color Gamut, Pantone Validated, Delta E<2, 16GB DDR4, 512GB NVMe SSD	1.353,00	3	4.1 out of 5 stars								
30	Acer Porsche Design Book RS AP714-51T-592V, Thin & Light Intel Evo, 14" FHD Touch, 11th Gen Core i5-1135G7, Intel Iris Xe Graphics, 8GB LPDDR4X, 512GB NVMe SSD, Intel Wi-Fi 6, FPR, Back-lit KB	1.399,00	5	4.8 out of 5 stars								
31	SAMSUNG 14" Galaxy Book2 Business Laptop Computer, i7P / 32GB / 1TB, Windows 11 PRO, 12th Gen Intel vPro 28W Processor w/ Enhanced Security, 2022 Model, â€NP641BEF-KA3US, Graphite	3.209,00	1	5.0 out of 5 stars								
32	HP 14" Touchscreen Chromebook - Intel Celeron N3350 - 4GB Memory - 32GB eMMC - Wi-Fi & Bluetooth - Webcam - Gray	247	349	4.6 out of 5 stars								
33	HP Stream 14inch HD(1366x768) Display, Intel Celeron N4000 Dual-Core Processor, 4GB RAM, 32GB eMMC, HDMI, Wi-Fi, Webcam, Bluetooth, Win10 S, Royal Blue, 14-cb161wm (Renewed)	438	1.166	4.4 out of 5 stars								
34	SAMSUNG 13.3â€ Galaxy Book2 Pro Laptop Computer, i7 / 8GB / 512GB, 12th Gen Intel Core Processor, Evo Certified, Lightweight, 2022 Model, Graphite	999	205	4.3 out of 5 stars								
35	Dell C1422H 14" Full HD LCD Monitor - 16.9 - Silver	269	55	4.3 out of 5 stars								
36	Dell Latitude 5000 5421 14" Notebook - Full HD - 1920 x 1080 - Intel Core i7 11th Gen i7-11850H Octa-core (8 Core) 2.50 GHz - 16 GB RAM - 256 GB SSD - Titan Gray Dull	1.352,00	1	5.0 out of 5 stars								
37	SAMSUNG Electronics Chromebook 4 (2021 Model Without SD Slot) 11.6" Full HD Graphics 600, Celeron Processor N4020, 4GB, 32GB, Wi-Fi - Platinum Titan (XE310X8A-KC1U5)	213	81	4.0 out of 5 stars								
38	Lenovo Flex 5i - 14.0" FHD Touch Display - Intel Core i7-1165G7 - 12GB DDR4 RAM - 512GB M.2 NVMe SSD - Intel Iris Xe Graphics - Windows 11 Home - Graphite Grey	795	13	4.8 out of 5 stars								
39	Lenovo Chromebook C340 Laptop, 15.6" FHD (1920 X 1080) Display, Intel Core i3-8130U Processor, 4GB DDR4 RAM, 64GB SSD, Intel UHD Graphics 620, Chrome OS, 2 In 1 Touchscreen, 81T90002UX, Mineral Grey	423	237	4.2 out of 5 stars								
40	Dell Precision 3000 3571 15.6" Mobile Workstation - Full HD - 1920 x 1080 - Intel Core i7 12th Gen i7-12800H Decode-core (12 Core) 2.40 GHz - 16 GB Total RAM - 512 GB SSD - Titan Gray	1.986,00	1	5.0 out of 5 stars								
41	Dell XPS 13 Plus 9320 13.4" Touchscreen Notebook - 3.5K - 3456 x 2160 - Intel Core i7 12th Gen i7-1260P Decode-core (12 Core) - Intel Evo Platform - 32 GB Total RAM - 32 GB On-Board Memory - 1 TB SSD	2.101,00	1	2.0 out of 5 stars								

Amazon_laptob_products

Cleaning

+

Bereit

Barrierefreiheit: Keine Probleme

99%

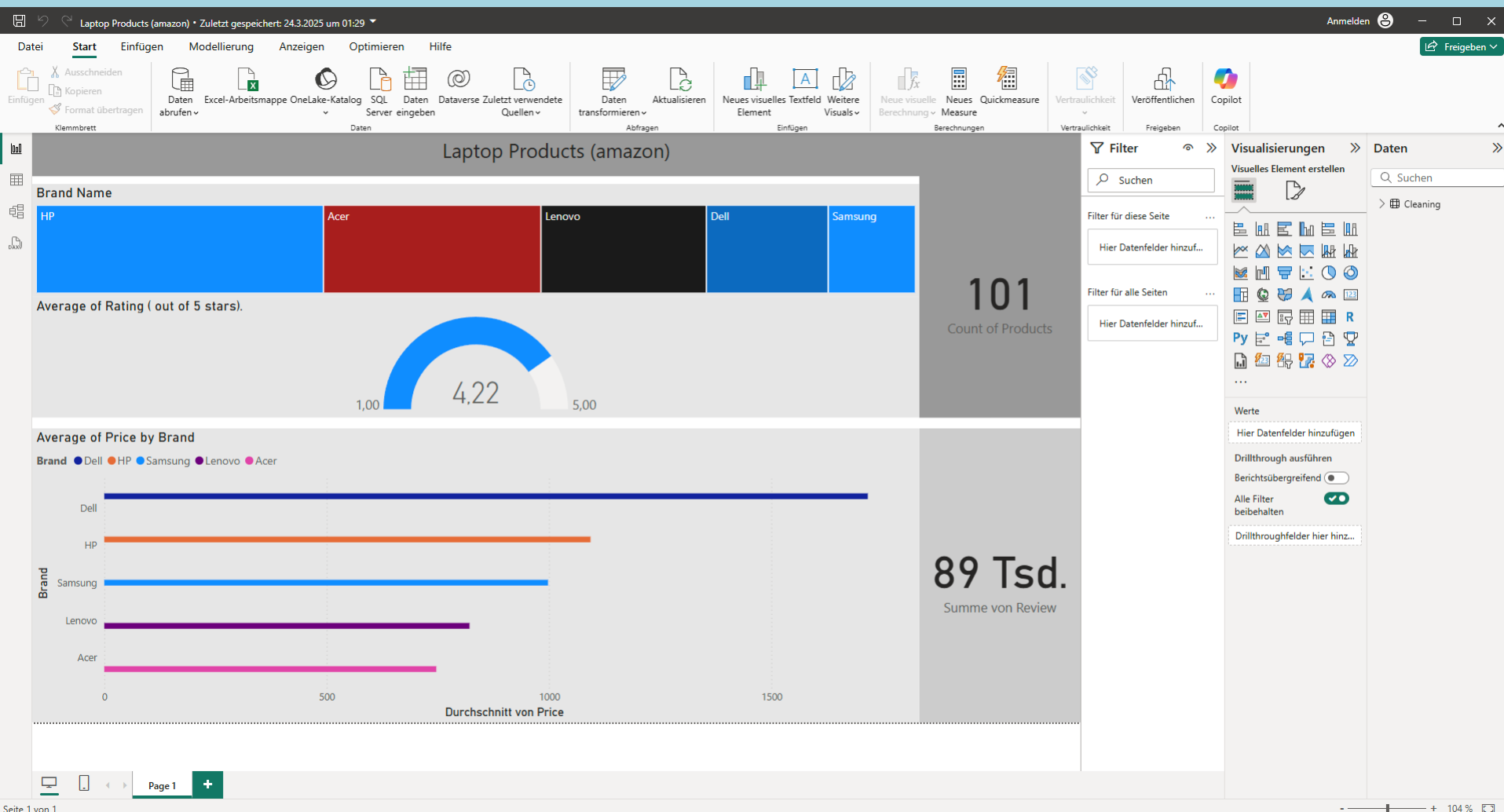
Attachment

Data Cleaning and Preparation

Automatisches Speichern Amazon_laptob_products - Auf "diesem PC" gespeichert Suchen													
Datei Start Einfügen Seitenlayout Formeln Daten Überprüfen Ansicht Hilfe										Kommentare		Freigeben	
<div>Einfügen Calibri 11 Textumbruch Standard Bedingte Formatierung Als Tabelle formatieren Zellenformatvorlagen Einfügen Löschen Format AutoSumme Ausfüllen Sortieren und Filtern Suchen und Auswählen Add-Ins Datenanalyse Copilot</div>										Add-Ins			
Zwischenablage Schriftart Ausrichtung Zahl Formatvorlagen Zellen Bearbeiten													
H3													

Attachment

Analysis and Visualizations



Thank you for your attention