



$$(\alpha, \beta) = (0, 1)$$

$$\delta L_{ext}^{(1)} = -25 \times \frac{1}{4} \times (1-0)(1-2)U_{21} - 25 \times \frac{1}{4} \times (1+0)(1-1)U_{21} - 25 \times \frac{1}{4} \times (1+0)(1+1)U_{23} - 25 \times \frac{1}{4} \times (1-0)(1+1)U_{24}$$

$$\delta L_{ext}^{(1)} = \underbrace{-(0)U_{21}}_{(1)} - \underbrace{(0)U_{22}}_{(2)} - \underbrace{12.5U_{23}}_{(3)} - \underbrace{12.5U_{24}}_{(4)}$$

similarly

$$\delta L_{ext}^{(2)} = \underbrace{-12.5U_{21}}_{(1)} - \underbrace{-12.5U_{22}}_{(2)} - \underbrace{12.5U_{23}}_{(3)} - \underbrace{0U_{24}}_{(4)}$$

therefore

