Homework 1 Due Nov. 1, only submit problem 2. Preferably send via email.

Distributions

See Julia notebook distributions

① Discrete case

$\Omega = \{H, T\}$ = state space for flip of a coin

X random variable $X : \Omega \to \{0, 1\}$

$X(H) = 0$

$X(T) = 1$

Definition

A probability distribution is the probability measure

$P : \mathcal{A} \longrightarrow \mathbb{R}$ s.t. $P(\Omega) = 1$

and $P(\cup A_n) = \sum P(A_n)$ for $A_i \cap A_j = \emptyset$