1. **Lists are collection of elements, where each element is a:**

Vector

Scalar

Variable

Array

1. **How do you change the value of the first element in a list?**

numbers[0] = 111  
numbers[1] = 111  
numbers[4] = 111  
numbers[3] = 111

1. **What is the result of the following operation?**

numbers = [10, 5, 7, 2, 1]

numbers[1] = numbers[4]

print(numbers)

[10, 5, 7, 2, 1]  
[10, 1, 7, 2, 1]  
[10, 7, 7, 2, 1]  
[1, 1, 7, 2, 1]

1. **What will the code below print to the console?**

numbers = [10, 5, 7, 2, 1]

numbers[0] = 111

print(numbers)

[10, 5, 7, 2, 1]  
[111, 5, 7, 2, 1]  
[111, 1, 7, 2, 1]  
[10, 5, 7, 111, 1]

1. **What is the key difference between a function and a method?**

A function is owned by the data it works for, while a method is owned by the whole code.

A method is owned by the data it works for, while a function is owned by the whole code.

A method and a function are identical in all aspects.

A function can change the state of data, while a method cannot.

1. **Which of the following statements about methods is true?**

Methods do not change the state of the data they are invoked on.  
Methods can only return results, but cannot modify the data they are invoked on.  
Methods are able to change the internal state of the data they belong to.  
Methods are independent of any specific data.

1. **How does the insert() method differ from the append() method in Python?**

insert() adds an element to the beginning of the list, while append() adds it to the end.

insert() allows specifying a position in the list to insert an element, while append() only adds it to the end.

insert() is used to remove elements, while append() is used to add them.

insert() and append() are functionally identical.

1. **What happens when you call the following code:**

**numbers.insert(1, 333)**

It removes the second element of the list.

It adds 333 at the first position of the list.

It inserts 333 at the second position, shifting the previous second element to the third position.

It appends 333 to the list.

1. **If you have a list called numbers = [1, 2, 3], what will the list look like after calling:**

**numbers.append(4)**

[4, 1, 2, 3]  
[1, 4, 2, 3]  
[1, 2, 3, 4]  
[1, 2, 3]

1. **How would you modify the list numbers = [1, 2, 3] to insert the value 777 at the second position?**

numbers.insert(2, 777)  
numbers.insert(1, 777)  
numbers.append(777)  
numbers.append(2, 777)