Read CB ch 1-5
Study Case 14 & Berger
variable
quantitative vs. value

have unique places on number line

| 0 | 1 | 2 | 3 |

qualitative: not so

ex. hair color in humans
     black brown blond red
     black
measurably prove always true, (conceptually) continuous variables discrete (e.g., time to nearest sec, 1/10 sec, 1/100 sec, etc.), but the variable is still conceptually continuous

(inference)

population quantities will generally be unobservable, whereas other data values (prediction) are often observable.
You can use your statistical model to define your prediction. With reliability checkers, you can ensure that your prediction is built-in, feed back loop prediction. After that, you have a non-negligible oh, not zero capital.

If you off-campus secure off-campus, you must be aware of the model.
real primitive in probability is not \( P(A) \) but \( P(A \mid B) \).

\[
P(A \mid B) = \begin{cases} \frac{P(A \text{ and } B)}{P(B)} & \text{if } P(B) > 0 \\ \text{undefined} & \text{if } P(B) = 0 \end{cases}
\]

\[P(\Omega) = 1\]

\[P(A) = \frac{A}{\Omega}\]

\[P(A \mid B) = \frac{A \cap B}{B}\]

I know the dart fell in \( B \).
here (in this class) can be expressed as a vector of real numbers \((\theta_1, \ldots, \theta_k)\) at beginning \(k = 1\)

in this class

I can always be expressed as a vector of real numbers

\[ \mathbf{y} = (y_1, \ldots, y_n) \]

Bayesian outcome = (posterior info) a posteriori

a priori (prior info) before I arrive

your info after I arrive time
3 types of probability:

- classical (Pascal, Fermat)
- frequentist
- Bayesian

Bayesian based on prior prob. confusingly called classical.