

Three Axioms of Probability

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October 15, 2023

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1. $0 \leq P(A) \leq 1$ for any event A .
2. $P(\Omega) = 1$ (Ω : sample space).
3. A_1, A_2, \dots are mutually exclusive events $\Rightarrow P(A_1 \cup A_2 \cup \dots) = P(A_1) + P(A_2) + \dots$.
> mutually exclusive: $A_i \cap A_j = \emptyset$ for $i \neq j$.