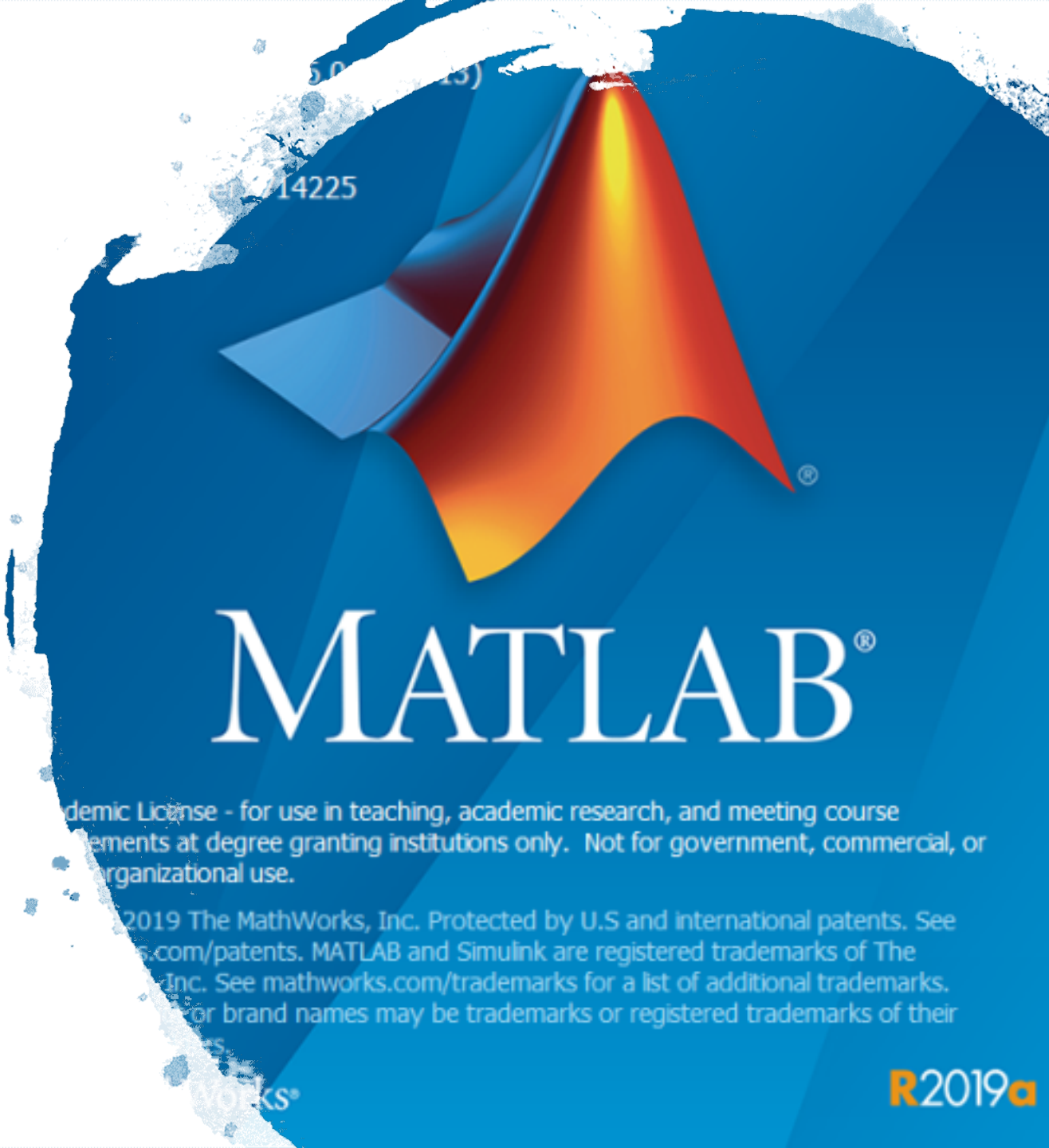
VISUAL PROGRAMING



WHY USE MATLAB?


```
%% Using 'help plot in Command Window' to change:
% Line types, symbols, and colors

clear
close all
clc

x = 1:5;
y = [2 7 4 3 9]

plot(x,y,'o');
```

⚠ Line 24: Terminate statement with semicolon to suppress output (within a script). Details Fix

MATLAB R2019a - academic use

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Current Folder

Name

- First_Program.m
- Introduction_to_Matlab.m
- MATLAB_Plotting_Multiple_Experi...
- MATLAB_Plotting_One_Experienta...
- METHOD 2.jpg
- Plotting_Continuous_Function.m
- Subplot_positions_explained.m
- Subplot_to_plot_data_in_separate...

MATLAB_Plotting_Multiple_Experi...

MATLAB Plotting Multiple Experiemental Datasets

- MATLAB Plotting Multiple Expe...
- Plotting with TWO(2) Datasets
- Adding a Legend (with TWO(2)...

Editor - C:\Users\naycr\Documents\MATLAB\MATLAB_Plotting_Multiple_Experimental_Datasets.m

MATLAB_Plotting_Multiple_Experimental_Datasets.m | Subplot_to_plot_data_in_separate_plotting_spaces.m

```
102    %% Plot multiple obderved datasets in the same plotting space - Method 2
103    % MATLAB Formatting linetypes, marker shapes and colors for  plotted datasets
104 -  clear
105 -  close all
106 -  clc
107
108 -  x = 1:5;
109 -  y_1 = [2 7 4 3 9];
110 -  y_2 = [1 3 9 4 2];
111 -  y_3 = [7 2 5 1 6];
112
113 -  plot (x,y_1, ':ob',x,y_2,'rx-',x,y_3,'--gs');
114    % It dose not matter the order (linetypes, marker shapes and colors)
```

Command Window

```
fx >>
```

Workspace

Name	Value
x	[1,2,3,4,5]
y_1	[2,7,4,3,9]
y_2	[1,3,9,4,2]
y_3	[7,2,5,1,6]

Command History

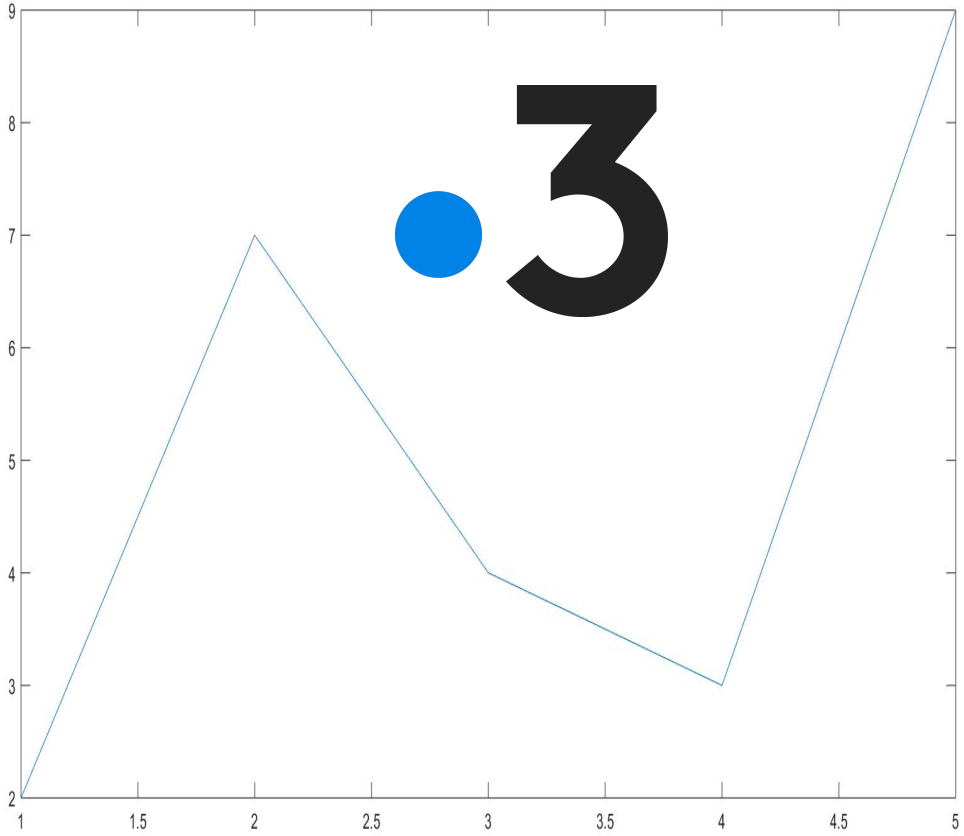
```
2
3
2
5
3
2x 20
clear
clc
2x 20
5x 2
3
%-- 7/18/2019 7:04 AM --%
```

script | Ln 103 Col 78

THE UNBREAKABLE 5!

```
%% These are the Five rules for naming rules variables in MATLAB
%1) Variable names can only consist of letters, numbers, and the underscore character
%2) Variable names must begin with a letter
%3) Variable names are case sensitive
%4) Variable names can not be longer than 63 characters
%5) You should NOT use the name of a built-in function as a variable name
```

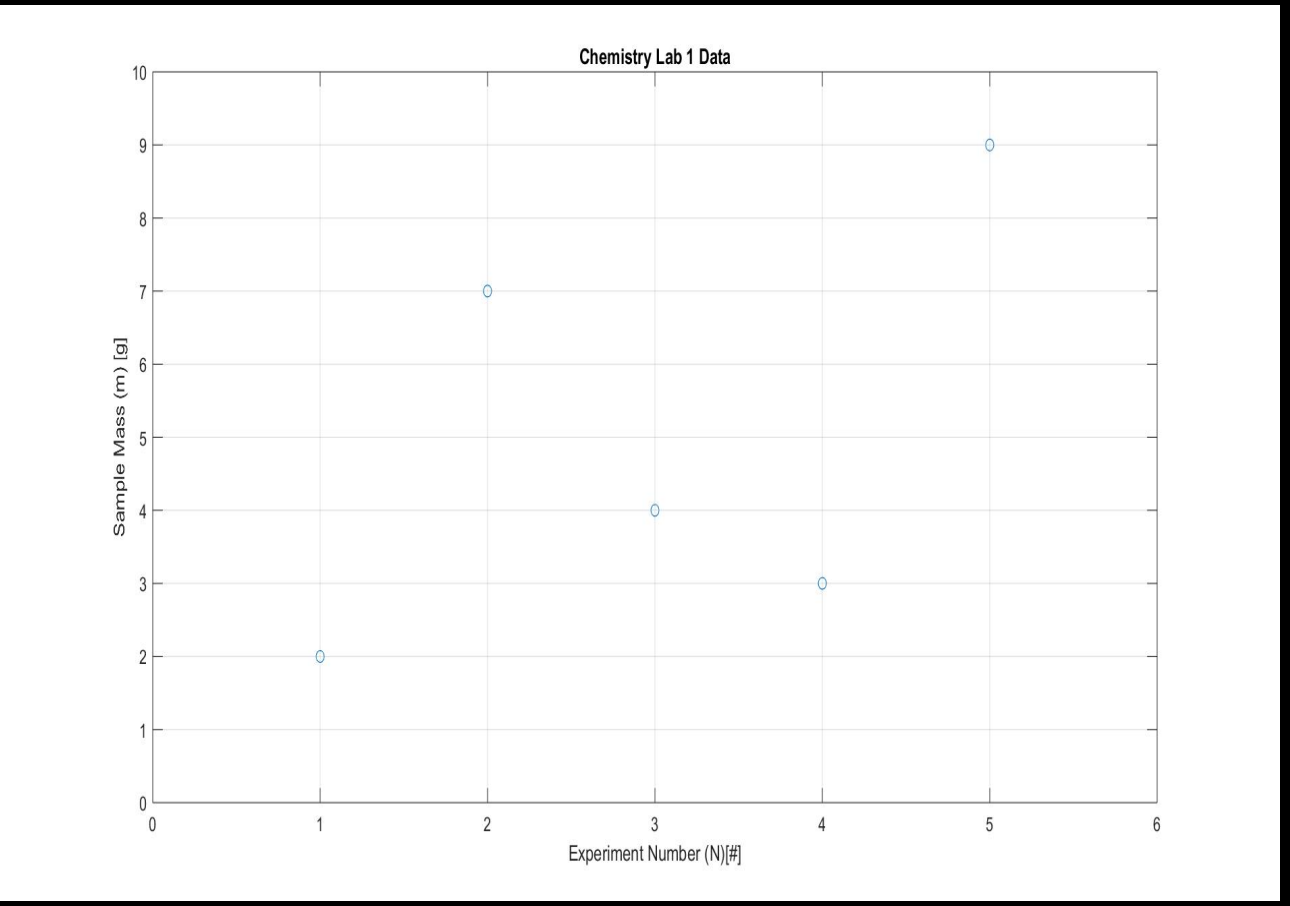
BASICS



- %% Sample Plot
- clear
- clc

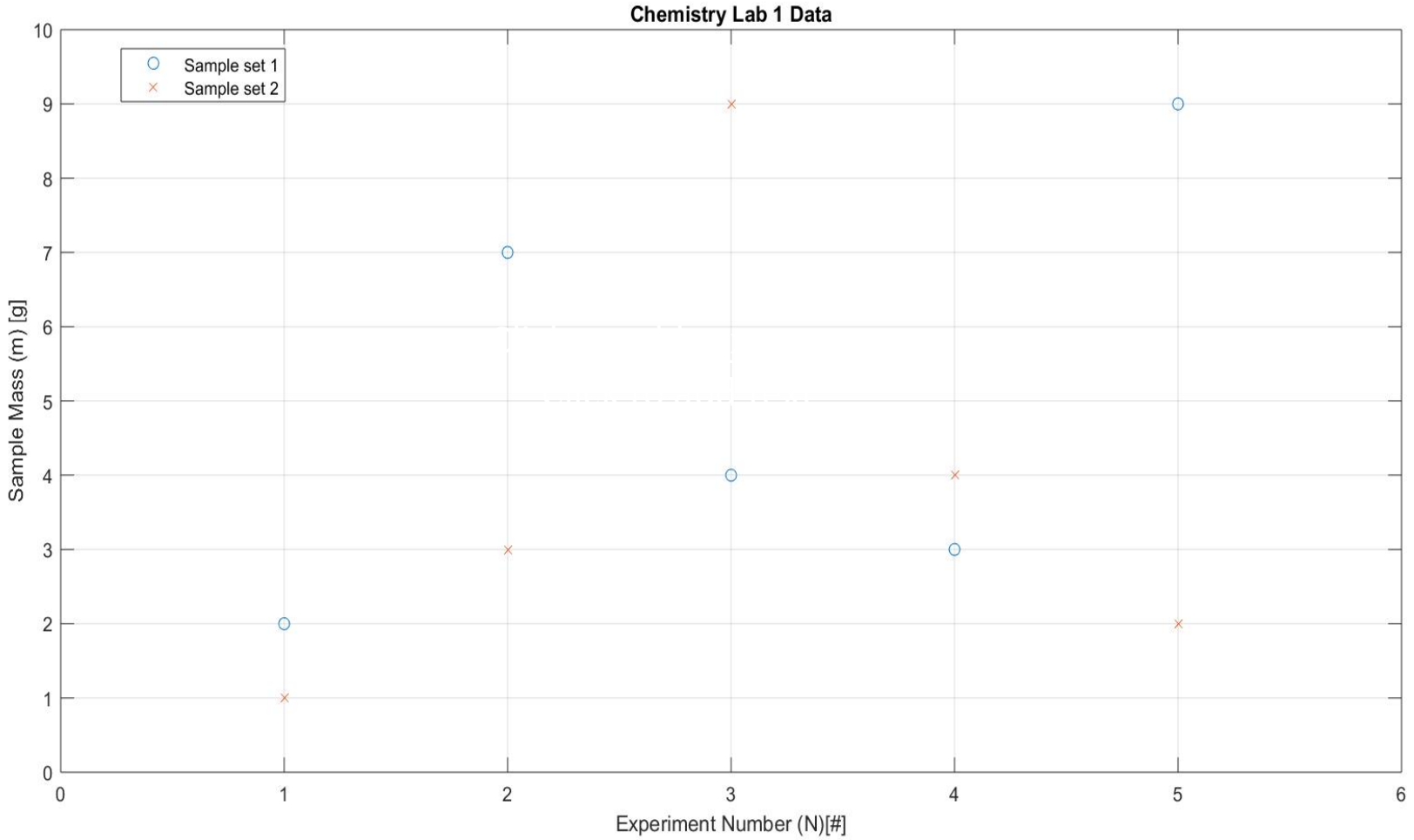
- x = 1:5;
- y = [2 7 4 3 9];

- plot(x,y);

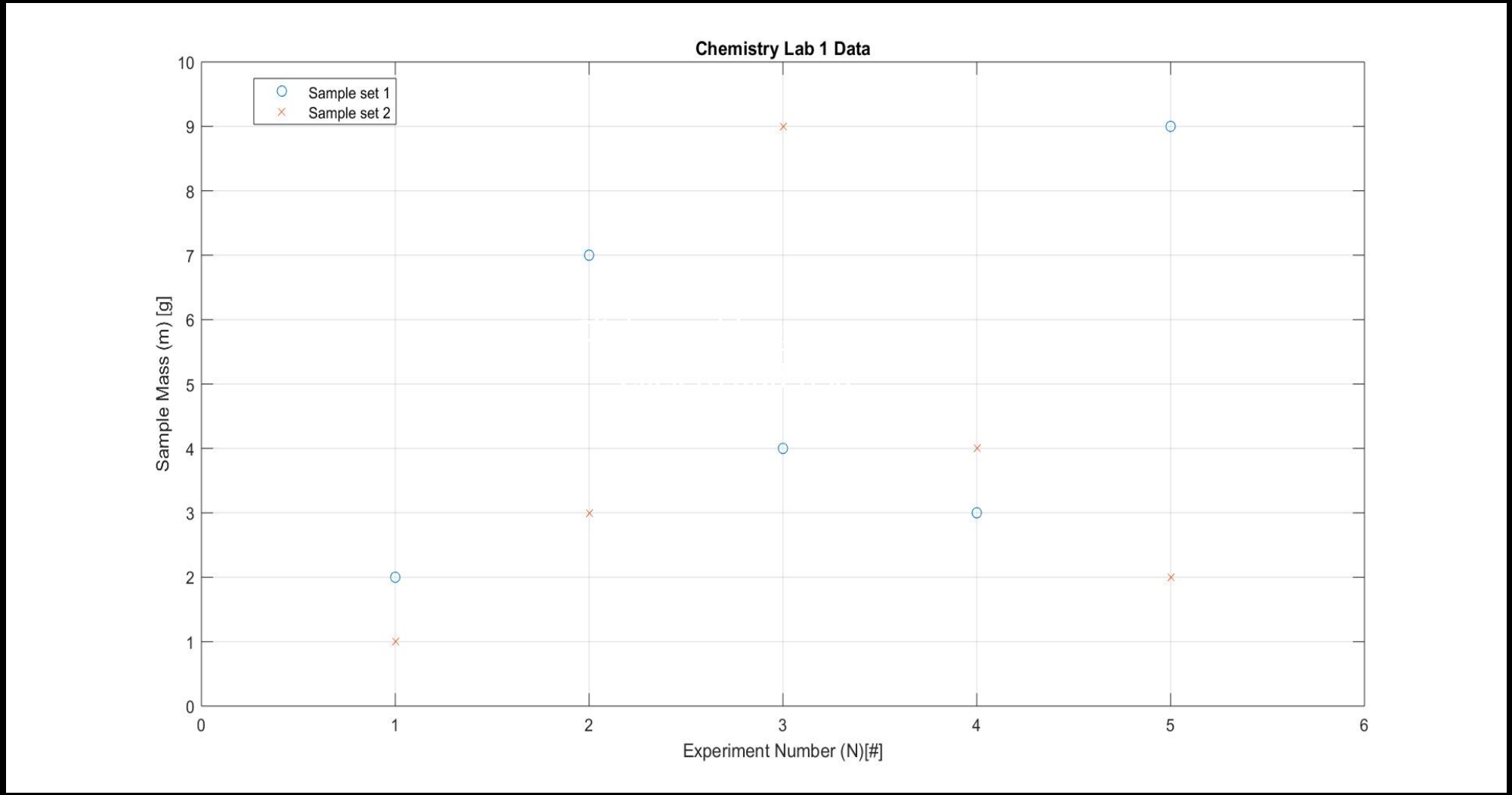



```
%% Using 'help plot in Command Window' to change:
% Line types, symbols, and colors

clear
close all
clc

% 'help plot'
x = 1:5;
y = [2 7 4 3 9];

plot(x,y,'o');

xlabel('Experiment Number (N)[#]')
ylabel('Sample Mass (m) [g]')
title ('Chemistry Lab 1 Data')
grid on
axis ([0 6 0 10])
```

LEGEND


Chemistry Lab 1 Data
Sample set 1
Sample set 2
Sample Mass (m) [g]
Experiment Number (N)[#]
0
1
2
3
4
5
6
7
8
9
10

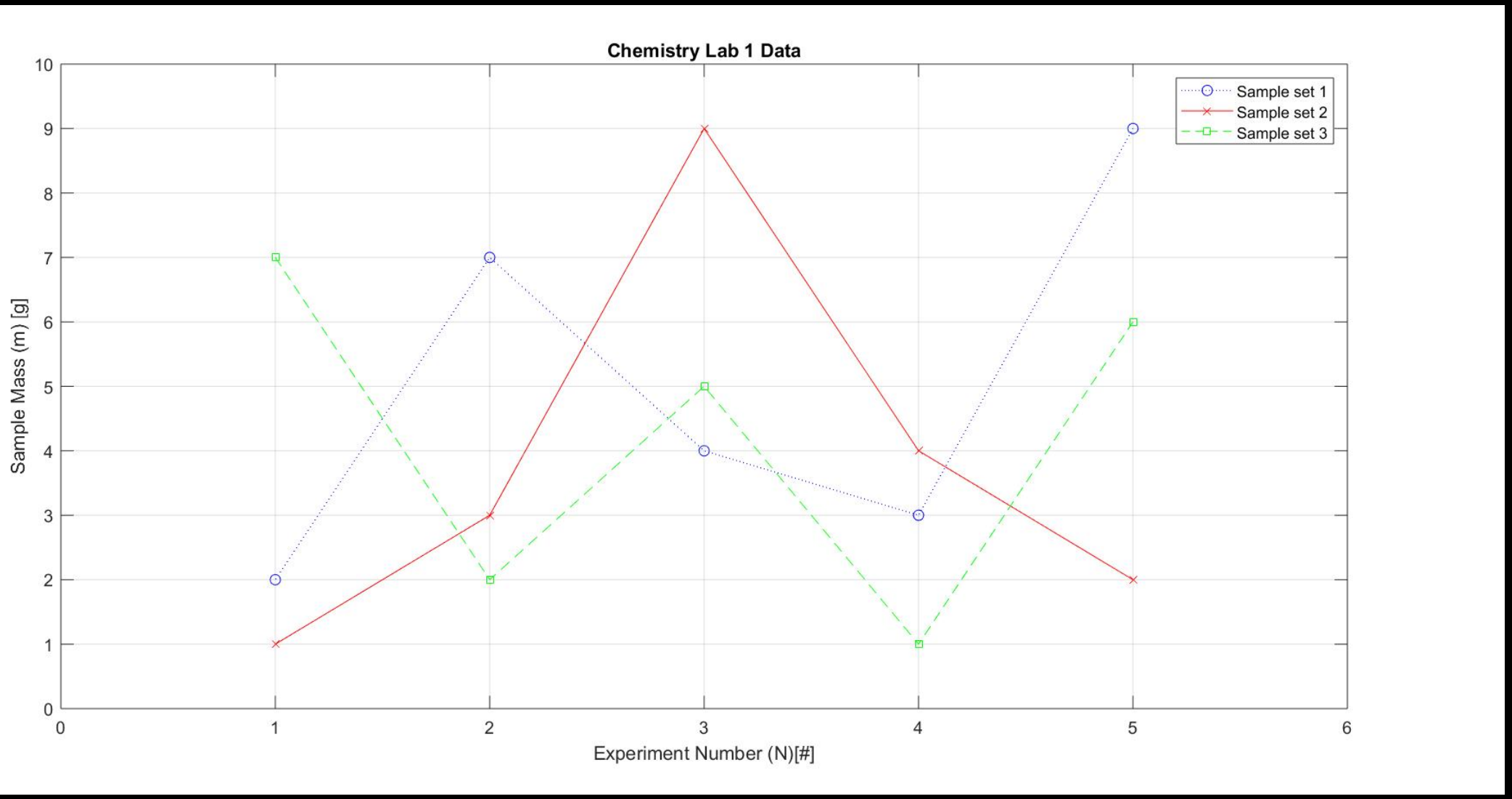
LEGEND



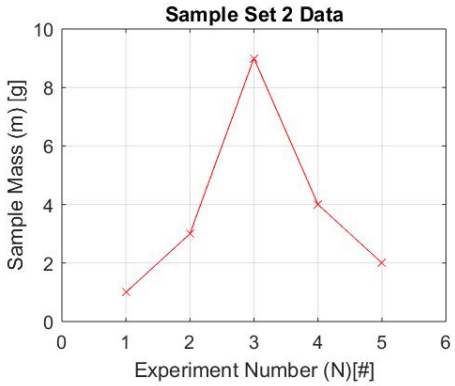
legend('Sample set 1','Sample set 2')

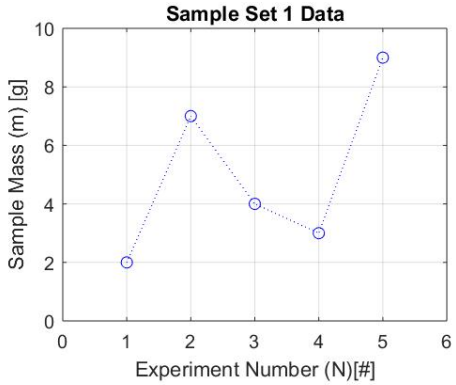
Proper Programing

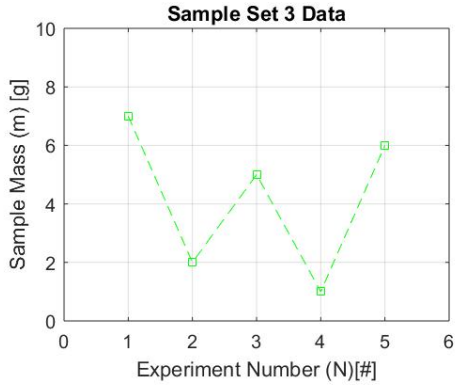
```
%% Plot multiple obderved datasets in the same plotting space - Method 2
% MATLAB Formatting linetypes, marker shapes and colors for  plotted datasets
clear
close all
clc

x = 1:5;
y_1 = [2 7 4 3 9];
y_2 = [1 3 9 4 2];
y_3 = [7 2 5 1 6];

plot (x,y_1, ':ob',x,y_2,'rx-',x,y_3,'--gs');
% It dose not matter the order (linetypes, marker shapes and colors)
% as long as you add the modifiers 'x,y_#'
% But for this case I will use 'Shape Line type Color'

xlabel('Experiment Number (N)[#]')
ylabel('Sample Mass (m) [g]')
title ('Chemistry Lab 1 Data')
grid on
axis ([0 6 0 10])

legend('Sample set 1','Sample set 2','Sample set 3')
```


Chemistry Lab 1 Data
Sample set 1
Sample set 2
Sample set 3
Sample Mass (m) [g]
Experiment Number (N)[#]
0
1
2
3
4
5
6
7
8
9
10

No Limitation!







Questions?

- **Five rules for naming rules variables in MATLAB**
- **MATLAB Plotting One Experimental Dataset**
- **MATLAB Plotting Multiple Experimental Datasets**