

Laptop Dataset – Data Exploration Report

1. Importing Libraries

Pandas and NumPy libraries are imported. Pandas helps in data loading, cleaning and analysis, while NumPy supports numerical operations.

2. Loading the Dataset

The dataset 'laptop_data.csv' is loaded using `pandas.read_csv()`. The code tries an alternative encoding to prevent errors when special characters are present.

3. Displaying Dataset Samples

`head()` shows the first 5 rows, while `tail()` displays the last 5 rows. This helps understand the dataset's structure and sample entries.

4. Dataset Dimensions

`shape()` reveals the total number of rows and columns, giving a clear idea of dataset size.

5. Checking Missing Values

`isnull().sum()` is used to detect missing values in each column before performing cleaning.

6. Handling Missing Values

Missing values are filled based on column type: Mode for text columns and Mean for numerical columns.

7. Verifying Data Types

`dtypes` displays each column's datatype. This helps decide further preprocessing steps like encoding or scaling.