



$\downarrow$

$$P(S_i) = \frac{1}{N} \cdot \sum(S_i)$$

$$E[P(S_iS_j)] = P(S_i) \cdot P(S_j)$$

$$\text{Var}(E[S_iS_j]) = N \cdot E[P(S_iS_j)] \cdot (1 - E[P(S_iS_j)])$$

$$CI_{95\%} = N \cdot P(S_iS_j) \pm Z_{95\%} \cdot \sqrt{\text{Var}(E[S_iS_j])}$$

$$P(S_i|S_j) = \begin{cases} \frac{P(S_iS_j)}{P(S_j)} & \text{if } CI_L \geq S_iS_j \text{ or } S_iS_j \leq CI_U \\ \frac{P(S_i)P(S_j)}{P(S_j)} & \text{if } CI_L \leq S_iS_j \leq CI_U \end{cases}$$

$$D_{ij} = P(S_i|S_j) - P(S_i)$$

