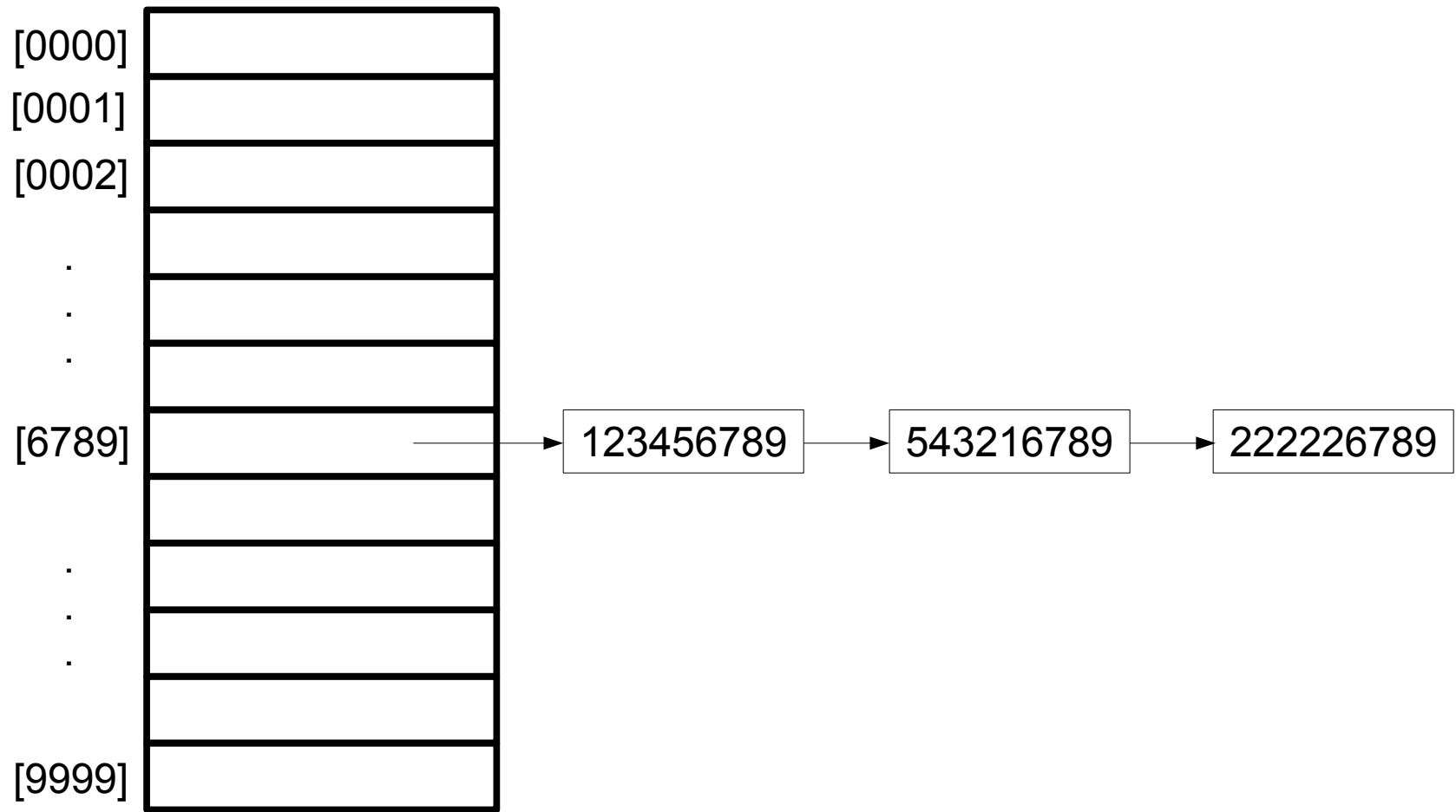
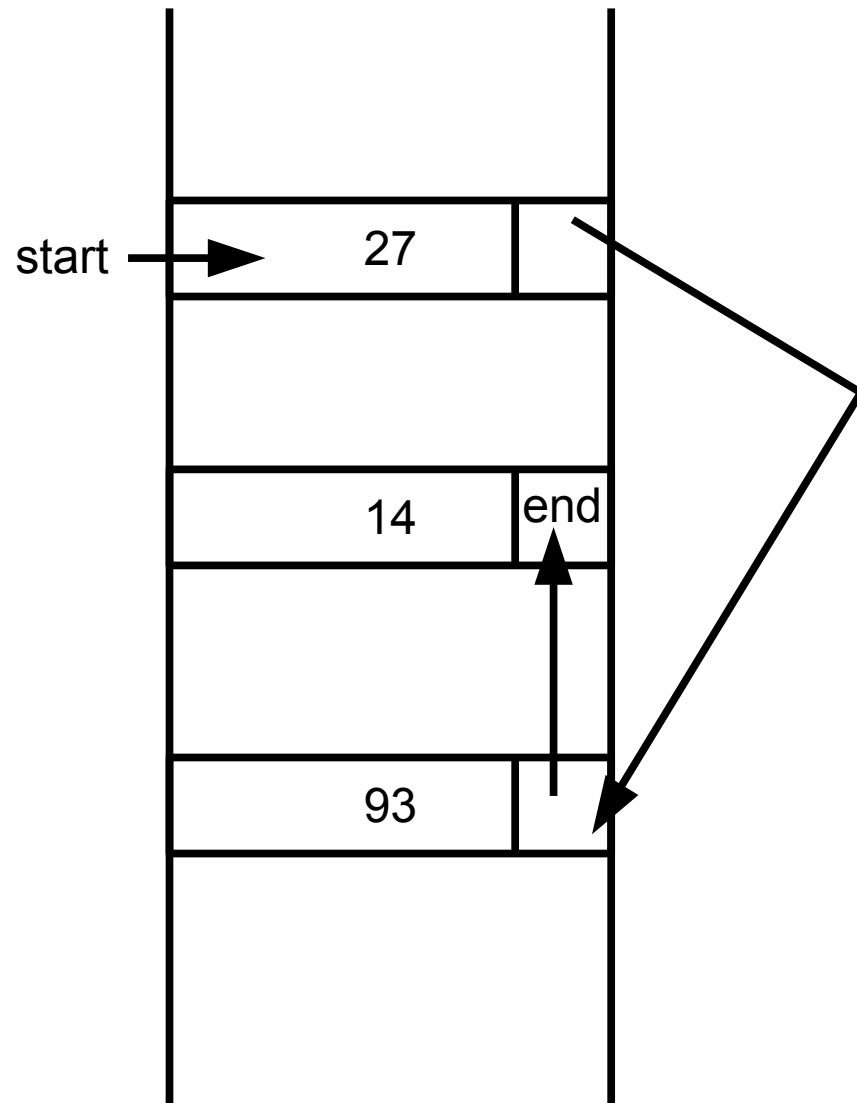
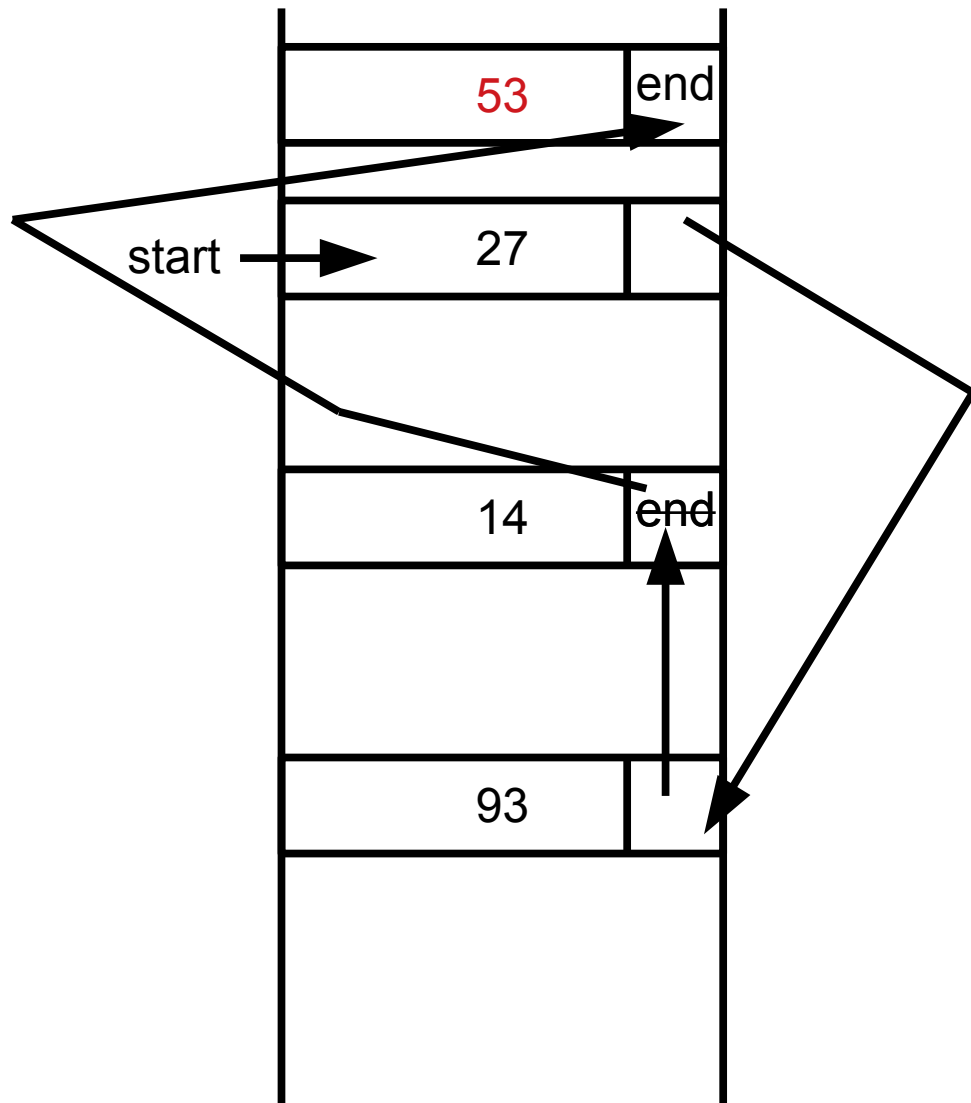


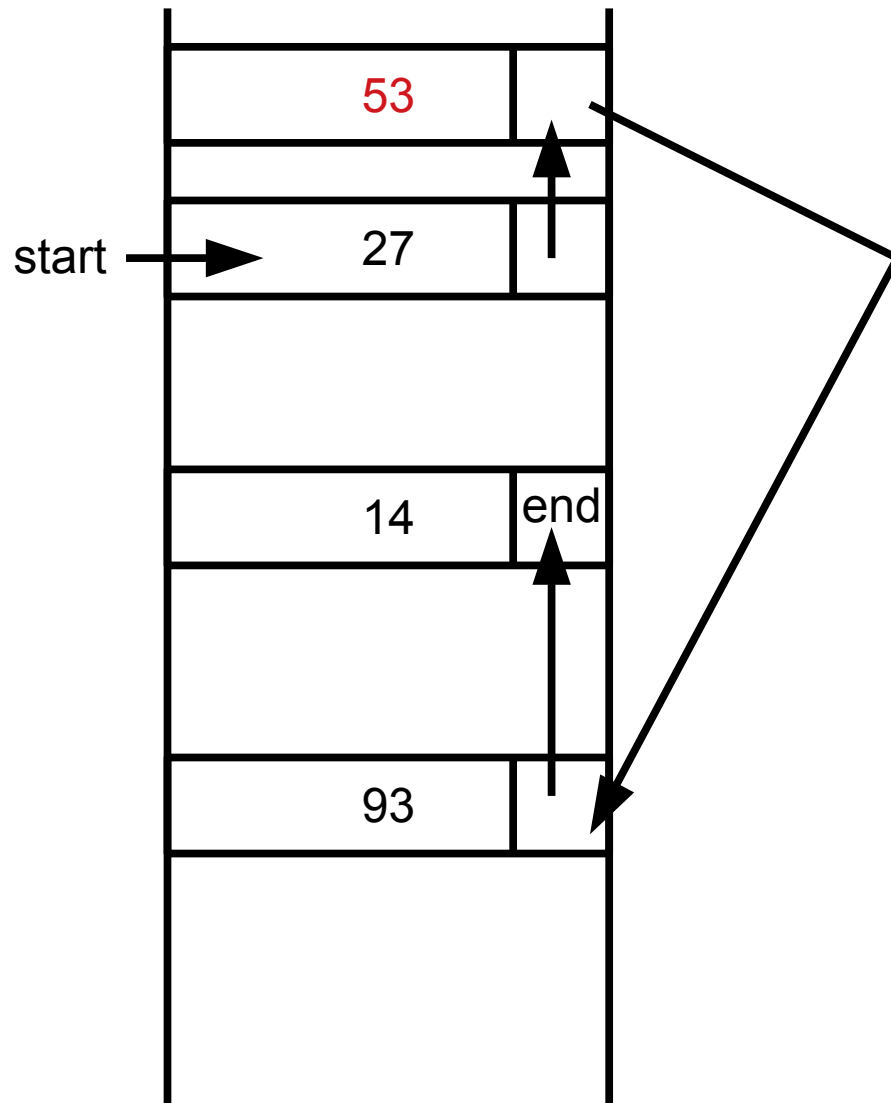




LinkedList: 27 93 14



LinkedList: 27 93 14 **53**



LinkedList: 27 53 93 14

start

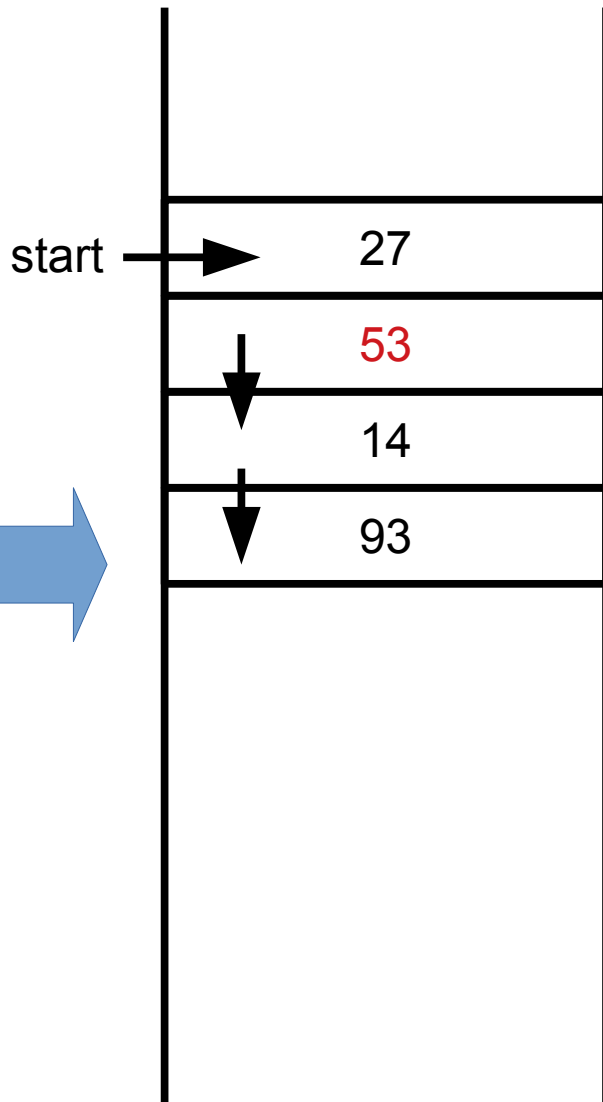
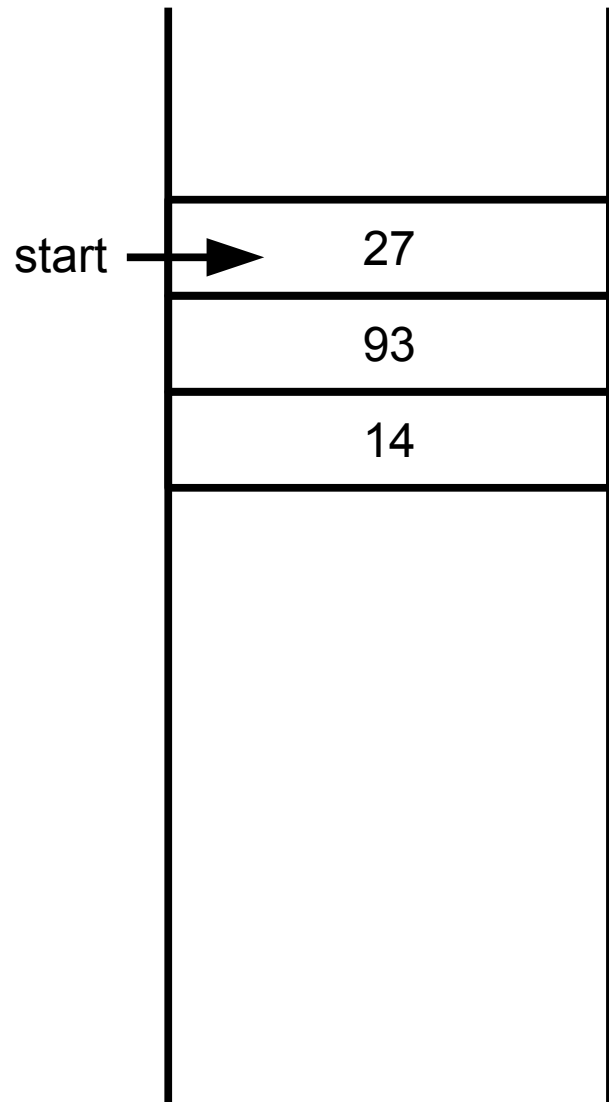


27

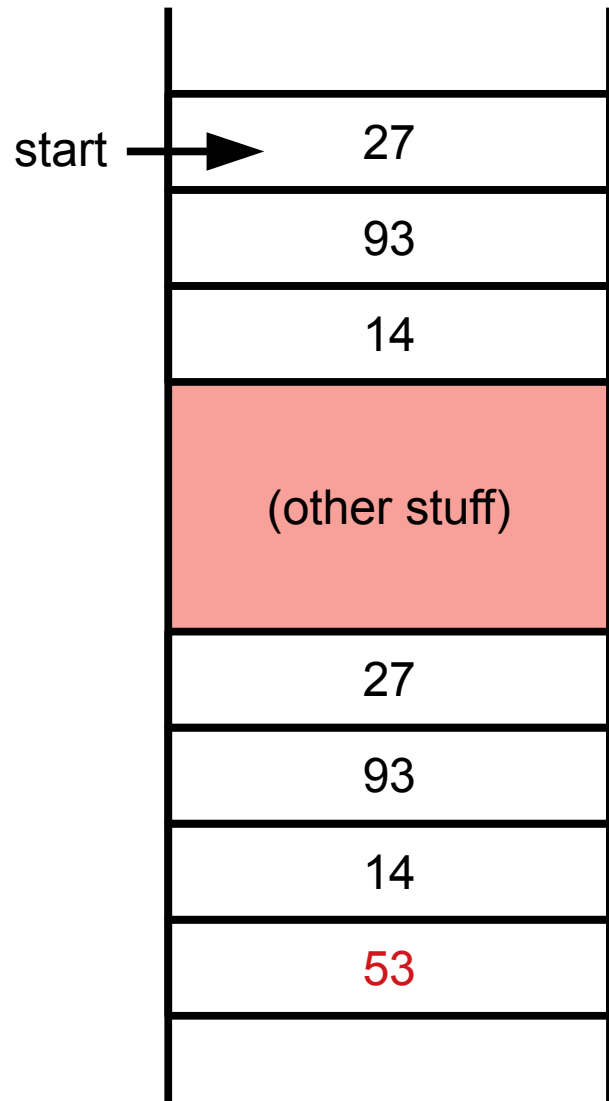
93

14

ArrayList: 27 93 14



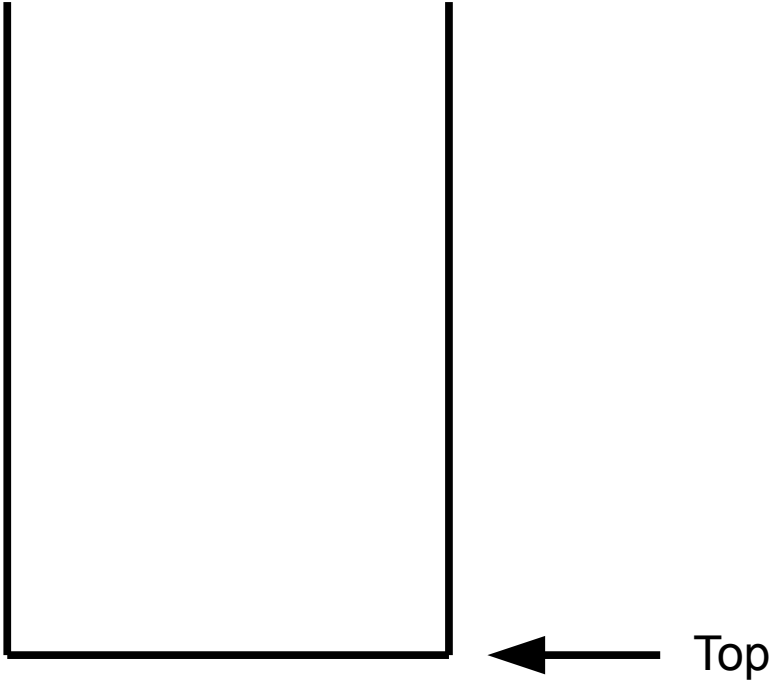
ArrayList: 27 53 93 14

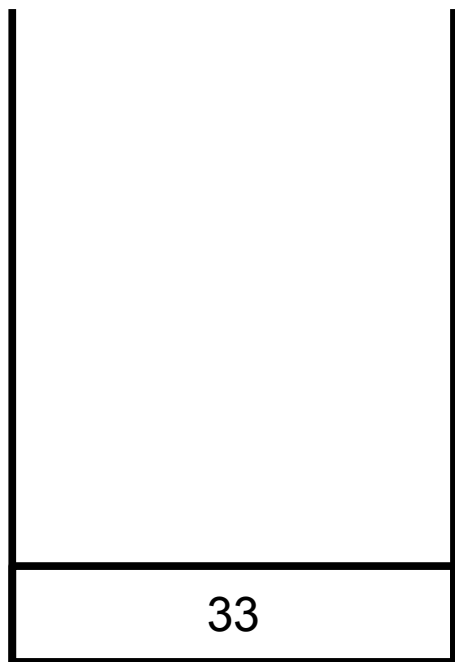


ArrayList: 27 93 14 53



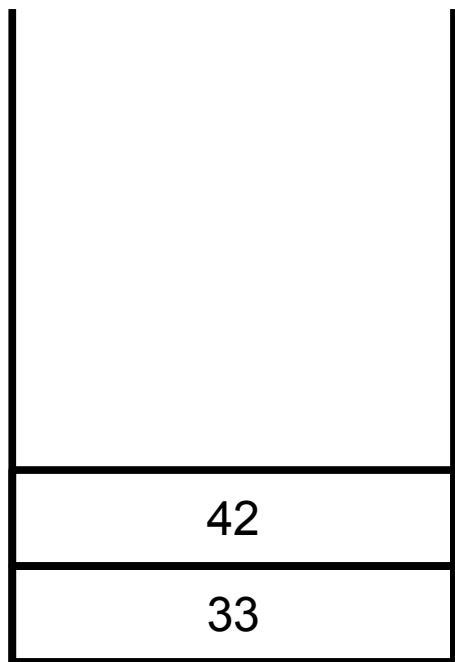
Stacks



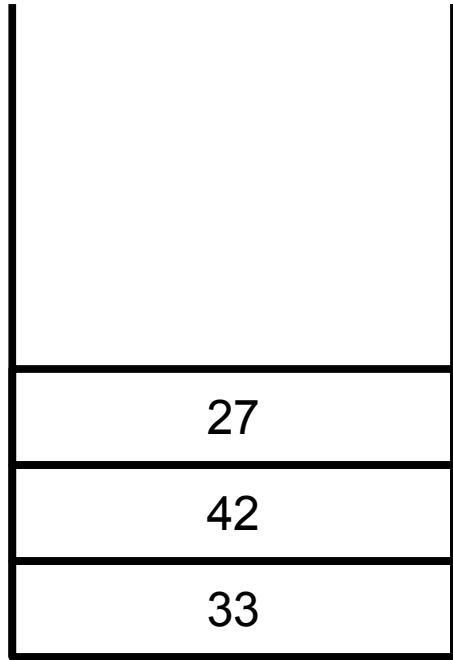


Top

push(33)

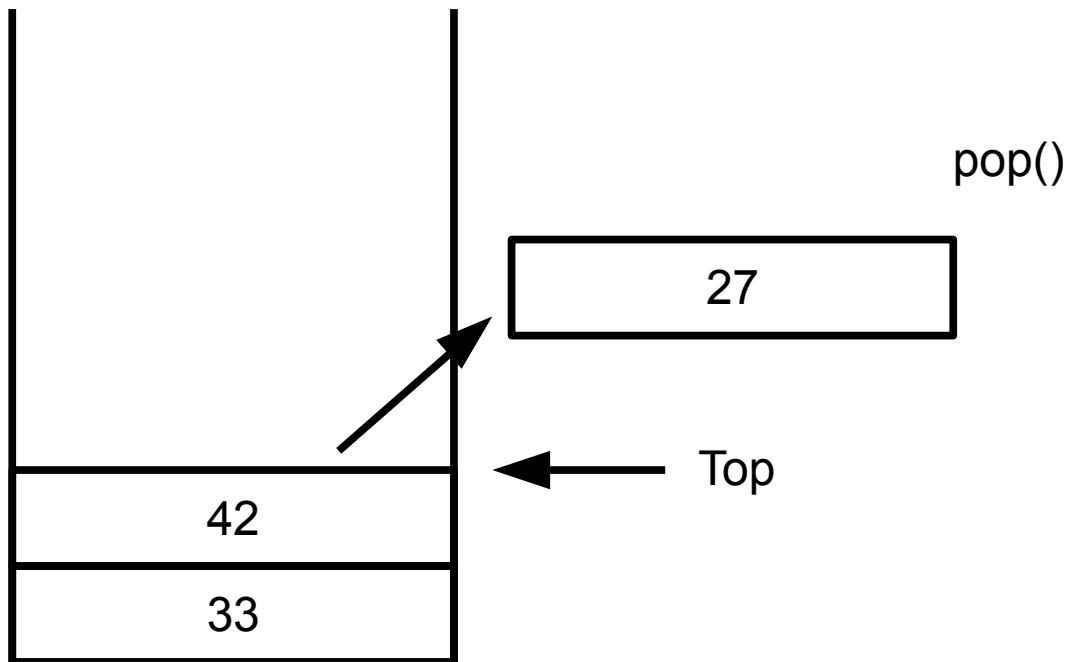


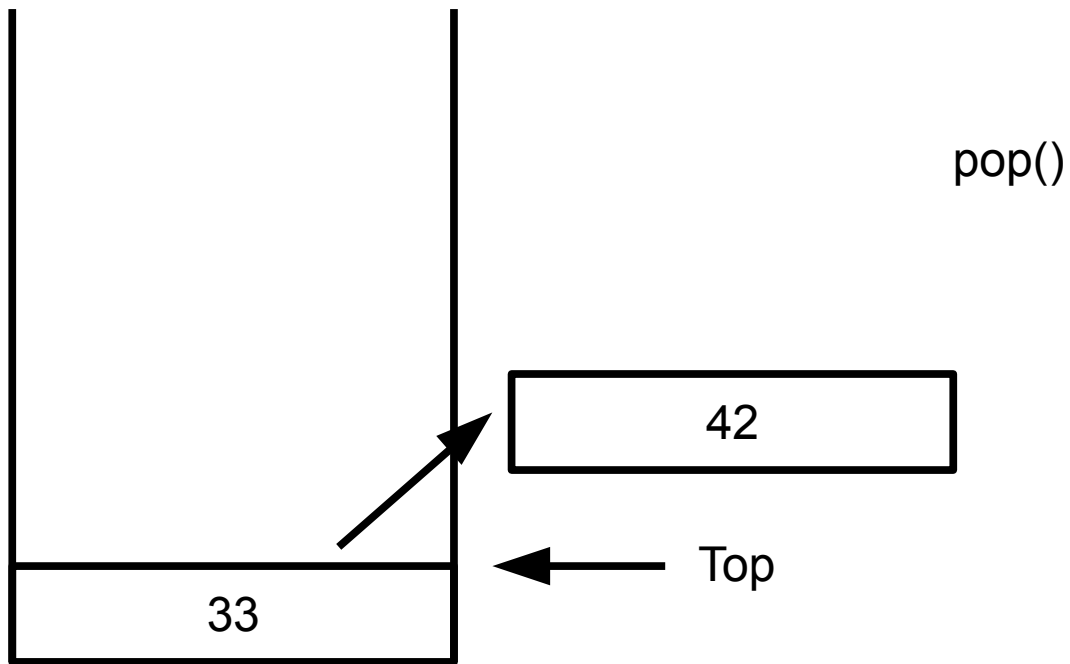
push(42)

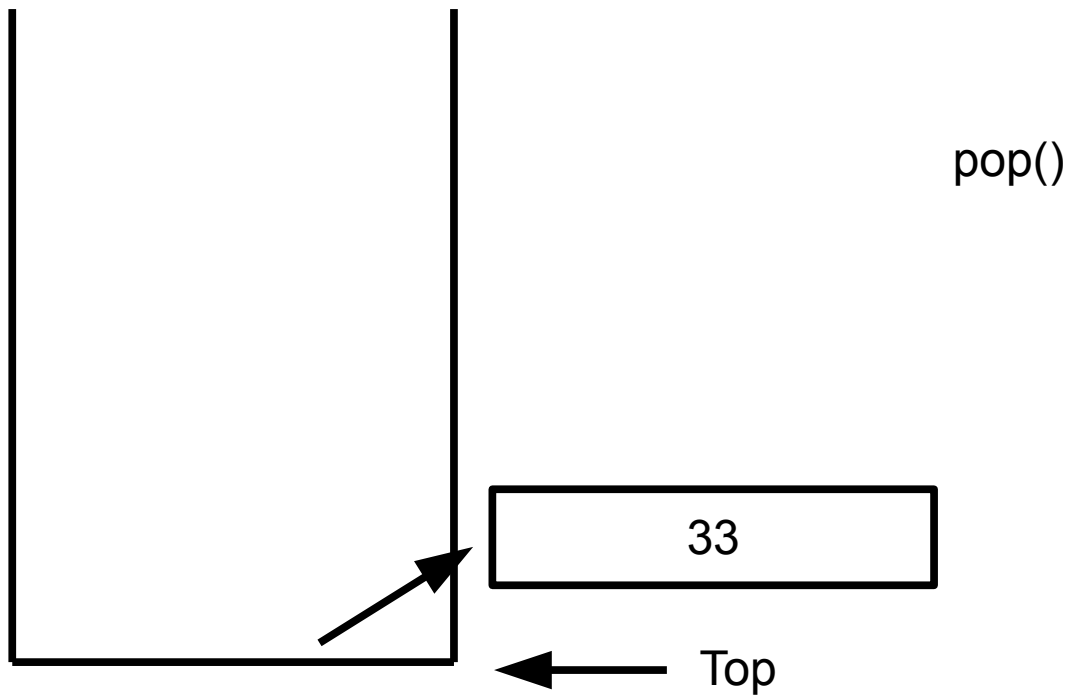


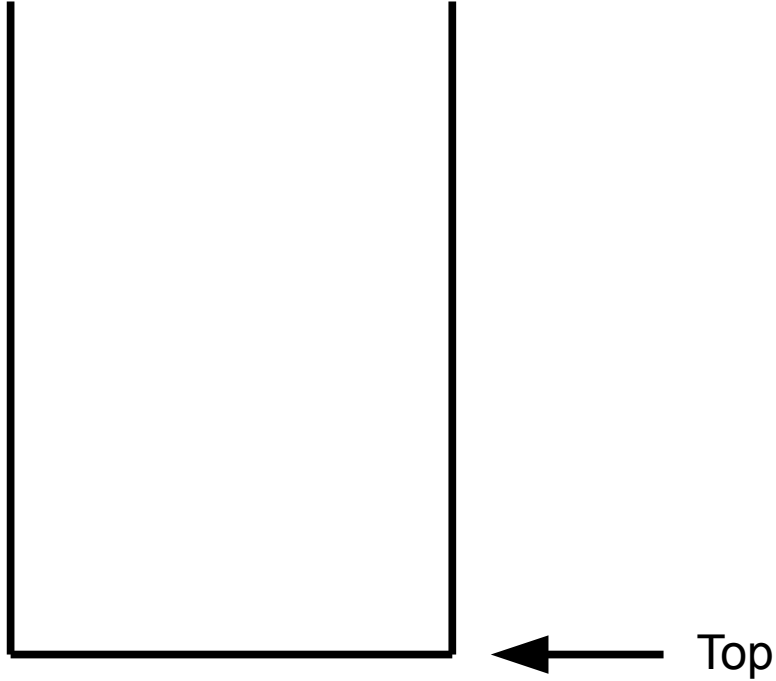
← Top

push(27)





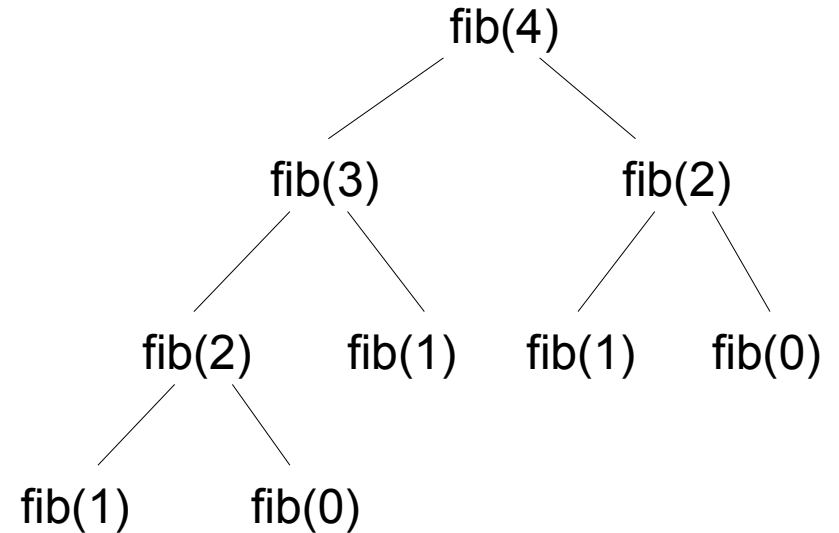


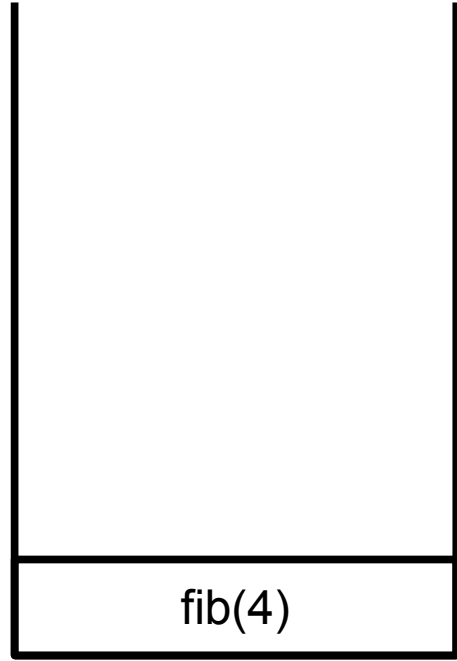


```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

fib(4)

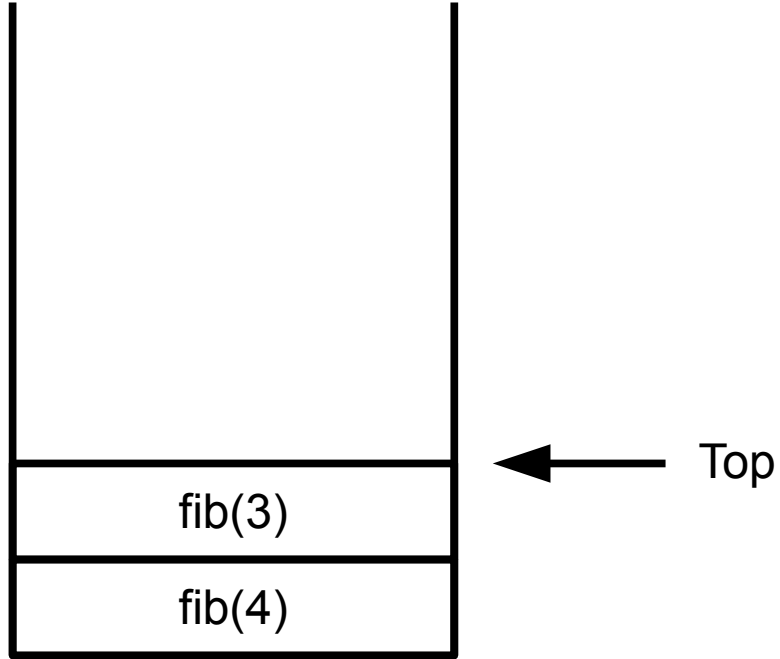




```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

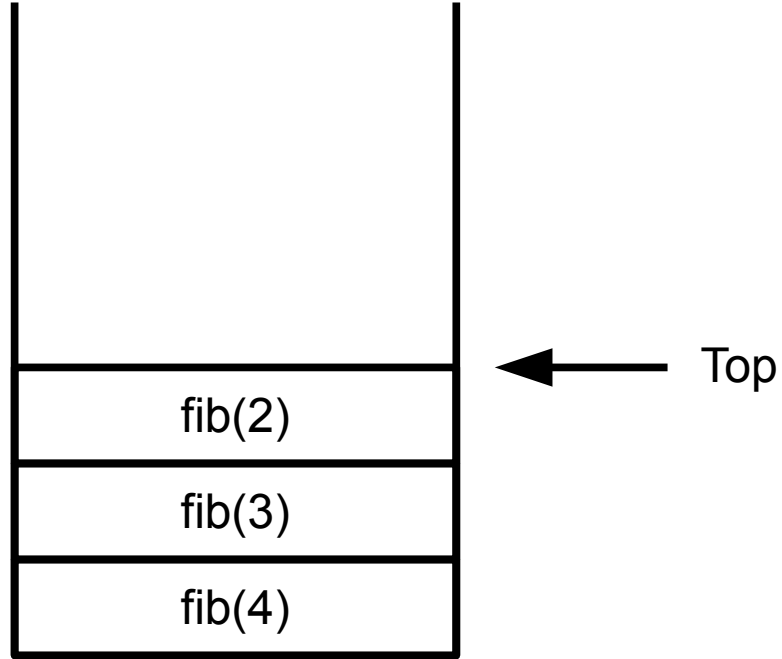
`fib(4) = fib(3) + fib(2)`



```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

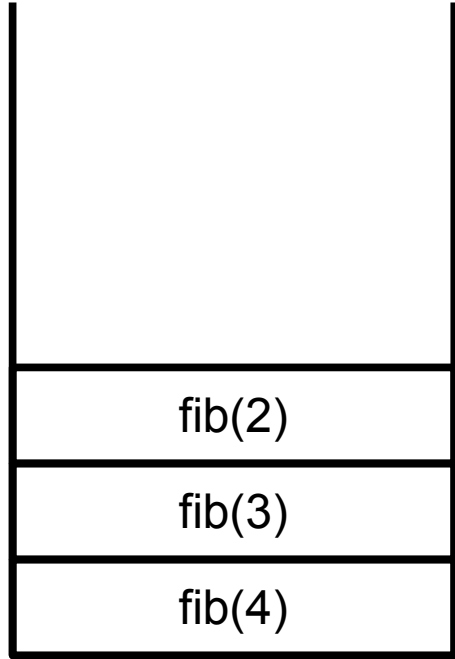
`fib(4) = fib(2) + fib(1) + fib(2)`



```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

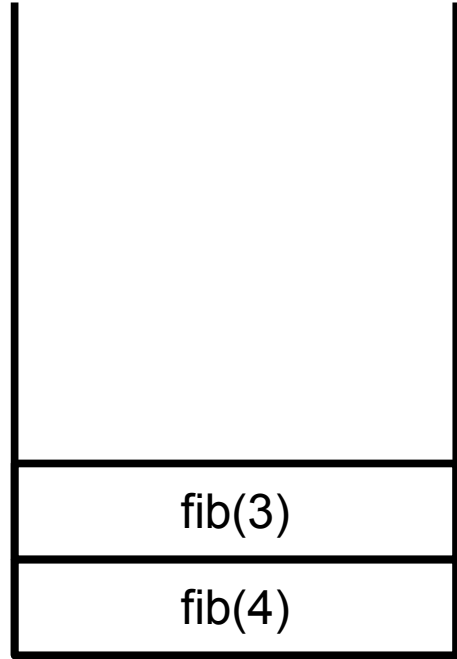
$\text{fib}(4) = \text{fib}(1) + \text{fib}(0) + \text{fib}(1) + \text{fib}(2)$



```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

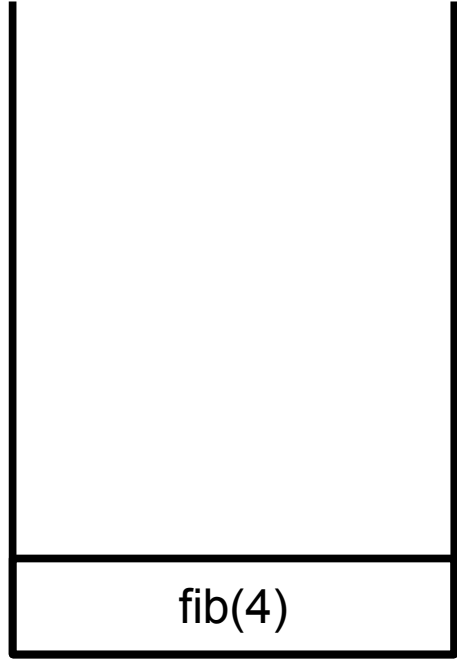
`fib(4) = 1 + 0 + 1 + fib(2)`



```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

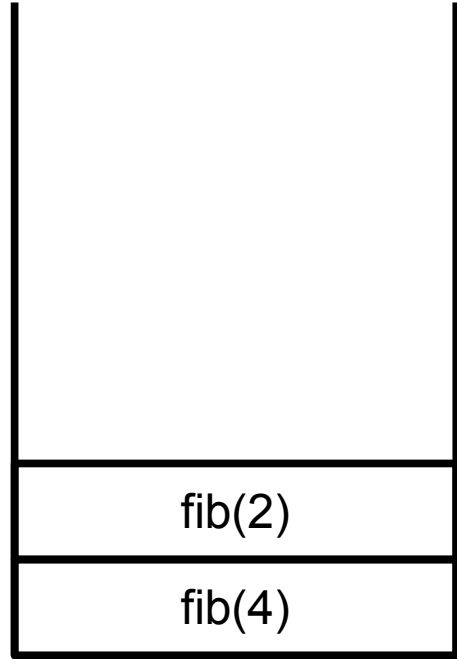
$\text{fib}(4) = 1 + 0 + 1 + \text{fib}(2)$



```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

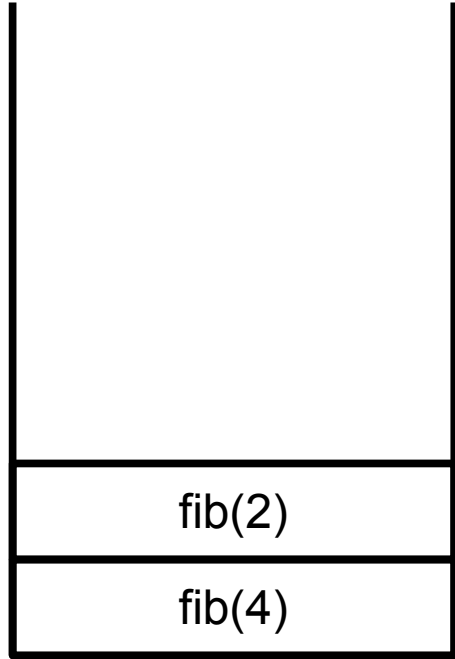
`fib(4) = 1 + 0 + 1 + fib(2)`



```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

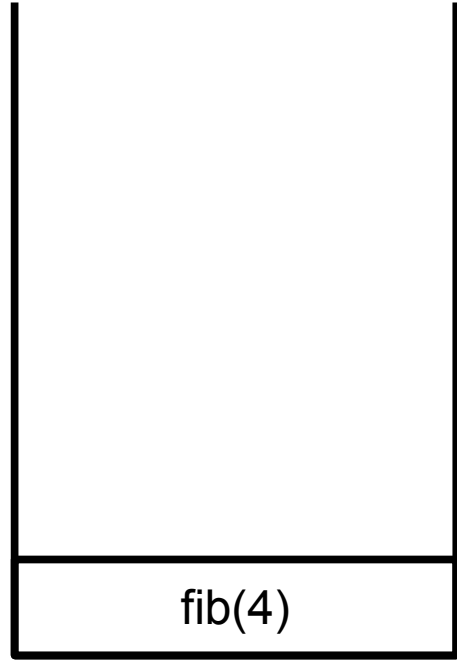
`fib(4) = 1 + 0 + 1 + fib(1) + fib(0)`



```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

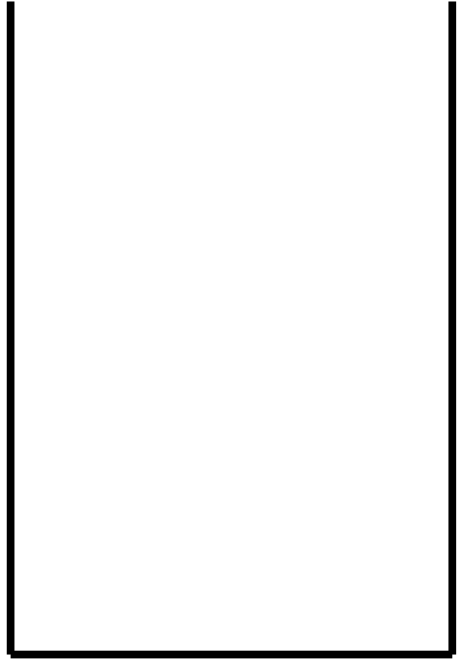
`fib(4) = 1 + 0 + 1 + 1 + 0`



```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

$\text{fib}(4) = 1 + 0 + 1 + 1 + 0$

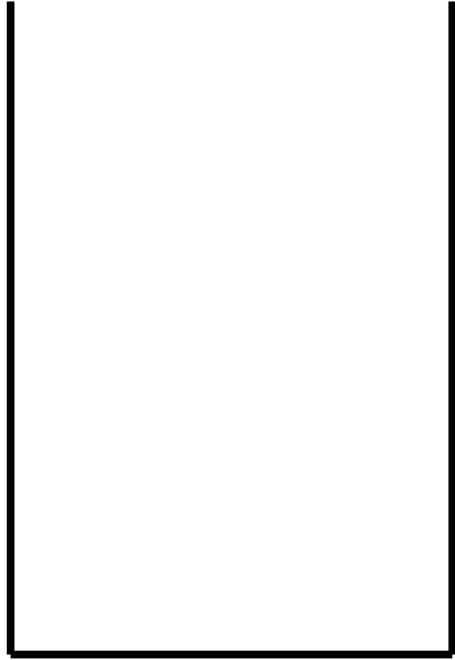


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```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

$\text{fib}(4) = 1 + 0 + 1 + 1 + 0$



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```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

    return fib(n - 1) + fib(n - 2);
}
```

$\text{fib}(4) = 1 + 0 + 1 + 1 + 0 = 3$

LIFO: Last In, First Out

Queues

Queues

add(23)

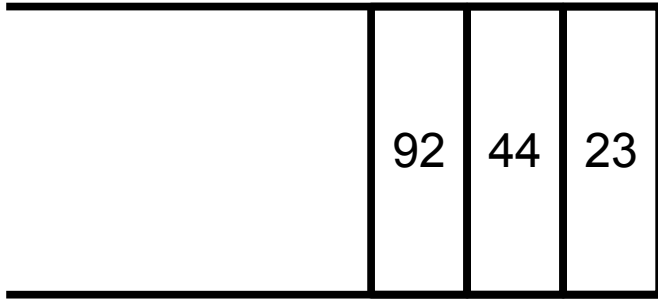


Queues

add(44)

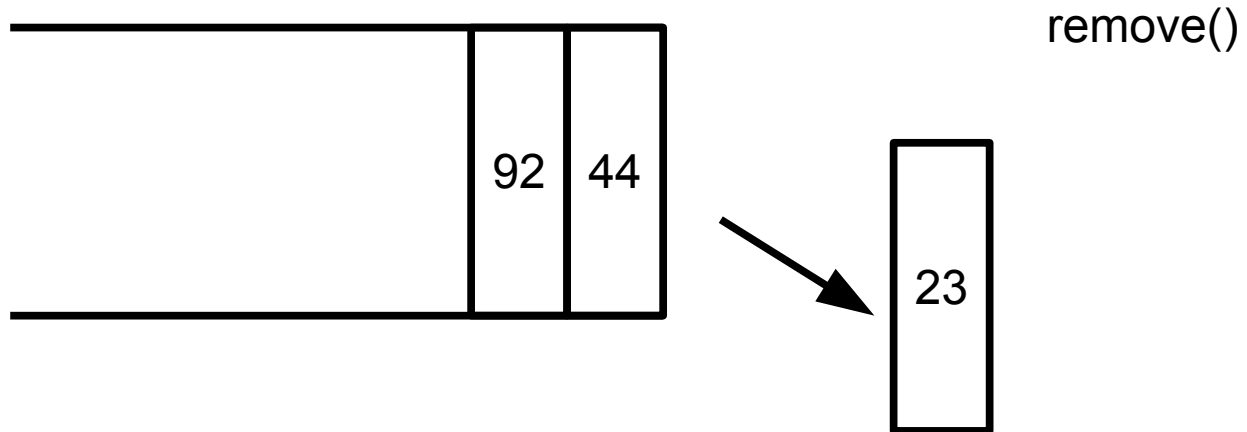


Queues

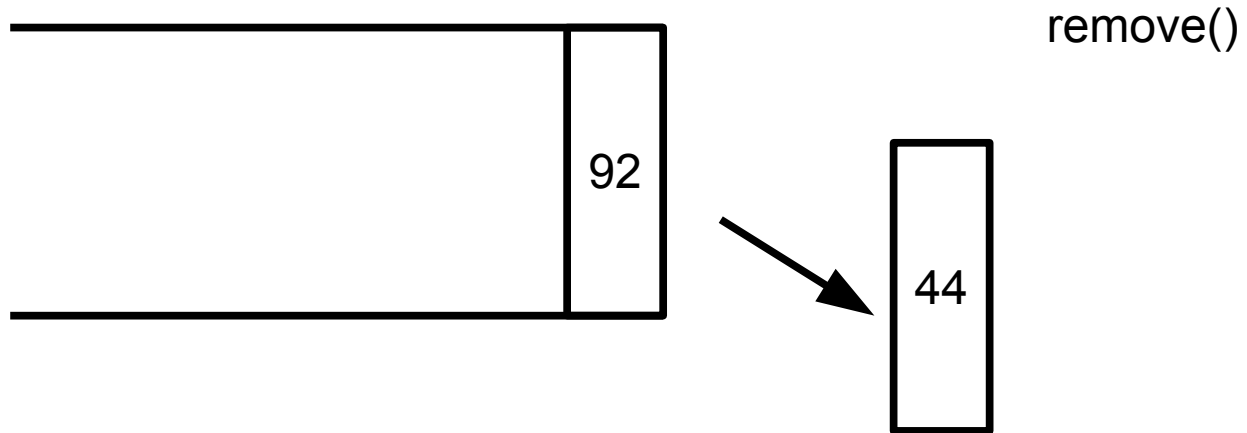


add(92)

Queues



Queues



Queues

