

Strange Stack | Thomas Hopfner, Dahl Domenico Villanini Zander Hargraard

Question 1

a) A

b)

we instantiate a S with size 4.

we push 4 integers: 0, 1, 2, 3.

we pop the same 4 integers and print them to standard out in the order "3, 2, 1, 0"

we then push 5 integers

0, 1, 2, 3, 4 when we push the 5th element Shift()

will be called and the 0th element will be lost resulting in an array containing 1, 2, 3, 4 which is then printed.

C)

5 int[3]

5 |||

D)

B

E)

D

F)

public boolean isEmpty() {

 if (sz == 0) return true;
 else return false;

3

G) public void removeOldest() {

 shift();

3

H) We would change
the implementation to use
a circular array, instead
of shifting the array.

The following alterations to
the code would be made:

public void push(int item){
a[sz++ % a.length] = item;

}

public int pop(){
int item = a[sz % a.length];
a[sz % a.length] = null;
sz--;
return item;

3