Quiz 8 Name: _____

1. Draw the memory state diagram for the following program at the point of time when the program reaches line 4:

```
1   def perform_magic(orig):
2      copy = orig
3      orig.append(1)
4      copy += orig
5      # How does the memory state diagram look here?
6
7   fruits = [2]
8   perform_magic(fruits)
0   print(fruits)
```

Answer:

2. Write a function called `funny_add()` that takes in two parameters:
    a. `values1` (type: `list`): a list of integers.
    b. `values2` (type: `list`): another list of integers

    and returns a list of integers. Integer element at a particular index is formed from the elements in the 2 parameter lists at the corresponding indices. For example, if `values1` is `[1]` and `values2` is `[19]`, then the result will be `[119]`, i.e. the first element is formed by putting the two numbers side by side (**1 + 19 = 119**).

    For example, given the following script:

```
from q2 import funny_add

print('TC1: check data type')
result = funny_add([1, 3, 5], [9, 66, 11])
print(isinstance(result, list))
print(isinstance(result[0], int))
print('-' * 40)

print('TC2')
result = funny_add([1, 3, 5], [9, 66, 11])
print(result)
print('-' * 40)

print('TC3')
result = funny_add([2, 4], [1, 3, 5])
print(result)
print('-' * 40)

print('TC3')
result = funny_add([1, 3, 5, 6], [2, 4])
print(result)
print('-' * 40)
```

It will generate the following output:

```
TC1: check data type
True
True
----------------------------------------
TC2
[19, 366, 511]
----------------------------------------
TC3
[21, 43, 5]
----------------------------------------
TC3
[12, 34, 5, 6]
----------------------------------------
```

```
# answer
def funny_add(v1, v2):
    final = []
    for i in range(len(v1)):
        num = str(v1[i]) + str(v2[i])
        final.append(int(num))

    return final
```