

## COMPUTER PROJECT #2

Due Tuesday, April 15, in class.

1. Use Maple to reproduce Figure 5.2.2 on page 298 of the text. Then plot similar families of solution curves for  $y^{(3)} - 6y'' + 11y' - 6y = 0$ , with  $y''(0) = y'(0) = 0$  and different values for  $y(0)$ .

2. Find all eigenvalues and eigenvectors for the matrix  $\begin{bmatrix} 11 & -1 & 26 & 6 & -3 \\ 0 & 3 & 0 & 0 & 0 \\ -9 & 0 & -24 & -6 & 3 \\ 3 & 0 & 9 & 5 & -1 \\ -48 & -3 & -138 & -30 & 18 \end{bmatrix}$ .

3. Use Maple to solve Problem 34 on page 597 of the text.