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Progress on learning MATLAB/Octave

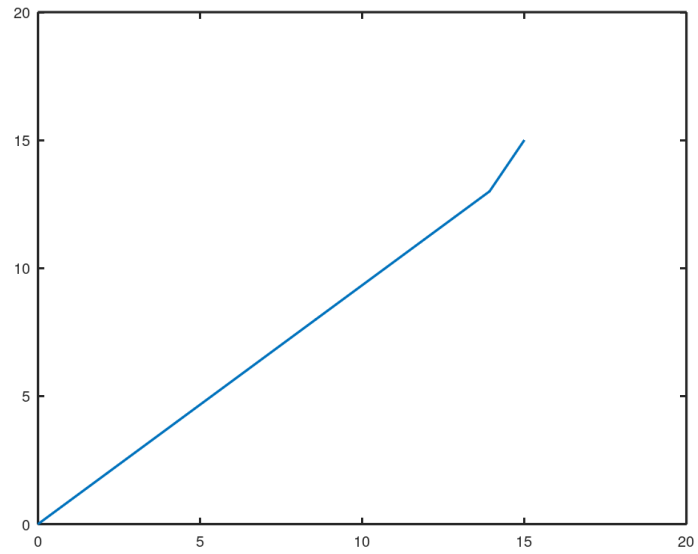
The first tutorial I am using is from Wikibooks, called Octave Programming Tutorial/Getting started. Link (https://en.wikibooks.org/wiki/Octave_Programming_Tutorial/Getting_started)

I followed through the tutorial, learning about how to plot graphs. I tried the first exercise which was:

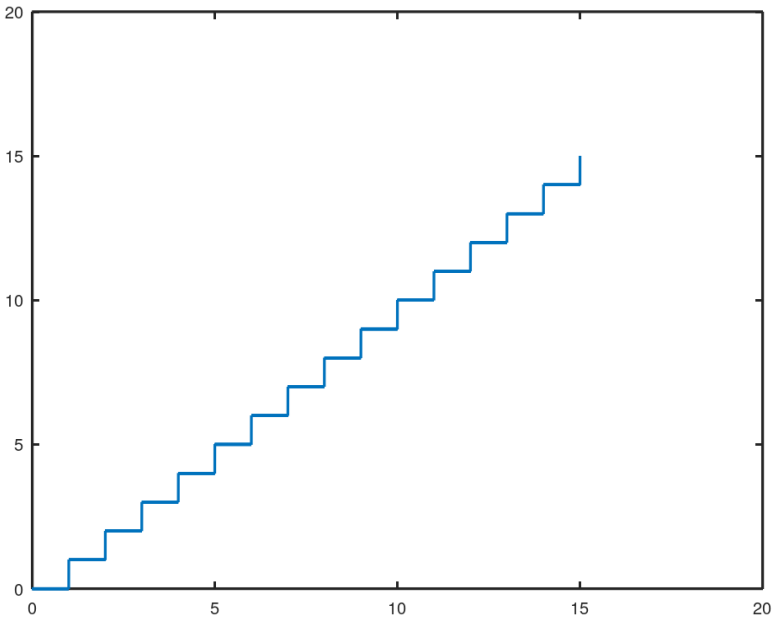
Exercise [edit | edit source]

Plot the function $y = \lfloor x \rfloor$ for $x \in [0, 15]$. (This is Figure 2).
Note : The graph may appear slightly inaccurate if the length(3rd) parameter of linspace is not sufficiently large. See the next heading for more information.

At first my function did not look correct:



However, after reading more about the linspace function, I learned that if there is not enough space given to the vector, the graph may look a little strange. After giving the vector more space (10000 instead of 15) it looked correct:



Here is the script that gave me the result above:

```
x = linspace(0,15,10000);

y = floor(x);

plot(x,y);
```

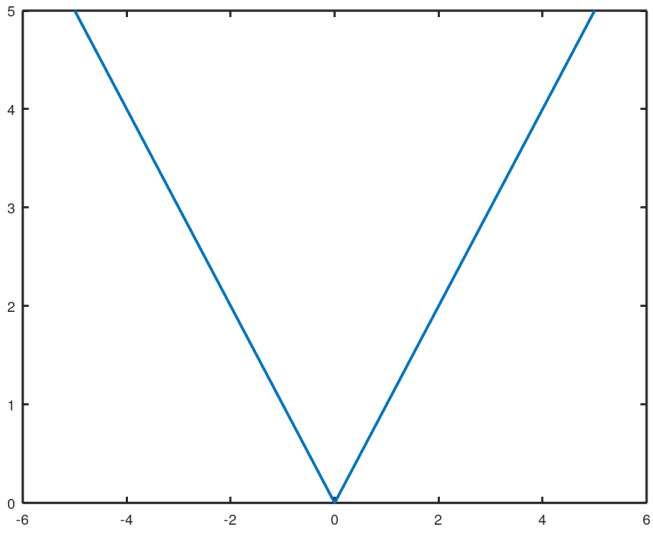
Continuing through the tutorial led to the exercises section:

Exercises [edit | edit source]

- Plot the absolute value function for $x \in [-5, 5]$.
- Plot a circle of radius 1, centered at the origin. (This is not so easy.)
- Plot your favourite function(s) like sin and cos

Plot the absolute value function for -5 to 5

My output



My code

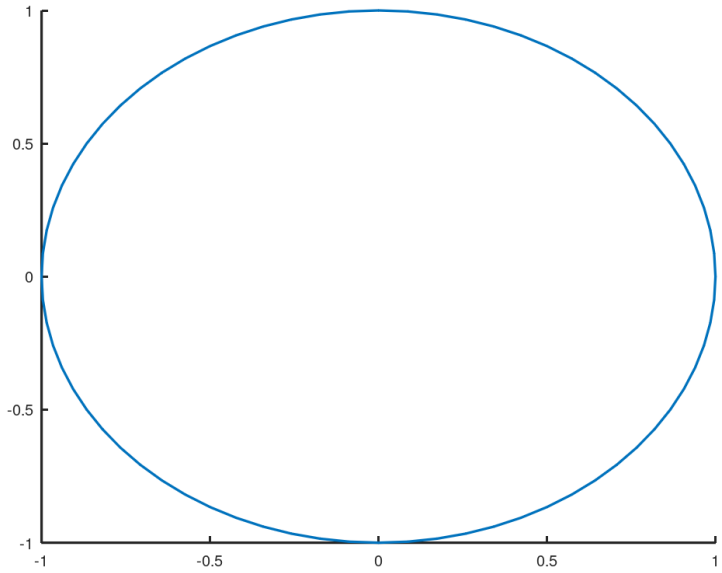
```
x = linspace(-5,5, 10000);

y = abs(x);

plot(x,y);
```

Plot a circle with a radius of one, centered at the origin

This part was more difficult than I expected, as I tried many different times on my own. I soon realized that I did not have enough experience with the software to figure this out on my own, so I looked for another tutorial to help me figure out what to do. The second tutorial that I used was titled “How to draw a circle in GNU Octave” by the YouTube channel Quancept. Link (https://www.youtube.com/watch?v=An7GJnpuJcI)

This tutorial taught me that Octave has the ability to import packages, much like Java and Python can, to add more functionality to the software.

My output



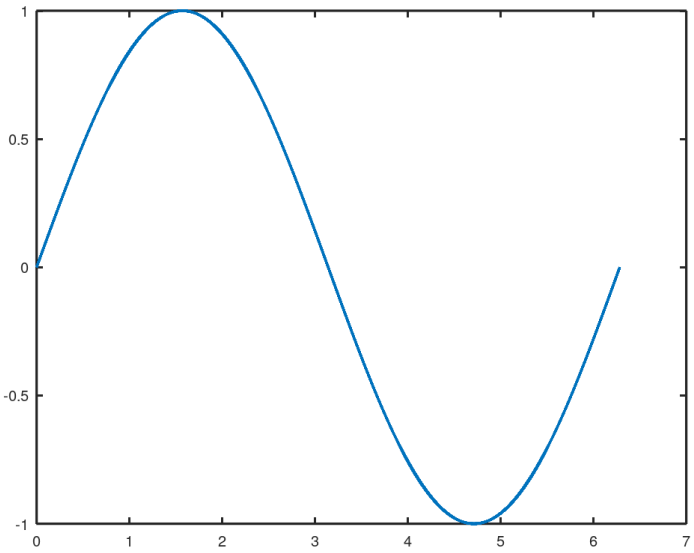
My code

```
pkg load geometry

x = 0;

y = 0;

radius = 1;

c = drawCircle(x,y,radius);
```

This package made my code much simpler and easier to read than if I had to create the function on my own. It also saved time since someone else already wrote the code to create the circle.

Plot your favorite function

My output



My code

```
x = linspace(0, 2*pi, 100000);

y = sin(x);

plot(x,y);
```