

Decision Trees 101

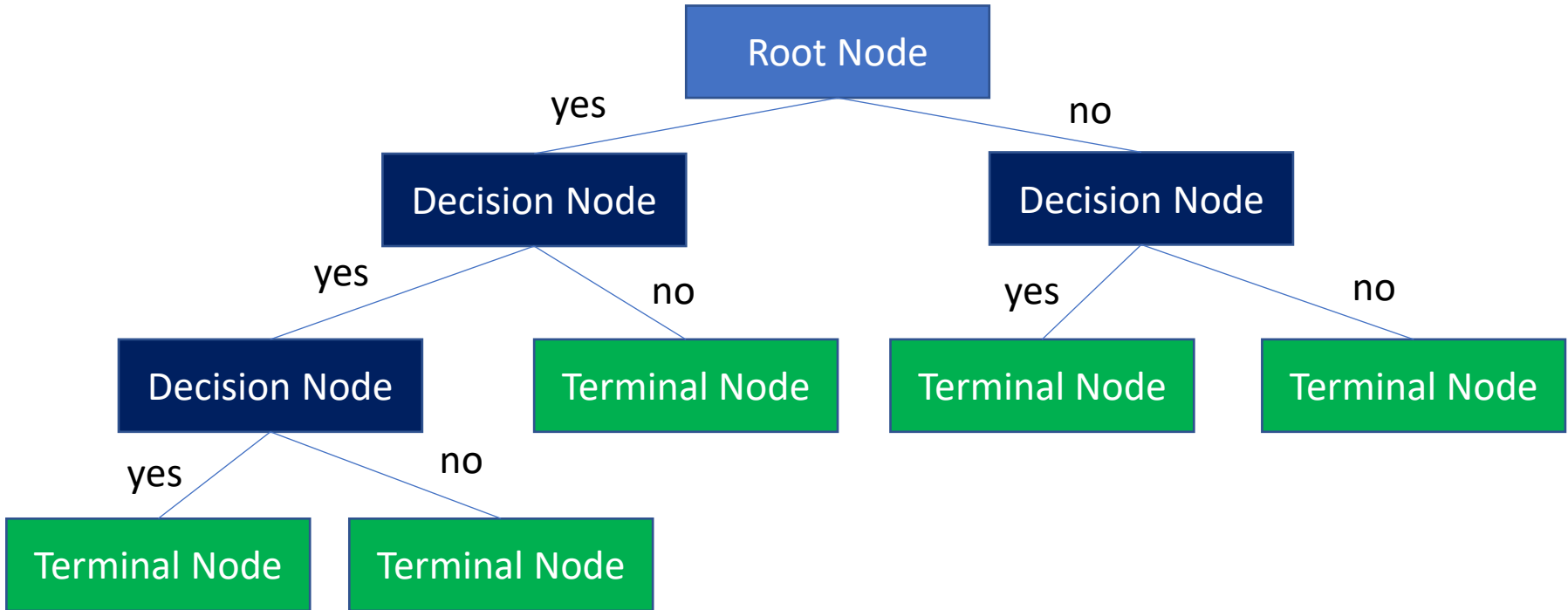
Decision Trees

Introduction

- Classification and Regression technique
- CART – Classification and Regression Trees
- Tree is reversed (root at the top)
- Root, decision, and leaf nodes
- Based on nodes, the tree splits into edges
- Leads to the next node
- ...
- terminal edge, that does not split any more is decision leaf

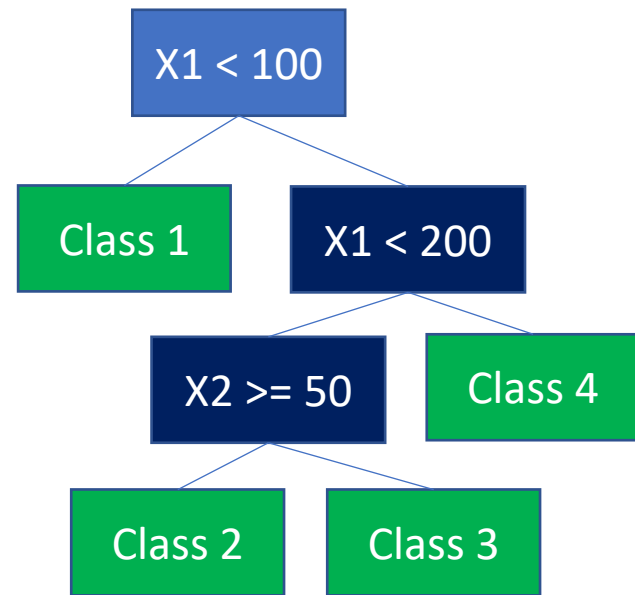
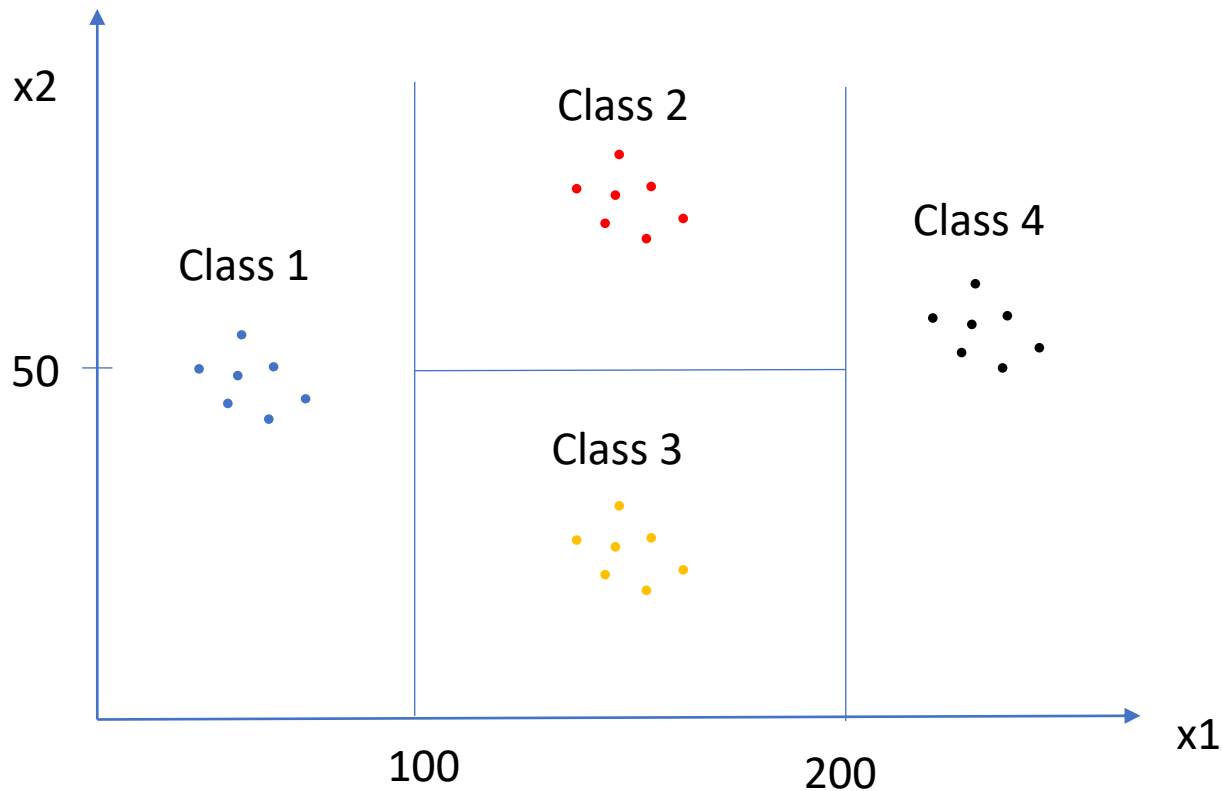
Decision Trees

General Example



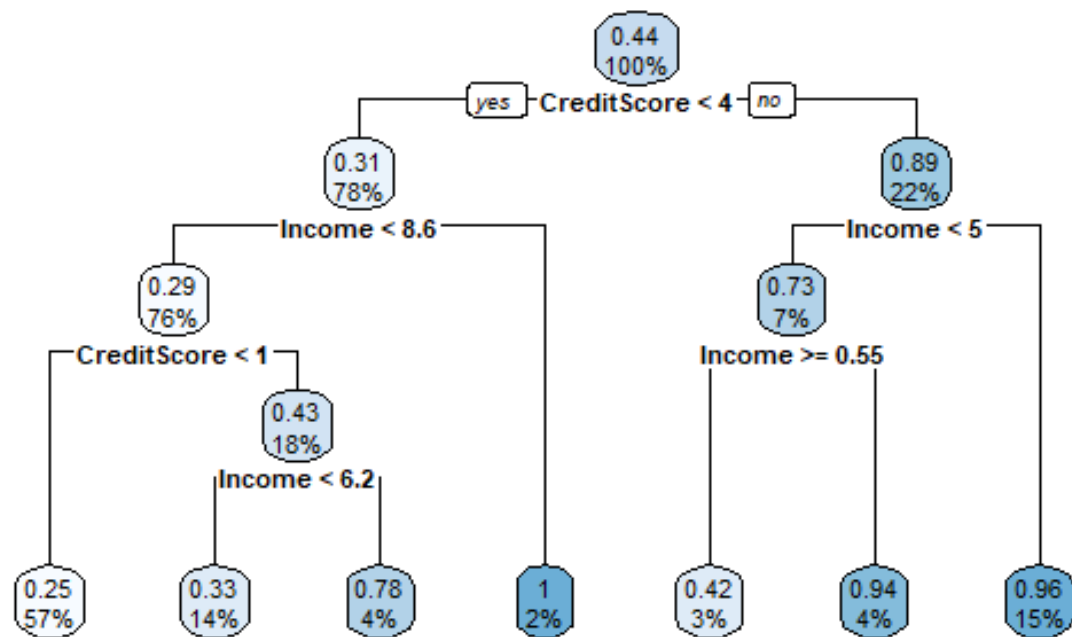
Decision Trees

Principle



Decision Trees

Example: Credit Approval



Decision Trees

Advantages / Disadvantages



- Simple to understand
- Simple to visualise
- Numerical and categorical variables
- Used for classification and regression



- Very prone to overfitting for deep decision trees
- Very prone to underfitting for flat decision trees