python

prepare

get python

python official site

settings

- Editors
  - Visual Studio Code
  - Vim
  - ~~Sublimetext~~
  - ~~pyCharm~~

```
$ python3 hello_world.py
```

variables and types

- 변수 이름은 snake_case로
- 문자열은 “This is a string”, 'This is also a string.' 모두 가능
- {string_variable}.title() → 첫 글자 대문자로
- {string_variable}.upeer()
- {string_variable}.lower()
- f-string
  - full_name = f“{first_name} {last_name}”
  - full_name = “{} {}”.format(fist_name, last_name)
- escape characters; \', \\, \n, \r, \t, \b, \f, \ooo, \xhh
- {string_variable}.rstrip() → 오른쪽 공백 삭제, .strip() → 양쪽 공백 제거, .lstrip() → 왼쪽 공백 제거
- numeric; integer, floating point number, underscored number → 15_000_000_000
- 상수는 대문자로; MAX_CONNECTIONS = 5000
- comments; #

```
message = "Hello Python"
print(message)
```

```
>>> import this
```

list

- 대괄호 []와 콤마 ,
- 이름을 복수형으로
- 인덱스는 0부터, [-1]은 끝에서부터의 인덱스

```
bicycles = ['trek', 'cannondale', 'redline', 'specialized']
print(bicycles)

print(bicycles[0])
print(bicycles[0].title())

bicycles[0] = 'mini bell'  # change value
bicycles.append('trek')  # append value
bicycles.insert(0, 'strida')  # insert value

del bicycles[0]  # delete
popped_bicycle = bicycles.pop()  # pop value (stack)
#popped_bicycle = bicycles.pop(0)  # pop value by index
bicycles.remove('redline')  # remove by value

bicycles.sort()  # sort permanently by alphabet
bicycles.sort(reverse=True) # reverse sort
print(sorted(bicycles))  # sort temporarily
bicycles.reverse()  #

len(bicycles)
```

list handling

```
magicians = ['alice', 'david', 'carolina']
for magician in magicians:
    print(magician)
for value in range(1, 5):  # 1 ~ 4
    print(value)
numbers = list(range(1, 6))  # numbers = [1, 2, 3, 4, 5]
even_numbers = list(range(2, 11, 2))  # even_numbers = [2, 4, 6, 8, 10]

squares = []
for value in range(1, 11):
    square = value ** 2
    squares.appen(square)
```

```
# squares = [value ** 2 for value in range(1,11)]
print(squares)

digits = [1, 2, 3, 4, 5, 6, 7, 8, 9, 0]
min(digits)
max(digits)
sum(digits)
```

- slice; 원래 리스트 유지
  - players[0:3] # index 0에서부터 3개까지 자름 [:3]
  - players[2:] # index 2부터 끝까지
  - players[-3:] # 끝에서 셋
- 복사
  - my_friends = your_friends[:]
  - my_friends = your_friends는 포인터 같은 역할
- tuple(immutable)
  - 대괄호 대신 소괄호 ()와 콤마 ,
  - 한 개 항목의 튜플이더라도 콤마 필요; my_t = (3,)
- Coding style; PEP(Python Enhancement Proposal) 8
  - 들여쓰기 공백 네 칸
  - 행 길이 79자
  - PEP 8 -- Style Guide for Python Code

if state

```
cars = ['audi', 'bmw', 'subaru', 'toyota']

for car in cars:
    if car == 'bmw':
        print(car.upper())
    else:
        print(car.title())
```

- == ; equals to
- != ; not equals
- <, ⇐, >, >=
- and, or
- in; 'mushrooms' in requested_toppings
- not in;
- boolean expression; True, False
- if, if-else, if-elif-else

```
if age < 4:  # GOOD
```

```
if age<4:  #bad
```

dictionary

user input and while loop

function

class

file and exception

code test

game

data visualization

web application

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