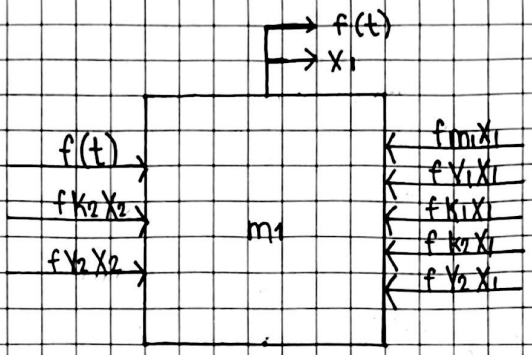
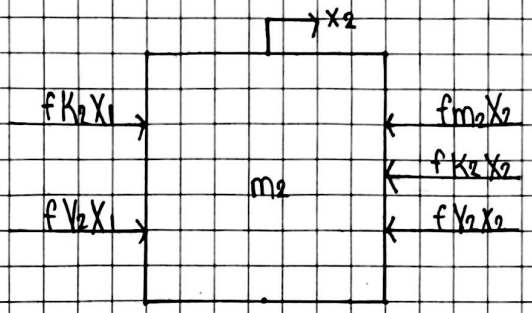


$$f(t) = f m_1 \ddot{X}_1 + f K_1 X_1 + f V_1 \dot{X}_1 + f K_2 X_2 + f V_2 \dot{X}_1 - f K_2 X_2 - f V_2 \dot{X}_2$$

$$f(t) = m_1 \ddot{X}_1 + K_1 X_1 + V_1 \dot{X}_1 + K_2 X_1 + V_2 \dot{X}_1 - K_2 X_2 - V_2 \dot{X}_2$$

$$\boxed{\ddot{X}_1 = \frac{1}{m}\left[f(t) - B_1 \dot{X}_1 - K_1 X_1 - B_2 (\dot{X}_1 - \dot{X}_2) - K_2 (-X_2 + X_1) \right]}$$



$$0 = f m_2 \ddot{X}_2 + f K_2 X_2 + f V_2 \dot{X}_2 - f K_2 X_1 - f V_2 \dot{X}_1$$

$$0 = m_2 \ddot{X}_2 + K_2 X_2 + B_2 \dot{X}_2 - K_2 X_1 - B_2 \dot{X}_1$$

$$\boxed{\ddot{X}_2 = \frac{1}{m_2}\left[K_2 (X_1 - X_2) + B_2 (\dot{X}_1 - \dot{X}_2) \right]}$$