

Summary of Tableau 6, Part 1

Probabilities in simple settings

Random choice and beyond, discrete spaces

Summary of Tableau 6, Part 1

Probabilities in simple settings

Random choice and beyond, discrete spaces

- ❖ **Atoms** (singleton events) $\{\omega_k\}$ carry mass in discrete spaces.

Summary of Tableau 6, Part 1

Probabilities in simple settings

Random choice and beyond, discrete spaces

- ❖ **Atoms** (singleton events) $\{\omega_k\}$ carry mass in discrete spaces.
- ❖ The atomic probabilities $p(k) := \mathbf{P}\{\omega_k\}$ determine a function called the **mass function** or **distribution**. This function satisfies *positivity*, $p(k) \geq 0$, and is properly *normalised*, $\sum_k p(k) = 1$.

Summary of Tableau 6, Part 1

Probabilities in simple settings

Random choice and beyond, discrete spaces

- ❖ **Atoms** (singleton events) $\{\omega_k\}$ carry mass in discrete spaces.
- ❖ The atomic probabilities $p(k) := \mathbf{P}\{\omega_k\}$ determine a function called the **mass function** or **distribution**. This function satisfies *positivity*, $p(k) \geq 0$, and is properly *normalised*, $\sum_k p(k) = 1$.
- ❖ The probability measure $\mathbf{P}(\cdot)$ is determined from the distribution $p(\cdot)$ via *additivity*:

$$\mathbf{P}\{\omega_{k_1}, \omega_{k_2}, \omega_{k_3}, \dots\} = p(k_1) + p(k_2) + p(k_3) + \dots.$$