1. What exactly is []?
   1. [] represents a empty list
      1. a=[]
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.)
   1. spam[2]=’hello’

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

1. What is the value of spam[int(int('3' \* 2) / 11)]?
   1. ‘d’
2. What is the value of spam[-1]?
   1. ‘d’
3. What is the value of spam[:2]?
   1. [‘a’,’b’]

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

1. What is the value of bacon.index('cat')?
   1. 1
2. How does bacon.append(99) change the look of the list value in bacon?
   1. [3.14,’cat’,11,’cat’,True,99]
3. How does bacon.remove('cat') change the look of the list in bacon?
   1. [3.14,11,’cat’,True,99]
4. What are the list concatenation and list replication operators?
   1. Concat :
      1. + operator is used
         1. List1 + list2
   2. Replication
      1. \* operator is used
         1. List1 \* 2
5. What is difference between the list methods append() and insert()?
   1. Append:
      1. Its used ti update a list with new element, it is added at last indexing position by default.
         1. List1.append(element)
   2. Insert:
      1. Its used to update a list with new element at a desired position
         1. List1.insert(index,element)
6. What are the two methods for removing items from a list?
   1. List.pop(index)
      1. Pop will remove and returns the element from list at specified index
      2. If no index is mentioned ,it removes and returns element at last index
   2. List.remove
      1. Remove will remove the fist occurance element from list,it will ot return that element
7. Describe how list values and string values are identical.
   1. List values and string values are similar in terms of indexing
      1. String[0]:will return 1st character in a string
      2. List[0]:will return 1st element in a list
8. What's the difference between tuples and lists?
   1. Tuple:
      1. Are denoted by ()
      2. Are immutable
      3. Are heterogeneous
   2. List
      1. Are denoted by []
      2. Are mutable
      3. Are heterogeneous
9. How do you type a tuple value that only contains the integer 42?
   1. A=(42,)
10. How do you get a list value's tuple form? How do you get a tuple value's list form?
    1. tuple(list\_value)
    2. list(tuple\_value)
11. Variables that "contain" list values are not necessarily lists themselves. Instead, what do they contain?
    1. object
12. How do you distinguish between copy.copy() and copy.deepcopy()?
    1. copy.copy() :
       1. it will create a shallow copy of original object, that means only top level structure is copied .
       2. A shallow copy means it creates a new object, but it only copies the top-level structure of the original object. If the original object contains nested objects (like lists or other mutable objects), the copied object will still reference those nested objects. Changes made to the nested objects within the copy will affect the original object and vice versa.
       3. It is suitable for creating a new object with a similar structure to the original, but modifications to nested objects should be considered carefully.
    2. copy.deepcopy()
13. A deep copy means it creates a completely independent copy of the original object and all of its nested objects. Changes made to the copied object or its nested objects will not affect the original object, and vice versa.
14. It is suitable for creating a new object that is entirely independent of the original, allowing modifications to be made without affecting the original object