Reading Assignment: Read Moler Sections 7.1–7.2, & 7.4 on ordinary differential equations. Keep reading the “UNIX Tutorial for Beginners” (Intro–Tutorial 4) & the “C Programming Notes” (Chapters 1–7).

Homework 4

Due: Mon Feb 22

(1) For the linear ODE $du/dt = au$, prove that the fourth-order Runge-Kutta method is in fact fourth-order accurate, using the definition of the local truncation error (calculate the constant multiplying $\Delta t^4$ in the global error).

(2) Complete & turn in the missing information at the top of van.c by compiling & running the program, & then using `grep redo OUT` | `wc` etc.

(3) Type (& turn in) a one-phrase explanation of what each line in the block of code from van.c in HW4code.c does, starting at “COMMENT: Start here!”