

INEURON ASSIGNMENTS

Python Basics : Assignment 4

Question 1: What exactly is []

Answer:

- [] is an empty list

Question 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.)

Answer:

```
spam = [2, 4, 6, 8, 10]
spam[2] = 'hello'
spam
[2, 4, 'hello', 8, 10]
```

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

Question 3: What is the value of spam[int(int('3' * 2) / 11)]

Answer:

- It will return 3rd index value from spam list. The result is 'd'.

```
spam = ['a', 'b', 'c', 'd']
spam[int(int('3' * 2) / 11)]
'd'
```

Question 4: What is the value of spam[-1]

Answer:

- It will return last value in list. The result is 'd'

```
spam = ['a', 'b', 'c', 'd']
spam[-1]
'd'
```

Question 5: What is the value of spam[:2]

Answer:

- It will return 2 values from 0th index from spam list. The result is list of ['a', 'b'].

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

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

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

Answer:

- It will return index position of value 'cat'. The result is 1.

```
bacon = [3.14, 'cat', 11, 'cat', True]
bacon.index('cat')
```

1

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

Answer:

- 99 is append to the list at last and the bacon list becomes like this [3.14, 'cat', 11, 'cat', True, 99]

```
bacon = [3.14, 'cat', 11, 'cat', True]
bacon.append(99)
bacon
```

[3.14, 'cat', 11, 'cat', True, 99]

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

Answer:

- It will remove first found 'cat' in the list.

```
bacon = [3.14, 'cat', 11, 'cat', True]
bacon.remove('cat')
bacon
```

[3.14, 11, 'cat', True]

Question 9: What are the list concatenation and list replication operators

Answer:

- List concatenation operator (+)
- List Replication operator (*)

Question 10: What is difference between the list methods append() and insert()

Answer:

- append() -> it will add values at last index position of the list
- insert() -> it will add values at specific index position of the list

Question 11: What are the two methods for removing items from a list

Answer:

- 1. `remove()` – To remove specific item
- 2. `pop()` – To remove items at specific index.

Question 12: Describe how list values and string values are identical

Answer:

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

Question 13: What's the difference between tuples and lists?

Answer:

- Lists are mutable and Tuples are immutable.
- Lists are represented with `[]` and Tuples are represented with `()`

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

Answer:

- To represent single value as Tuple, we use trailing comma like `(42,)`

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

Answer:

- Using `tuple()` and `list()` method respectively.

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

Answer:

- They contain references to list values

Question 17: How do you distinguish between `copy.copy()` and `copy.deepcopy()`

Answer:

- `copy.copy()` will make a shallow copy of the list. It means, the changes made in original will affect the new copy also
- `copy.deepcopy()` will make deep copy of the list. It means, the changes made in original will not affect the new copy.