

(a) # s starts as a stack of size n

s.push(1)

s.pop() # stack is bigger now, by one item

Stack1

push: 1 step

pop: 1 step

$$(1) + (1) = 2 \text{ steps}$$

Stack2

push: $n+1$ steps

pop: $n+1$ steps.

$$(n+1) + (n+1) \text{ steps} \\ = 2n+2 \text{ steps}$$