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| school-learn-study-hat-graduate-512.png | ***Study*** |

In the book: <http://www.ict.ru.ac.za/Resources/cspw/thinkcspy3/thinkcspy3.pdf>

**Required**: Read sessions 20.0 (from the beginning of Chapter 20), 20.1, and then do exercises 20.8.1, 20.8.2 and 20.8.3

**Optional**: Read sessions 4.1, 4.2, 4.3, 4.4, 4.5, 4.6, and then do exercises of 4.9 (you may want to look at these soon :D )

20.8.2

**>>>** d = {"apples": 15, "bananas": 35, "grapes": 12}  
**>>>** d["bananas"]

35  
(b) **>>>** d["oranges"] = 20  
**>>>** len(d)

4  
(c) **>>>** "grapes" **in** d

True

(d) **>>>** d["pears"]

Traceback (most recent call last):

File "<pyshell#7>", line 1, in <module>

d["pears"]

KeyError: 'pears'  
(e) **>>>** d.get("pears", 0)

0  
(f) **>>>** fruits = list(d.keys())  
**>>>** fruits.sort()  
**>>>** print(fruits)

['apples', 'bananas', 'grapes', 'oranges']  
(g) **>>> del** d["apples"]  
**>>>** "apples" **in** d

False

20.8.3

>>>

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| 6iporAnbT.jpg | ***Serious exercises*** |

**Exercise 1**

Given the following dictionary:

inventory = {

'gold' : 500,

'pouch' : ['flint', 'twine', 'gemstone'],

'backpack' : ['xylophone', 'dagger', 'bedroll', 'bread loaf']

}

Try to do the followings:

* Add a **key** to inventory called 'pocket'.
* Set the value of 'pocket' to be a list consisting of the strings 'seashell', 'strange berry', and 'lint'.
* .sort()the items in the list stored under the 'backpack' key.
* Then .remove('dagger') from the list of items stored under the 'backpack' key.
* Add 50 to the number stored under the 'gold' key.

**Exercise 2**

Follow the steps bellow:

Create a new dictionary called prices using {} format like the example above.

Put these values in your prices dictionary:

* "banana": 4,
* "apple": 2,
* "orange": 1.5,
* "pear": 3

Create a **list** called purchased\_items, containing all of items a customer wants to buy:

* "banana": 5,
* "orange": 3

Loop through each item in purchased\_items. For each item, print out the key along with quantity and its price. Print the answer in the following format:

* banana, quantity: 5, unit price: 4
* Let's determine how much the purchase would be:
  + Create a variable called total and set it to zero.
  + Loop through the purchased\_items dictionaries. For each item in purchased\_items, multiply the quantity with unit\_price. Print that value into the console and then add it to total.
  + Finally, outside your loop, print total.

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| system_config_boot.png | ***Tools preparation*** |

Download and install the following tool:

https://store.unity.com/products/unity-personal?\_ga=2.100813697.1005248360.1501548306-496880903.1487386998