

There are, of course, many possibilities here. The goal is to think about what information *can be represented* by digital signals.

Importantly for part a, an example of something that is *not* correct is saying “the tea is hot or it’s cold,” because while those are *mutually exclusive* (they don’t overlap), they are not necessarily *collectively exhaustive* (those ranges might not cover the entire possible range of temperatures). Something like “the tea is hot enough for me to enjoy it or it’s too cold for my preference” would work (or simply “it’s hot enough or it isn’t”).

- a) Come up with three pieces of information that are fundamentally analog, but can be discretized to produce Boolean information.
- Temperature
 - Audio Volume
 - Light Intensity
 - Speed
 - Distance between two objects
- b) Come up with three pieces of information that are *inherently* Boolean in nature – in other words, they are not analog values that can be discretized into Boolean information, but instead fundamentally have only two values.
- A switch’s position
 - A door being locked or unlocked (assuming the lock is being used properly)
 - A coin toss outcome (ignoring “it lands on its edge”)
 - If someone is wearing socks
 - If it’s currently Tuesday