Python Assignment

LIST

Q: Write a Python program to remove duplicates from a list.

INPUT: a = [10,20,30,20,10,50,60,40,80,50,40]

OUTPUT: {40, 10, 80, 50, 20, 60, 30}

Q. Write a Python program to sum all the items in a list.

INPUT: [1,2,-8]

OUTPUT: -5

Q. Write a Python program to count the number of strings from a given list of strings with length 2 or more and the first and last characters are the same.

INPUT: ['abc', 'xyz', 'aba', '1221']

OUTPUT: 2

Q. Write a Python program to print a specified list after removing the 0th, 4th and 5th elements.

INPUT: ['Red', 'Green', 'White', 'Black', 'Pink', 'Yellow']

OUTPUT: ['Green', 'White', 'Black']

Q. Write a Python program to print the numbers of a specified list after removing even numbers from it.

INPUT: [7,8, 120, 25, 44, 20, 27]

OUTPUT: [7,25,27]

Q. Write a Python program to get unique values from a list.

INPUT: [10, 20, 30, 40, 20, 50, 60, 40]

OUTPUT: [40, 10, 50, 20, 60, 30]

Q. Write a Python program to convert a list of characters into a string.

INPUT: ['a', 'b', 'c', 'd']

OUTPUT: abcd

Q. Write a Python program to calculate the difference between the two lists.

INPUT:

list1 = [1, 3, 5, 7, 9]

list2 = [1, 2, 4, 6, 7, 8]

OUTPUT: [9, 3, 5, 8, 2, 4, 6]

Q. Write a Python program to get the frequency of elements in a list.

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

OUTPUT: {1: 3, 2: 3, 3: 3, 4: 2, 5: 1}

Q. Write a Python program to find common items in two lists.

INPUT:

color1 = "Red", "Green", "Orange", "White"

color2 = "Black", "Green", "White", "Pink"

OUTPUT: {'Green', 'White'}

Q. Write a Python program to create a list by concatenating a given list with a range from 1 to n.

INPUT : ['p', 'q'] and n =5

OUTPUT: ['p1', 'q1', 'p2', 'q2', 'p3', 'q3', 'p4', 'q4', 'p5', 'q5']

Q. Write a Python program to convert a list of multiple integers into a single integer.

INPUT: [11, 33, 50]

OUTPUT 113350

Q. Write a Python program to split a list into different variables.

INPUT: color = [("Black", "#000000", "rgb(0, 0, 0)"), ("Red", "#FF0000", "rgb(255, 0, 0)"), ("Yellow", "#FFFF00", "rgb(255, 255, 0)")]

OUTPUT:

Var1= ('Black', '#000000', 'rgb(0, 0, 0)')

Var2= ('Red', '#FF0000', 'rgb(255, 0, 0)')

Var3 = ('Yellow', '#FFFF00', 'rgb(255, 255, 0)')

Q. Write a Python program to split a list every Nth element.

INPUT: ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j', 'k', 'l', 'm', 'n']

OUTPUT: [['a', 'd', 'g', 'j', 'm'], ['b', 'e', 'h', 'k', 'n'], ['c', 'f', 'i', 'l']]

TUPLE

Q. Write a Python program to unpack a tuple into several variables.

INPUT: (4,8,3)

OUTPUT:

A1=4

A2=8

A3-3

Q. Write a Python program to check whether an element (5) exists within a tuple.

INPUT: ("w", 3, "r", "e", "s", "o", "u", "r", "c", "e")

OUTPUT: FALSE

Q. Write a Python program to reverse a tuple.

INPUT: (5,10,15,20)

OUTPUT: (20,15,10,5)

Q. Write a Python program to print a tuple with string formatting.

INPUT: (100, 200, 300)
OUTPUT: This is a tuple (100, 200, 300)

Q. Write a Python program to remove an empty tuple(s) from a list of tuples.

INPUT: [(), (), ('',), ('a', 'b'), ('a', 'b', 'c'), ('d')]
OUTPUT: [('',), ('a', 'b'), ('a', 'b', 'c'), 'd']

Q. Write a Python program to convert a given string to a tuple.

INPUT: "Shailja"

OUTPUT:('s','h,'a','i','l','j','a')

Q. Write a Python program to compute the element-wise sum of given tuples.

INPUT:
(1, 2, 3, 4)
(3, 5, 2, 1)
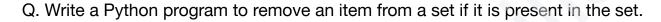(2, 2, 3, 1)

OUTPUT:
(6, 9, 8, 6)

Q.- Write a Python program to convert a given list of tuples to a list of lists.

INPUT: [(1, 2), (2, 3), (3, 4)]

OUTPUT: [[1, 2], [2, 3], [3, 4]]

SET

Q. Write a Python program to remove an item from a set if it is present in the set.

INPUT: 0, 1, 2, 3, 4, 5}

OUTPUT:

Remove 2 from the said set:

{0, 1, 2, 3}

Remove 7 from the said set:

{0, 1, 2, 3}

Q. Write a Python program to check if a set is a subset of another set.

INPUT:

x: {'mango', 'apple'}

y: {'mango', 'orange'}

z: {'mango'}

OUTPUT:

If x is subset of y:False

If y is subset of z:False

If z is subset of y:True

Q. Write a Python program to remove all elements from a given set at once.

INPUT: {'Green', 'Black', 'Red', 'White'}

OUTPUT: set()

Q. Write a Python program to check if two given sets have no elements in common.

INPUT:

S1={1, 2, 3, 4}

S2={4, 5, 6, 7}

OUTPUT:

False(as 4 is common)

Q. Write a Python program to check if a given value(10) is present in a set or not.

INPUT:{1, 3, 5, 7, 9, 11}

OUTPUT: False

Q. Write a Python program to remove all duplicates from a given list of strings and return a list of unique strings. Use the Python set data type.

INPUT: ['Python', 'Exercises', 'Practice', 'Solution', 'Exercises']

OUTPUT:['Solution', 'Python', 'Exercises', 'Practice']

DICTIONARY

Q. Write a Python script to add a key to a dictionary.

Input: 0: 10, 1: 20}
Output: {0: 10, 1: 20, 2: 30}

Q. Write a Python script to concatenate the following dictionaries to create a new one.

Input:
dic1= {1:10, 2:20}
dic2= {3:30, 4:40}
dic3={5:50,6:60}
Output: {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

Q. Write a Python script to check whether a given key (10) already exists in a dictionary.

Input: 1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60}

Output:" Key 10 is not present in the dictionary"

Q. Write a Python program to remove a key(age) from a dictionary.

Input:

   'name': 'John Doe',

   'age': 30,

   'occupation': 'Software Engineer',

   'email': 'john@example.com',

    'is_employed': True

}

Output:

    'name': 'John Doe',

    'occupation': 'Software Engineer',

    'email': 'john@example.com',

    'is_employed': True

}

Q. Write a Python program to remove duplicates from the dictionary.

Input: {'a': 1, 'b': 2, 'c': 1, 'd': 3, 'e': 2, 'f': 4}

Output: {'a': 1, 'b': 2, 'd': 3, 'f': 4}

Q. Write a Python program to get the maximum and minimum values of a dictionary.

Input: {'u':1000,'v':3000,'x':500, 'y':5874, 'z': 560}

Output:

Maximum Value: 5874

Minimum Value: 500

Q. Write a Python program to check if a dictionary is empty or not.

Input: `my_dict = {}`

Output: "Dictionary is Empty"

Q. Write a Python program to create a dictionary of keys x, y, and z where each key has as value a list from 11-20, 21-30, and 31-40 respectively. Access the fifth value of each key from the dictionary.

Input:

{'x': [11, 12, 13, 14, 15, 16, 17, 18, 19],

'y': [21, 22, 23, 24, 25, 26, 27, 28, 29],

'z': [31, 32, 33, 34, 35, 36, 37, 38, 39]}

Output:

15

25

30

Q. Write a Python program to drop empty items from a given dictionary.

Input: {'c1': 'Red', 'c2': 'Green', 'c3': None}
Output: {'c1': 'Red', 'c2': 'Green'}

Q. Write a Python program to filter a dictionary based on values>170

Input : {'Cierra Vega': 175, 'Alden Cantrell': 180, 'Kierra Gentry': 165, 'Pierre Cox': 190}
Output : {'Cierra Vega': 175, 'Alden Cantrell': 180, 'Pierre Cox': 190}

Q. Write a Python program to verify that all values in a dictionary are the same.

Input: {'Cierra Vega': 12, 'Alden Cantrell': 12, 'Kierra Gentry': 12, 'Pierre Cox': 12}

Output: " All values are 12"

Q. Write a Python program to convert string values of a given dictionary into integer/float datatypes.

INPUT:

[{'x': '10', 'y': '20', 'z': '30'}, {'p': '40', 'q': '50', 'r': '60'}]

OUTPUT:

String values of a given dictionary, into integer types:
[{'x': 10, 'y': 20, 'z': 30}, {'p': 40, 'q': 50, 'r': 60}]

String values of a given dictionary, into float types:
[{'x': 10.12, 'y': 20.23, 'z': 30.0}, {'p': 40.0, 'q': 50.19, 'r': 60.99}]

Q. Write a Python program to filter even numbers from a dictionary of values.

INPUT:

{'V': [1, 4, 6, 10], 'VI': [1, 4, 12], 'VII': [1, 3, 8]}

OUTPUT:

{'V': [4, 6, 10], 'VI': [4, 12], 'VII': [8]}

STRING

Q. Write a Python program to count the number of characters (character frequency) in a string.

INPUT: google.com

OUTPUT: {'g': 2, 'o': 3, 'l': 1, 'e': 1, '.': 1, 'c': 1, 'm': 1}

Q. Write a Python program to get a string made of the first 2 and last 2 characters of a given string. If the string length is less than 2, return the empty string instead.

INPUT: 'w3resource'
OUTPUT : 'w3ce'

INPUT: 'w3'
OUTPUT: 'w3w3'

Q. Write a Python program to remove the 5th index character from a nonempty string.

INPUT:'Python'

OUTPUT: Pytho

Q. Write a Python program to count the occurrences of each word in a given sentence.

INPUT: 'the quick brown fox jumps over the lazy dog.'

OUTPUT: {'the': 2, 'jumps': 1, 'brown': 1, 'lazy': 1, 'fox': 1, 'over': 1, 'quick': 1, 'dog.': 1}

Q. Write a Python function to insert a string in the middle of a string.

INPUT: '[[]]', 'Python')

OUTPUT: [[Python]]

Q. Write a Python function to reverse a string if its length is a multiple of 4.

INPUT:'python'

OUTPUT:'nohtyp'

Q. Write a Python program to check whether a string starts with specified characters (grow)

INPUT:" growdataskills"

OUTPUT: TRUE

Q. Write a Python program to reverse words in a string.

INPUT: "The quick brown fox jumps over the lazy dog."

OUPUT: "dog. lazy the over jumps fox brown quick The"

Q. Write a Python program to check whether a string contains all letters of the alphabet.

INPUT: 'The quick brown fox jumps over the lazy cat

OUTPUT:FALSE

Q. Write a Python program to count and display vowels in text.

INPUT: resource

OUTPUT: 4 -> ['e', 'o', 'u', 'e']