

# lec1\_step3

April 12, 2020

```
In [1]: ## Python basics for novice data scientists, supported by Wagatsuma Lab@Kyutech
        #
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        # THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, .
        #
        ## @Time      : 2020-4-20
        ## @Author    : Hiroaki Wagatsuma
        ## @Site      : https://github.com/hirowgit/2A_python_basic_course
        ## @IDE       : Python 3.7.7 (default, Mar 10 2020, 15:43:27) [Clang 10.0.0 (clang-1000
        ## @File      : lec1_step3.py
```

```
In [2]: # running without modules on mathematics
        pi
```

```
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NameError                                Traceback (most recent call last)

<ipython-input-2-f84ab820532c> in <module>()
----> 1 pi

NameError: name 'pi' is not defined
```

```
In [3]: # module test: if you have an error when you run this code, you need to check the inst
```

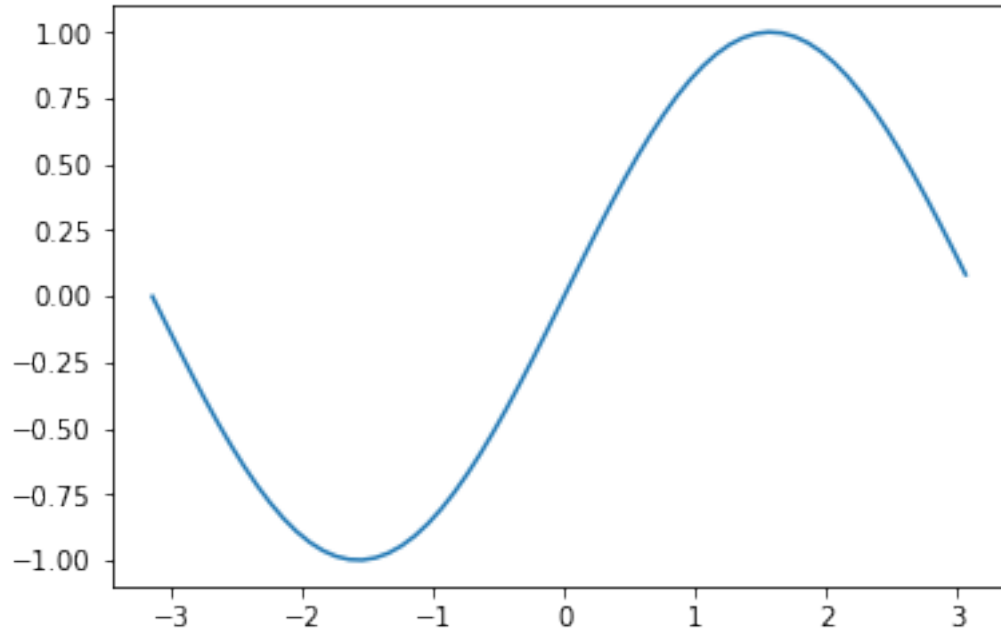
```
import math
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
```

```
In [4]: import math
        pi=math.pi
        print(pi)
```

3.141592653589793

```
In [5]: x = np.arange(-3.14, 3.14, 0.1)
        y = np.sin(x)
        plt.plot(x, y)
```

```
Out[5]: [<matplotlib.lines.Line2D at 0x118ea2310>]
```



```
In [6]: s = pd.Series([2, 4, 6, np.nan, 7, 9])
        print(s)
```

```
0    2.0
1    4.0
2    6.0
3    NaN
4    7.0
5    9.0
dtype: float64
```

```
In [ ]:
```