The sequence of steps we followed in completing our assignments was as follows:

1. Data Cleaning:

- We initiated the process by cleansing the dataset, eliminating unnecessary variables for model construction.
- Columns with more than 30% null values were removed.
- Missing values were imputed using mode values.
- Label names were standardized to ensure consistency.

2. Data Transformation:

a. We transformed multi-category labels into dummy variables.

b. Outliers were examined and it was determined not to remove them.

c. Any redundant or duplicated columns were removed.

3. Data Preparation:

a. The dataset was divided into training and testing subsets and then scaled.

b. A heat map was generated to assess correlations among the variables.

4. Model Building:

- We constructed our model and compared its evaluation scores, ultimately selecting the model with 19 variables identified through recursive feature elimination (RFE) for its stability and accuracy.
- For the final model, we determined the optimal probability cutoff by identifying points and assessing accuracy, sensitivity, and specificity.
- Precision, sensitivity, and specificity were also examined for our final model.
- The model was evaluated on the test set, and predictions were generated.
- Accuracy, sensitivity, and specificity scores were recorded from the final test model.
- Additionally, lead scores were added to the test dataset to highlight the potential for targeting high lead scores compared to low ones.