연습문제 7장

1

```
In [1]: menu = {'odeng': 300, 'sundae': 400, 'mandu': 500}
```

```
In [2]: menu.get('odeng', 0)
```

```
Out[2]: 300
```

```
In [3]: menu.get('gimbap', 0)
```

```
Out[3]: 0
```

2

사전의 키로는 __hash__() 메서드를 갖는 해시가능한(hashable) 객체이어야 한다. 해시 값은 객체가 존재할 동안 변경되어서는 안되는 값이다. 즉, 다음과 같이 __hash__() 메서드를 갖는 튜플, 문자열등은 해시 가능하다.

```
In [4]: tuple.__hash__
```

```
Out[4]: <slot wrapper '__hash__' of 'tuple' objects>
```

```
In [5]: str.__hash__
```

```
Out[5]: <slot wrapper '__hash__' of 'str' objects>
```

하지만 사전이나 리스트등은 해시 가능하지 않다.

```
In [6]: dict.__hash__
```

```
In [7]: list.__hash__
```

3

In [8]:
```
L1 = [1,2,3]
L2 = [4,5,6]
d = {'low':L1, 'high':L2}
e = d
f = d.copy()  # 얕은 복사
d['low'] = [10, 20, 30]
d['high'][1] = 500
```

In [9]:
```
e
```

Out[9]:
```
{'high': [4, 500, 6], 'low': [10, 20, 30]}
```

In [10]:
```
f
```

Out[10]:
```
{'high': [4, 500, 6], 'low': [1, 2, 3]}
```

4

In [11]:
```
d = {'one':1, 'two':2, 'three':3, 'four':4, 'five':5}
```

In [12]:
```
for k, v in sorted(d.items()):
    print k, v
```

```
five 5
four 4
one 1
three 3
two 2
```

In [13]:
```
for k, v in sorted(d.items(), key=lambda e: e[1]):
    print k, v
```

```
one 1
two 2
three 3
four 4
five 5
```

5

In [14]:
```
L1, L2 = ['one', 'two', 'three', 'four'], [1,2,3,4]
```

In [15]:
```
dict(zip(L1, L2))
```

Out[15]:
```
{'four': 4, 'one': 1, 'three': 3, 'two': 2}
```

6

In [16]:
```
s = 'one two one two three four'
```

In [17]:
```
{w:None for w in s.split()}.keys()
```

Out[17]:
```
['four', 'three', 'two', 'one']
```

In [18]:
```
{w for w in s.split()}  # 집합
```

Out[18]:
```
{'four', 'one', 'three', 'two'}
```

7

In [19]:
```
s = 'We propose to start by making it possible to teach programmin
g \
in Python, an existing scripting language, and to focus on creatin
g a \
new development environment and teaching materials for it.'
```

In [20]:
```
from collections import Counter

c = Counter(s.lower().replace('.', '').replace(',', '').split())
```

Counter 객체는 유사 사전 인터페이스를 갖는다.

In [21]:
```
sorted(c.keys())
```

Out[21]:
```
['a',
 'an',
 'and',
 'by',
 'creating',
 'development',
 'environment',
 'existing',
 'focus',
 'for',
 'in',
 'it',
 'language',
 'making',
 'materials',
 'new',
 'on',
 'possible',
 'programming',
 'propose',
 'python',
 'scripting',
 'start',
 'teach',
 'teaching',
 'to',
 'we']
```

In [22]:
```
sorted(c.items())
```

Out[22]:
```
[('a', 1),
 ('an', 1),
 ('and', 2),
 ('by', 1),
 ('creating', 1),
 ('development', 1),
 ('environment', 1),
 ('existing', 1),
 ('focus', 1),
 ('for', 1),
 ('in', 1),
 ('it', 2),
 ('language', 1),
 ('making', 1),
 ('materials', 1),
 ('new', 1),
 ('on', 1),
 ('possible', 1),
 ('programming', 1),
 ('propose', 1),
 ('python', 1),
 ('scripting', 1),
 ('start', 1),
 ('teach', 1),
 ('teaching', 1),
 ('to', 3),
 ('we', 1)]
```

In [23]:
```
sorted(c.items(), key=lambda e: e[1], reverse=True)
```

Out[23]:
```
[('to', 3),
 ('and', 2),
 ('it', 2),
 ('existing', 1),
 ('in', 1),
 ('for', 1),
 ('start', 1),
 ('environment', 1),
 ('new', 1),
 ('development', 1),
 ('we', 1),
 ('creating', 1),
 ('python', 1),
 ('propose', 1),
 ('possible', 1),
 ('focus', 1),
 ('teaching', 1),
 ('teach', 1),
 ('an', 1),
 ('by', 1),
 ('a', 1),
 ('on', 1),
 ('language', 1),
 ('programming', 1),
 ('materials', 1),
 ('making', 1),
 ('scripting', 1)]
```

In [24]:
```
c.most_common(5)
```

Out[24]:
```
[('to', 3), ('and', 2), ('it', 2), ('existing', 1), ('in', 1)]
```

8

In [25]:
```
s1 = 'abcdwxyz'
s2 = 'wxyzabcd'
tab = dict(zip(s1, s2))
```

In [26]:
```
tab
```

Out[26]:
```
{'a': 'w',
 'b': 'x',
 'c': 'y',
 'd': 'z',
 'w': 'a',
 'x': 'b',
 'y': 'c',
 'z': 'd'}
```

In [27]:
```
''.join([tab.get(c, c) for c in 'cabsz'])
```

Out[27]:
```
'ywxsd'
```

In [28]:
```

```