

Assignment-4

1. What exactly is []?

Ans- The empty list value, which is a list value that contains no items.

2. In a list of values stored in a variable called spam, how would you assign the value 'hello' as the third value? (Assume [2, 4, 6, 8, 10] are in spam.)

In [1]: spam=[2, 4, 6, 8, 10]
spam[2]= "hello"
print(spam)

[2, 4, 'hello', 8, 10]

Let's pretend the spam includes the list ['a', 'b', 'c', 'd'] for the next three queries.

3. What is the value of spam[int(int(3 * 2) / 11)]?

In [2]: spam = ['a', 'b','c','d']
spam[int(int('3' * 2) / 11)] # spam[int(33/11)] = spam[3]

Out[2]: 'd'

4. What is the value of spam[-1]?

In [3]: spam = ['a', 'b','c','d']
spam[-1]

Out[3]: 'd'

5. What is the value of spam[:2]?

In [4]: spam = ['a', 'b','c','d']
spam[:2]

Out[4]: ['a', 'b']

Let's pretend bacon has the list [3.14, 'cat' 11, 'cat' True] for the next three questions..

6. What is the value of bacon.index('cat')?

In [5]: bacon = [3.14, 'cat', 11, 'cat', True]
bacon.index('cat')

Out[5]: 1

7. How does bacon.append(99) change the look of the list value in bacon?

In [6]: bacon = [3.14, 'cat', 11, 'cat', True]
bacon.append(99) # append adds the item at the end of the list
bacon

Out[6]: [3.14, 'cat', 11, 'cat', True, 99]

8. How does bacon.remove('cat') change the look of the list in bacon?

In [7]: bacon = [3.14, 'cat', 11, 'cat', True]
bacon.remove('cat') # remove first occurrence of item
bacon

Out[7]: [3.14, 11, 'cat', True]

9. What are the list concatenation and list replication operators?

Ans- (*) is list replication operator (+) is list concatination operator

In [8]: d1 = [1,4]
d2 = [2,5]
list concatenation
d1+d2

Out[8]: [1, 4, 2, 5]

In [9]: t = [10,43]

list replication
t*3

Out[9]: [10, 43, 10, 43, 10, 43]

10. What is difference between the list methods append() and insert()?

Ans- append() Appends object to the end of the list insert() Insert object before index

In [10]: bacon = [3.14, 'cat', 11, 'cat', True]
bacon.append(99) # append adds the item at the end of the list
bacon

Out[10]: [3.14, 'cat', 11, 'cat', True, 99]

In [11]: # solution by inserting value in 3rd index
spam = [2, 4, 6, 8, 10]
spam.insert(2,'hello')
spam

Out[11]: [2, 4, 'hello', 6, 8, 10]

11. What are the two methods for removing items from a list?

Ans- Two mwthods used in list to removing items. pop(), remove().

In [12]: bacon = [3.14, 'cat', 11, 'cat', True]
bacon.remove('cat')
bacon

Out[12]: [3.14, 11, 'cat', True]

In [13]: bacon = [3.14, 'cat', 11, 'cat', True]
bacon.pop()
bacon

Out[13]: [3.14, 'cat', 11, 'cat']

12. Describe how list values and string values are identical.

Ans-Both lists and strings can be passed to len() Have indexes and slices Can be used in for loops Can be concatenated or replicated Can be used with the in and not in operators

13. What's the difference between tuples and lists?

Ans- Lists : are mutable - they can have values added,removed, or changed. lists use the square brackets, [and] Tuples : are immutable; they cannot be changed at all. Tuples are written using parentheses, (and)

14.How do you type a tuple value that only contains the integer 42?

In [14]: tuple = (54)
tuple

Out[14]: 54

15. How do you get a list value's tuple form? How do you get a tuple value's list form?

In []: d1= ["anu",64,"APPLE"]
d2 = tuple(d1)
d2

In [37]: d1 = ("anu",64,"APPLE")
t = list(d1)
t

Out[37]: ['anu', 64, 'APPLE']

16. Variables that "contain" list values are not necessarily lists themselves. Instead, what do they contain?

Ans. They contain references to list values

17. How do you distinguish between copy.copy() and copy.deepcopy()?

Ans- The copy.copy() function will do a shallow copy of a list, The copy.deepcopy() function will do a deep copy of a list. only copy.deepcopy() will duplicate any lists inside the list