Breast-Cancer-Prediction

Objective:
The objective of this assessment is to evaluate your understanding and ability to apply supervised learning techniques to a real-world dataset.

Dataset:
Use the breast cancer dataset available in the sklearn library.

Key components to be fulfilled:

1. Loading and Preprocessing

- Load the breast cancer dataset from sklearn.
- Preprocess the data to handle any missing values and perform necessary feature scaling.
- Explain the preprocessing steps you performed and justify why they are necessary for this dataset.

2. Classification Algorithm Implementation

- Implement the following five classification algorithms:
  1. Logistic Regression
  2. Decision Tree Classifier
  3. Random Forest Classifier
  4. Support Vector Machine (SVM)
  5. k-Nearest Neighbors (k-NN)
- For each algorithm, provide a brief description of how it works and why it might be suitable for this dataset.

3. Model Comparison

- Compare the performance of the five classification algorithms.
- Which algorithm performed the best and which one performed the worst?