**Probability: Just the Basics**

When the outcome of one event affects the probability of another, events are **dependent**. For this unlucky fisherman, the probability of catching a boot is:

- **Expected # of boots caught**
- **Total # of "fish" caught**

When it's raining, 80% of people carry an umbrella. But, when it's not raining, only 25% of people carry an umbrella. So, when there's a 60% chance of rain...

### Independent Events

Events whose probabilities do not depend on each other. The probability that it is raining and we get a heads is...

**Independent Probabilities Multiply!**

**Common Mistakes**

Probability is just an average. The unlucky fisherman could catch 4 real fish in a row, even though he has 3/4 probability of catching a boot each time.

### Quantum Computations

We use probabilities to express the likelihood of each outcome in a quantum computation. Quantum algorithms adjust and refine those probabilities to make the correct outcome the most likely.

Find more zines here:

[Quantum Computing](https://www.epiqc.cs.uchicago.edu/resources/)

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July 2019

This work is funded in part by EPICO under grant 1730449.

**Uncertainty & Chance...**

Show up all the time in everyday life.

We have the same kind of things going on inside when we do quantum computations.

Just the Basics