CSC148 Worksheet 13 Solution

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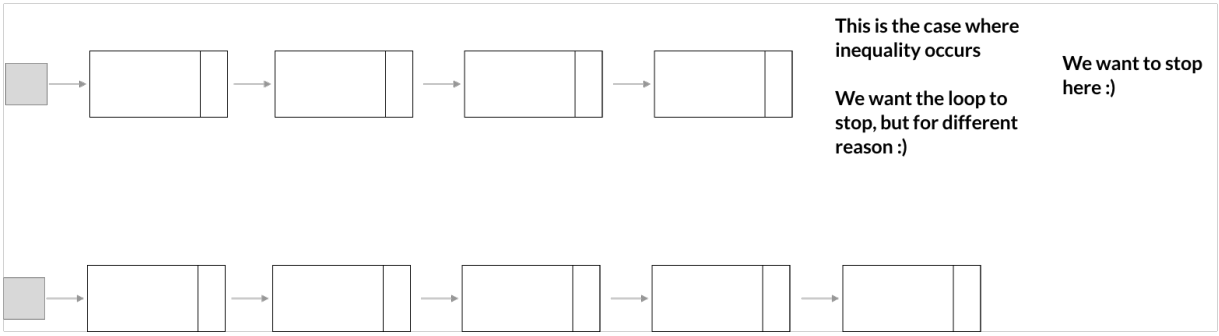
Question 1

a. The following diagram tells us the stopping condition occurs when both *curr1* and *curr2* is *None*.



Using this fact, the python expression involving *curr1* and *curr2* that expresses the stopping condition is

```
    (curr1 is not None) and (curr2 is not None)

```

b. Python expression for the while loop condition is

```
    while (curr1 is not None) and (curr2 is not None):
        ...

```

c. The code for traversing two list is

```
    while (curr1 is not None) and (curr2 is not None):
        if curr1 is None or curr2 is None:
            return False

        if curr1.item != curr2.item:
            return False

        curr1 = curr1.next
        curr2 = curr2.next

```

d. After the loop ends, we know all items in curr1 and curr2 are identical.

e. Because we know on successful loop termination, all items in curr1 and curr2 are the same, we can use this information to conclude the two linked lists have the same length.

f. The code that should go after the end of while loop is

```
    return True

```

Question 2

a. Initially, *curr* and i are as follows

```
    curr = self._first
    i = 0

```

b. The stopping condition for the while loop is

```
    curr is not None

```

Using this fact, we can conclude that the while loop condition is

```
    while curr is not None:
        ...

```