Structured Data Assignment

Problem statement - 3

Objective:

- The objective of this analysis is to identify and visualize dominant prescription patterns for the "Target Drug" administered to patients over time using unsupervised techniques, such as clustering. The visualization shows the frequency of prescriptions on the Y-axis and time intervals (in months) on the X-axis, providing insights into how the drug is regularly prescribed to patients.

Dataset:

- Patient-Uid - Unique Alphanumeric Identifier for a patient
- Date - Date when patient encountered the event.
- Incident - This column describes which event occurred on the day.

Approach:

- This code is designed to analyze and visualize prescription patterns for a given dataset. It performs clustering to group patients based on their prescription patterns and visualizes the dominant patterns for each cluster using bar charts.
- Pivot table: The code creates a pivot table to represent prescription patterns, where rows represent patients, columns represent incident types, and values represent the frequency of incidents.
- K-Means clustering: It applies K-Means clustering to group patients into clusters based on their prescription patterns.
- Visualization: The code uses bar charts to visualize the prescription patterns for each cluster, where the X-axis shows incident types and the Y-axis shows prescription frequency.
- The code uses line plots to visualize the prescription patterns for each cluster, where the X-axis shows incident types (or time intervals) and the Y-axis shows prescription frequency.