Explore Decision Trees

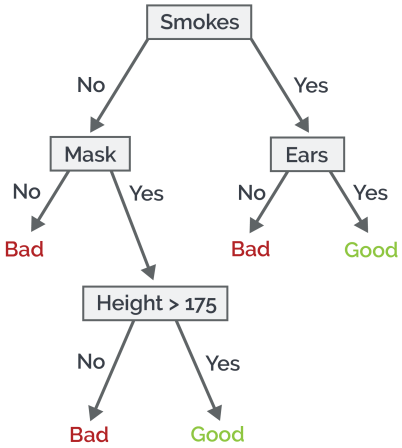
To further explore how decisions trees work, you will complete two exercises that require you to review and make decisions based on some data. Our example data consists of "good" and "bad" individuals and some basic characteristics that describe each individual. Using the data, you will answer a series of questions about decision trees.

Part One: Training a Decision Tree

Take a look at the table below, which contains training data consisting of individuals (inputs), characteristics of those individuals (features) and whether that individual is "good" or "bad" (labels). Answer the questions that follow based on the data.

Training Data:

	Mask	Cape	Tie	Ears	Smokes	Height	Class
Batman	Y	Y	N	Y	N	180	Good
Robin	Y	Y	N	N	N	176	Good
Alfred	N	N	Y	N	N	185	Good
Penguin	N	N	Y	N	Y	140	Bad
Catwoman	Y	N	N	Y	N	170	Bad
Joker	N	N	N	N	N	179	Bad



Does the decision tree displayed above classify the training data correctly?

Yes, it classifies 100% of the data correctly.

✔ No, it does not classify all the data correctly.

Correct. Some of the splits will lead to incorrect lables for training data points.

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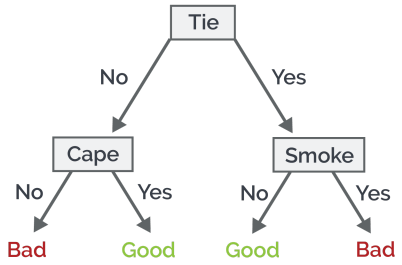
Part Two: Using a Decision Tree

Take a look at the table below, which contains a few test data points consisting of individuals (inputs), characteristics of those individuals (features) but without labels. Based on our training data, we've provided a simple decision tree below that accurately classifies the training data. Use the data and tree to answer the following questions.

Testing Data:

	Mask	Cape	Tie	Ears	Smokes	Height	Class
Batgirl	Y	Y	N	Y	N	165	?
Riddler	Y	N	N	N	N	182	?
Fred	N	N	Y	Y	Y	181	?



Based on this decision tree, what class does **Fred** belong in?

- ○ Good
- ◉ Bad ✔

You got 1 of 1 points

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‹ ✔ Finish