

## Stack Diagram Practice

*(find and work with a partner)*

The code below shows a simplified version of the shuffle function we wrote a few weeks ago. Analyze this code and answer the questions below.

```
def swap(i,j,lst):
    temp = lst[i]
    lst[i] = lst[j]
    # draw stack here!
    lst[j] = temp

def shuffle(lst):
    # this doesn't swap randomly,
    # just to make the example simpler
    swap(2,0,lst)
    swap(0,3,lst)

def main():

    num_lst = [4,5,6,7]
    print("before:", num_lst)
    shuffle(num_lst)
    print("after: ", num_lst)

main()
```

1. Draw the stack as it would look at the line `# draw stack here!`, the *first* time `swap` is called from within `shuffle`.
2. What variables are in scope at this line?
3. What is the output (i.e. what is printed) after the entire program is run?