$$i = 1, 2, 3,\ m_i = 1$$

$$\ddot{q}_i = \sum_{j \neq i} \frac{q_j - q_i}{|q_j - q_i|^3},$$

$$\begin{cases} q_1(t) &= q(t), \\ q_2(t) &= q(t + T/3), \\ q_3(t) &= q(t + 2T/3), \end{cases}$$

$$\sum_i q_i = 0,\ L = \sum_i q_i \wedge \dot{q}_i = 0.$$