UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

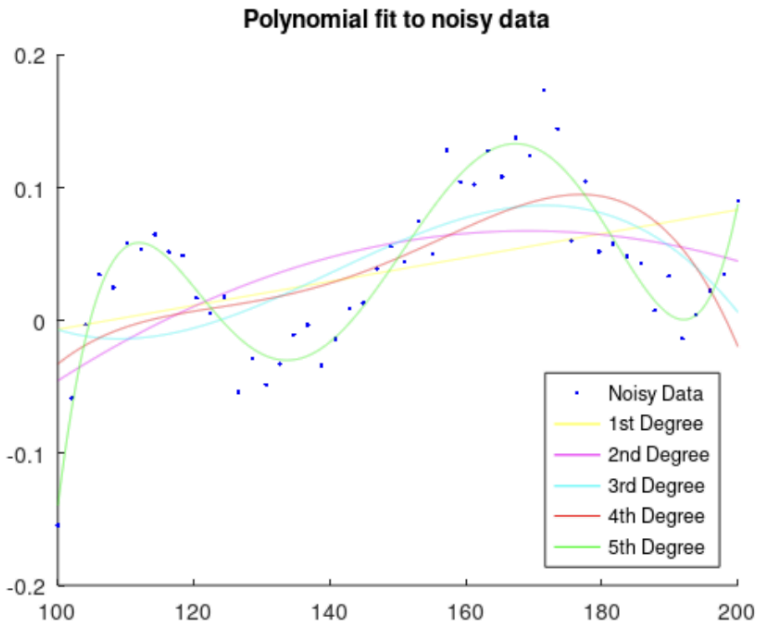
SCS2211 - Laboratory II

In Class Assignment 1

Instructions

- **Do all the following questions and take the screenshots of the commands you used and the important output (such as graphs, plots, answers and error messages.**
- **Create a report with the answers and the screenshots.**
- **Report must be in PDF format.**
- **Report name should be <Index number_02>.pdf (Eg: 210000_01.pdf)**
- **Any form of plagiarism or collusion is not allowed.**
- **Time duration is 45 minutes.**

1. Fitting polynomials. Write a script to load the data file randomData.mat (which contains variables x and y) and fit first, second, third, fourth, and fifth degree polynomials to it. Plot the data as blue dots on a figure, and plot all five polynomial fits using lines of different colors on the same axes. Label the figure appropriately. To get good fits, you'll have to use the centering and scaling version of **polyfit** (the one that returns three arguments, see help) and its counterpart in **polyval** (the one that accepts the centering and scaling parameters). It should be like this.



2. Solve the following system of equations using inv() command. Compute and show values for a,b,c and d.

   2a +5b - c + 4d = 0

   a + b + c + d = 0

   4a - 3b + 6c + d = 0

   2a - 5b - 3c - d = 7

3.

   a. What are the variables nargin and nargout ? Please explain when to use these two commands.

   b. Which of the following function definitions are erroneous? Write the problem in this function.

```
a = fun(x)
a = sin(x);

endfunction
```

```
function a = fun(x, y, z)
    a = x + y + z

endfunction
```