Python Programming

Chapter 6 Dictionaries.

- **Collections** → a new data structure, providing more advanced and useful functions, helps us to do more things in Python.

- **associative array**

- **Dictionaries** → (all the values and elements in Dictionaries are not ordered.)

explanation: In Dictionaries, all the values are labelled, which means all the values are represented by a special label.
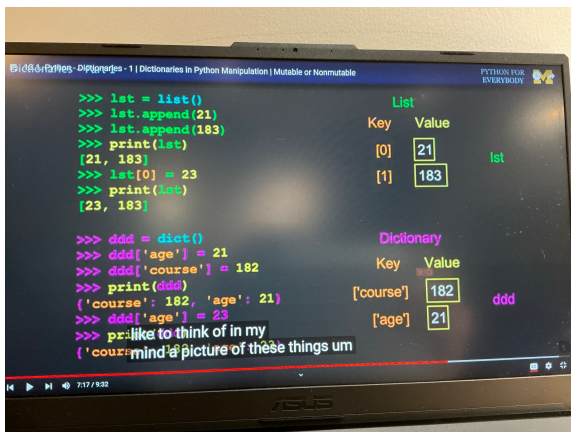
eg. purse = dict ( )
purse ['money'] = 12
print (purse)

⟹ { 'money' : 12 }

→ which means labelled 12 by 'money' and stored in Dictionary.

> **Do more Practice on Pycharm !**

Comparsion : lists and Dictionaries

⟹ lst = list ( )
⟹ lst.append (21)
⟹ lst.append (183)
⟹ print (lst)

⟹ [21, 183]

⟹ Dic = dict ( )
⟹ Dic ['age'] = 21
⟹ Dic ['course'] = 182
⟹ print (Dic)

⟹ { 'course' : 182 , 'age' : 21 }

→ no order

→ curly braces means it's dictionary.

Ps: super clear explanations !!
☺

- **How to solve a real problem by using Python Programming**

eg. count the most commond word in text and figure out how much are they.

Step 1. create a dictionary.

2. let user input the text ←

3. Split the text into individual ← words

4. print out all individual words

Counts = dict ( )
print ('Enter a line of text :')
line = input (' ')

words = line. split ( )

→ means a function that splits every blank in the text.
eg : I love you ⟹ — I — love — you

print ('words :', words)

→ means check every single word in the words if there is empty, it will print "none".

5. Create a loop that starts
to count every words' happening
time in this count

```
for word in words
counts [word] = counts.get (word, 0) + 1
                                   ↓
```
This variable is the single word

default setting

exploration:

1. Q : why we create a dictionary?
   A : The dictionary is a tool that
   we can store all the words
   we have splited.

2. Q : why uses the function "get"
   A : The function "get" is trying
   to remember every words' counting
   time. When first meets a word,
   The function "get" will send "0"
   to the dictionary and store it.
   And the "+1" means add 1 to 0
   so that means we have met this
   word once.

3. Q : why uses a loop?
   A : Because loop can check
   every single words in the text
   and count them carefully.

- convert between Dictionary and list

  - new function "items" can give us
    all the keys and values in Dictionary and
    it's all matched and it's happened simultaneously.

  - new function "update" can refresh the single dictionary and
    converge two dictionary together, then replace the values that former
    dictionary already had.

    eg. dict_1 = {"name" : "Max", "age" : 28, "City" : "Peking"}
        dict_2 = {"name" : "Peter", "age" : 19, "address" : "Apt"}

    dict_1.update (dict_2)
       print (dict_1) ⟶ {"name" : "Peter", "age" : "19", "City" : "Peking", "address" : "Apt"}

                              These values are replaced   This key is added
                              by " update "   by " update "