



MITx: 6.008.1x Computational Probability and Inference



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Introduction to Probability

Exercises due Sep 22, 2016 at 02:30 IST

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A FIRST LOOK AT "RANDOM VARIABLES"

Follow along in an IPython prompt.

We continue with our weather example.

```
> prob_space = {'sunny': 1/2, 'rainy': 1/6, 'snowy': 1/3}
```

We can simulate tomorrow's weather using the above model of the world. Let's simulate two different values, one (which we'll call w for "weather") for whether tomorrow will be sunny, rainy, or snowy, and another (which we'll call i for "indicator") that is 1 if it is sunny and 0 otherwise:

```
> random_outcome = comp_prob_inference.sample_from_finite_probability_space(prob_space)
> W = random_outcome
> if random_outcome == 'sunny':
>     I = 1
> else:
>     I = 0
```

Print out the variables w or i to see that they take on specific values. Then re-run the above block of code a few times.

You should see that w and τ change and are random (following the probabilities given by the probability space).

This code shows something that's of key importance that we'll see throughout the course. Variables w and τ store the values of what are called *random variables*.

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