What will the weather be like tomorrow?

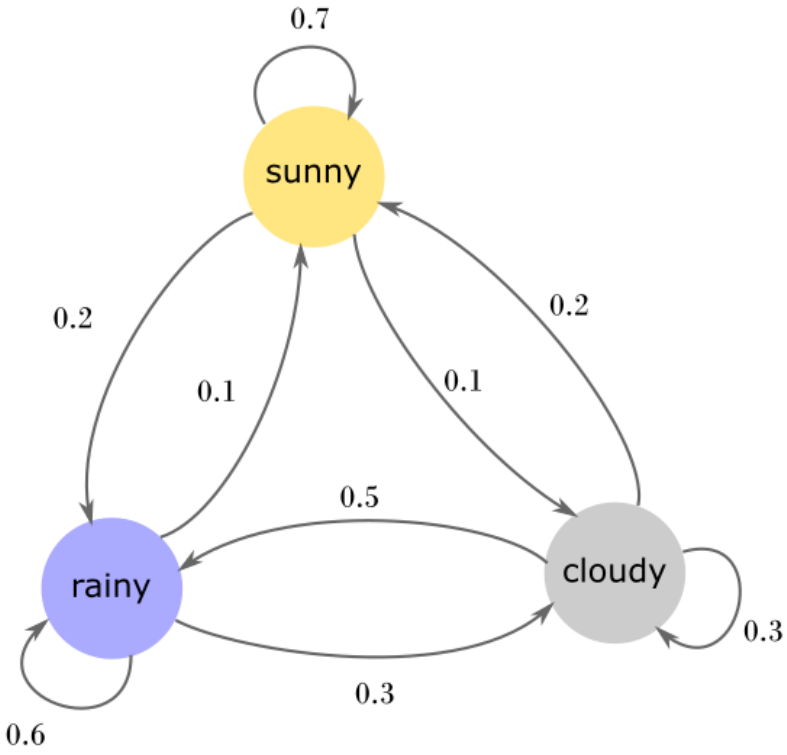
WEATHER TODAY	P(RAINY)	P(CLOUDY)	P(SUNNY)
rainy	0.6	0.3	0.1
cloudy	0.5	0.3	0.2
sunny	0.2	0.1	0.7

We can use that table by selecting what the whether is like today and then looking up the different probabilities for the next day's weather. For example if today is sunny then there is a 20% chance of it being rainy tomorrow, 10% chance of it being cloudy, and 70% chance of it being sunny again.

We can 'chain' together a series of such predictions, which is what Markov Chains are.

Graph Representation

An alternative to the table-view is to think of the states and transitions as a graph:



Making Predictions

Here's a five-day run using a 10-sided dice simulator to decide the next day's weather:

Predicted weather (First day is rainy)

DAY	DICE ROLL	PREDICTED WEATHER
1	9	Cloudy
2	6	Cloudy
3	2	Rainy
4	2	Rainy
5	1	Rainy

This works fine, but it seems rather arduous to have to work out each day's prediction manually.