CHAPTER 4

EXERCISES

[1](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-722). What is []?

* The [] is an empty list that contains no values.

[2](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-723). How would you assign the value 'hello' as the third value in a list stored in a variable named spam? (Assume spam contains [2, 4, 6, 8, 10].)

* spam[2] = ‘hello’

For the following three questions, let’s say spam contains the list ['a', 'b', 'c', 'd'].

[3](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-724). What does spam[int(int('3' \* 2) // 11)] evaluate to?

* d

[4](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-725). What does spam[-1] evaluate to?

* d

[5](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-726). What does spam[:2] evaluate to?

* [‘a’ , ‘b’]

For the following three questions, let’s say bacon contains the list [3.14, 'cat', 11, 'cat', True].

[6](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-727). What does bacon.index('cat') evaluate to?

* 1

[7](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-728). What does bacon.append(99) make the list value in bacon look like?

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

[8](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-729). What does bacon.remove('cat') make the list value in bacon look like?

* [3.14, 11, 'cat', True].

[9](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-730). What are the operators for list concatenation and list replication?

* List concatenation = **+ operator**
* List replication = **\* operator**

[10](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-731). What is the difference between the append() and insert() list methods?

* append() method adds the new value to the end of the list
* In insert() method we can specify a particular index where we want to insert the new value eg: bacon.insert(3, 5) This code adds the element 5 at the index 3.

[11](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-732). What are two ways to remove values from a list?

* del operator
* remove () method

[12](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-733). Name a few ways that list values are similar to string values.

* Both List and String are Sequence data types
* Many of the things you can do with lists can also be done with strings such as indexing, slicing, and using them with for loops, with len(), and with the in and not in operators.

[13](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-734). What is the difference between lists and tuples?

* List is mutable whereas tuple is immutable means that we can’t able to assign/change values after creation of tuple.
* List is represented inside a [ ] bracket where as tuple is represented inside a ( ) bracket.

[14](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-735). How do you type the tuple value that has just the integer value 42 in it?

* (42, )

[15](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-736). How can you get the tuple form of a list value? How can you get the list form of a tuple value?

* the functions list() and tuple() will return list and tuple versions of the values passed to them.

[16](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-737). Variables that “contain” list values don’t actually contain lists directly. What do they contain instead?

* They contain references to lists.

[17](https://automatetheboringstuff.com/2e/chapter4/#calibre_link-738). What is the difference between copy.copy() and copy.deepcopy()?

* copy.copy(), can be used to make a duplicate copy of a mutable value like a list or dictionary, not just a copy of a reference.
* copy.deepcopy() can be used if the list you need to copy contains lists.