

Combinatorial.

- Let $A = \{a_1, \dots, a_n\}$.
- For any $B \in \mathcal{P}(A)$, i.e. $B \subseteq A$, we have some choices to make.
- Either $a_1 \in B$ or $a_1 \notin B$. (2 choices)
- Either $a_2 \in B$ or $a_2 \notin B$. (2 choices)
- etc
- Either $a_n \in B$ or $a_n \notin B$. (2 choices)
- Since we made n independent decisions where each had 2 choices, there are a total of 2^n choices.

