**Assignment 1: Titanic Survival Prediction**

- **Task**: Use the Titanic dataset to build a decision tree model to predict survival.

- **Objectives**:

  - Perform feature engineering (encode categorical variables)

  - Use DecisionTreeClassifier from scikit-learn

  - Visualize the tree and compute accuracy

**Assignment 2: Decision Tree Pruning Experiment**

- **Task**: Use the Iris dataset to build multiple decision trees with varying max_depth.

- **Objectives**:

  - Compare performance for different depths

  - Plot depth vs. accuracy

  - Identify overfitting vs. underfitting