AL2002 – Artificial Intelligence Lab

Lab Task # 07

Note:

- Plagiarism will not be **tolerated!!**
- Use comments wherever applicable.
- Please ensure to submit both a PDF document and a Python file containing your code on the classroom platform.

Problem: 1 - Customer Segmentation using K-means Clustering.

1. Load the customer segmentation dataset.
2. Clean the data by removing any duplicates, and missing values.
3. Preprocess the data by scaling the features to ensure they are on the same scale. You can use standardization or normalization techniques for this step.
4. Select the relevant features that are most important in determining customer behavior.
5. Apply K-means clustering to the preprocessed and selected features to identify customer segments with similar behavior and demographics.
6. Visualize the resulting clusters using techniques like scatter plots.

Problem: 2 - Optimal number of clusters

1. Choose the optimal number of clusters using techniques like the elbow method and then apply k-mean clustering algorithm.