Sample 9b

Write a MATLAB program as follows:

1) **Read a data file (sample9a.dat) that has 8 lines, where each line contains a value of x and a value of y (data point).**

2) **For each data point from the second one to the second to last one, fit a second order polynomial to that data point and the data point on either side of it (fit the second order polynomial to three data points). Plot these fitted second order polynomials using the colors red, blue, green, black, magenta and cyan and the data points as black circles, all in the same graph.**

3) **For each data point from the third one to the third to last one, fit a fourth order polynomial to that data point and the two data points on either side of it (fit the fourth order polynomial to five data points). Plot these fitted fourth order polynomials using the colors blue, green, black and magenta and the data points as black circles, all in the same graph.**

4) **For each data point from the fourth one to the fourth to last one, fit a sixth order polynomial to that data point and the three data points on either side of it (fit the sixth order polynomial to seven data points). Plot these fitted sixth order polynomials using the colors green and black and the data points as black circles, all in the same graph.**

The three graphs should look like the ones on the attached sheets.