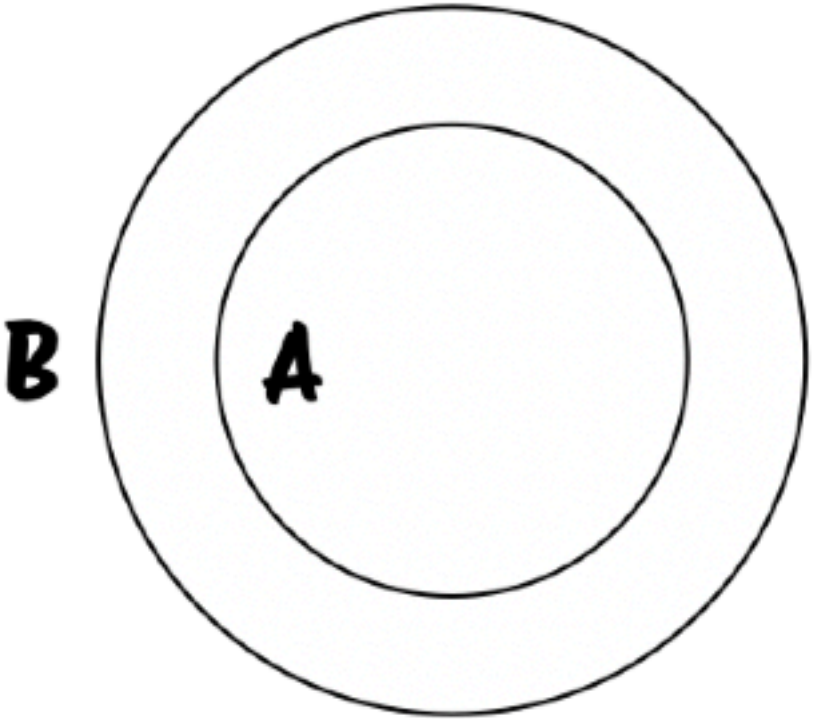
further properties


B
A
Ω

further properties

- $P(\varnothing) = 0$

  Proof:

  $1 = P(\Omega) + P(\Omega^c)$

  $1 = 1 + P(\varnothing) \implies P(\varnothing) = 0$

  Also evident from set theory:

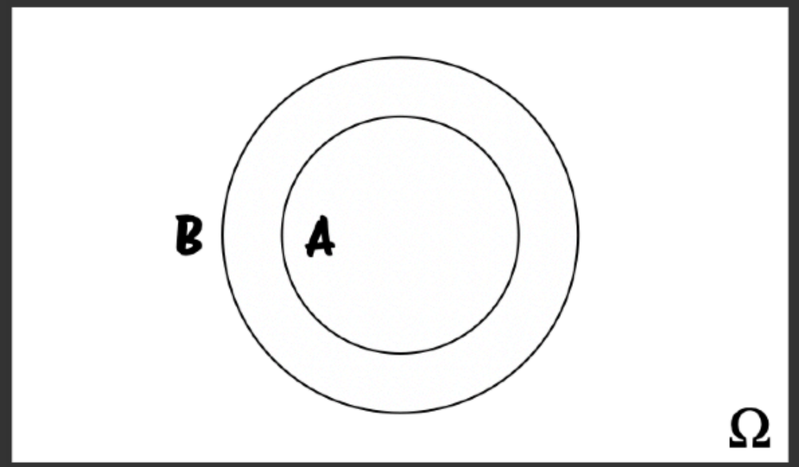
  $\Omega \cup \varnothing = \Omega \implies P(\Omega) + P(\varnothing) = P(\Omega) \implies P(\Omega) = 0$

- if $A \subset B$ then $P(A) \leq P(B)$

  Proof:

  $B = A \cup (B \cap \overline{A})$

  $\implies P(B) = P(A) + P(B \cap \overline{A}) \geq P(A)$



further properties