

$$u_6 = \frac{1}{2} \left[ \frac{1}{2} m_1 + \frac{1}{2} m_2 + m_4 \right] + \frac{1}{2} \left[ \frac{1}{2} m_3 + \frac{1}{2} m_2 + m_5 \right] + m_6$$

$$= \frac{1}{4} m_1 + \frac{1}{4} m_2 + \frac{1}{2} m_4 + \frac{1}{4} m_3 + \frac{1}{4} m_2 + \frac{1}{2} m_5 + m_6$$

$$= \frac{1}{4} m_1 + \frac{1}{2} m_2 + \frac{1}{4} m_3 + \frac{1}{2} m_4 + \frac{1}{2} m_5 + m_6$$

□ Summary:  $\rightarrow -0 \Rightarrow L$  is lower-triangular

$$\begin{bmatrix} u_1 \\ u_2 \\ u_3 \\ u_4 \\ u_5 \\ u_6 \end{bmatrix} = \underbrace{\begin{bmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ \frac{1}{2} & \frac{1}{2} & 0 & 1 & 0 & 0 \\ 0 & \frac{1}{2} & \frac{1}{2} & 0 & 1 & 0 \\ \frac{1}{4} & \frac{1}{2} & \frac{1}{4} & \frac{1}{2} & \frac{1}{2} & 1 \end{bmatrix}}_L \cdot \begin{bmatrix} m_1 \\ m_2 \\ m_3 \\ m_4 \\ m_5 \\ m_6 \end{bmatrix} = m$$