To simplify the visibility of the decision tree in the iris dataset classification task, I decided to encode the values of each of the four input features (petal width, petal length, sepal length and sepal width) to one of four labels (a, b, c or d). The strategy for encoding follows below rules for all features:

$$a: MIN \leq val < \frac{MIN + MEAN}{2},\ b: \frac{MIN + MEAN}{2} \leq val < MEAN,$$

$$c: MEAN \leq val < \frac{MAX + MEAN}{2},\ d: \frac{MAX + MEAN}{2} \leq val < MAX$$

Decision Tree Classifier for the Iris Dataset, code by Lucas Herranz Gancedo (M11351802)

class 0: Setosa
class 1: Versicolor
class 2: Virginica

Assuming all samples in final tree Level 4 are classified as class1, the decision tree would misclassify 7 samples only. Obtaining a classification accuracy of:

$$100 * (1 - \frac{7}{150}) = 95.33\%$$