

Q8 $Aq = F$

$$\left. \begin{array}{l} \S \\ \S \\ \S \end{array} \right\} nT(q_k - q_{k-1}) + nT(q_k - q_{k+1}) = m_k g$$

~~q_k~~

$$q_{k-1}(-nt) + q_k(2nT) + q_{k+1}(-nt) = m_k g$$

$$A. \begin{bmatrix} 2nT & -nt & 0 & \dots & 0 \\ -nt & 2nT & \dots & & 0 \\ 0 & \vdots & \ddots & & \vdots \\ \vdots & & & \ddots & 0 \\ 0 & 0 & \dots & -nt & 2nT \end{bmatrix} \begin{bmatrix} q_1 \\ \vdots \\ \vdots \\ q_n \end{bmatrix} = \begin{bmatrix} m_1 g \\ \vdots \\ \vdots \\ m_n g \end{bmatrix}$$