

Assignment – 4

1. What exactly is []?
[] is an empty list in python.
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.)

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

```
spam[2] = 'hello'
```

By using above statement we can assign 'hello' as the third value.

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)]?
'd'
4. What is the value of spam[-1]?
'd' (The negative index counts from end.)
5. What is the value of spam[:2]?
['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')?
1
7. How does bacon.append(99) change the look of the list value in bacon?
After appending the list looks like
[3.14,'cat',11,'cat',True,99]
8. How does bacon.remove('cat') change the look of the list in bacon?
[3.14,11,'cat',True]
9. What are the list concatenation and list replication operators?

The list concatenation operator is +

The list replication operator is *

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

`append()` will add the value at the end of the list.

`insert()` will add anywhere in the list.

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

The `del` statement and `remove()` are the two ways to remove items from a list.

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

Both lists and strings are passed in `len()`,

Have indexes and slices, be used in for loops,

Be concatenated and replicated, and be used with the `in` and `not in` operators.

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

Lists are mutable, they can be changed, removed, updated. Lists are represented in `[]` square brackets. Whereas tuples are immutable, not at all changed. Tuples are represented in `()` parenthesis.

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

`(42,)` here comma is mandatory.

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

`tuple()` and `list()` respectively.

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

They contain references to list values.

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

The `copy.copy()` will do shallow copy of a list, while `copy.deepcopy()` will do a deep copy of a list. That is, only `copy.deepcopy()` will duplicate any lists inside the list.