Day-7 2311cs020129

1. **Load and Explore the Data**
   * Load the sales\_data.csv file using Pandas.
   * Display the first 5 rows of the dataset.
   * Print basic statistics (mean, median, min, max, etc.) of the numerical columns using .describe().

**Program:**

import pandas as pd

sales\_data = pd.read\_csv('sales\_data.csv')

print(sales\_data.head())

print(sales\_data.describe())

1. **Data Analysis**
   * Calculate the total sales for each region.
   * Find the most sold product (based on quantity).
   * Compute the average profit margin for each product. (Profit margin = Profit / Sales \* 100)

**Program:**

import pandas as pd

sales\_data = pd.read\_csv('sales\_data.csv')

total\_sales\_by\_region = sales\_data.groupby('Region')['Sales'].sum()

print("Total Sales by Region:")

print(total\_sales\_by\_region)

most\_sold\_product = sales\_data.groupby('Product')['Quantity'].sum().idxmax()

print("\nMost Sold Product (based on quantity):")

print(most\_sold\_product)

sales\_data['Profit Margin'] = (sales\_data['Profit'] / sales\_data['Sales']) \* 100

average\_profit\_margin = sales\_data.groupby('Product')['Profit Margin'].mean()

print("\nAverage Profit Margin for Each Product:")

print(average\_profit\_margin)