Fastcampus Web Programming SCHOOL

Python

How to start python project with virtual environment

Python Version Manager - Pyenv

- 사용자에 따라 다른 python version 사용
- 프로젝트에 따라 다른 python version 사용
- 간단한 커맨드로 python version 변경 가능

Install pyenv

https://github.com/pyenv/pyenv#installation

- For MacOS

```
$ brew update
$ brew install pyenv
```

- For other OS with bash

  `$ git clone https://github.com/pyenv/pyenv.git ~/.pyenv`

```
$ echo 'export PYENV_ROOT="$HOME/.pyenv"' >> ~/.bashrc
$ echo 'export PATH="$PYENV_ROOT/bin:$PATH"' >> ~/.bashrc
```

- For windows

  https://github.com/pyenv-win/pyenv-win#installation

Pyenv Virtualenv

- 설정된 python version에 따른 독립적인 라이브러리 사용

```
ex)
python3.8
        - django 1.11
        - requests 2.0
python3.9.1
        - django 2.0
        - requests 1.9.1
```

Install pyenv-virtualenv

- For Unix-like OS(Ubuntu, MacOS)

https://github.com/pyenv/pyenv-virtualenv#installation

- For Windows(Don't recommand)

https://thinkdiff.net/python/how-to-install-python-virtualenv-in-windows/

https://jackmckew.dev/managing-virtual-environments-on-windows.html

List Comprehension

존재하는 리스트를 활용하여 새로운 리스트를 생성하는 방법

비슷한 표현들

- Set Comprehension
- Dictionary Comprehension
- Parallel list Comprehension

List Comprehension

```
old_list = [1, 2, 3, 4, 5,]

doubled_list = []
for i in old_list:
        doubled_list.append(i * 2)
```

List Comprehension

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```
doubled_list = []
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List Comprehension

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old_list = [1, 2, 3, 4, 5,]

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for i in old_list:
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```

```
doubled_list = [i * 2]
```

List Comprehension

```
old_list = [1, 2, 3, 4, 5,]

doubled_list = []
for i in old_list:
        doubled_list.append(i * 2)
```

```
doubled_list = [i * 2 for i in old_list]
```

List Comprehension - another example

```
old_list = [1, 2, 3, 4, 5,]

doubled_list = []
for i in old_list:
        if i % 2 == 0:
                doubled_list.append(i * 2)
```

List Comprehension - another example

```
old_list = [1, 2, 3, 4, 5,]

doubled_list = []
for i in old_list:
        if i % 2 == 0:
                doubled_list.append(i * 2)
```

```
doubled_list = []
```

List Comprehension - another example

```
old_list = [1, 2, 3, 4, 5,]

doubled_list = []
for i in old_list:
        if i % 2 == 0:
                doubled_list.append(i * 2)
```

```
doubled_list = [i * 2]
```

List Comprehension - another example

```
old_list = [1, 2, 3, 4, 5,]

doubled_list = []
for i in old_list:
        if i % 2 == 0:
                doubled_list.append(i * 2)
```

```
doubled_list = [i * 2 for i in old_list]
```

List Comprehension - another example

```
old_list = [1, 2, 3, 4, 5,]

doubled_list = []
for i in old_list:
        if i % 2 == 0:
                doubled_list.append(i * 2)
```

```
doubled_list = [i * 2 for i in old_list if i % 2 == 0]
```

Do it yourself!

- List comprehension 으로 FizzBuzz 한줄로 구현하기

```
["Fizz"*(not i%3) + "Buzz"*(not i%5) or i for i in range(1,100)]
```

Practice(1)

Dictionary Comprehensions

Dictionary Comprehensions

- 기존의 딕셔너리를 활용해 새로운 딕셔너리를 만들고 싶을때

Dictionary Comprehensions

```
old_dict = {1:1,2:2,3:3,4:4,}
new_dict = {}
for k,v in old_dict.items():
    new_dict[k]=v*2
```

Dictionary Comprehensions

```
old_dict = {1:1,2:2,3:3,4:4,}
new_dict = {}
for k,v in old_dict.items():
    new_dict[k]=v*2
```

```
new_dict = {}
```

Dictionary Comprehensions

```
old_dict = {1:1,2:2,3:3,4:4,}
new_dict = {}
for k,v in old_dict.items():
    new_dict[k]=v*2
```

```
new_dict = {k:v*2} #new_dict[k]=v*2
```

Dictionary Comprehensions

```
old_dict = {1:1,2:2,3:3,4:4,}
new_dict = {}
for k,v in old_dict.items():
    new_dict[k]=v*2
```

```
new_dict = {k:v*2 for k,v in old_dict.items()}
```

Dictionary Comprehensions

```
old_dict = {1:1,2:2,3:3,4:4,}
new_dict = {}
for k,v in old_dict.items():
    if v%2!=0:
        new_dict[k*2]=v*3
```

Dictionary Comprehensions

```
old_dict = {1:1,2:2,3:3,4:4,}
new_dict = {}
for k,v in old_dict.items():
    if v%2!=0:
        new_dict[k*2]=v*3
```

```
new_dict = {}
```

Dictionary Comprehensions

```
old_dict = {1:1,2:2,3:3,4:4,}
new_dict = {}
for k,v in old_dict.items():
    if v%2!=0:
        new_dict[k*2]=v*3
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```
new_dict = {k*2:v*3} #new_dict[k*2]=v*3
```

Dictionary Comprehensions

```
old_dict = {1:1,2:2,3:3,4:4,}
new_dict = {}
for k,v in old_dict.items():
    if v%2!=0:
        new_dict[k*2]=v*3
```

```
new_dict = {k*2:v*3 for k,v in old_dict.items()}
```

Dictionary Comprehensions

```
old_dict = {1:1,2:2,3:3,4:4,}
new_dict = {}
for k,v in old_dict.items():
    if v%2!=0:
        new_dict[k*2]=v*3
```

```
new_dict = {k*2:v*3 for k,v in old_dict.items() if v%2!=0}
```

Practice(2)

다음 dictionary에 대해 dictionary comprehension을 수행하여 각 key에 들어있는 모든 value의 길이로 대체된 dictionary를 만드세요.

```
old_words = {

}
```