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Data:

https://www.kaggle.com/datasets/rkiattisak/mobile-phone-price

Data Overview

This dataset provides information on the prices of various mobile phones from different brands. It includes detailed attributes such as:

- Brand: Manufacturer of the phone
- Model: Name of the phone model
- Storage (GB): Storage capacity in gigabytes
- RAM (GB): Amount of RAM in gigabytes
- Screen Size (inches): Size of the display screen
- Camera (MP): Megapixel count of the rear camera(s)
- Battery Capacity (mAh): Capacity of the battery in milliampere hours
- Price ($): Retail price of the phone in US dollars

Each row represents a different mobile phone model, and the dataset can be used to analyze pricing trends and compare features across different models.

Objective

The objective of this analysis is to explore how various specifications of mobile phones impact their prices. By examining the dataset, which includes attributes like brand, storage, RAM, screen size, camera quality, and battery capacity, we aim to:

- Identify pricing trends
- Determine how different features influence the price of mobile phones
- Understand how manufacturers price their products

Tools and Techniques

1. Python:
    - Used for its ease of use and capability to handle data analysis effectively.
2. Data Manipulation:
    - Pandas: For data cleaning and organization, facilitating easier analysis.
    - NumPy: For numerical operations and calculations.
3. Data Visualization:
    - Matplotlib and Seaborn: For creating charts and graphs to visualize patterns and trends in the data.
    - Power BI: For creating interactive dashboards and detailed reports.
4. Exploratory Data Analysis (EDA):
    - Techniques such as calculating correlation and summary statistics (mean, median) will help understand relationships between features and prices.
5. Machine Learning Models (if applicable):
    - Linear Regression: To predict phone prices based on features like RAM, storage, battery capacity, and camera quality.
    - Decision Trees/Random Forest: To identify the most influential features affecting phone prices.
6. Model Evaluation:
    - Mean Absolute Error (MAE): To measure the average prediction error and assess the accuracy of the models.