



Some Python tips & tricks 01



Python Basics

1. To produce a readable output of series of variables (x,y):

```
for x, y in zip(X, Y):  
    print('x =', x, ', y =', y)
```

2. Use the function `range(initial, final, step)`. Play with step value to see how it works

```
X = range(0,10, 2)  
for x in X:  
    i = X.index(x)  
    print(f'X[{i}] =', x)
```

3. Import `numpy` and use the function `arange(initial, final, step)`. Could you say what is the difference with `range(i,f,s)` function

```
import numpy as np  
X = np.arange(0., 10., 1.5)  
mylist = list(X)  
print(mylist)  
# print(mylist.index(5.))  
for x in X:  
    i = mylist.index(x)  
    print(f'X[{i}] =', x)
```

4. Use now the function `linspace(initial, final, size)`.

```
X = np.linspace(0., 10., 15)  
mylist = list(X)  
# print(X)  
# print(mylist.index(5.))  
for x in X:  
    i = mylist.index(x)  
    print(f'X[{i}] =', x)
```

5. Now, use the function `norm.pdf( )` from `scipy.stats` module to generate normal distribution values on the same interval than your function

```
import scipy.stats  
x = np.linspace(-10, 10, 20) # play with size = 20  
plt.plot(x, scipy.stats.norm.pdf(x, loc=0, scale=1.)) #loc == mu, scale==sigma  
plt.scatter(X,Y, c='red')  
plt.show()
```