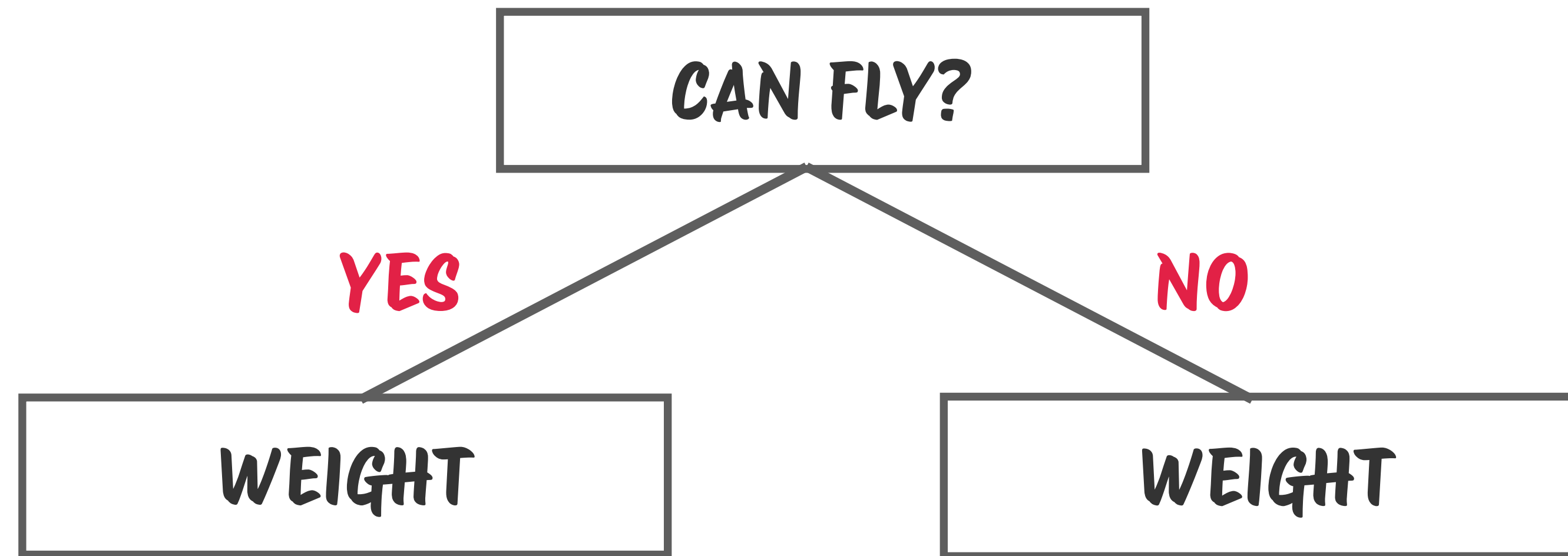# Regression Trees

when what we wish to predict is continuous instead of categorical

for every data point that ends up in a leaf, we predict its value is
the mean of all values that ended up in that node when training

Regression Trees

- For **classification**, purity of the regions is a good indicator the performance of the model

- For **regression**, we want to select a splitting criterion that promotes splits that improves the predictive accuracy of the model as measured by e.g. the MSE

1. start with an empty decision tree

2. choose a predictor on which to split and choose a threshold for splitting such that the weighted average MSE of the new region is as small as possible

3. Recurse on each node until **stopping condition** is met

   ▸ maximum depth

   ▸ minimum number of points in region

   instead of purity gain, we instead compute accuracy gain