Solution Methodology Summary

1) Data Loading

2) Data Cleaning and Data Manipulation

- i) Handilng missing data
- ii) Dropping of columns which contains more than 30% missing values
- iii) Imputing the values,if necessary
- iv) check and handle outliers in the data..

3) Exploratory Data Analysis (EDA)

- **Univariate Analysis:**
  - Explore distributions and summary statistics of variables.
- **Bivariate Analysis:**
  - Analyze relationships and correlations between pairs of variables.

4) Feature Scaling, Dummy Variables, and Encoding

- **Feature Scaling:**
  - Normalize or standardize numeric features as needed.
- **Dummy Variables and Encoding:**
  - Convert categorical variables into numerical representations.

5) Checking Correlations Between Independent Variables

- Identify and remove highly correlated variables to mitigate multicollinearity.

6) Variable Selection Using Hybrid Approach

- Apply feature selection techniques (coarse and fine tuning) to eliminate redundant variables.

7) Classification Technique: Logistic Regression

- Implement Logistic Regression for modeling and prediction.

8) Model Evaluation

- Assess model performance using appropriate metrics and cross-validation techniques.

9) Conclusions and Recommendations

- Interpret results, draw conclusions, and provide actionable recommendations based on the analysis.