

$$\begin{array}{llllllll} m\!:=\!1 & & & & g\!:=\!9.80665 & & & & \\ l\!:=\!1 & v_0\!:=\!2\!\cdot\!\sqrt{g\!\cdot\!l} & \varphi_0\!:=\!40\!\cdot\!\frac{\textcolor{brown}{\pi}}{180} & a\!:=\!l & k\!:=\!0.5 & \boxed{v_0}\!:=\!0 & y\!:=\!\begin{bmatrix} v_0 \\ \varphi_0 \end{bmatrix} & w_0\!:=\end{array}$$

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

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

