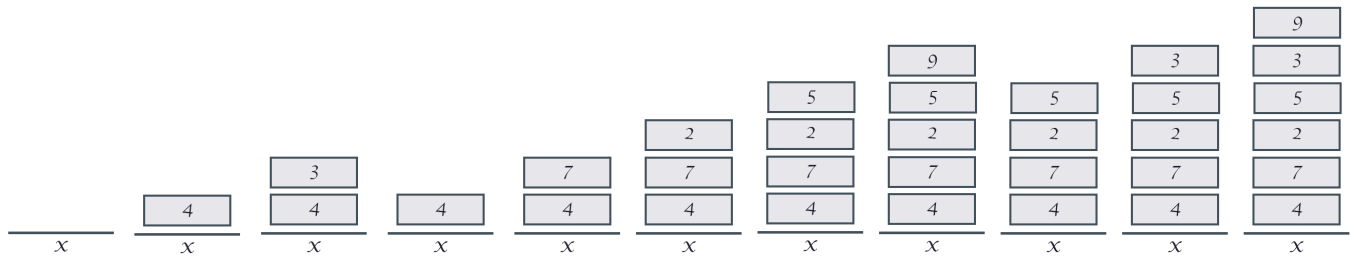


### EX 12.3

*Abstraction* is the practice of hiding the non-essential details of an object or concept in favor of presenting exclusively essential information. Abstraction allows complex systems to be broken into essential, understandable parts that makes large-scale and multi-developer projects as continually understandable as possible as complexity grows.

### EX 12.4



### EX 12.5

a.

Y will be assigned to 9

b.

Y will be assigned to 9, then 9 is *pop'd*

Z will be assigned to 3

c.

Y will be assigned to 3, then 3 is *pop'd*

Z will be assigned to 5

### EX 12.6

`isEmpty()` should have an **O(1)** time complexity

`size()` should have an **O(1)** time complexity

`toString()` should have an **O(n)** time complexity