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.

```python
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?