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**Milestone 1 Project**

**Dataset and data sources**

**CSV:**

**Description:** This CSV file contains customer sales data for an e-commerce company. It includes information product details

This is a Product Sales Dataset scraped from the Amazon website

Its product data are separated by 142 categories in csv format, along with the full dataset name Amazon-Products.csv.

Each csv files are consisting of 10 columns and each row has products details accordingly

**Link:**

<https://www.kaggle.com/datasets/lokeshparab/amazon-products-dataset?select=All+Appliances.csv>

**API:**

<https://currencyapi.com/pricing/>

**Description:** This API provides access to real-time currency exchange rates. It offers information on exchange rates between different currencies, such as USD, EUR, GBP, etc., which can be used to analyze sales data in different currencies.

The Currency Conversion API is a powerful tool for handling exchange rate conversions in data science projects. This API offers current and historical foreign exchange rates, providing accurate and up-to-date currency conversion data. It eliminates the need to worry about uptime or outdated information, ensuring reliable access to the latest rates.

With support for over 170 currencies, the Currency Conversion API allows users to convert between various currency pairs effortlessly. Whether it's USD to EUR, USD to JPY, or any other supported currency, this API provides reliable and real-time forex quotes with a 60-second update frequency.

One of the key advantages of this API is its simplicity and reliability. Built on a robust infrastructure capable of handling millions of requests per day, it offers a fast and secure service. Data is updated every 60 seconds, ensuring that users have access to the most current rates for their currency conversion needs.

The Currency Conversion API has a wide range of applications in data science projects. It can be used to analyze international sales data, perform financial calculations, optimize pricing strategies, and create currency conversion tools. By incorporating this API into data science workflows, users can gain valuable insights into global economic trends, facilitate cross-border transactions, and enhance financial decision-making processes.

Furthermore, the API's historical rates feature allows users to access past exchange rate data, enabling historical analysis and trend identification. This can be beneficial for conducting retrospective analysis, back testing financial models, or performing research on currency fluctuations over time.

Overall, the Currency Conversion API simplifies the process of handling exchange rate conversions by providing real-time and historical currency exchange data. Its comprehensive coverage of currencies, fast response times, and secure infrastructure make it a valuable resource for data scientists and developers working on projects involving global finance, international trade, or cross-border transactions.

**Link:**

<https://currencyapi.com/pricing/>

**Website:**

**Description:** This website hosts customer reviews and ratings for various products sold by the e-commerce company. It includes attributes like product name, customer ratings, review text, and review date.

Amazon is a global e-commerce giant that has revolutionized the way people shop online. With its extensive product catalog, customer reviews, and sales data, Amazon provides a wealth of opportunities for data science projects. Leveraging Amazon's data can unlock valuable insights, improve customer experiences, and drive business growth.

In our project, Amazon's data can be utilized in various ways. One application is analyzing customer behavior and preferences. By examining the browsing patterns, purchase history, and product reviews of Amazon customers, data scientists can uncover trends, identify customer segments, and personalize recommendations. This can enhance the overall shopping experience and increase customer satisfaction.

Furthermore, Amazon's data can be harnessed for demand forecasting and inventory management. By analyzing historical sales data, product availability, and external factors, data scientists can build predictive models to forecast demand, optimize inventory levels, and streamline supply chain operations. This can minimize stockouts, reduce excess inventory, and improve overall operational efficiency.

Additionally, Amazon's customer reviews and ratings provide a valuable source of sentiment analysis. By applying natural language processing techniques, data scientists can extract insights from customer feedback, understand product sentiment, and identify areas for improvement. This feedback loop can inform product development, marketing strategies, and customer service enhancements.

Moreover, data scientists can leverage Amazon's data for market research and competitor analysis. By analyzing product listings, pricing information, and customer reviews, they can gain valuable insights into market trends, competitor offerings, and consumer preferences. This information can drive strategic decision-making, such as identifying gaps in the market, launching new products, or optimizing pricing strategies.

It is important to note that while Amazon's data offers tremendous potential, ethical considerations must be taken into account. Safeguarding customer privacy, ensuring fair data usage, and mitigating biases in algorithms are critical aspects that need to be addressed when working with Amazon's data.

In conclusion, Amazon's vast dataset presents a treasure trove of opportunities for data science projects. By harnessing this data effectively and ethically, data scientists can unlock valuable insights, optimize business processes, and deliver enhanced customer experiences in the realm of e-commerce and beyond.

**Link:**

[https://www.amazon.com/ref=nav\\_logo](https://www.amazon.com/ref=nav_logo)

**Project Description:**

The "Customer Sales Data" CSV file can be linked to the "Currency Exchange Rates API" by the order date. By leveraging the API, you can convert sales data from different currencies into a common currency for analysis and comparison.

The "Customer Sales Data" CSV file can be connected to the "Product Reviews and Ratings" website using the product name or ID. This enables you to incorporate customer feedback and ratings into the analysis of sales data, such as exploring correlations between product ratings and sales performance