

appVersion(4) = "1.0.8348.30405"

$$\begin{array}{l}
 \left[\begin{array}{l}
 x1(t) \quad y1(t) \\
 x2(t) \quad y2(t) \\
 x3(t) \quad y3(t)
 \end{array} \right. \quad \begin{array}{l}
 G := 1 \quad m_1 := 30 \quad m_2 := 2 \quad m_3 := 0.5 \quad t_{end} := 1 \\
 \Delta x_{21} := x2(t) - x1(t) \quad \Delta x_{12} := -\Delta x_{21} \quad \Delta y_{21} := y2(t) - y1(t) \quad \Delta y_{12} := -\Delta y_{21} \\
 \Delta x_{31} := x3(t) - x1(t) \quad \Delta x_{13} := -\Delta x_{31} \quad \Delta y_{31} := y3(t) - y1(t) \quad \Delta y_{13} := -\Delta y_{31} \\
 \Delta x_{32} := x3(t) - x2(t) \quad \Delta x_{23} := -\Delta x_{32} \quad \Delta y_{32} := y3(t) - y2(t) \quad \Delta y_{23} := -\Delta y_{32}
 \end{array}
 \end{array}$$

funvec

$$r_{21} := \sqrt{\Delta x_{21}^2 + \Delta y_{21}^2} \quad r_{31} := \sqrt{\Delta x_{31}^2 + \Delta y_{31}^2} \quad r_{32} := \sqrt{\Delta x_{32}^2 + \Delta y_{32}^2}$$

$$\begin{array}{l}
 \left[\begin{array}{l}
 x1(0) = 0 \quad x1'(0) = -1 \quad x2(0) = -3 \quad x2'(0) = 1 \quad x3(0) = -3.1 \quad x3'(0) = 2 \\
 y1(0) = 0 \quad y1'(0) = -1 \quad y2(0) = -0.2 \quad y2'(0) = 0 \quad y3(0) = -0.1 \quad y3'(0) = 0 \\
 x1''(t) = \frac{G \cdot m_2 \cdot \Delta x_{21}}{r_{21}^3} + \frac{G \cdot m_3 \cdot \Delta x_{31}}{r_{31}^3} \quad y1''(t) = \frac{G \cdot m_2 \cdot \Delta y_{21}}{r_{21}^3} + \frac{G \cdot m_3 \cdot \Delta y_{31}}{r_{31}^3} \\
 x2''(t) = \frac{G \cdot m_1 \cdot \Delta x_{12}}{r_{21}^3} + \frac{G \cdot m_3 \cdot \Delta x_{32}}{r_{32}^3} \quad y2''(t) = \frac{G \cdot m_1 \cdot \Delta y_{12}}{r_{21}^3} + \frac{G \cdot m_3 \cdot \Delta y_{32}}{r_{32}^3} \\
 x3''(t) = \frac{G \cdot m_1 \cdot \Delta x_{13}}{r_{31}^3} + \frac{G \cdot m_2 \cdot \Delta x_{23}}{r_{32}^3} \quad y3''(t) = \frac{G \cdot m_1 \cdot \Delta y_{13}}{r_{31}^3} + \frac{G \cdot m_2 \cdot \Delta y_{23}}{r_{32}^3}
 \end{array} \right.
 \end{array}$$

M := Rkadapt(funvec, t_end, 1100)

