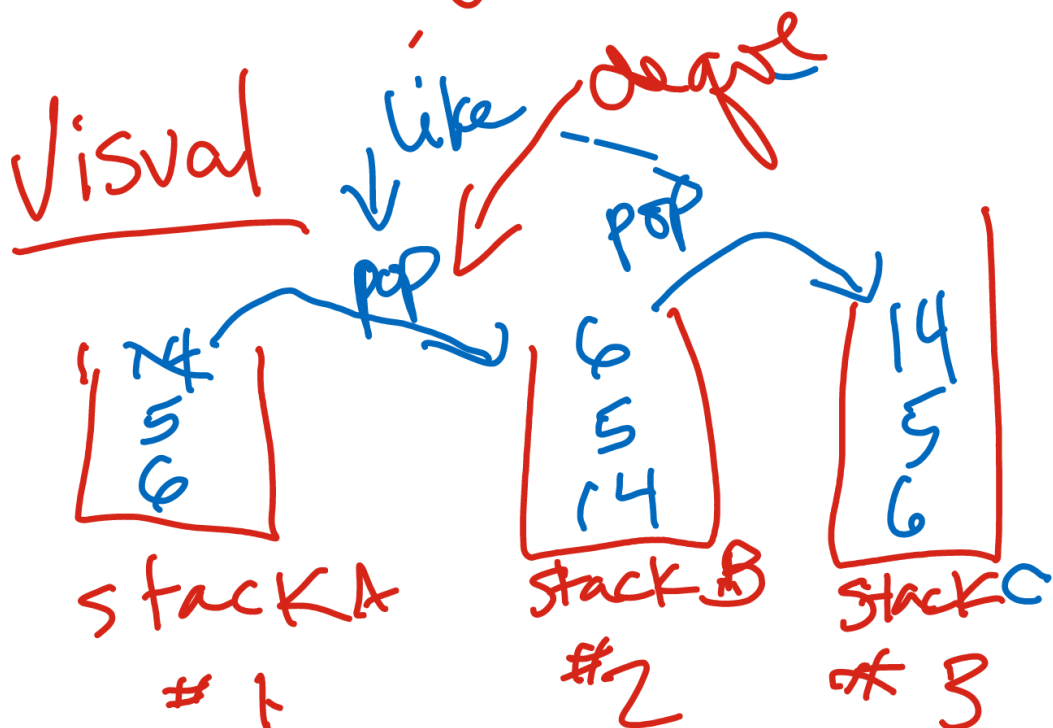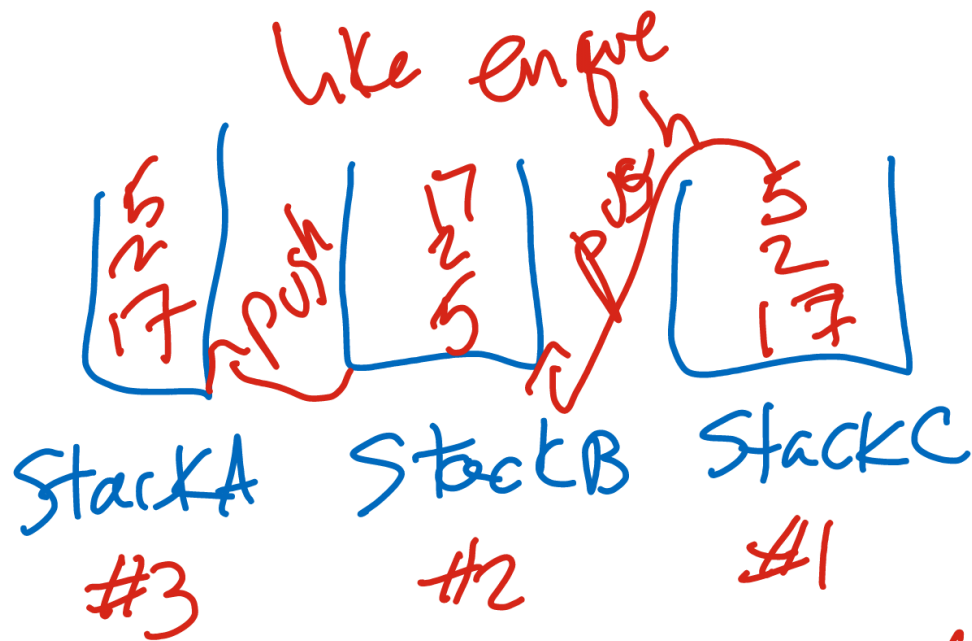# White board 11

Create enque & deque
methods which take in
a value using stack
methods pop & push.
@ 3 test for each method.

Visual

like   deque

pop   pop

```
| 14 |      |  6 |      | 14 |
|  5 |      |  5 |      |  5 |
|  6 |      | 14 |      |  6 |
```

stackA   stack B   stackC
  # 1   # 2   # 3

like enque

StackA   StackB   StackC

```
5          17         5
2          2          2
17         5          17
```

StackA   **StackB**   **StackC**

#3   #2   #1

push (between A and B)

push (between B and C)

StackC. push = Queue (enque)
→ method

StackA .pop = Queue .deque

Big O(1) space
O(n) time

Algorithm

○. first create an empty Queue

✱. crenate enqueue method
   using stack. push

✱. test ↗ w/empty Qeue

✱. create deque method
   using stack. pop

✱. test ↗ w/empty Queue

✱ use for loop w/counter
   to more values
   from Stack to Queue
✱ creat toString method for test

Pseudo Code

Create Class
  instatiate empty Queue

create enque method
that takes in a value
(much like Linked List
append method we
created in early
Challenge)

instatiate counter
    in for loop
for (i = 0; counter >
Queue.size; i++)

(in side forloop)
Queue $\overset{Q}{=}$ new Stack;
Q. push(value)

end loop
return qqueue. toString

---

build toString method@
start
pob String (Queue)
String = "";
Queue[1] = String I
String ++ j

Build deque method
(much like opp of prepend
from earlier challenge)
instatiate counter=0
for (i=0; counter <
~~to size~~ Queue.size; i++)

Stack. pop@element (Stack
.size-1) = Queue(i);

end loop
return @Queue.toString

end program

Tests

enque value on empty
Queue
enque " on 1 ele
Queue

enque " on 3 ele
Queue
deque value on empty?
error?

deque value on 1 ele
" " on 3 ele
Queue

(took about 45 min)