HOMEWORK
Programming and Numerical analysis

The homework will be based on the following data sets:

D1:

x	y
−1,	−5
1,	−5
2,	−2
4,	40

D2:

x	y
0	12.0000
1	10.0000
3	7.0000
5	5.0000
7	3.5000
9	2.5000
11	2.0000
13	1.5000
15	1.0000
17	0.7000
19	0.5000

1. D1. Using the matrixial and the Lagrange formulation to obtain the interpolation polynomial. To compare the results .
2. D1. To evaluate the successive polynomial of grade 1, 2 and 3. Devise a way to measure the error and compare it variation using graphs.
3. D2. Using the matrixial and formula way to get the best line to represent the data.
4. D2. Try to approximate the data using the equations F(x)=a*x^2+b. Try to derive a direct formula for this process
5. D2. Try to approximate the data using the equations F(x)=a*exp(b*x). Try to derive a direct formula for this process
6. D1 and D2. To generate a sets of data with 100 values. Use the *x* as equispaced vector between the max and min *x* real data and *y* as the result of the matlab command interp1, try every method.