

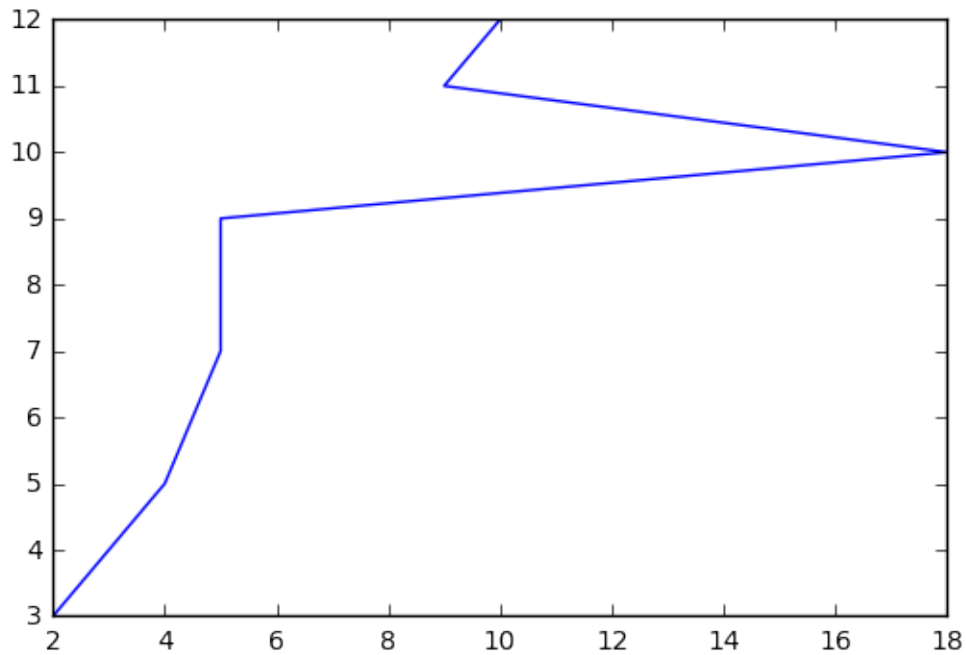
learn_plot

February 12, 2017

```
In [2]: import matplotlib.pyplot as plt
        %matplotlib inline
```

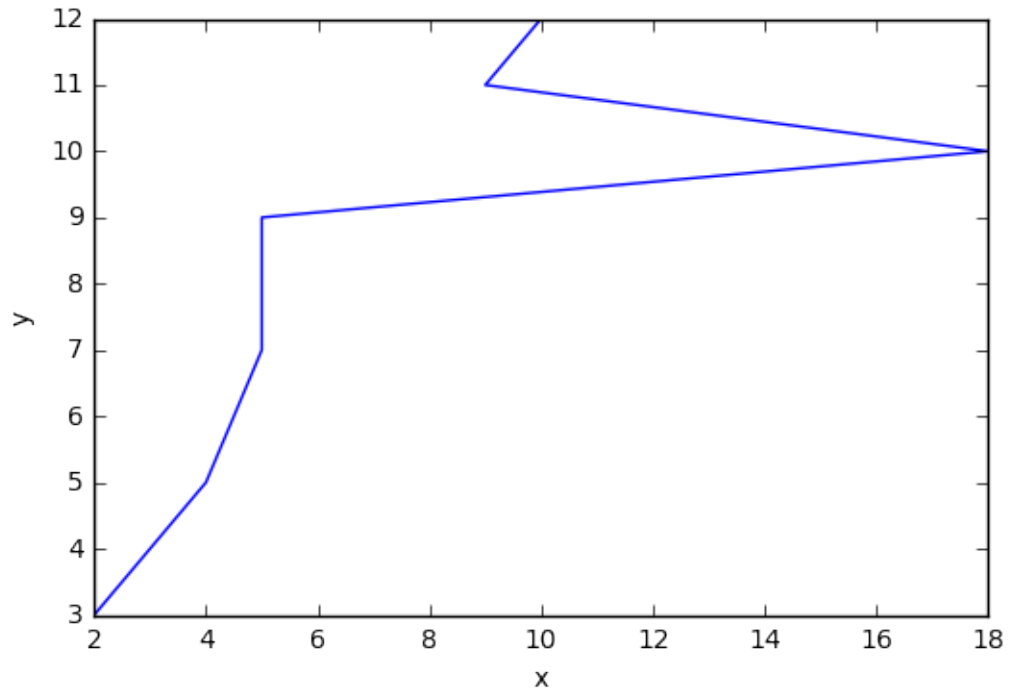
```
In [3]: x=[2,3,4,5,5,18,9,10]
        y=[3,4,5,7,9,10,11,12]
        plt.plot(x,y)
```

```
Out [3]: [<matplotlib.lines.Line2D at 0x7f92273e0278>]
```



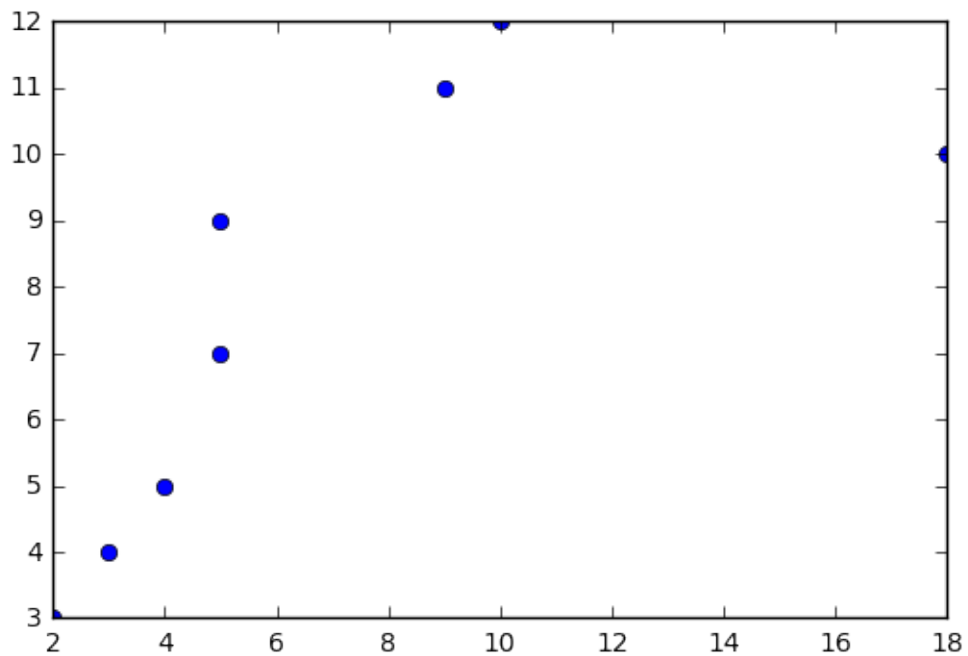
```
In [4]: plt.xlabel("x") # to make label for x axis
        plt.ylabel("y") # to make label for y axis
        plt.plot(x,y)
```

```
Out [4]: [<matplotlib.lines.Line2D at 0x7f9224a39d30>]
```



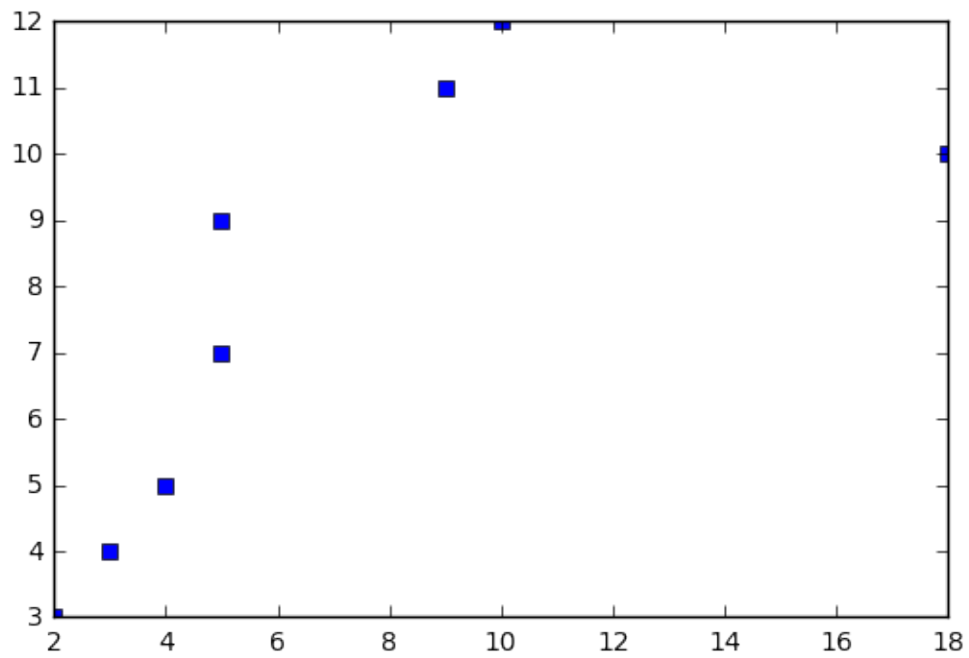
```
In [5]: plt.plot(x,y,"o") # plot only points (o means show points by circles)
```

```
Out[5]: [<matplotlib.lines.Line2D at 0x7f92249af5c0>]
```



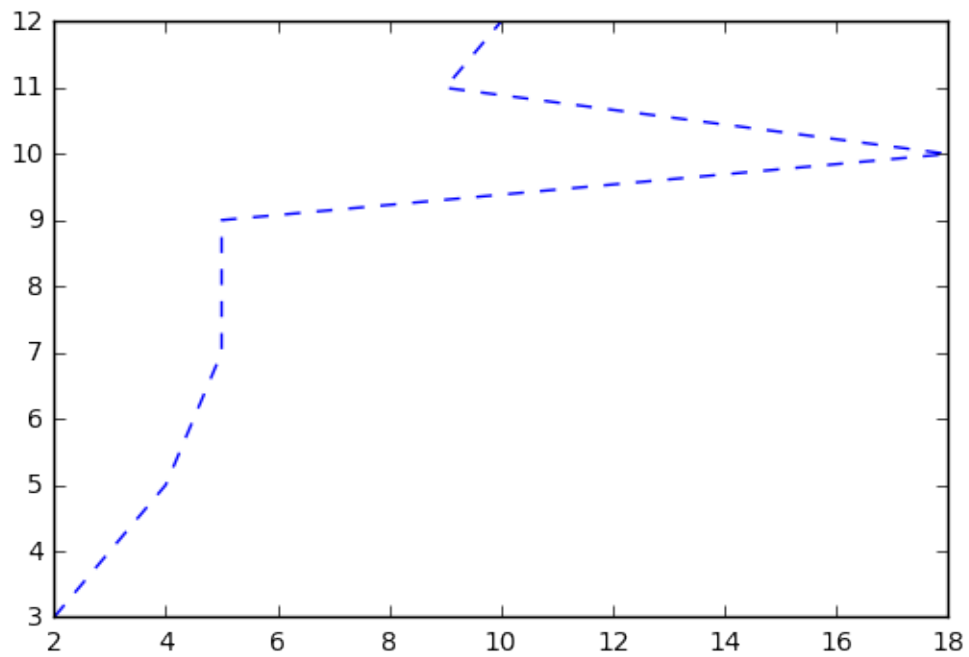
```
In [6]: plt.plot(x,y,"s")# (s means show points by square)
```

```
Out [6]: [<matplotlib.lines.Line2D at 0x7f9223f51b38>]
```



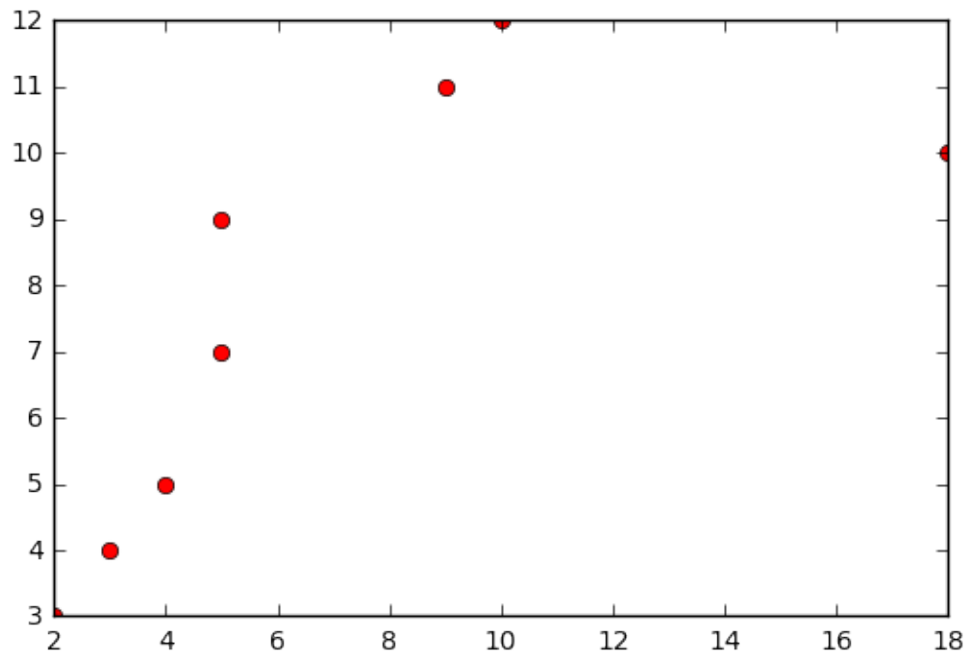
```
In [7]: plt.plot(x,y,"--")
```

```
Out [7]: [<matplotlib.lines.Line2D at 0x7f9223f3bd68>]
```



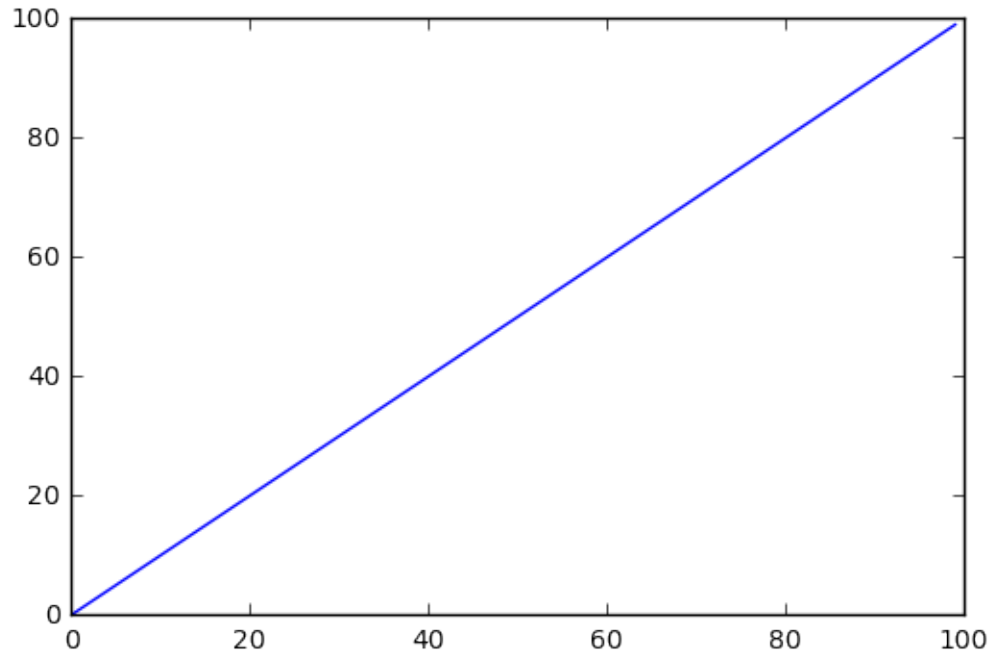
```
In [8]: plt.plot(x,y,'ro') # r means red color
```

```
Out[8]: [<matplotlib.lines.Line2D at 0x7f9223ea9e80>]
```



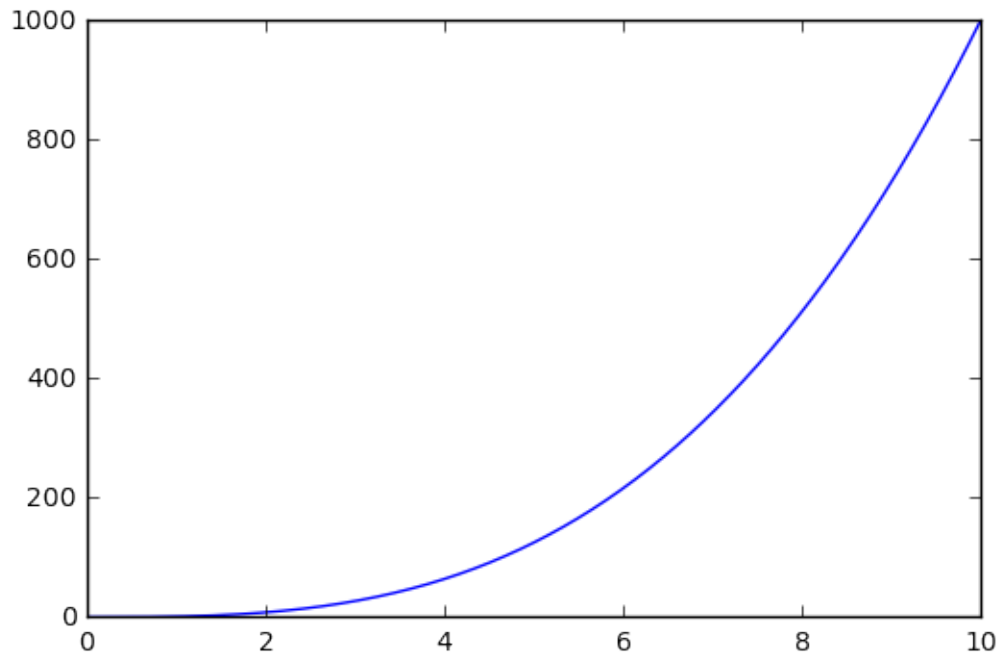
```
In [9]: x=[]  
        for i in range(100):  
            x.append(i)  
        y=[]  
        for j in range(100):  
            y.append(j)  
        plt.plot(x,y)
```

```
Out[9]: [<matplotlib.lines.Line2D at 0x7f9223e1f0b8>]
```



```
In [10]: def f(x):  
         return x**3  
         dx=0.01  
         x0=0.0  
         n=1000  
         xlist=[]  
         for i in range(n):  
             x=x0+i*dx  
             xlist.append(x)  
         ylist=[]  
         for x in xlist:  
             ylist.append(f(x))  
         plt.plot(xlist,ylist)
```

```
Out[10]: [<matplotlib.lines.Line2D at 0x7f9223d8aa58>]
```



```
In [11]: from math import sin, cos, pi
xlist=[]
n=100
```

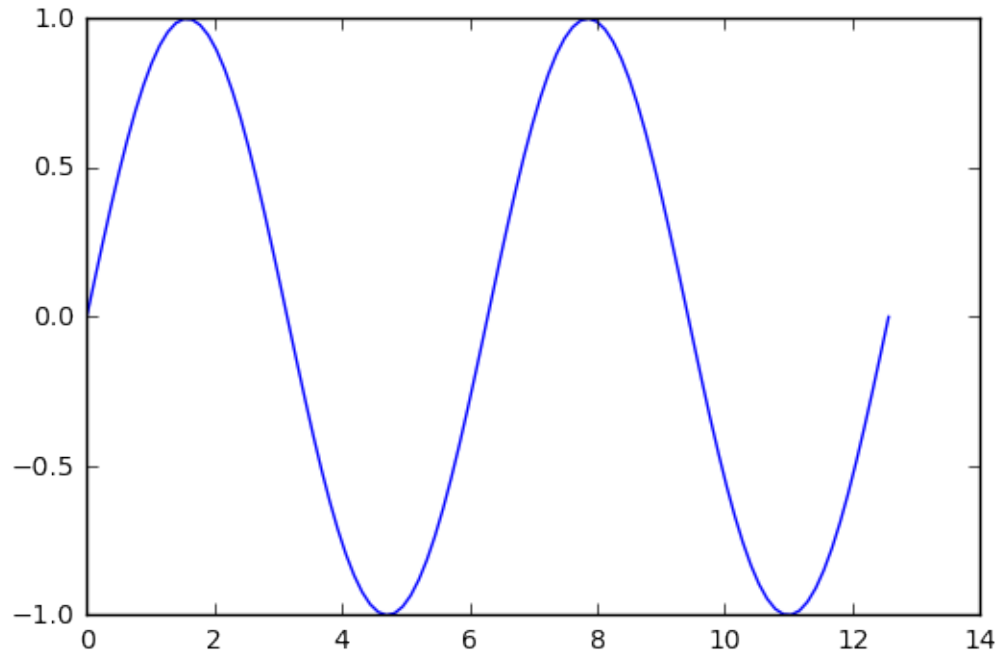
```
xmin=0.0
xmax=4*pi
```

```
dx=(xmax-xmin)/(n-1)
```

```
for i in range(n):
    x=x0+i*dx
    xlist.append(x)
```

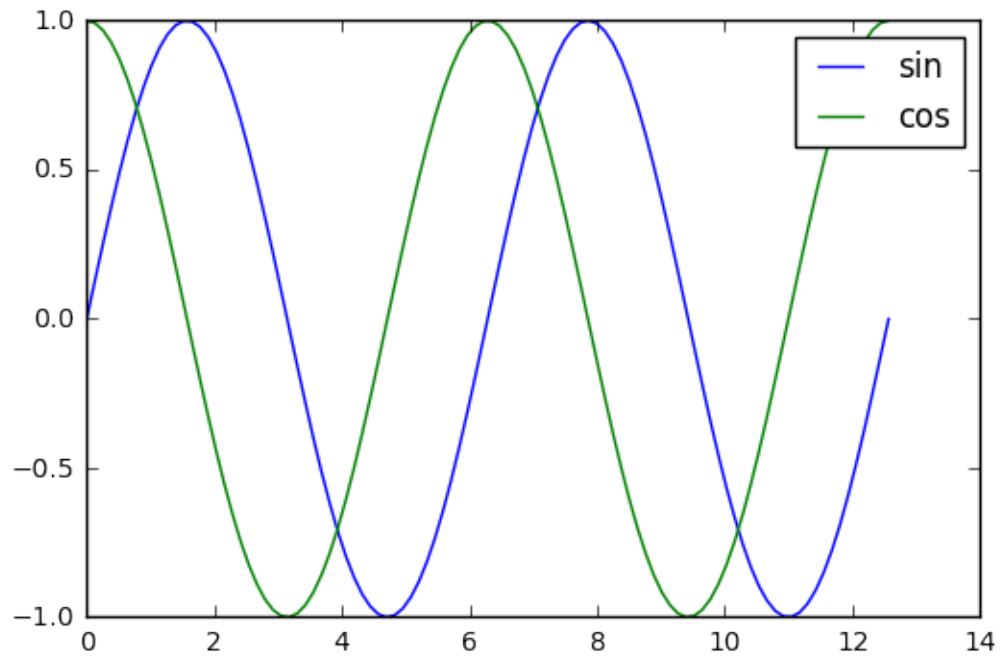
```
ylist=[]
for x in xlist:
    ylist.append(sin(x))
plt.plot(xlist,ylist)
```

```
Out[11]: [<matplotlib.lines.Line2D at 0x7f9223d63668>]
```



```
In [12]: ylist2=[]  
         for x in xlist:  
             ylist2.append(cos(x))
```

```
In [13]: plt.plot(xlist,ylist)  
         plt.plot(xlist,ylist2)  
         plt.legend(["sin", "cos"])  
         plt.show()
```



In []: