ELEN 50 Lab 0: Introduction to MATLAB
Lab Report

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Friday 2:15-5:00p

Simple Calculator Operations

Using MATLAB, calculate the term grade point average of a student who took three courses and received an A - (worth 3.7) in a 4 unit course, a B (worth 3.0) in a 5 unit course, and a C+ (worth 2.3) in a 3 unit course. Copy the expression on the screen and the results, and paste that into the document for your lab submission.

```
>> (3.7*4+3*5+2.3*3)/(4+5+3)
   ans =
   3.0583
```

Some MATLAB Functions

Using MATLAB, calculate 20 values of the cosine function evenly distributed over one cycle or period of the function. Copy the expression on the screen and the results, and paste that into the document for your lab submission.

```
>> a = pi*0.1*[0:20];
>> cos(a)
ans =
   Columns 1 through 6
   1.0000 0.9511 0.8090 0.5878 0.3090 0.0000

   Columns 7 through 12
   -0.3090 -0.5878 -0.8090 -0.9511 -1.0000 -0.9511

   Columns 13 through 18
   -0.8090 -0.5878 -0.3090 -0.0000 0.3090 0.5878

   Columns 19 through 21
   0.8090 0.9511 1.0000
```

Simple Plots

Using MATLAB, plot the value of exp(-t) vs t over the range from 0 to 5 with the function evaluated at intervals of 0.1. Save the plot and insert the screen instruction and plot into the document for your lab submission. Using MATLAB, plot the value of cos(a) vs a over the range from 0 to 6pi with the function evaluated at intervals of 0.05pi. Save the plot and insert the screen instruction and plot into the document for your lab submission.
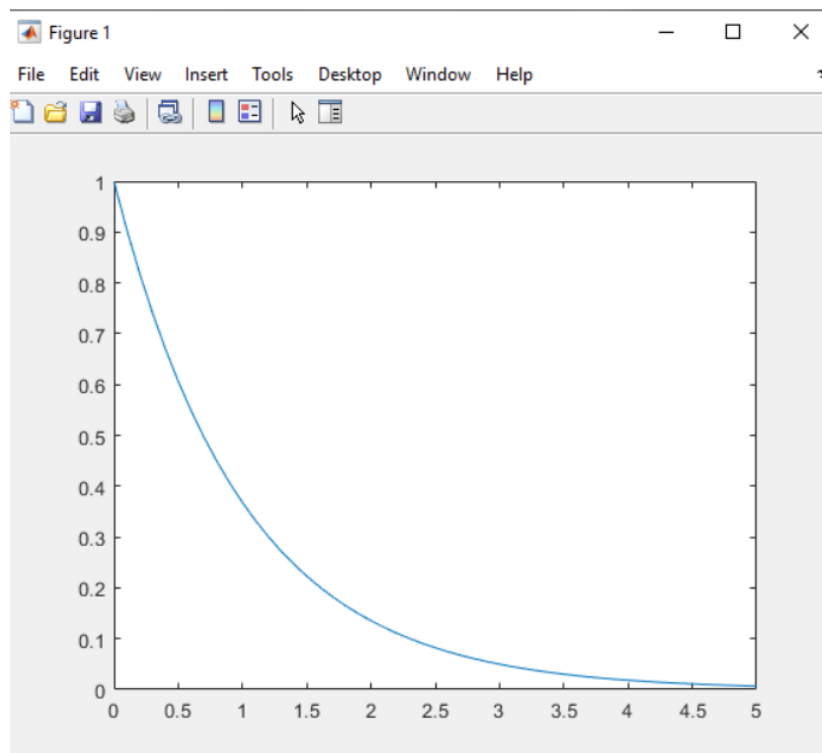
```
>> t=0.1*[0:50];
>> plot(t,exp(-t))
```


Figure 1: Graph of $exp(-t)$ from t $= 0$ to 5

```
>> 6/0.05
ans =
    120
>> b=pi*0.05*[0:120];
>> plot(b,cos(b))
```
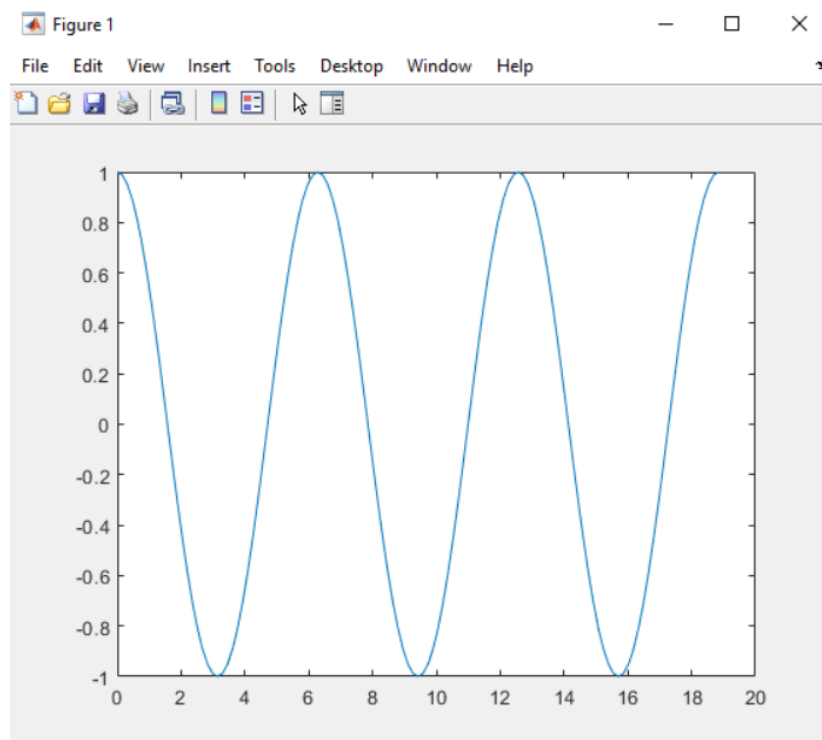

Figure 2: Graph of cos(b) from b = 0 to 2π