



Quantitative and Categorical

Quantitative can be further divided into **Continuous** or **Discrete**.

Categorical data can be divided into **Ordinal** or **Nominal**.

You should have now mastered what types of data in the world around us falls into each of these four buckets: Discrete, Continuous, Nominal, and Ordinal. In the next sections, we will work through the numeric summaries that relate specifically to quantitative variables.

Quantitative vs. Categorical

Some of these can be a bit tricky - notice even though zip codes are a number, they aren't really a quantitative variable. If we add two zip codes together, we do not

obtain any useful information from this new value. Therefore, this is a categorical variable.

Height, Age, the Number of Pages in a Book and Annual Income all take on values that we can add, subtract and perform other operations with to gain useful insight. Hence, these are **quantitative**.

Gender, Letter Grade, Breakfast Type, Marital Status, and Zip Code can be thought of as labels for a group of items or individuals. Hence, these are **categorical**.

Continuous vs. Discrete

To consider if we have continuous or discrete data, we should see if we can split our data into smaller and smaller units. Consider time - we could measure an event in years, months, days, hours, minutes, or seconds, and even at seconds we know there are smaller units we could measure time in. Therefore, we know this data type is continuous. **Height, age, and income** are all examples of **continuous data**. Alternatively, the **number of pages in a book, dogs I count outside a coffee shop, or trees in a yard** are **discrete data**. We would not want to split our dogs in half.