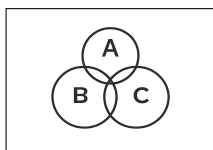
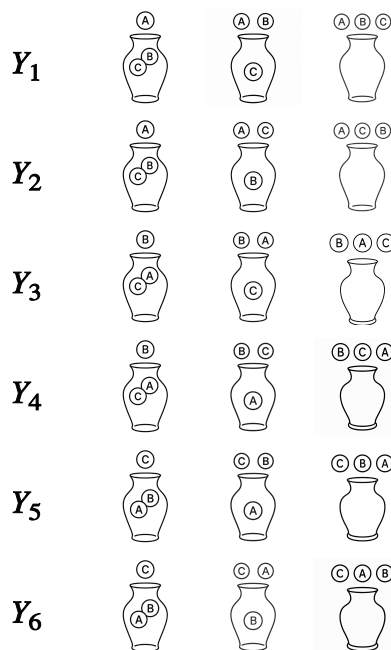
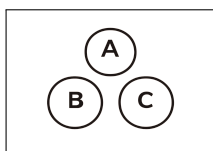


3

Discrete Distribution Counting

G



$$N = \{A, B, C\}$$

$$Y = \textcircled{\textcircled{\textcircled{N}}}(N, 3)$$

$$|Y| = |N| \times (|N| - 1) \times (|N| - 2)$$

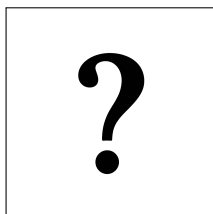
$$|Y| = 3 \times 2 \times 1 = 6$$

$$M = \{T, H\}$$

$$X = \textcircled{\textcircled{\textcircled{M}}}(M, 3)$$

$$|X| = |M| \times |M| \times |M|$$

$$|X| = 2 \times 2 \times 2 = 8$$



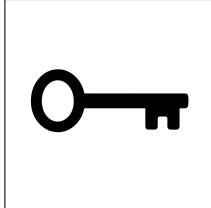
$$S = \{T, H\}$$

$$|\textcircled{\textcircled{\textcircled{S}}}(S, X)| = ?$$

3

Discrete Distribution
Counting

G



$$S = \{T, H\}$$

$$|\mathcal{P}(S, 1)| = |S| = 2$$

$$|\mathcal{P}(S, 2)| = |S| \times |S| = 2 \times 2 = 4$$

$$|\mathcal{P}(S, 3)| = |S| \times |S| \times |S| = 2 \times 2 \times 2 = 8$$

$$|\mathcal{P}(S, 4)| = |S| \times |S| \times |S| \times |S| = 2 \times 2 \times 2 \times 2 = 16$$

$$|\mathcal{P}(S, X)| = |\mathcal{P}(S)| = |S|^X = 2^X$$