

EECS 360 Laboratory Syllabus (Draft)

Fall, 2007

Instructor: Prof. Erik Perrins

Teaching Assistant: Qi Chen

Schedule:

Tuesday and Thursday 14:30-16:45, 1005A Eaton Hall

Labs: (Note: Lab schedule and contents might be changed with regards to the lecture.)

08/21/07 Lab 1: Introduction to Matlab: Overview, basic commands, functions.
08/28/07 Lab 2: Signals
09/04/07 Lab 3: Systems
09/11/07 Lab 4: Continuous-time Linear Time Invariant Systems (Convolution)
09/18/07 Lab 5: Discrete-time Linear Time Invariant Systems (Convolution)
09/25/07 Lab 6: Continuous-time Fourier series
10/02/07 Lab 7: Discrete-time Fourier series
10/16/07 Lab 8: Continuous-time Fourier transform
10/23/07 Lab 9: Discrete-time Fourier series
10/30/07 Lab 10: Sampling and DFT
11/06/07 Lab 11: Sampling and DFT
11/13/07 Lab 12: Laplace transform
11/27/07 Lab 13: Laplace and Z transform
12/04/07 Lab 14: Z transform

Requirement and Grading:

The grading is based on your performance during the lab session and your report. You are required to turn in a lab report **individually** for each lab with the lab report format attached below. Lab report has to be in printout format, **NO** handwriting is accepted except some plots. Each week's lab report is due the following week **BEFORE** the lab sessions. Your lab report will **NOT** be graded if turned in late. Exceptions might be considered with notice ahead of time.

Lab Report Format:

In general, your lab report should consist of the following sections:

1. Cover page: lab title and number, date completed, name, KUID
2. Objectives: describe briefly about the lab. Methodology, Expectations, objectives
3. Procedure: what's the problem that you are trying to solve, or prove of concept and etc.
4. Description: Answer all the questions listed in the lab handout with descriptions (plots, equations, derivation, and etc).

Note: most of the plots generated by Matlab can be converted and imported into MS word compatible format.

5. Conclusion

Sample Lab Report: Next page

Lab 1 Report
Introduction to Matlab

Mark Evens
08/15/2007
KUID: 1234567

Objectives:

In this lab, we learned how to use simple functions in Matlab to solve engineering problems such as calculation, plotting and etc

Procedure:

We used matlab to calculate some calculate some function values with a certain range, and plot them.

Descriptions:

1. Calculate function $f(x)=1+x^2$ with x ranging from $[-10, 10]$
 $f(x) = 101 \ 82 \ 65 \ 50 \ 37 \ 26 \ 17 \ 10 \ 5 \ 2 \ 1 \ 2 \ 5 \ 10 \ 17 \ 26 \ 37$
 $50 \ 65 \ 82 \ 101$

calculate function values by using command

```
x=[-10,10];
```

```
f =1+x.^2;
```

plot function $f(x)$ by using command: `plot(x, f)`

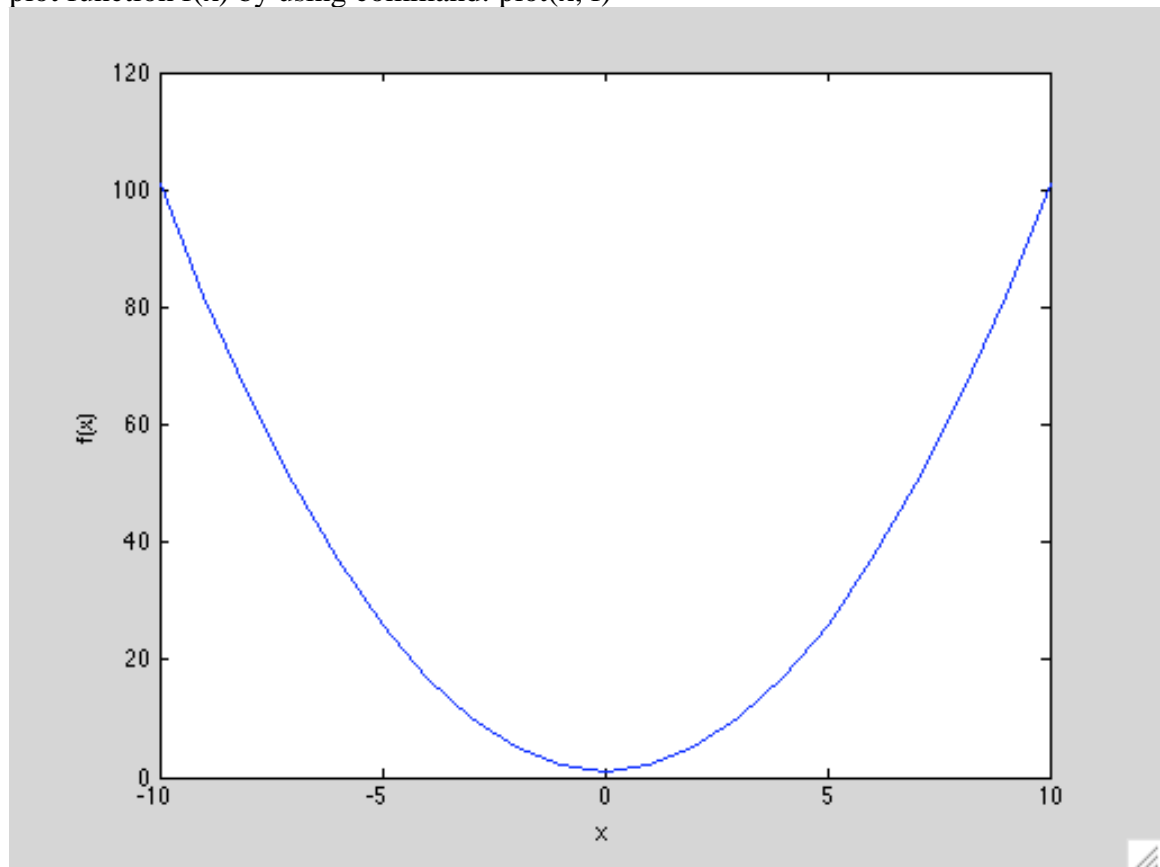


Fig. 1 Function $f(x)$ versus argument x

Conclusion

In lab, I learned how to use Matlab to calculate and plot function values, and this lab was a success.