

Group:A/B/C	No (in list)	Student ID	Full Name (Surname, Name)	HW
				07

Use the Runge-Kutta-Fehlberg method with tolerance $TOL = 10^{-6}$, $hmax = 0.5$, and $hmin = 0.05$ to approximate the solutions to the following initial-value problems. Compare the results to the actual values.

1. $y' = y/t - (y/t)^2$, $1 \leq t \leq 4$, $y(1) = 1$;

actual solution $y(t) = 1/(1 + \ln t)$.

2. $y' = (2 + 2t^3)y^3 - ty$, $0 \leq t \leq 2$, $y(0) = 1/3$;

actual solution $y(t) = (3 + 2t^2 + 6e^{t^2})^{-1/2}$.