

Lecture 4: Plot & Import/Export Data

```
% Graphics:
t = 0:.2:20;
whos
plot(t,sin(t))
plot(t,sin(t),'linewidth',6)
plot(t,sin(t),'*')
plot(t,t^2) % What is wrong with this statement?
plot(t,t.^2)
plot3(sin(t),cos(t),t)
grid on
xlabel('x')
ylabel('y')
zlabel('z','fontsize',30)
title('\gamma = e^\pi','fontsize',20)
```

```
% Sample functions and graphical demos
contour(peaks)
mesh(peaks)
surf(peaks)
penny    % We tried this on the first day of class
klein1   % We also tried this one
cruller  % What does this do?
help graphics
```

```
% Plotting your own .m file function/data
```

the file g.m

```
function g = g(x)
g = exp(x)-4*x;
```

```
figure(1)
fplot('g',[0 2])
grid on
```

```
% Plotting multiple graphs together
figure(1), hold on
fplot('sin',[0 2],'r')
x = (0:.1:1);
figure(2), plot(x,g(x),'g*-',x,sin(x),'rs-.')
legend('Data set 1','Data set 2');

% The num2str command
rho=1.5;
title(['value of rho=' num2str(rho)])

% Subplots on the same page
x = linspace(0,1,25);
subplot(2,2,1), plot(x,g(x),'g*-');
subplot(2,2,2),
fplot(@sin,[0 1],'rs-.'),
axis([0 1 -10 10]);
```

```
% To save all the data in file 'name.mat'
% which is a binary file
save name.mat

% Note that if no extension is used then the
% extension .mat is the default
save name2

% You can also delete the file using MATLAB
delete name2.mat

% Now that you have the data saved you can exit
% of MATLAB and load the same data next time you
% login.
clear all

% Load ALL of the data that was saved in name.mat
load name.mat
```

```
% To save data in ASCII for other software
% (such as the one used for the homework) we
% need to use .dat file
    save x.dat x -ASCII

% To load it back into MATLAB
    load x.dat -ASCII

% Printing a figure file to your directory
    help print
    print -djpeg fig.jpg

% Click on fig.jpg to see your JPEG figure
```