Task 4- Using Use various data types, List, Tuples and dictionary in Python programming. Aimi-To use various datatypes, list, Tuples and diction ary in Python programming. a) you are working on a python project that require s you to mange and manipulate a list of number your task is to create a python program that dem onstrates the following list operations: 4. Add clements: Add elements to the list 2. Remove elements: Remove specific elements from 3 sortelements: sort the list in ascending and desce 4. Find minimum and Maximum: Find the minimum and Maximum elements in the list 5. Calculate sum and Average: calculate the sum and average of the elements in the list. Algorithm: For adding elements to a list first create alist with name list" and assign the values with in [] brackets, in order to add a new value use the function appendix. 3. For removing aspecific element use "pop (indexvalue)" or 4. For sorting the elements use "sorted (ist)" finction 5. Forfinding minimum value use"min (list)"and Farmaximum 6. for sum use function "sum (list)" and for average use the formula "sum (list)/len (list)" 7. Print theoutput 8-end.

Use vorious dato depes list Tupleson Primorporphonory of pronotton 100 1 316 100 2 3 190 1 1211 (25 0) 161 161 2 00 00 0 320 013 output; 12 [10, 20, 30] Prodity on pristrow 510 vols s gou to monge and mainpulate or most flosse is to create a python proquete is a sent roop onsportes the tollowing list operations: [08] (5,8,9,15,30,89] bba: stromus bba. the minimum value is: 05 The Maximum value 15:89 ni teil sotti voz : stosmolot voze The sum is: 156 The average is: 26.0 Haximovin elements in the list-5. colculate sum and Averages adjustating surpond average of the elements in the dist -imithopla this take shows text he his of expansion of some sports of of elabord (3h American) with a piezo 6 no "3212" amon ender to add or new volue use the first stable STOLIS WOONED ORDERING OF TENNETH OF STOLIS OF THE STOLES A For sorting the elements are listed directly for the THE PROPERTY OF THE PARTY (1211) (MIN ) DE BUTEV (PROPERTY OF THE Construction of the property of the party of 11 (12 11) (12 11) (12 11) (12 11)

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Program:
 # Add elements: Add elements to the list.
  list=[10,20]
  a=30
 list.append(a)
 # Remove cuments: Remove specific elements from the
 list. pop(1) # by index value
 Print (list)
 list remove(10)#by itemname
#sort elements: sort the list in ascending and descend
tingorder.
                     ("b) row" B1-8 'onson' (01)
 1=[5,8,9,15,30,89]
#-findminimum andmaximum; find the minimum and
print (sorted(1))
dements in the list
Print ("The minimum value is:", min (1))
Print ("The maximum value is:", Max(1))
# calculate sum and average, & 'o'llan'
Print ("The sum is:", sum(1))
Print ("The average is:", ((sum(1)/len(1)))
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b. you are tasked with creating a python program that snowcases operations on Tuples. Tuples are immutable sequences similar to lists but with the key difference that they cannot be changed after creation your pro gram should illustrate the Following tuple operations 1. Create a tuple: Define a tuple with elements of dif ferent data types(10, he110', 3.14, 'world') 2. Accesselements: Access individual elements and slice of the tuple 3. concatenate tuples: combine two tuples to create 4. Immutable Nature: Attempt to modify elements of the ancw tuple to ple and handle the resulting error. Al gorithm: 500 create atuple use "tuple\_name = (values)". 310 access the elements of a tuple either use thein -dex values (tuple -name (index-value)) or the tuple slicing 4) To concatenate tuples use the operator" +" Ctuples (tuple-name [start:end]). 5. Try to modify the tople elements by assigning the value -es directly like: tuple (index) = new-value, with result in an error as it is immutable 6. Print the output 7. end. # create a tuple: Define a tuple with elements of different do-la types (10, 'hello', 3.14, 'world') tuple = (10, he110', 3.14; world') # Access elements: Access individual elements and Slices of the tuple. for in tople:

Constable of the median of the state of the output: (10, 'hello', 3.14, 'world') 10 moninim sathbat: marrix ambaro muninimb Fallsoff of ate 3.14 (Inaim l'isissulov munion some World ('he110', 3.14) (10, 'ne110', 3'14)

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print(i) Print (top 1e[1:3]) print (tople [:-1]) #concatenate Tuples: combine two tuples to create a new tople. t2=(5,0,5) t3= tuple +t2 print (t3) Himmutable Nature: Attempt to modify element of the tuple and handle the resulting error tuple (3) 3" Pi" # Error (08:19 pd (30) A1: 's mon'? 90il A 1 "Hreman': 'phis' os: 'spo! 'ssmot': 'smori} 808: 'spoil'? 'somot'? 'somon'? 3mpn: 4303 260: h30! dict ( items ([ ('name', 'somes')] ('age', 80))))

c. you are tasked with creating a python program that showcases Operations on dictionaries. Dictionaries in Python are unordered collection of items. each item is a pair consisting of a key and a value. Your program should illustrate the following dictionary operations: Algorithm: start the program Define a dictionary with key-value pairs of different data types. Retrieve values from the dictionary using their corresponding keys. modify Dictionary Iterate over Dictionary Stop the program ## create a Dictionary: Define a diction ory with key-value Pairs of different data types. M'nome! 'Alice', 'age': 30, 'city': 'New york'} dictionary = { 'name': 'Alice', 'age': 30, 'city': 'New york'} Print (dicitionary) #Access values: Access values using keys Print (dictionary ['name']) Print (dictionary ['age']) #modify Dictionary: up afte values, add new key value pairs, and remove existing pairs. dictionary['name'] = 'James' Print (diction ary) dictionary.pop('city') Print (dictionary) # 11 terate over Dictionary: use loops to iterate over S'name': 'Alice', bge': 30, 'city': 'New york's

Alice
30
{'name': 'Tames', 'age': 30, 'city': 'New york's

E'name': 'Tames', 'age': 30's

Key: name

Key: age

dict\_items('[c'name', 'Tames'), ('age', 30)])

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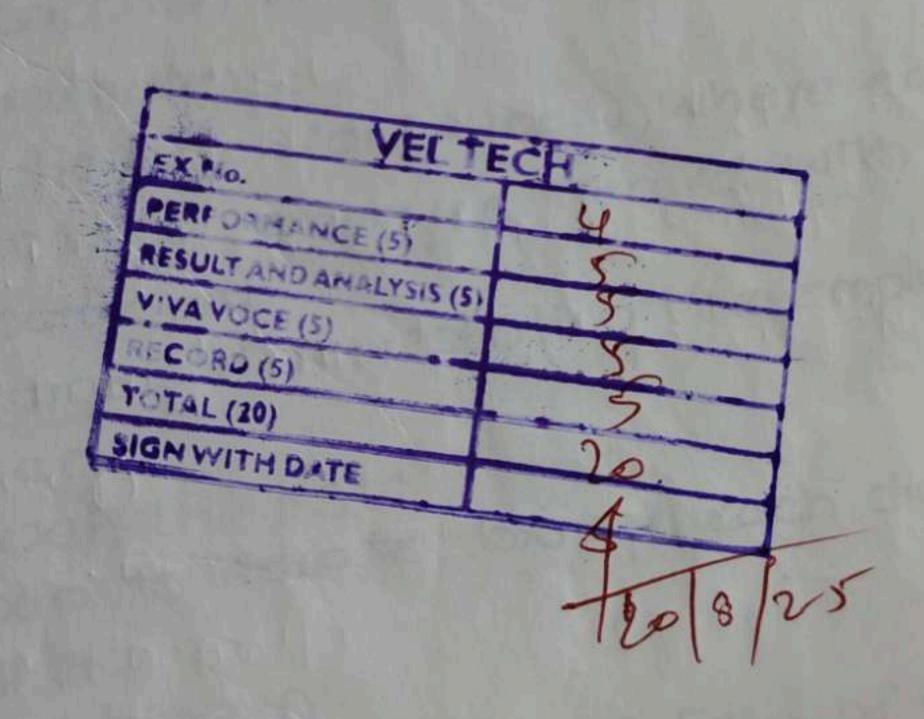
d

keys or values.

For kindictionary:

print ("key:",k)

print (dictionary. itemse)



Result:
Thus, various data types, list tuples and dic
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