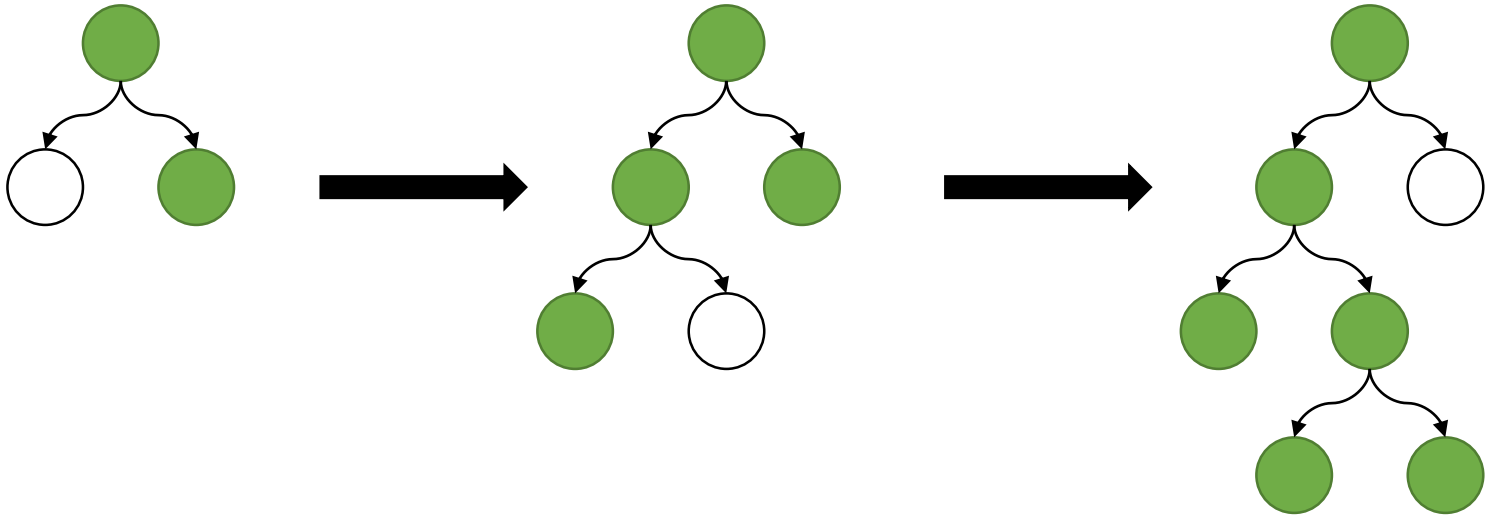

# MACHINE LEARNING

## LG BOOST ALGORITHM

# What is LG Boost Algorithm?

- LGBoost (Light Gradient Boosting) developed by Microsoft
- Effectively handles structured and unstructured datasets
- Incorporates histogram based approach
- Groups data into bins, reduces calculations to create decision tree



It calculates “Gradients of Loss” with predicted values, finds the best split with reduced loss function

# How Does LGBoost Work?

- **Initial Prediction:** makes initial predictions using simple decision tree
- **Splitting**: Splits nodes using gradient based approach
- **Calculate Errors**: calculates loss function to find next best split
- **Iterate**: process repeats by improving errors of previous tree
- **Regularization**: techniques to prevent over fitting
- **Final Model**: predicting accurate output

# Advantages of LGBoost

- Handle huge dataset
- Fast processing and training
- Handles missing values
- Built-in hyper parameter tunung

# Disadvantage of LGBoost Algorithm

- Limited important feature selection
- Over fitting due to handling missing data
- Excessive memory consumption