

$$\begin{array}{c}
 \text{2500 colonne} \\
 \left. \begin{array}{c}
 X_{1,1} \quad X_{1,2} \quad \cdots \quad X_{1,2500} \\
 X_{2,1} \quad X_{2,2} \quad \cdots \quad X_{2,2500} \\
 \vdots \quad \vdots \quad \ddots \quad \vdots \\
 X_{49,1} \quad X_{49,2} \quad \cdots \quad X_{49,2500}
 \end{array} \right\} \text{49 righe}
 \end{array}$$

$$X_{i,j} \sim \mathcal{U}(0, 1)$$

$$\begin{array}{c}
 \text{2500 colonne} \\
 \left\{ \begin{array}{cccc}
 \textcolor{red}{X}_{1,1} & X_{1,2} & \cdots & X_{1,2500} \\
 \textcolor{red}{X}_{2,1} & X_{2,2} & \cdots & X_{2,2500} \\
 \vdots & \vdots & \ddots & \vdots \\
 \textcolor{red}{X}_{49,1} & X_{49,2} & \cdots & X_{49,2500}
 \end{array} \right.
 \end{array}
 \quad X_{i,j} \sim \mathcal{U}(0, 1)$$

49 righe

$$\bar{X}_1 = \frac{1}{49} \sum_i \textcolor{red}{X}_{i,1} \underset{\substack{49 \gg 30 \\ \Rightarrow \text{TLC}}}{\approx} N\left(\mu, \frac{\sigma^2}{49}\right)$$

$$\begin{array}{c}
 \text{2500 colonne} \\
 \left. \begin{array}{c} 49 \text{ righe} \end{array} \right\} \begin{array}{cccc}
 X_{1,1} & \textcolor{red}{X}_{1,2} & \cdots & X_{1,2500} \\
 X_{2,1} & \textcolor{red}{X}_{2,2} & \cdots & X_{2,2500} \\
 \vdots & \vdots & \ddots & \vdots \\
 X_{49,1} & \textcolor{red}{X}_{49,2} & \cdots & X_{49,2500}
 \end{array}
 \end{array}
 \quad X_{i,j} \sim \mathcal{U}(0,1)$$

$$\left. \begin{array}{l}
 \bar{X}_1 = \frac{1}{49} \sum_i X_{i,1} \\
 \bar{X}_2 = \frac{1}{49} \sum_i \textcolor{red}{X}_{i,2}
 \end{array} \right\} \underset{\text{TLC}}{\approx} N\left(\mu, \frac{\sigma^2}{49}\right)$$

$$49 \text{ righe} \left\{ \begin{array}{cccc} X_{1,1} & X_{1,2} & \cdots & X_{1,2500} \\ X_{2,1} & X_{2,2} & \cdots & X_{2,2500} \\ \vdots & \vdots & \ddots & \vdots \\ X_{49,1} & X_{49,2} & \cdots & X_{49,2500} \end{array} \right.$$

$$X_{i,j} \sim \mathcal{U}(0, 1)$$

$$\left. \begin{aligned} \bar{X}_1 &= \frac{1}{49} \sum_i X_{i,1} \\ \bar{X}_2 &= \frac{1}{49} \sum_i X_{i,2} \\ &\dots\dots\dots \\ \bar{X}_{2500} &= \frac{1}{49} \sum_i \mathbf{X}_{i,2500} \end{aligned} \right\} \underset{\text{TLC}}{\approx} N\left(\mu, \frac{\sigma^2}{49}\right)$$