

MATH 420, Extra HW 2

Due Wed., Feb. 16

Instructions. Do these problems as ordinary MATH HW problems, without a length verbal writeup. Hand in just enough coding and computed results, along with some words, to tell what you did and demonstrate that it worked.

1) Use Lagrange polynomial interpolation to find the polynomial of degree 364 which exactly interpolates the data from HW1A, see:

`http://www-users.math.umd.edu/~evs/MATH420/Births1978.txt`

2) Use a least squares polynomial curve fitting model to approximate the data from HW1A with polynomials of degree 52, 12, and 4, respectively. Find the approximation errors (error = $\sum_i |y_i - f(x_i)|^2$) for these 3 cases.

3) Compare the results of parts 1 and 2.