

True or False Questions

1.True or False? A list in Python is an immutable linear data structure.

Answer: False

2.True or False? A list traversal is a means of accessing one-by-one, the elements of a list.

Answer: True

3.True or False? Lists and tuples are denoted by the use of square brackets.

Answer: False

4.True or False? Lists and tuples must each contain at least one element.

Answer: False

5.True or False? Lists are denoted by use of parentheses and tuples are denoted by the use of square brackets.

Answer: False

6.True or False? In List append and extend operations are same.

Answer:False

7.True of False? The tuple element can be nmodified,if th element is list.

Answer:True

8.True or False? Some string methods alter the string they are called on, while others return a new altered version of the string.

Answer:True

9.True or False? The find method returns the number of occurrences of a character or substring within a given string.

Answer:True

10.True or False? String method isdigit returns true if the string applied to contains only digits. Answer:True

11.True or False? Only files that are written to need to be opened fi rst. Answer:True

12..True or False? When calling the built-in open function, a second argument of 'r' or 'w' must always be given.

Answer:True

13..True or False? Calling the built-in open function, a second argument of 'r' must always be given when opening a file for reading.

Answer:True

14.. True or False? Calling the built-in open function, a second argument of 'w' must always be given when opening a file for writing.

Answer:False

15.True or False? There is more chance of an I/O error when opening a file for reading.

Answer:True

16.True or False?The readline method reads every character from a text file up to and including the next newline character '\n'.

Answer:True

17.True or False? It is especially important to close a file that is open for writing.

Answer:True

Questions:

18. What is meant by data structures?

Specialized format for organizing and retrieval of data in an efficient way

19. What is tuple ? What is the difference between list and tuple?

A tuple is another sequence data type that is similar to the list. A tuple consists of a number of values separated by commas. The main differences between lists and tuples are: Lists are enclosed in brackets ([]) and their elements and size can be changed, while tuples are enclosed in parentheses (()) and cannot be updated.

20. What is docstring?

Doc string is short for documentation string. It is a string that occurs as the first statement in a module, function, class, or method definition. It is used to explain in brief, what a function does.

21. What is a function? Mention the type of function and use.

A Function can be called as a section of a program that is written once and can be executed whenever required in the program, thus making code reusability.

There are two types of Functions.

- a) Built-in Functions: Functions that are predefined. We have used many predefined functions in Python.
- b) User- Defined: Functions that are created according to the requirements

22. What are Python's dictionaries?

Dictionary is mutable associative data structure with key value pair. A dictionary key can be almost any Python type, but are usually numbers or strings. Values, on the other hand, can be any arbitrary Python object.

23. .Indicate the reasons for IOError (exception) may occur when opening a file.

Answer:open() function when trying to open a file that does not exist. It is also raised for operating system-related errors.print statement fails will also raise IOError.

24. What would be the range of index values for a list of 10 elements?

Answer:for i in range(10): print(i)

25. Mention the list operations does not need to be provided an index value?

Answer:remove(),clear()

26. What is the process of accessing each element of a list, one-by-one?

Answer:List Traversal

27. List out the chractersics of lists in Python?

Answer: mutable, hashable, has zero or more elements, slicing can be done.

28. Write down the proper way to denote an empty list in Python?

Answer:listname=[]

29. What is the correct way to access the fourth element of a list named lst?

Answer:lst[3]

30. Indicate the use of Square brackets are used with lists in Python ?

Answer:square brackets used to create and access elements of a list.

31. Which of the following is not a valid list in Python?

(a) [85, 'sunny', 'June 5'] (b) [10; 20; 30] (c) ['one', 'two', 'three'] (d) all of the above

Answer:(b)

32. For `lst = [10, 20, 30, 40, 50]`, what value is accessed by `lst[3]`?

Answer:40

33. What should the value of `k` be for `lst[k]` to access the tenth element of list `lst`?

Answer:k=9

34. For `lst = [10, 20, 30, 40, 50]`, what value is the value of `lst` after `del lst[3]` is performed?

Answer:lst=['10,20,30,50]

35. For `lst = [10, 20, 30, 40, 50]`, what value is the value of `lst` after `lst.append(0)` is performed?

Answer:lst=[10,20,30,40,50,0]

36. For `lst = [10, 20, 30, 40, 50]`, what is the resulting value of `lst[2:4]`?

Answer:lst=[30,40]

37. For some list `lst`, what will be the result of the execution of the

(a)instruction `lst.insert(1, 3)`?

Answer:lst=[10,3,20,30,40,50]

38. Write the proper notation for a tuple of only one element?

Answer:tu1=(1,)

39. Mention the operations cannot be used with tuples?

Answer:slicing,update elemets in tuple

40. For nested list `lst = [[10, 20, 30], [40, 50, 60]]`, Write the correct form of assessing the element with the value 40?

Answer:lst[1][1]

41. Which of the following lists are syntactically correct in Python?

(a) `[1, 2, 3, 'four']` (b) `[1, 2, [3, 4]]` (c) `[[1, 2, 3]]['four']`

Answer:all are correct

42.For `lst [4, 2, 9, 1]`, what is the result of each of the following list operations?

(a) `lst[1]` (b) `lst.insert(2, 3)` (c) `del lst[3]` (d) `lst.append(3)`

Answer:(a)2 (b)lst=[4,2,3,9,1] (c) lst=[4,2,3,1] (d) lst=[4,2,3,1,3]

Fill in the blanks

53. In List The size can be _____ to grow in increase or decrease of elements.

Answer: shrinked

54. In tuple, elements are enclosed in _____ symbol.

Answer: parenthesis

55. The _____ is immutable collection type in Python.

Answer: tuple

56. A _____ is a mutable data type with nonduplicate, unordered values, providing the usual mathematical set operations in Python.

Answer: set

57. A dictionary type in Python is an associative data structure that is accessed by a _____ rather than an index value.

Answer: keyvalue

58. _____ string function returns copy of str with all leading and trailing characters that appear in string removed.

Answer: strip function

59. In Python, when a file is opened, a _____ is created that provides methods for accessing the file.

Answer: file object

Programming exercise

63. For a list of integers named nums,

(a) Write a while loop that adds up all the values in nums.

(b) Write a for loop that adds up all the values in nums in which the loop variable is assigned each value in the list.

(c) Write a for loop that adds up all the elements in nums in which the loop variable is assigned to the Index value of each element in the list.

(d) Write a for loop that displays the elements in nums backwards.

(e) Write a for loop that displays every other element in nums, starting with the first element. Answer:(a) nums = int(input())

while nums != 0:

total_sum += nums

(b) for ele in nums:

total=total+ele

(c) for i in range(len(nums)):

print (nums[i])

(d) for i in range (len-1(nums):

print nums[::-i] or print nums[-i]

64. For a nested list lst that contains sublists of integers of the form [n1, n2, n3],

(a) Give a Python instruction that determines the length of the list.

(b) Give Python code that determines how many total integer values there are in list lst.

(c) Give Python code that totals all the values in list lst.

(d) Given an assignment statement that assigns the third integer of the fourth element (sublist) of lst to the value 12.

Answer:(a) >>>len(lst)

(b)>>>for ele in lst:

if ele>=0:

total=total+ele

(c) for ele in lst:

total=total+ele

(d) lst[3][3]=12

65. Examine the following lines of Python code:

lst1 = [1, 2, 3, 4]

lst2 = [1, 2, 3, 4]

lst1 == lst2

What will be the output?

Answer: print the value True as each element in a list is equal to list2

65. Write a Python program that prompts the user for a list of integers, stores in another list only those values between 1–100, and displays the resulting list.

Answer: `int_list=[]` `max_length= int(input("enter the length of the list: "))`

```
while len(int_list)>maxlength:
    item=int(input("append an integer to the list"))
    if item in range(1,101):
        int_list.append(item)
    else :
        print("not in range 1-100")
        break print(int_list)
```

66. Write a Python program that prompts the user for a list of integers, stores in another list only those values that are in tuple `valid_values`, and displays the resulting list.

Answer:

```
int_list=[]
valid_values = [12, 30, 51, 12, 199]
max_length= int(input("enter the length of the list: "))
while len(int_list)>maxlength:
    item=int(input("append an integer to the list"))
    if item in valid_values:
        int_list.append(item)
    else :
        print("not in valid_values")
        break print(int_list)
```

68. Write a Python program that prompts the user to enter types of fruit, and how many pounds of fruit there are for each type. The program should then display the information in

the form fruit , weight listed in alphabetical order, one fruit type per line as shown below,
Apple, 6 lbs. Banana, 11 lbs.etc.

Hint:fruits = ['banana', 'apple', 'orange', 'pear', 'grape'] print 'You have...' for f in fruits: if f == 'tomato': print 'A tomato is not a fruit!' # (It actually is.) break print 'A', f else: print 'A fine selection of fruits!'

69. Write a Python program that prompts the user to enter integer values for each of two lists. It then should displays whether the lists are of the same length, whether the elements in each list sum to the same value,and whether there are any values that occur in both lists.

Answer:

```
# Python program to check
```

```
# if two lists have at-least
```

```
# one element common
```

```
# using traversal of list
```

```
result = False
```

```
# traverse in the 1st list
```

```
for x in list1:
```

```
    # traverse in the 2nd list
```

```
    for y in list2:
```

```
        # if one common if x == y: result = True return result return result # driver code a = [1, 2, 3,
```

```
4, 5] b = [5, 6, 7, 8, 9] print(common_data(a, b)) a = [1, 2, 3, 4, 5] b = [6, 7, 8, 9]
```

```
print(common_data(a, b))
```

73. Write a program to count the number of times a vowels appears in a given string and store it in dictionary.

Answer: steps-Use str.count() to count vowels in a string

1. a_string = "Abcde"

2. lowercase = a_string. lower() Convert to lowercase.

3. vowel_counts = {}

4. for vowel in "aeiou":

5. `count= lowercase.count(vowel)`Count vowels.
6. `vowel_counts[vowel] =count`. Add to dictionary
7. `print(vowel_counts)`