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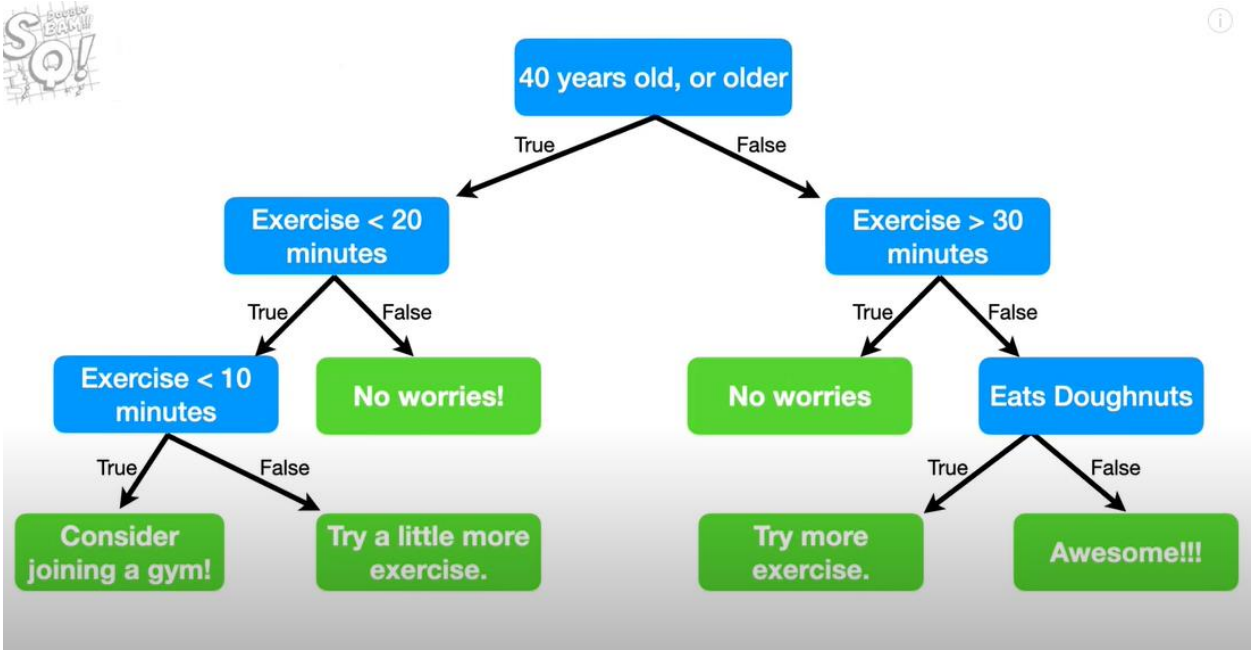
Decision Tree-StatQuest

Decision trees are part of the foundation for Machine Learning. Although they are quite simple, they are very flexible and come up in a very wide variety of situations.

In General, Decision Tree makes a statement. And then makes a decision based on whether or not the statement is TRUE or FALSE. When a Decision Tree classifies things into categories it's called Classification Tree and when a Decision Tree predicts numeric values its call a Regression tree.



Theres a more complicated Classification Tree, it combines numeric data with yes or no data. So, in this case its ok to mix all data types in same Tree. And also notice that the tree asks about Axercing multiple times. When u classify something, it goes from the top (root) to the bottom (leaves) until you get to appoint where you can't go any further.

If we had data and we want to build a tree starting with that data. The first thing we do is decide is whether should be the question we ask at the root. To make that decision, start by looking at a row of the description. The leaves contain column of value from the row of description.

There are several ways to quantify the impurity of the leaves, one of the most popular is Gini Impurity and fancy sounding methods like Entropy and Information Gain.