$$m := 1$$

$$l := 1 \qquad v_0 := 2 \cdot \sqrt{g \cdot l} \quad \varphi_0 := 20 \cdot \frac{\pi}{180} \qquad a := l \quad k := 0.5 \qquad g := 9.80665 \qquad v_0 := 0 \qquad y := \begin{bmatrix} v_0 \\ \varphi_0 \end{bmatrix} \qquad w_0 :=$$

$$D(t, y) := \begin{bmatrix} -w_0{}^2 \cdot \sin\left(y_1\right) - k \cdot y_0 + a \cdot \sin\left(w_1 \cdot t\right) \\ y_0 \end{bmatrix} \qquad Z := \mathrm{rkfixed}\left(y, 0, 9.9, 2000, D\right)$$

$$D2(t, y) := \begin{bmatrix} -w_0{}^2 \cdot y_1 - k \cdot y_0 + a \cdot \sin\left(w_1 \cdot t\right) \\ y_0 \end{bmatrix} \qquad Z2 := \mathrm{rkfixed}\left(y, 0, 9.9\right.$$

$$\left(Z^{\langle 0 \rangle}\right)_i$$

$$\left(Z2^{\langle 0 \rangle}\right)_i$$

$$\left(Z^{\langle 2 \rangle}\right)_i$$

$$\left(Z2^{\langle 2 \rangle}\right)_i$$