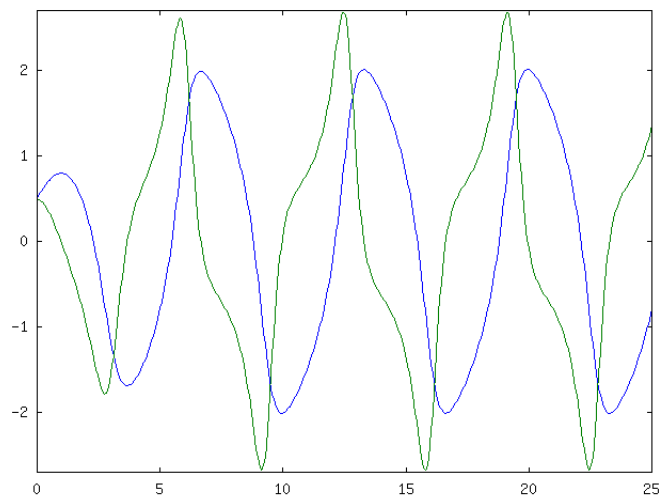# Numerical Computing II
Homework 22: Initial Value Problems for Ordinary Differential Equations
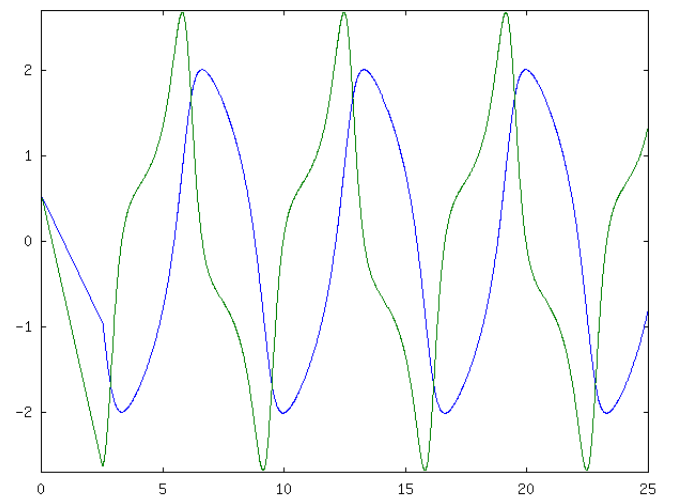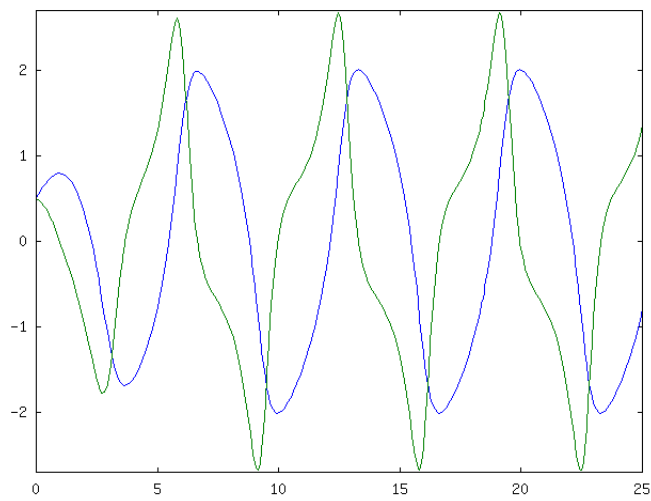### Marty Fuhry
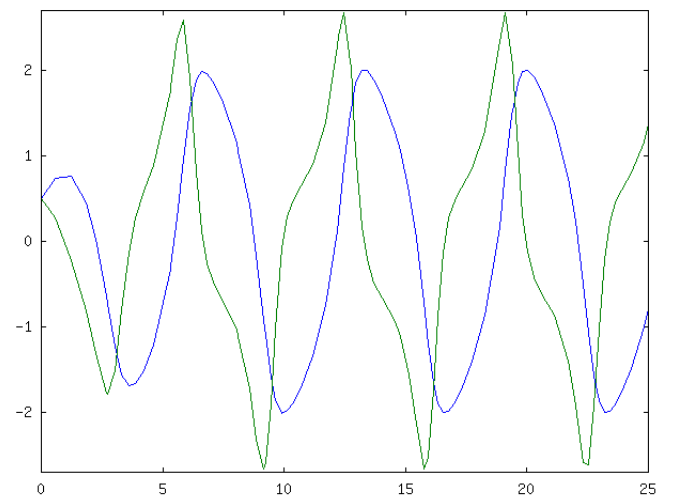### May 6, 2010

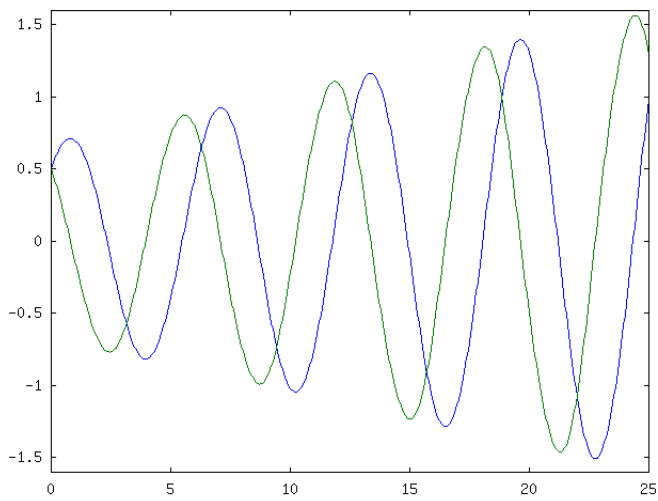$$v' = \epsilon(1 - u^2)v - u. \tag{1}$$
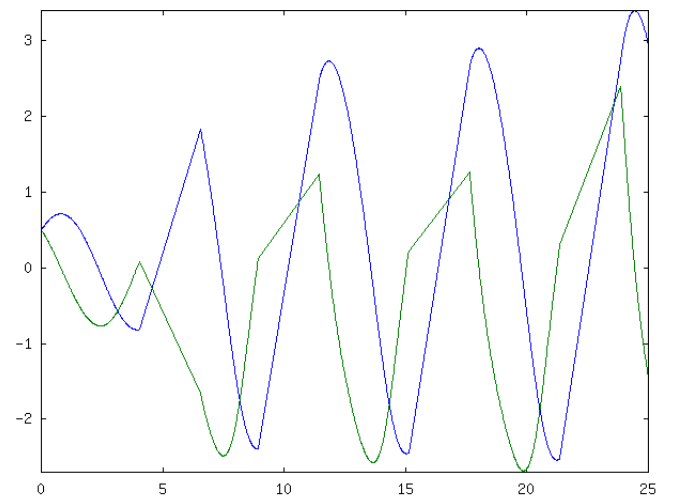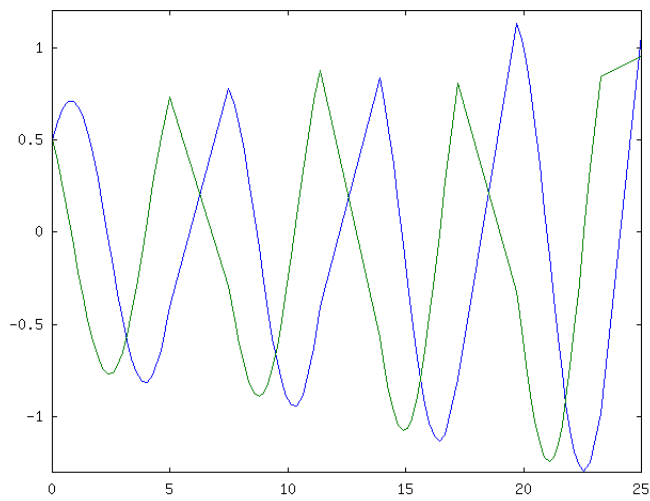
(a) *lsode*

(b) *ode23*

(c) *ode45*

(d) *ode78*

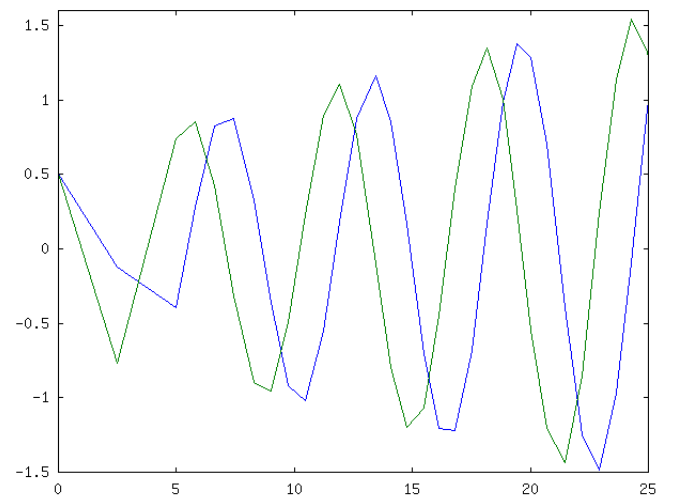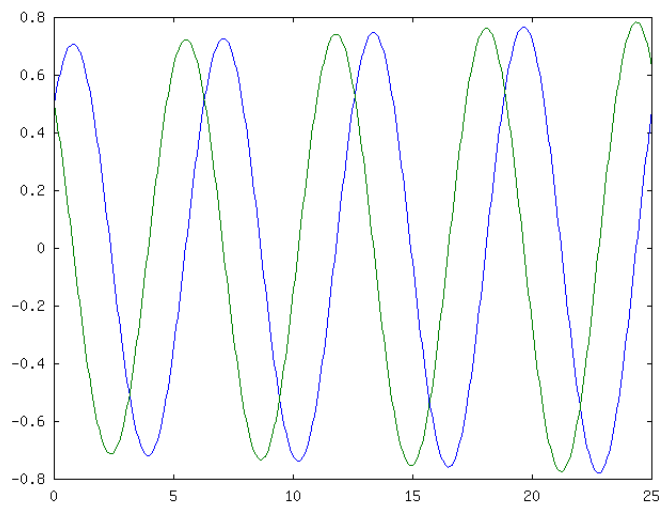Figure 1: Graph of (1) with $\epsilon = 1$

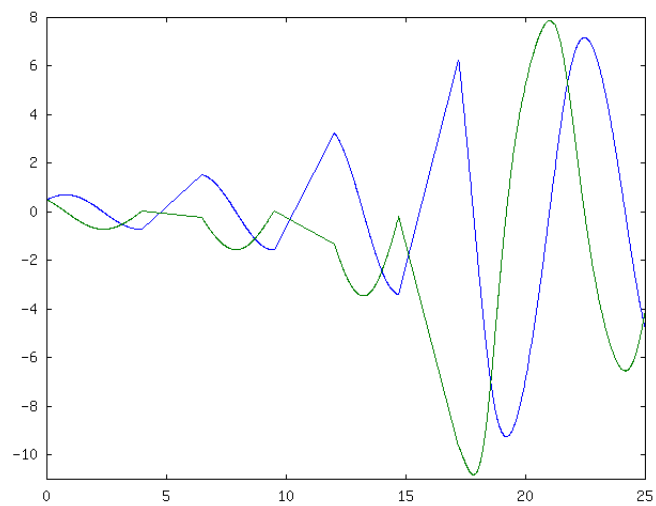2

(a) *lsode*

(b) *ode23*

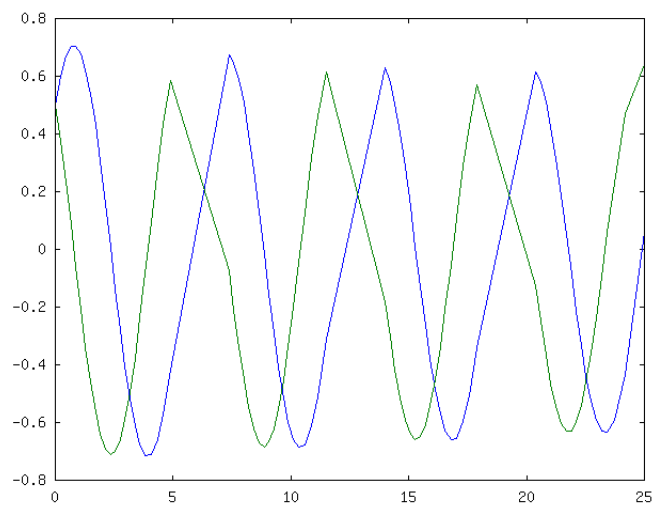(c) *ode45*

(d) *ode78*

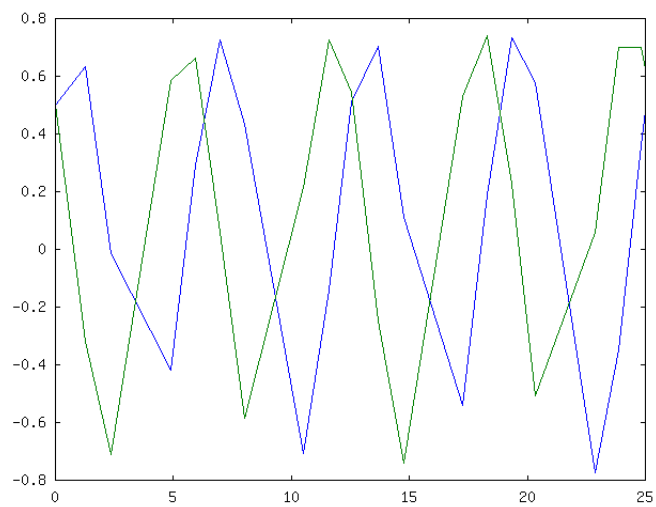Figure 2: Graph of (1) with $\epsilon = .1$

3

(a) *lsode*

(b) *ode23*

(c) *ode45*

(d) *ode78*

Figure 3: Graph of (1) with $\epsilon = .01$

4