

CS 201 Homework #12

Deadline: January 12th, 9:00 pm. Save your code as lastname_homework12.py and submit on Edmodo. Please, run your code before submitting. If you get an error, try to fix it before submitting your homework. If you get help from anyone, please, make sure that you actually understand the solution.

Try to finish as many tasks as possible. Completing one task is better than not completing anything at all!

Task 1

- 1.1) Create a dictionary D describing your favorite book, movie, video game. That is, the keys should be "book", "movie", "video game" while the values should be the titles.
- 1.2) Print all dictionary keys one at a time using for loop.
- 1.3) Print all dictionary values one at a time using for loop.
- 1.4) Add another item to the dictionary; for example, your favorite board game.
- 1.5) Create a copy of the dictionary and delete the video game item from the new dictionary (let's call it D2).

Task 2

- 2.1) Ask the user to enter a key and display the corresponding value.
- 2.2) Implement error handling using try-except statements for the case of the user entering a missing key.
- 2.3) Implement an alternative error handling approach using "in" to check if the key is present in the dictionary.

Task 3

- 3.1) Create a list of dictionary D keys using list() command and keys() method.
- 3.2) Create a list of dictionary D2 keys using for loop and append() method.
- 3.3) Create a list of dictionary D values using any approach that you like.

Task 4

- 4.1) Using the list of dictionary keys and the list of dictionary values that you just generated in Task 3, create a new dictionary using for loop (that is, do NOT use zip() method yet).
- 4.2) Verify that your newly created dictionary is identical to the old dictionary D.

Task 5

- 5.1) Repeat Task 4 using zip().
- 5.2) Verify that your newly created dictionary is identical to the old dictionary D.

Task 6

- 5.1) Create a nested dictionary which shows your top 2 favorite books and movies. The first set of keys should be "book" and "movie" while the nested dictionary keys should be integers representing the rank of the book/movie (for example, 1 and 2).
- 5.2) Using the dictionary print your most favorite book and movie (rank 1).
- 5.3) Add another book and movie to the dictionary to make it a "top 3" rating.
- 5.4) Add another top 3 to the dictionary for video games.

Task 7

Print all content of your nested dictionary one item at a time, displaying the category and then the rank and value of the item.

The output should look something like this:

```
movie
1 Star Wars IV
2 Star Wars V
3 Star Wars VI
book
1 War and Peace
2 1984
3 Treasure Island
video game
1 HOMM III
2 HOMM V
3 HOMM II
```

NOTE: If you "google" for a solution you are likely to see something like this:

```
"for i, j in D.items():"
```

Please, do NOT use this approach since we did not discuss it in class yet.
You can complete this task using for loops and simply iterating over the keys.