MINIA UNIVERSITY
FACULTY SCIENCE
Department of Computer Science
Data Structures Using Python

Exercises #2
Dictionary

2.1 Write a Python program that prompts the user to enter an integer n, then generates and prints a dictionary that contains the numbers (between 1 and n) in the form (x, x*x).

Input (n = 5):
Expected Output: {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

2.2 Write a Python program to sum all the values in a dictionary.

2.3 Write a Python program to get the maximum and minimum value in a dictionary.

2.4 Write a Python program to combine two dictionaries adding values for common keys.

Example:
d1 = {'a': 100, 'b': 200, 'c':300}
d2 = {'a': 300, 'b': 200, 'd':400}
Expected output: {'a': 400, 'b': 400, 'd': 400, 'c': 300}

2.5 Write a program that reads a sentence from a text file and displays all the nonduplicate words in ascending order.

2.6 Using a dictionary, write a Python function to get the count of each tuple in a given list of tuples.

Input: *[('hi', 'bye'), ('Geeks', 'forGeeks'), ('a', 'b'), ('hi', 'bye'), ('a', 'b')]*
Output: *{('hi', 'bye'): 2, ('Geeks', 'forGeeks'): 1, ('a', 'b'): 2}*

2.7 Using dict() and list comprehension, write a Python code to perform ordering of all the tuples keys using external list.

Examples:
Input*: test_list = [(‘Gfg’, 10), (‘best’, 3), (‘CS’, 8), (‘Geeks’, 7)], ord_list = [‘Geeks’, ‘best’, ‘CS’, ‘Gfg’]*
Output*: [(‘Geeks’, 7), (‘best’, 3), (‘CS’, 8), (‘Gfg’, 10)]*
Input : test_list = [(‘best’, 3), (‘CS’, 8), (‘Geeks’, 7)], ord_list = [‘Geeks’, ‘best’, ‘CS’]
Output : [(‘Geeks’, 7), (‘best’, 3), (‘CS’, 8)]

2.8 Guessing the capitals: Write a program that prompts the user to enter a capital of a country. Upon receiving the user input, the program reports whether the answer is correct. If it is correct, the program displays the message "Your answer is correct". Otherwise, the program displays the message "Your answer is wrong", and allows the user to enter another guess, for 3 times only, then displays the correct result. Assume that 10 pairs of countries and their capitals are stored in a dictionary.