Python Coding Challenge

Topic: List, Tuple, Dictionary, Set | Total Questions: 10 | Time: 60 minutes

Section A: List (3 Questions):

Section B: Tuple (2 Questions):

Section C: Dictionary (3 Questions):

Section D: Set (2 Questions):

Q1. Write a Python program to remove all duplicates from a list without using the set() function.

Input Example: [1, 2, 2, 3, 4, 4, 5]

Output: [1, 2, 3, 4, 5]

Q2. Given a list of integers, write a program to find the second highest unique number.

Input Example: [12, 5, 9, 21, 21, 3]

Output: 12

Q3. Rotate a list to the right by k positions.

Input: List = [1, 2, 3, 4, 5], k = 2

Output: [4, 5, 1, 2, 3]

Q4. Write a Python program to multiply the elements of each tuple in a list of tuples and return a new list.

Input: [(2, 4), (3, 5), (4, 6)]

Output: [8, 15, 24]

Q5. Given a tuple of integers, write a program to count how many times each element occurs.

Input: (1, 2, 2, 3, 1, 4, 2)

Output: {1: 2, 2: 3, 3: 1, 4: 1}

Q6. Write a Python program to count the frequency of each character in a string using a dictionary.

Input: 'banana'

Output: {'b': 1, 'a': 3, 'n': 2}

Q7. Merge two dictionaries such that common keys have their values summed.

Input: {'apple': 10, 'banana': 5}, {'banana': 3, 'orange': 7}

Output: {'apple': 10, 'banana': 8, 'orange': 7}

Q8. Given a dictionary of student names and their marks, print the name(s) of the student(s) with the highest

marks.

Input: {'Alice': 85, 'Bob': 92, 'Carol': 92}

Output: ['Bob', 'Carol']

Q9. Write a Python program to find all common elements among three lists using set operations.

Input: [1, 2, 3], [2, 3, 4], [3, 2, 5]

Output: {2, 3}

Q10. From a sentence entered by the user, extract and display all unique words using a set.

Input: 'this is a test this is fun'

Output: {'this', 'is', 'a', 'test', 'fun'}