27. 자주 사용하는 Python Library 소개

os

- 환경 변수나 디렉터리, 파일 등의 OS 자원을 제어할 수 있게 해주는 모듈이다

In [43]:

```
1 import os
2
3 os.environ['PATH']
```

Out[43]:

'C:\\Users\\trimu\\Miniconda3\\envs\\tf20;C:\\Users\\trimu\\Miniconda3\\envs\\tf
20\\Library\\mingw-w64\\bin;C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\Library
\\usr\\bin;C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\Library\\bin;C:\\Users\\trim
u\\Miniconda3\\envs\\tf20\\Scripts;C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\bin;
C:\\Users\\trimu\\Miniconda3\\condabin;C:\\Program Files\\NVIDIA GPU Computin
g Toolkit\\CUDA\\v10.1\\bin;C:\\Program Files\\NVIDIA GPU Computing Toolkit\\C
UDA\\v10.1\\libnvvp;C:\\Program Files (x86)\\Common Files\\Oracle\\Java\\javap
ath;C:\\Program Files\\NVIDIA GPU Computing Toolkit\\CUDA\\v10.0\\bin;C:\\Prog
ram Files\\NVIDIA GPU Computing Toolkit\\CUDA\\v10.0\\libnvvp;C:\\Program File
s\\NVIDIA GPU Computing Toolkit\\CUDA\\v9.0\\bin;C:\\Program Files\\NVIDIA GP
U Computing Toolkit\\CUDA\\v9.0\\libnvvp;C:\\ProgramData\\Boxstarter;C:\\Progr
am Files (x86)\\Intel\\Intel(R) Management Engine Components\\iCLS;C:\\Progra
m Files\\Intel\\Intel(R) Management Engine Components\\iCLS;C:\\Users\\trimu
\\Anaconda3\\Lib\\site-packages\\PyQt5;C:\\Python36\\Scripts;C:\\Python36;
C:\\Windows\\system32;C:\\Windows;C:\\Windows\\System32\\Wbem;C:\\Windo
ws\\System32\\WindowsPowerShell\\v1.0;C:\\Program Files\\Git\\cmd;C:\\Progra
m Files (x86)\\NVIDIA Corporation\\PhysX\\Common;C:\\WINDOWS\\system32;
C:\\WINDOWS;C:\\WINDOWS\\System32\\Wbem;C:\\WINDOWS\\System32\\Win
dowsPowerShell\\v1.0;C:\\Program Files\\MySQL\\MySQL Utilities 1.6;C:\\WINDO
WS\\System32\\OpenSSH;C:\\Program Files (x86)\\Intel\\Intel(R) Management En
gine Components\\DAL;C:\\Program Files\\Intel\\Intel(R) Management Engine Co
mponents\\DAL;C:\\Program Files (x86)\\Intel\\Intel(R) Management Engine Comp
onents\\IPT;C:\\Program Files\\Intel\\Intel(R) Management Engine Components\\I
PT;C:\\Program Files\\dotnet;C:\\ProgramData\\chocolatey\\bin;C:\\Program Files
\\nodejs;C:\\Program Files (x86)\\Yarn\\bin;C:\\WINDOWS\\system32;C:\\WINDO
WS;C:\\WINDOWS\\System32\\Wbem;C:\\WINDOWS\\System32\\WindowsPower
Shell\\v1.0;C:\\WINDOWS\\System32\\OpenSSH;C:\\Program Files\\Pandoc;C:\\P
rogram Files (x86)\\Graphviz2.38\\bin;C:\\Users\\trimu\\AppData\\Local\\atom\\bi
n;C:\\Program Files\\Intel\\WiFi\\bin;C:\\Program Files\\Common Files\\Intel\\Wir
elessCommon;C:\\Program Files\\NVIDIA Corporation\\Nsight Compute 2019.4.0;
C:\\Program Files\\mingw-w64\\x86_64-8.1.0-posix-seh-rt_v6-rev0\\mingw64\\bi
n;C:\\Users\\trimu\\AppData\\Local\\atom\\bin;C:\\Users\\trimu\\AppData\\Local
\\Programs\\Microsoft VS Code\\bin;C:\\Users\\trimu\\AppData\\Roaming\\npm;.'

In [15]:

```
1 os.getcwd()
```

Out[15]:

'C:\\Users\\trimu\\Desktop\\Algorithm 으로 배우는 Python\\jupytorNotebooks'

In [17]:

```
1 os.chdir("C:\\Users\\trimu\\Desktop")
```

In [18]:

```
1 os.getcwd()
```

Out[18]:

'C:\\Users\\trimu\\Desktop'

sys.path

- 파이썬 모듈들이 저장되어 있는 위치를 나타낸다. 즉 이 위치에 있는 파이썬 모듈은 경로에 상관없이 어디에서나 불러올 수 있다.

In [38]:

```
1 import sys
2
3 sys.path
```

Out[38]:

```
['C:\\Users\\trimu\\Desktop\\Algorithm 으로 배우는 Python\\jupytorNotebooks',
 'C:\\Users\\trimu\\Desktop\\GAN Udemy\\machine_learning_coding',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\python37.zip',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\DLLs',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20',
 '',
 'C:\\Users\\trimu\\AppData\\Roaming\\Python\\Python37\\site-packages',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages\\win32',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages\\win32\\lib',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages\\Pythonwin',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages\\IPython\\extension
s',
 'C:\\Users\\trimu\\.ipython']
```

In [39]:

```
1 sys.path.append("C:\\Users\\trimu\\")
```

In [40]:

```
1 sys.path
```

Out[40]:

```
['C:\\Users\\trimu\\Desktop\\Algorithm 으로 배우는 Python\\jupytorNotebooks',
 'C:\\Users\\trimu\\Desktop\\GAN Udemy\\machine_learning_coding',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\python37.zip',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\DLLs',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20',
 '',
 'C:\\Users\\trimu\\AppData\\Roaming\\Python\\Python37\\site-packages',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages\\win32',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages\\win32\\lib',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages\\Pythonwin',
 'C:\\Users\\trimu\\Miniconda3\\envs\\tf20\\lib\\site-packages\\IPython\\extension
s',
 'C:\\Users\\trimu\\.ipython',
 'C:\\Users\\trimu\\']
```

time

- time.time()
  - UTC(Universal Time Coordinated 협정 세계 표준시)를 사용하여 현재 시간을 실수 형태로 돌려주는 함수
  - 1970년 1월 1일 0시 0분 0초를 기준으로 지난 시간을 초 단위로 돌려준다
- time.localtime
  - time.time()이 돌려준 실수 값을 사용해서 연도, 월, 일, 시, 분, 초, ... 의 형태로 바꾸어 주는 함수
- time.strftime('출력할 형식 포맷 코드', time.localtime(time.time()))

In [21]:

```
1 import time
2
3 time.time()
```

Out[21]:

```
1580360940.6435113
```

In [28]:

```
1 time.localtime(time.time())
```

Out[28]:

```
time.struct_time(tm_year=2020, tm_mon=1, tm_mday=30, tm_hour=14, tm_min
=11, tm_sec=58, tm_wday=3, tm_yday=30, tm_isdst=0)
```

In [29]:

```
time.strftime('%x', time.localtime(time.time()))
```

Out[29]:

'01/30/20'

In [30]:

```
time.strftime('%c', time.localtime(time.time()))
```

Out[30]:

'Thu Jan 30 14:13:29 2020'

pickle

In [10]:

```
import pickle

f = open("test.txt", 'wb')
data = {1: 'python', 2: 'you need'}
pickle.dump(data, f)
f.close()
```

In [12]:

```
f = open("test.txt", 'rb')

data = pickle.load(f)
print(data)
```

{1: 'python', 2: 'you need'}

random

- random은 난수(규칙이 없는 임의의 수)를 발생시키는 모듈이다

In [33]:

```
import random

random.random()
```

Out[33]:

0.9453423960223082

In [34]:

```
1 random.randint(1, 10)
```

Out[34]:

1