$y' = 2y$, $\quad y(0) = y_0 = 1 = v_0$

$= f(y)$, $\quad h = 0.05$

$v_1 = v_0(1 + 2h + 2h^2)$

$= (1 + 2\cdot(0.05) + 2\cdot(0.05)^2) = 1.105$

$v_2 = 1.105(1 + 2\cdot(0.05) + 2\cdot(0.05)^2) = 1.221025$

$h = 0.001$

$v_1 = (1 + 2\cdot(0.001) + 2\cdot(0.001)^2) \approx 1.002002$

$v_2 \approx 1.002002 \cdot 8.004008$

$\approx 1.002002 \approx 1.004008$