ESO 208 Programming Assignment-3

Problem Set-5

Question-6:

Least square fitting –

Coefficients:

0.507484
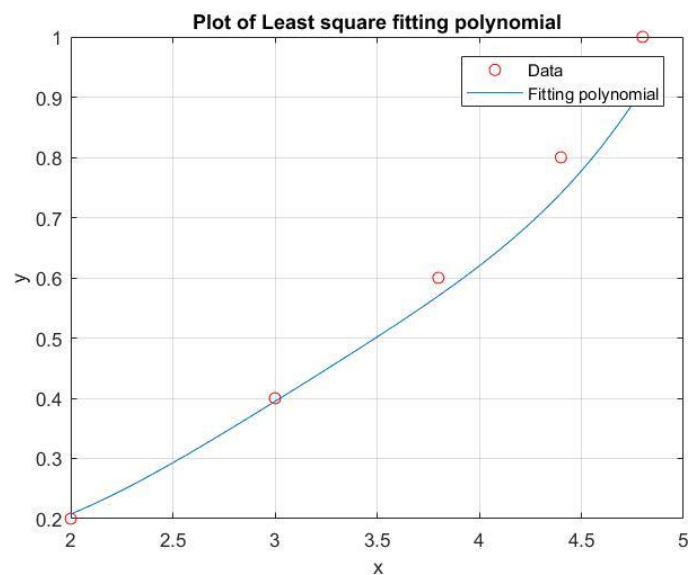
-0.546155

0.222824

0.008553

-0.013817

0.001681

Coefficient of determination –

0.990113

Plot of Least square fitting polynomial

Question -8:

Least square fitting –

Coefficients:

4.220000

1.898571

1.878571

Coefficient of determination -

0.999120

Plot of Least square fitting polynomial
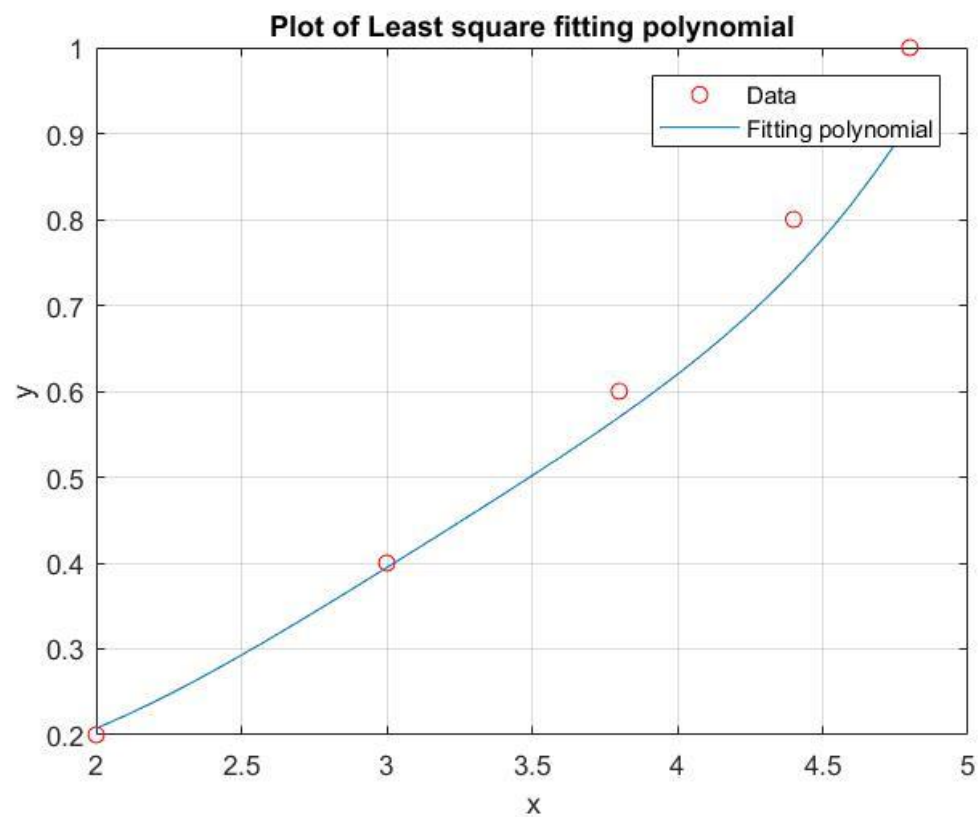
Lagrange Interpolating Polynomial –

Interpolated values y at given x*

2.500000   21.365625

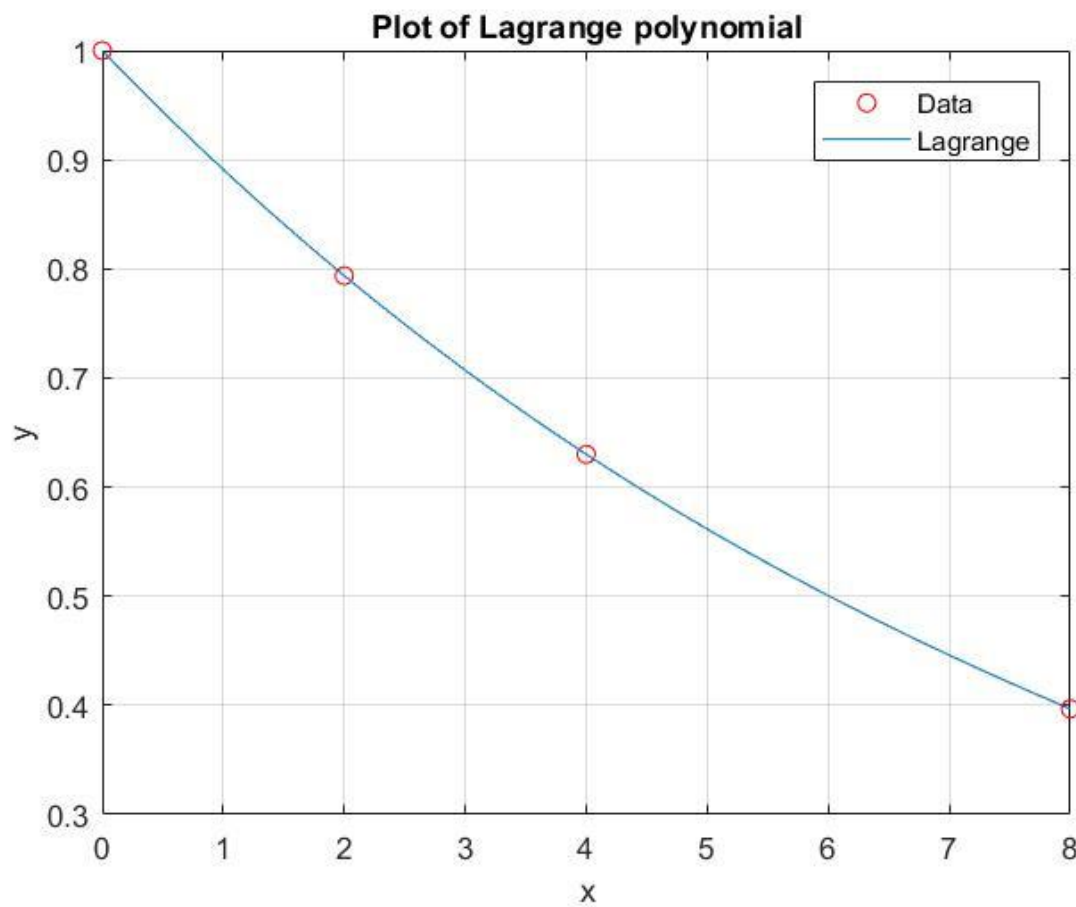Plot of Lagrange polynomial
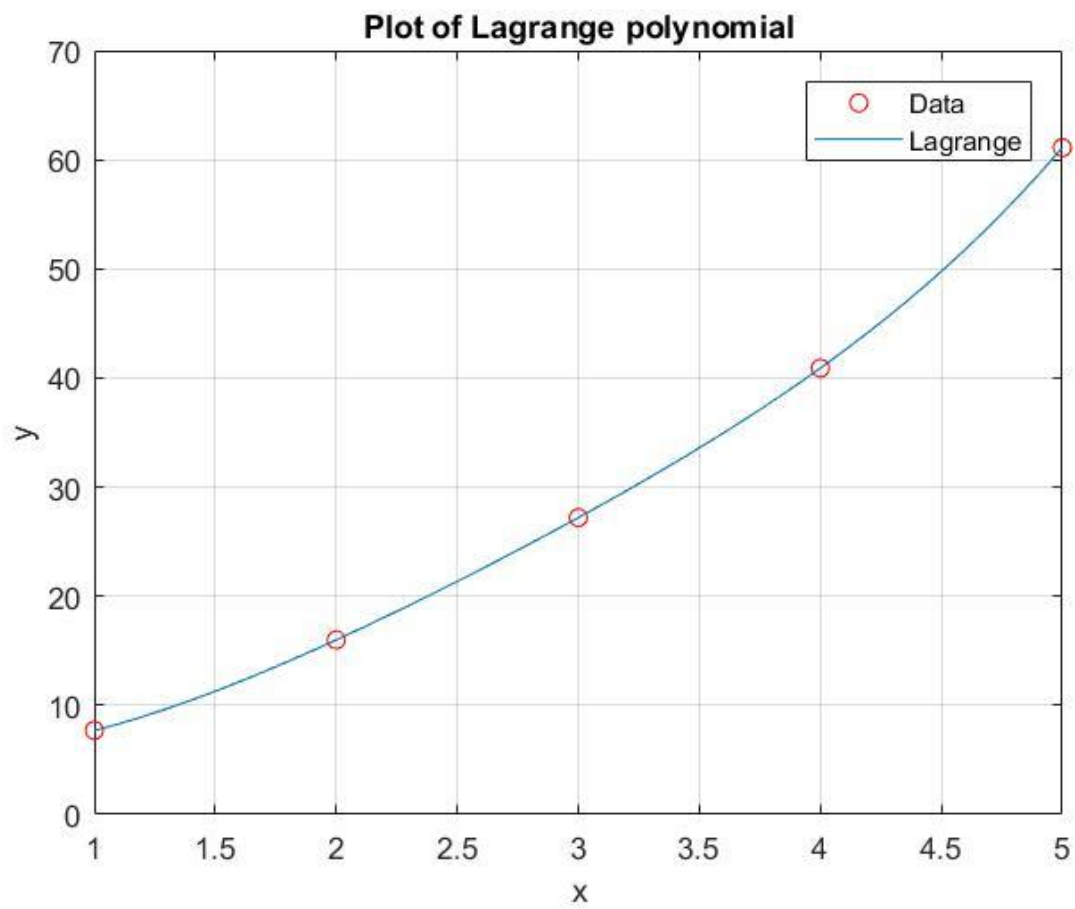
Question-10:

Lagrange polynomial –

Interpolated values y at given x*

6.000000   0.500500

Natural Spline –

Interpolated values y at given x*

6.000000   0.503891

Plot of Cubic Spline
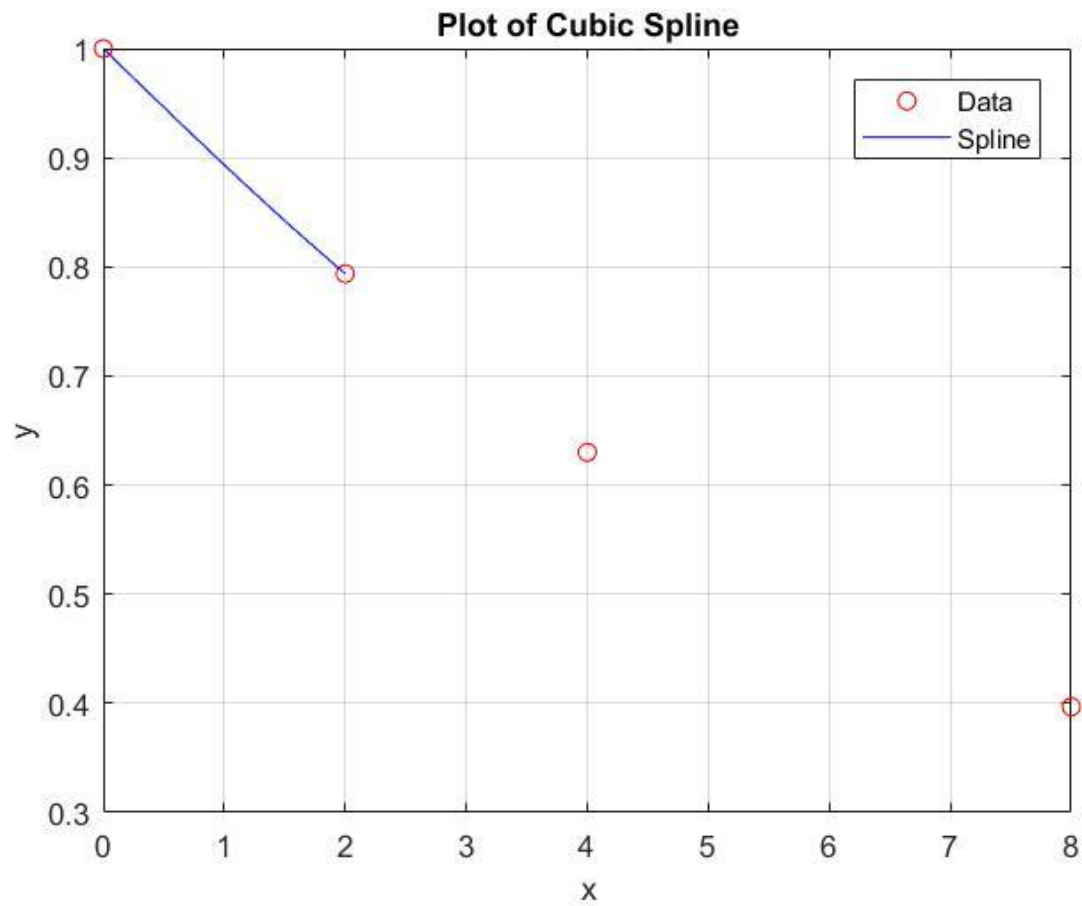
Question -11 :

Lagrange Polynomials -

Interpolated values y at given x*

4.000000   160.000000

Plot of Lagrange polynomial