

LAB ASSIGNMENTS
PYTHON PROGRAMMING LAB
MCA 1st Year 1st Semester, 2023
Subject Code: MCA1152

Day 3

Write Python scripts to:

1. Given a non-empty dictionary, create a list of tuples where each tuple is a (key, value) pair of the dictionary.
2. Find maximum and minimum k elements in a Tuple.
3. Extract unique values from a dictionary.
4. Append dictionary keys and values (in order), all keys before all values.

Sample Input: {1: "Jan", 2: "Feb", 3: "Mar"}

Output: [1, 2, 3, 'Jan', 'Feb', 'Mar']

5. Sort the items of a dictionary (i) by keys, (ii) by values
6. Remove all duplicates words from a given sentence.
7. Use a dictionary to count the frequency of words in an input string. Only words should be counted, not blank spaces, numbers, or punctuation. Upper case should be considered the same as lower case.

Sample Input: Fear leads to anger; Anger leads to hatred; Hatred leads to conflict; Conflict leads to suffering.

Output: {'fear': 1, 'leads': 4, 'to': 4, 'anger': 2, 'hatred': 2, 'conflict': 2, 'suffering': 1}

8. Given a dictionary, which contains domain names as keys, and a list of users as values, generate a list that contains complete email addresses.

Sample

Input: {"gmail.com": ["paul.buchheit", "sanjeev.singh", "kevin.fox"], "yahoo.com": ["jerry.yang", "david.filo"], "hotmail.com": ["sabeer.bhatia"]}

Output: ['paul.buchheit@gmail.com', 'sanjeev.singh@gmail.com', 'kevin.fox@gmail.com', 'jerry.yang@yahoo.com', 'david.filo@yahoo.com', 'sabeer.bhatia@hotmail.com']

9. Given a dictionary, which contains group names with the list of users (Users can belong to multiple groups), create a dictionary with the users as keys and a list of their groups as values.

Sample

Input: {"local": ["admin", "Ananya"], "public": ["admin", "Zahir"], "administrator": ["admin"] }

Output: {'admin': ['local', 'public', 'administrator'], 'Ananya': ['local'], 'Zahir': ['public']}

10. Given a dictionary that contains a student's roll, name and a list of marks,

- (i) Update the dictionary with an added item of the total of the student's marks.

Sample

Input: {"roll": 5, "Name": "Ananya", "marks": [79, 88, 92]}

Output: {'roll': 5, 'Name': 'Ananya', 'marks': [79, 88, 92], 'total': 259}

- (ii) Update the dictionary with an added entry of the total of the student's marks in the list.

Sample

Input: {"roll": 5, "Name": "Ananya", "marks": [79, 88, 92]}

Output: {'roll': 5, 'Name': 'Ananya', 'marks': [79, 88, 92, 259]}

- (iii) Update the dictionary with the students' marks list replaced by the total marks of the student

Sample

Input: {"roll": 5, "Name": "Ananya", "marks": [79, 88, 92]}

Output: {'roll': 5, 'Name': 'Ananya', 'marks': 259}

11. Convert a Linux (UNIX) file permission in octal format into a string format.

[The permissions are split into three sets of three permissions: read, write, and execute for the owner, group, and others. Each of the three values can be expressed as an octal number summing each permission, with 4 corresponding to read, 2 to write, and 1 to execute. Or, it can be written with a string using the letters r, w, and x or - when the permission is not granted]

Sample input	Sample output
755	rwxr-xr-x
750	rwxr-x---
642	rw-r---w-