Customer Segmentation using K-Means Clustering with Python | machine Learning

Agenda:- To divide n customers into k groups that reflect similarity among customers in each group. The goal of segmenting customers is to decide how to relate to customers in each segment in order to maximize the value of each customer to the business.

Workflow:-

Step 1: Customer Data

Collect the required data from all the customers.

Step 2: Data Pre-processing

Preparing the raw data and making it suitable for a machine learning model.

Step 3: Data Analysis

Extracting useful information from large datasets to identify patterns and trends.

Step 4: Choose optimum number of clusters

To determine the optimal number of clusters, we have to select the value of k at the "elbow," ie the point after which the distortion/inertia starts decreasing in a linear fashion.

Step 5: K means clustering algorithm

Feed the data to the K means clustering algorithm and get the output.

Step 6: Visualizing the Clustering.

Get the output by visualizing it through the help of a graph.

Libraries used:-

Numpy :- Standard for working with numerical data in Python.
Pandas:- Python library used for working with data sets.
Matplotlib:- Matplotlib is a comprehensive library for creating static, animated, and interactive visualizations in Python.
Seaborn:- Seaborn is a Python data visualization library based on matplotlib. It provides a high-level interface for drawing attractive and informative statistical graphics.
SK Learn:- a python library to implement machine learning models and statistical modeling.