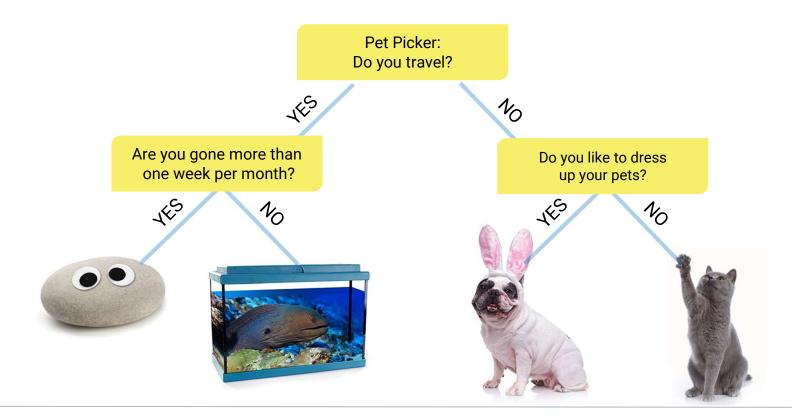




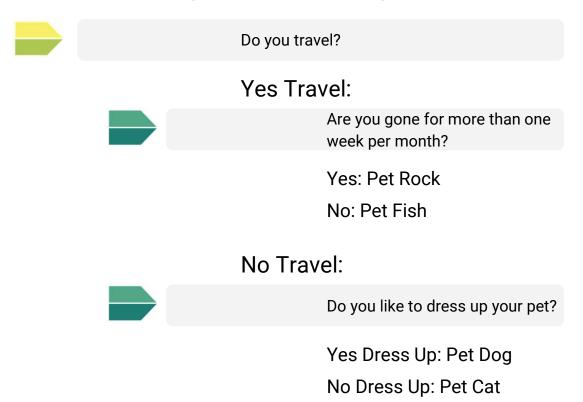
Decision Trees

Decision trees encode a series of true/false questions.



Decision Trees

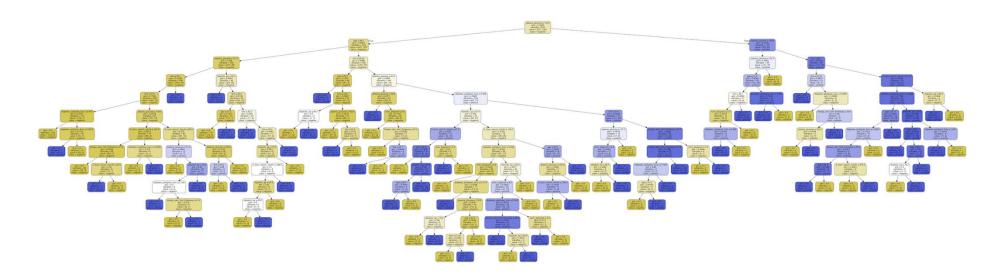
These true/false questions can be represented with a series of if/else statements



```
if (travel):
    if (time > week):
        print("Rock")
    else:
        print("Fish")
else:
    if (dress_up):
        print("Dog")
    else:
        print("Cat")
```

Decision Tree Complexity

Decision trees can become very complex and may not generalize well.



Random Forests

Instead of a single, complex tree like in the previous slide, a random forest algorithm will sample the data and build several smaller, simpler decisions trees (i.e., a forest of trees).

Each tree is much simpler because it is built from a subset of the data.

Each tree is considered a "weak classifier" but when you combine them, they form a "strong classifier."

