

Homework 5. (Due October 29, 2008)
Math 353 Section 12, Fall 2008, University of Delaware

MatLab Exercises

1. Exercise 3.1.2. (Computer Problem)
2. Find the equations and plot
 - (a) natural cubic spline
 - (b) clamped cubic spline
 - (c) curvature-adjusted cubic spline
 - (d) parabolically terminated cubic spline
 - (e) not-a-knot cubic spline

that interpolates the data points

$$(0, 3), (1, 1), (2, 4), (3, 1.5), (4, 2), (5, 0.5).$$

Exercises

1. Find the interpolating polynomial (1) in Lagrange form (2) in Newton's form for the following set of data.
$$(0, 0), (1, 1), (2, 0), (3, -1).$$
2. Interpolate the function $f(x) = \sqrt{x}$ at four (a) equally-spaced points (b) Chebyshev interpolation nodes on $[0, 2]$.
3. Exercise 3.2.4.
4. Exercise 3.4.4.
5. Exercise 3.4.6.