

The MATLAB logo is located at the top of the slide. It consists of the word "MATLAB" in a stylized, bold, sans-serif font. The letters are white with a blue outline. The background of the logo is a dark blue rectangle. The entire slide has a blue gradient background with wavy lines at the top.

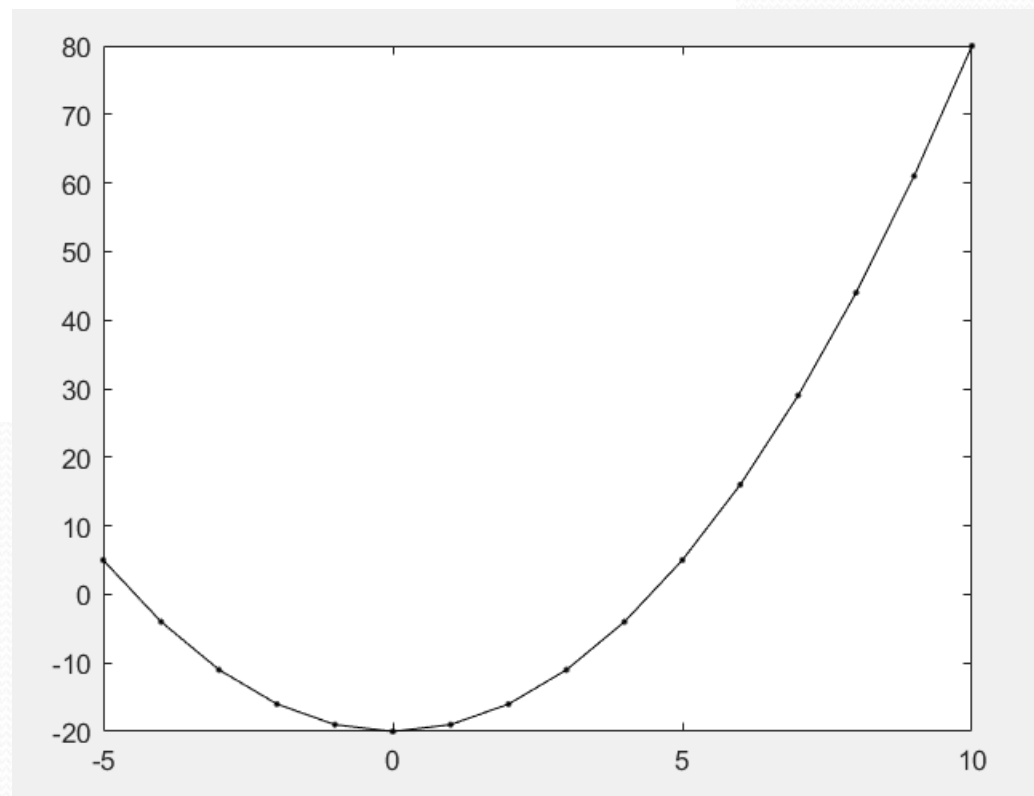
MATLAB

Essential MATLAB for Scientists

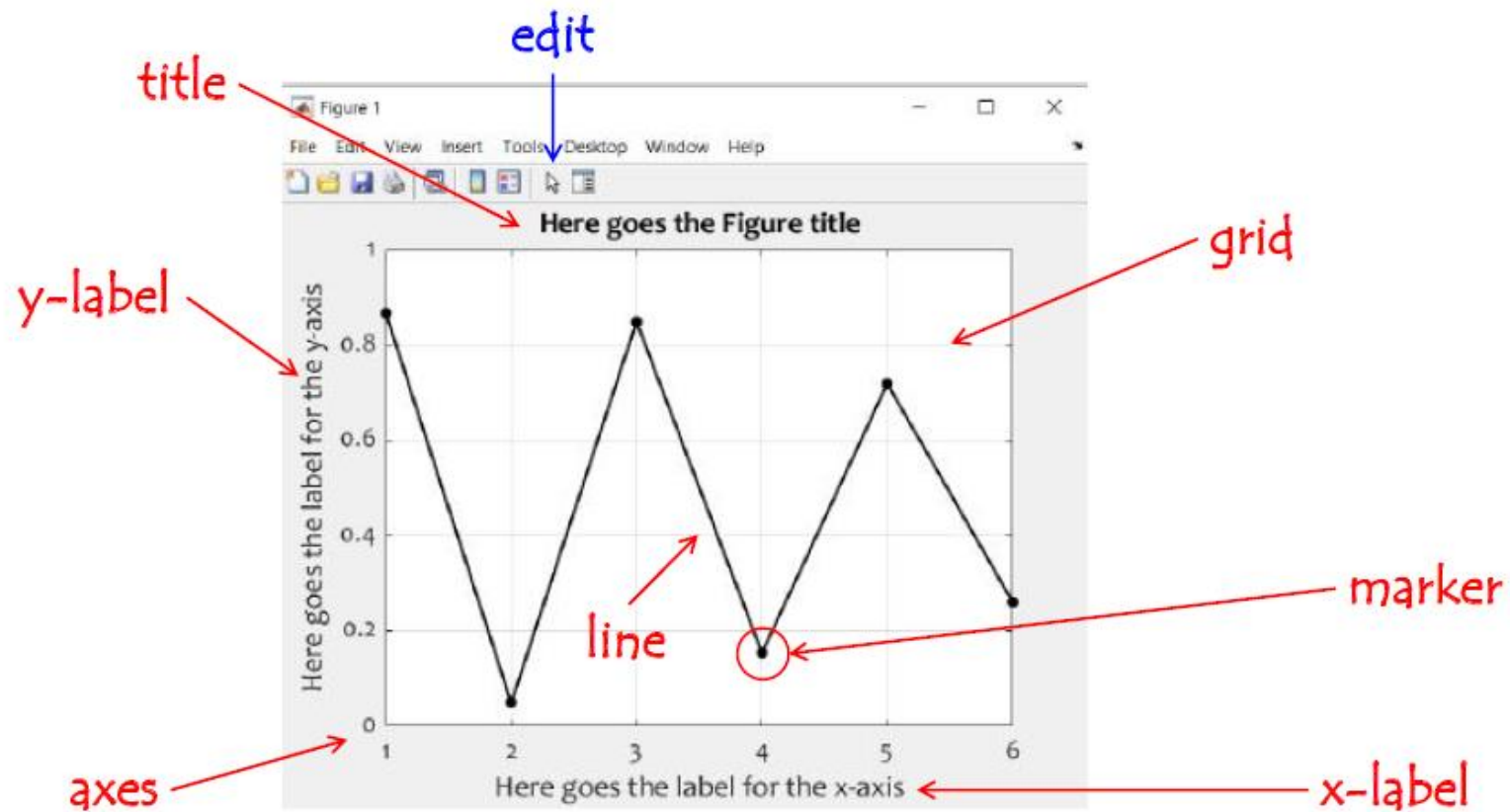
Tutorials

Plots in Matlab

```
x = -5:10; % values of the argument  
y = x.^2 - 20; % values of the function  
figure  
plot(y)  
figure  
plot(x,y)  
figure  
plot(x,y,'k.-')
```



Plots in Matlab



Useful Commands

hold on

plots more than one thing on the same plot

grid on

activates the grid lines on the plot

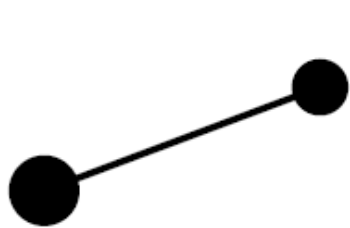
fill

fills the following color on the plot

'k'	black	'r'	red	'g'	green	'b'	blue
'w'	white	'm'	magenta	'y'	yellow	'c'	cyan

Exercise

1. Plot three circles filled respectively with colors dark salmon, lavender bush and maroon
2. Reproduce the following images.



(a) Weights



(b) Zigzag



(c) Lightning bolt



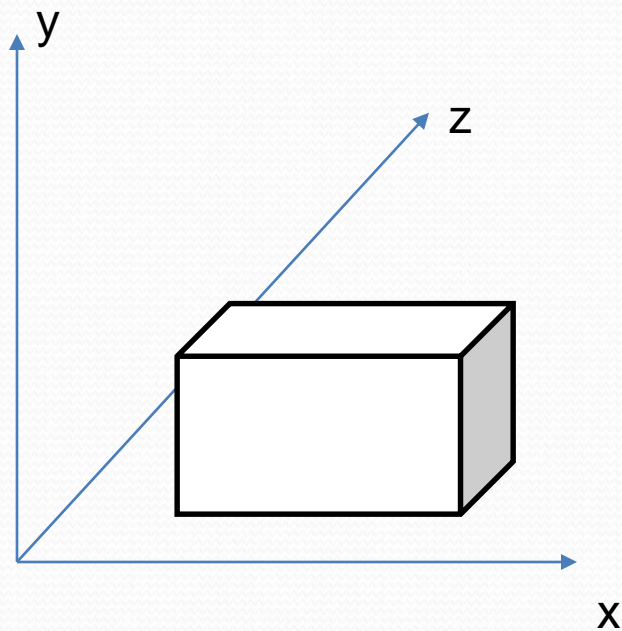
(d) Christmas tree



(e) Bear's face

Exercise

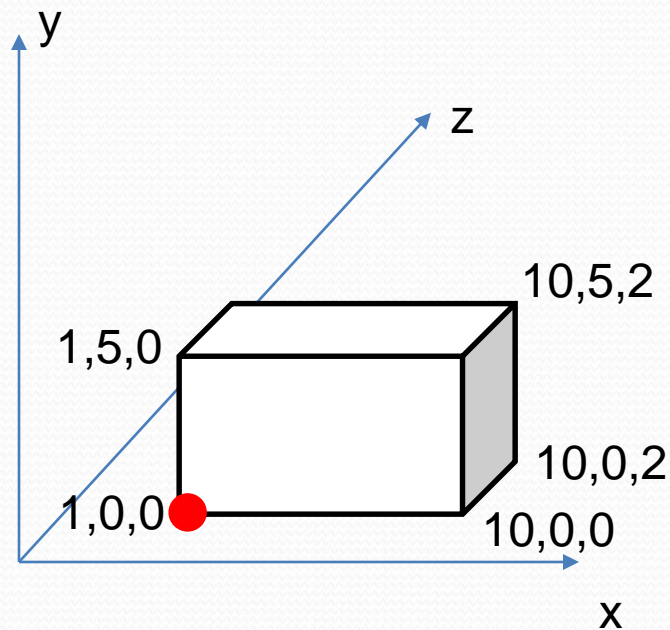
Plot a rectangular cube



Use `plot3()` function

Exercise

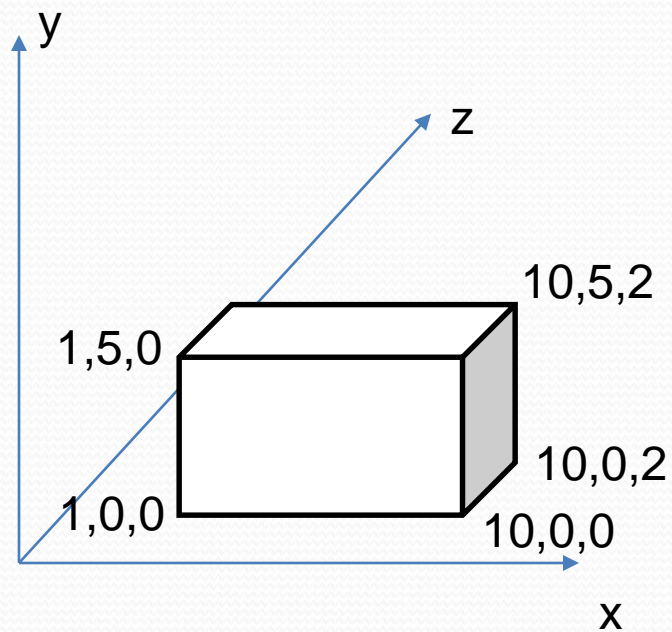
Plot 5 similar rectangular cubes (only x coordinates will change, reference ● of each cube will be separated by 12 (1st cube 1,0,0 ; 2nd cube 13,0,0 etc)



Create your own function
Use for loop

Exercise

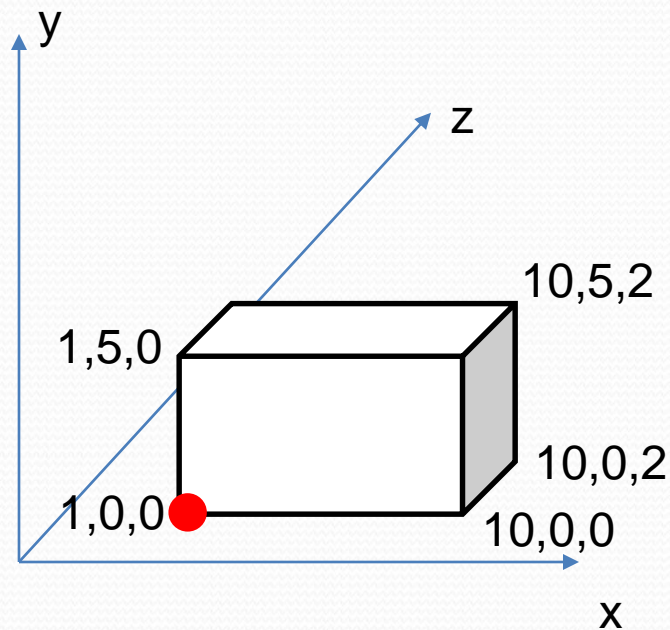
Plot a rectangular cube



Use `patch()` function

Exercise

Plot 5 similar rectangular cubes (only y coordinates will change, reference ● of each cube will be separated by 7 (1st cube 1,0,0 ; 2nd cube 1,7,0 etc)



Use patch() function
Use for loop



Exercise

We are going to create an interface with 2 buttons and 1 plot.

The different steps:

- Create figure
- Create panel
- Create push buttons
- Create plot
- Activate button when click on it