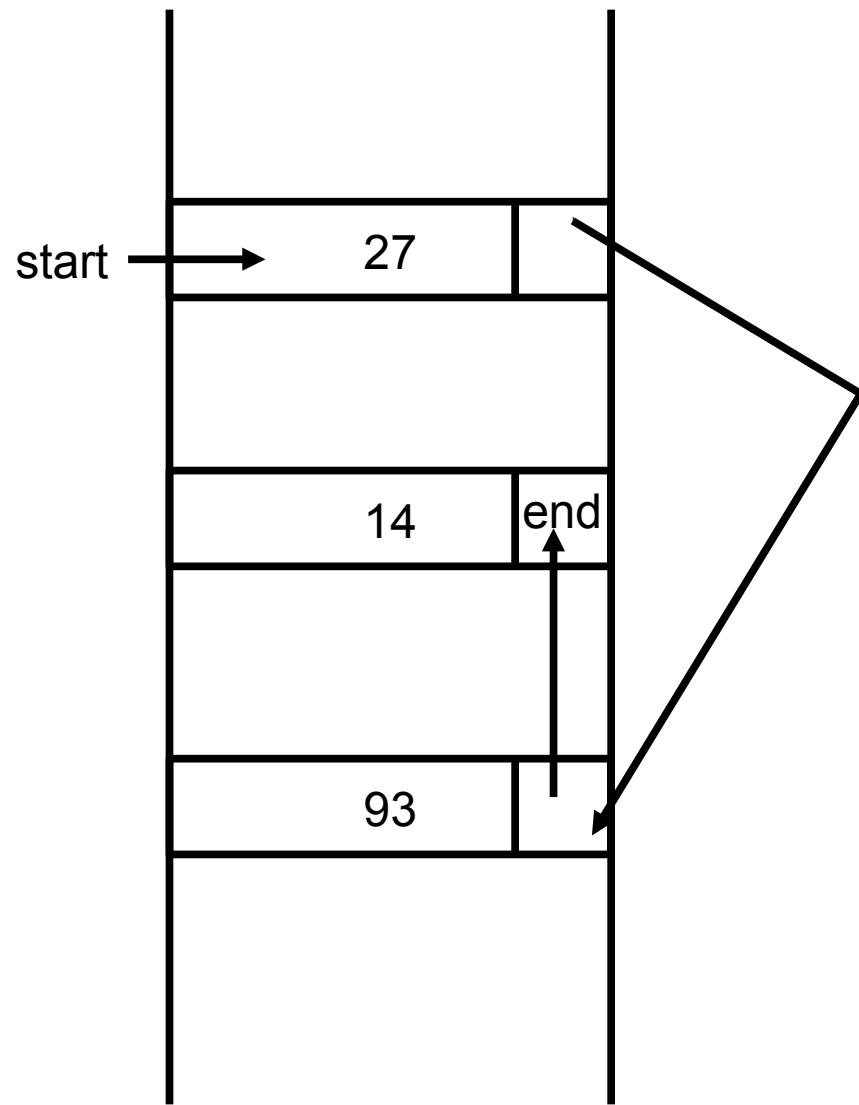




LinkedList: 27 93 14

start

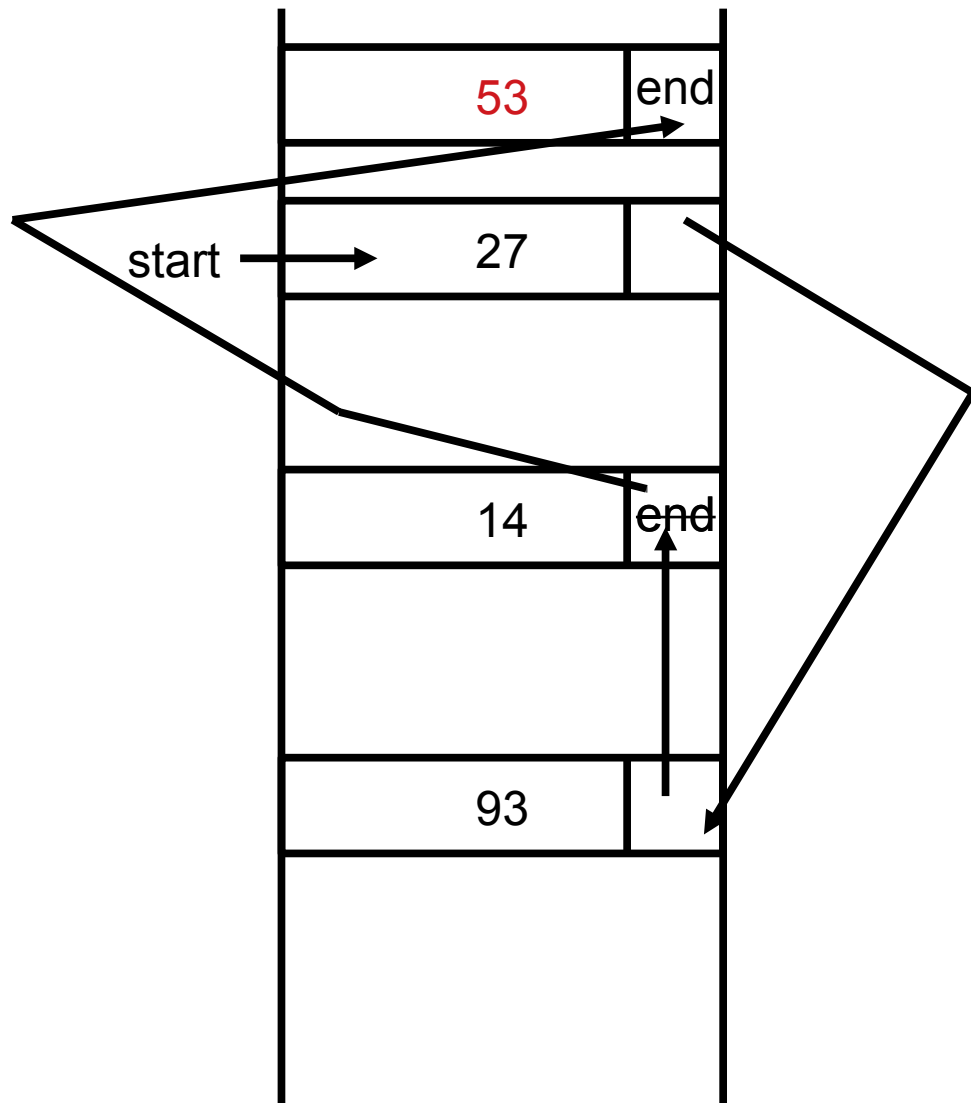


27

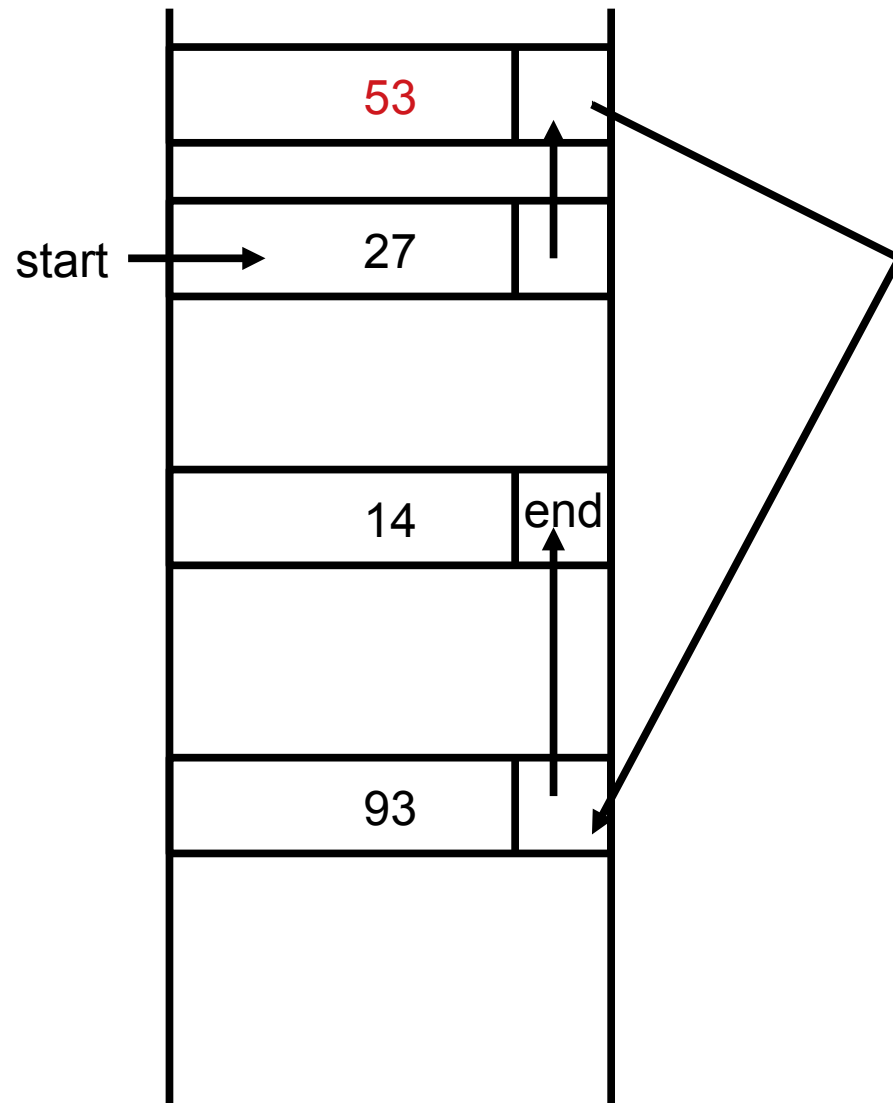
93

14

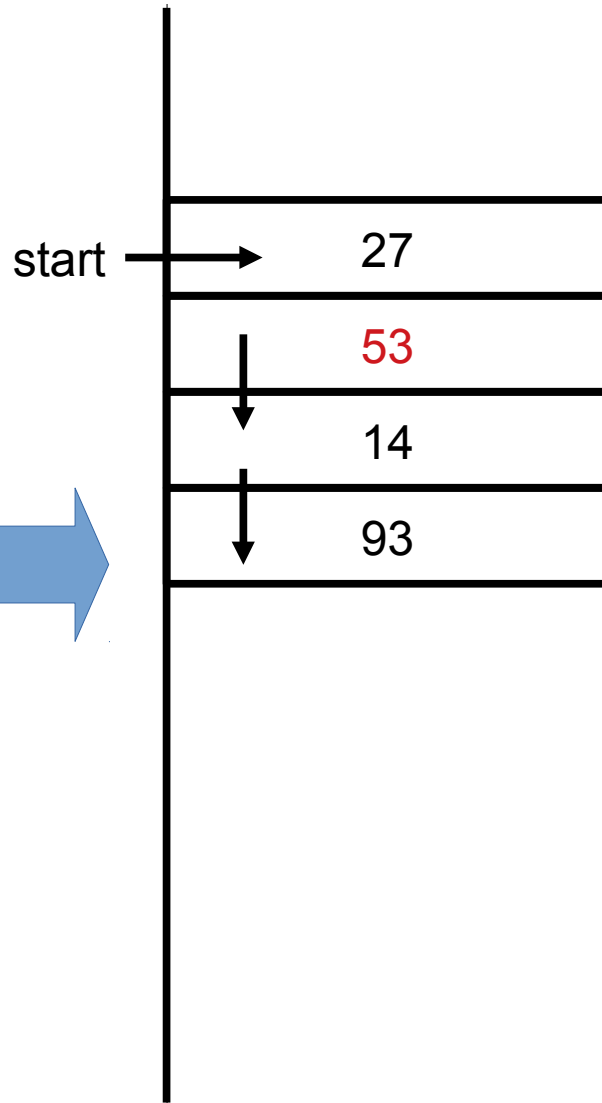
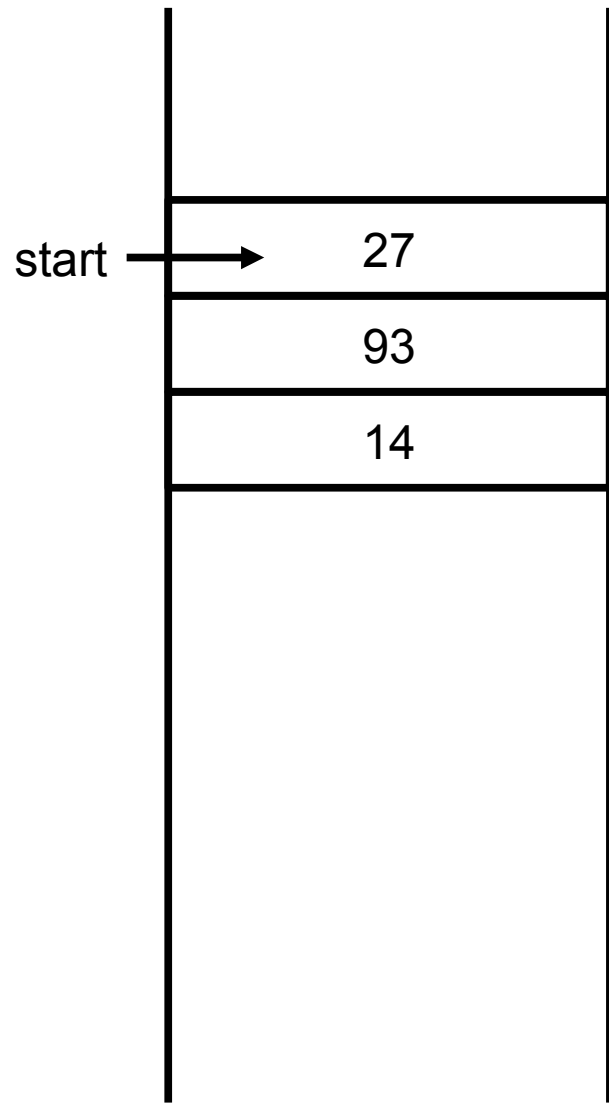
ArrayList: 27 93 14



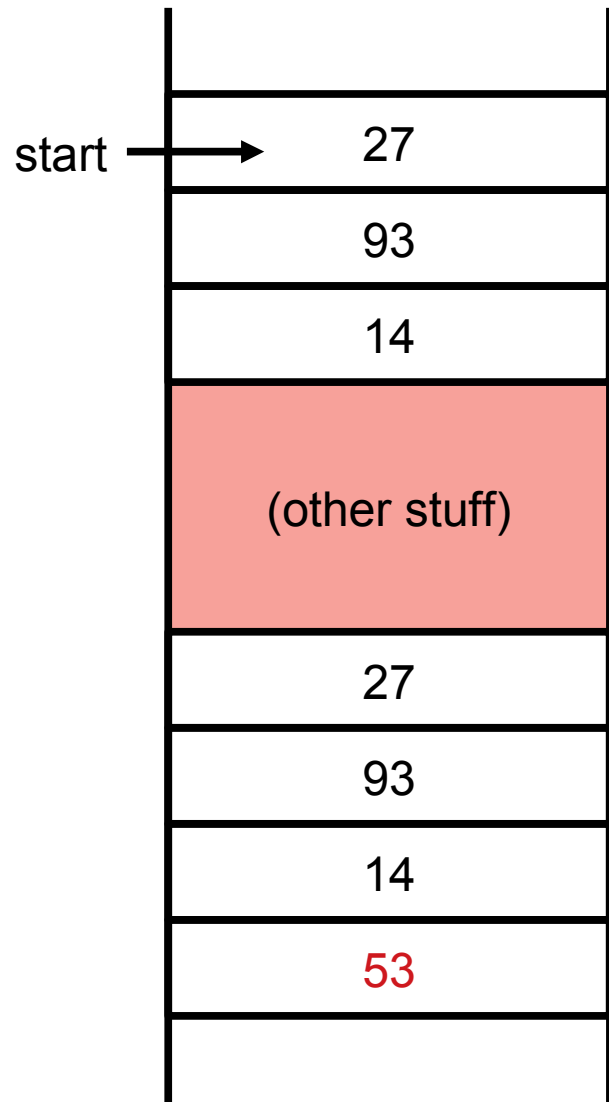
LinkedList: 27 93 14 53



LinkedList: 27 53 93 14



ArrayList: 27 53 93 14

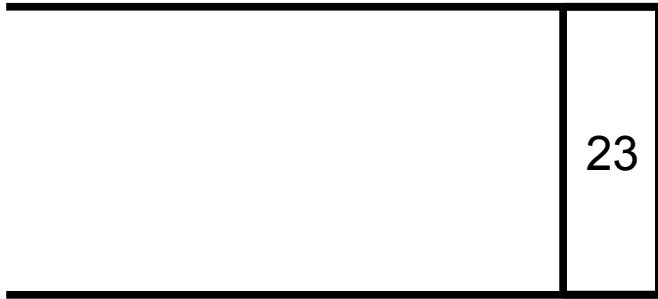


ArrayList: 27 93 14 53



Queues

Queues



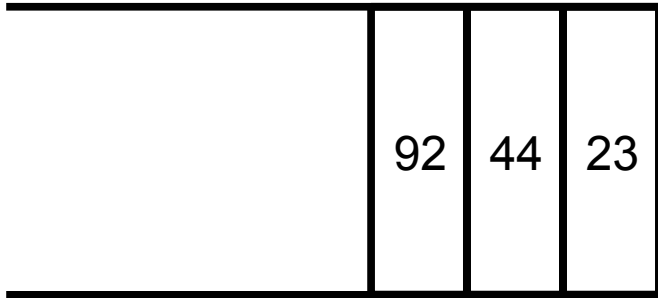
add(23)

Queues



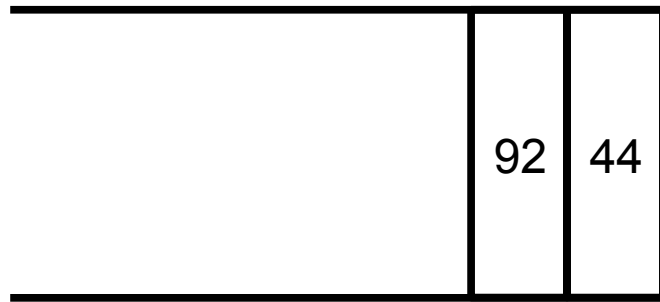
add(44)

Queues

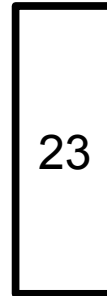


add(92)

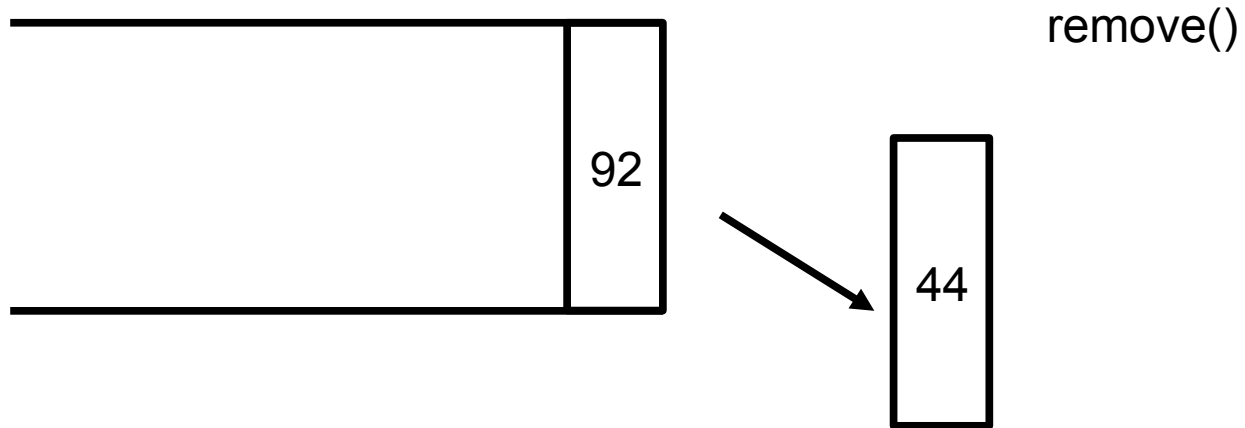
Queues



remove()



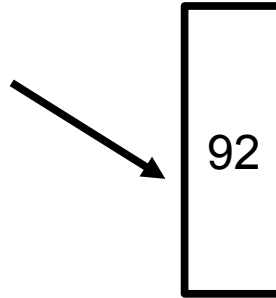
Queues



Queues

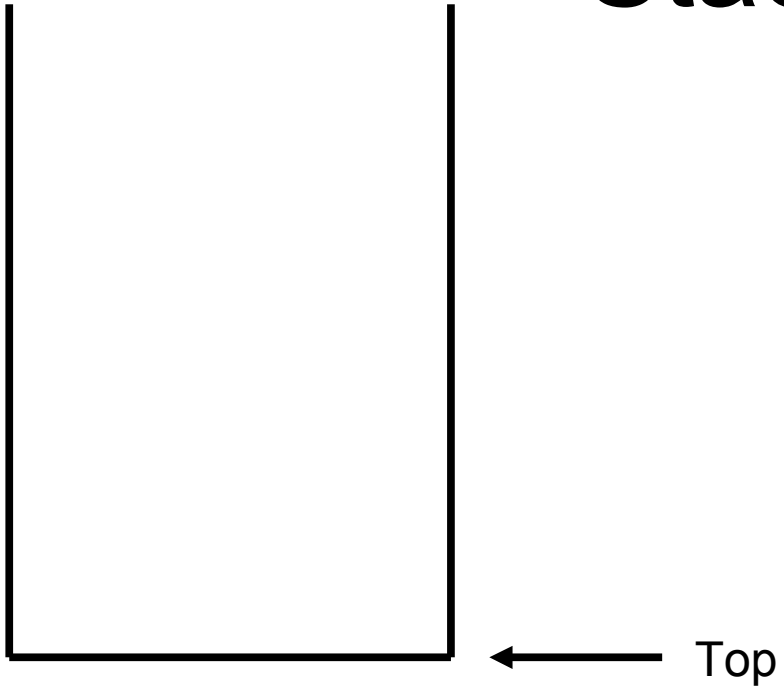


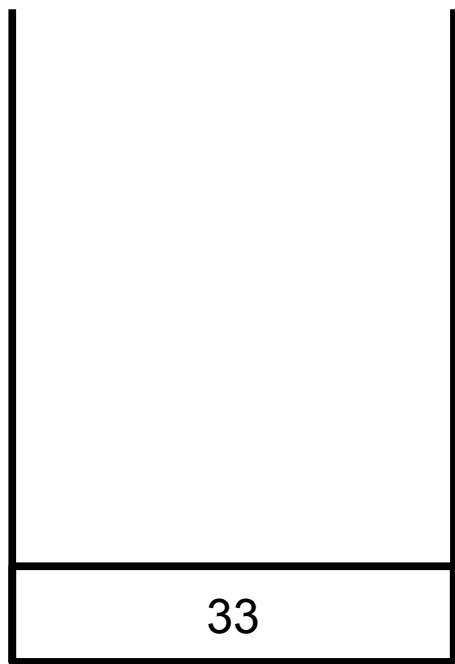
remove()



FIFO: First In, First Out

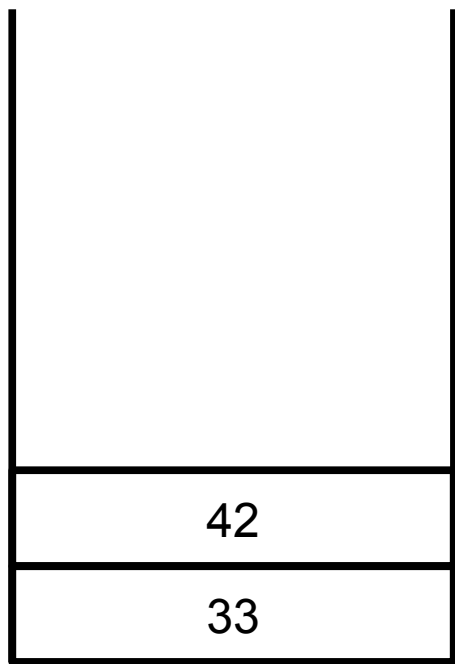
Stacks



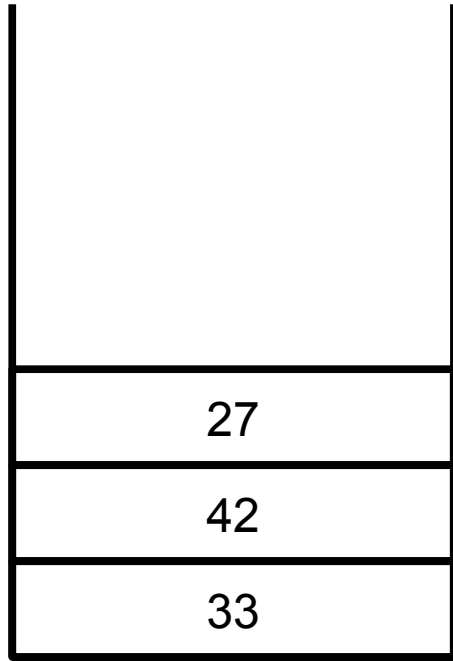


← Top

push(33)

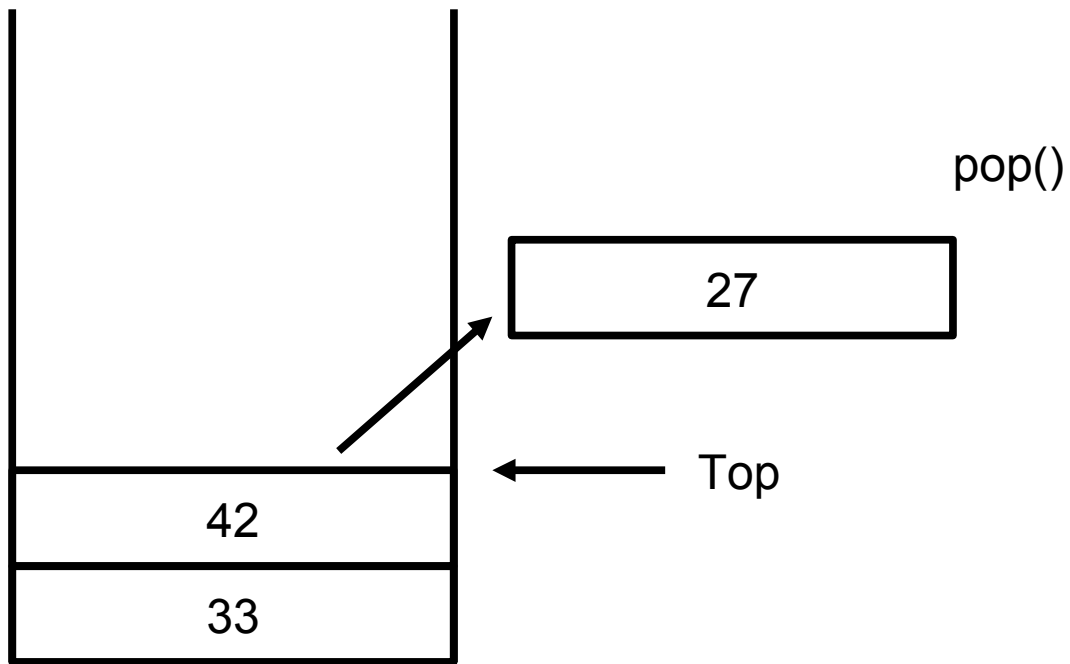


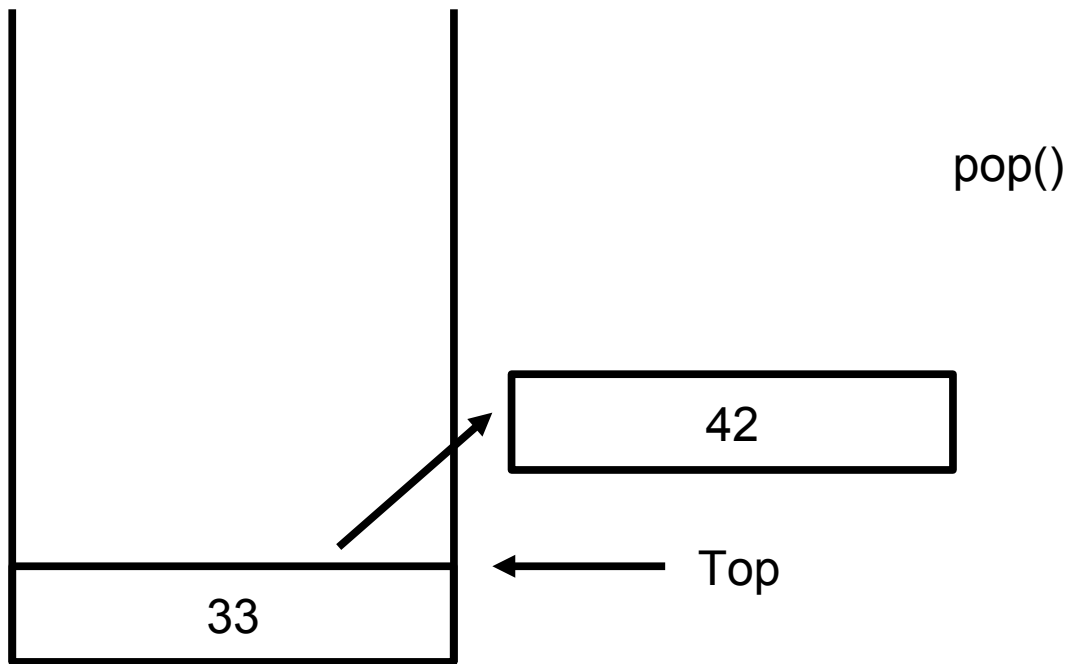
push(42)

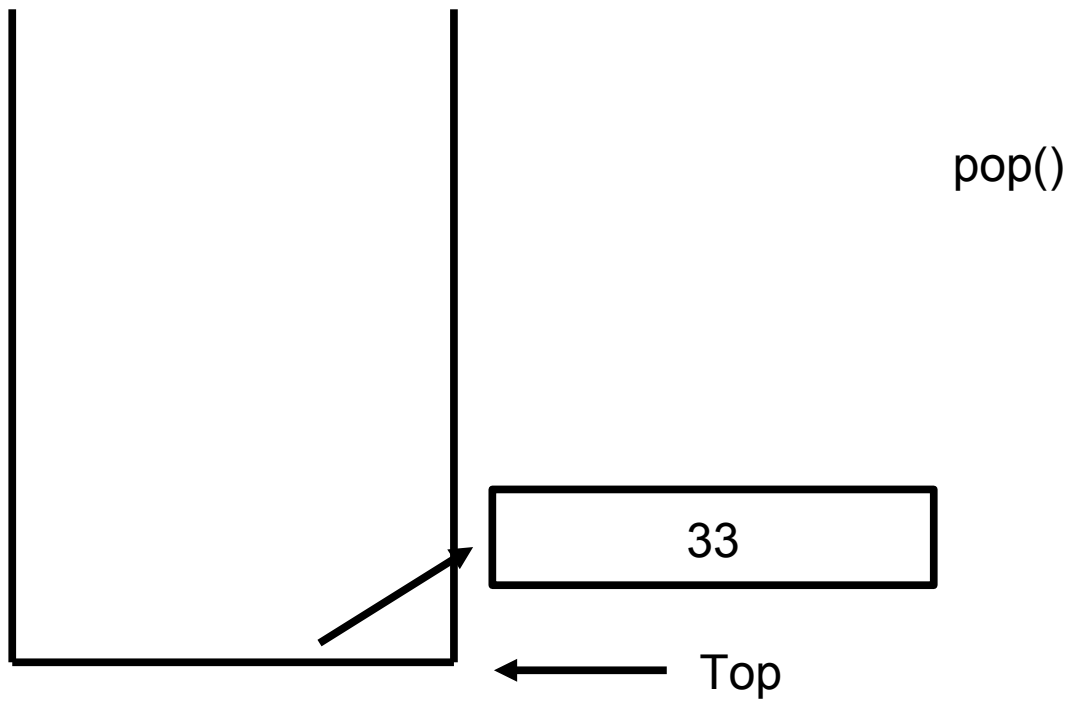


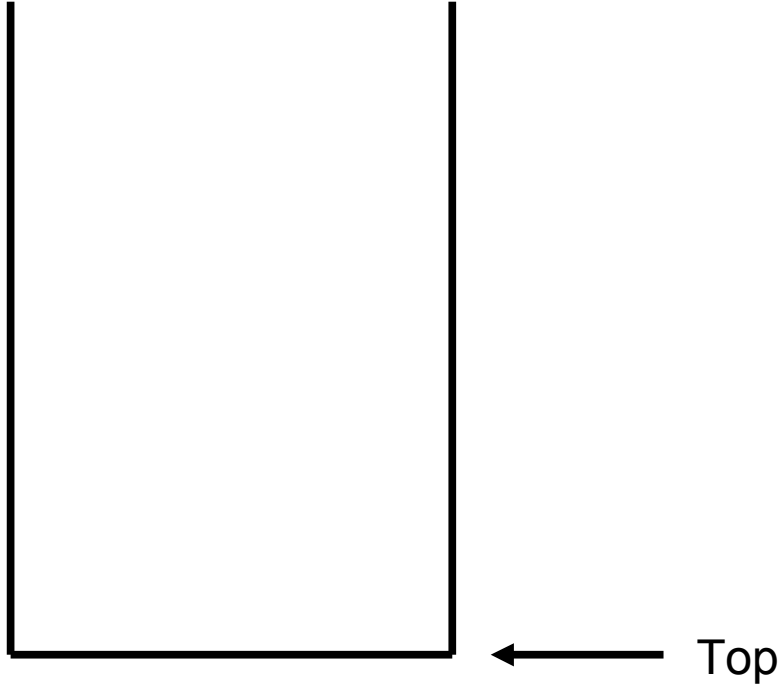
← Top

push(27)





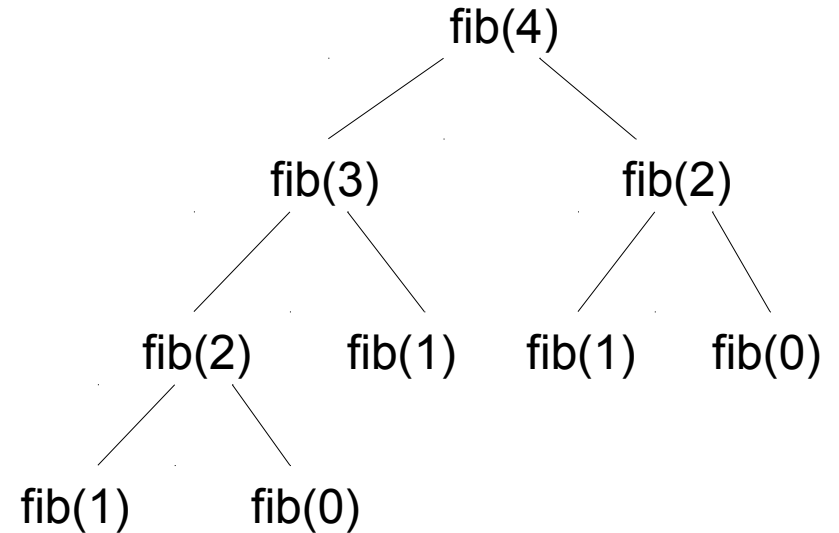


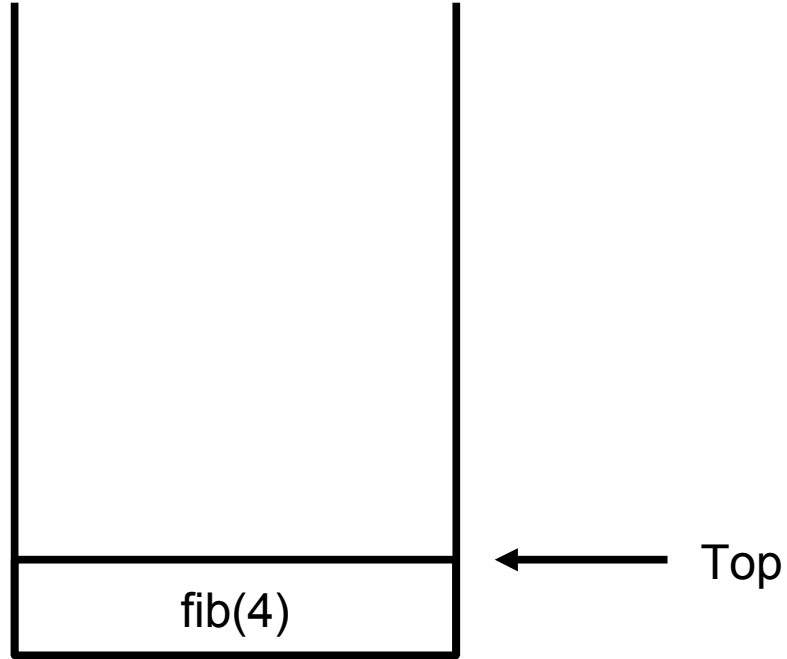


```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

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

fib(4)

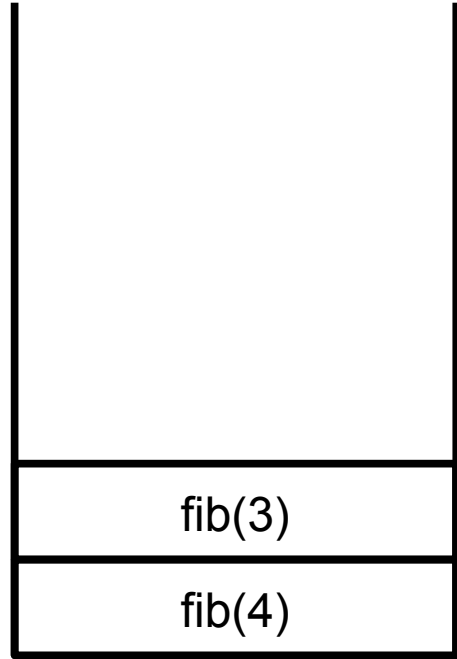




```
public long fib(int n)
{
    if(n == 0) return 0L;
    if(n == 1) return 1L;

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

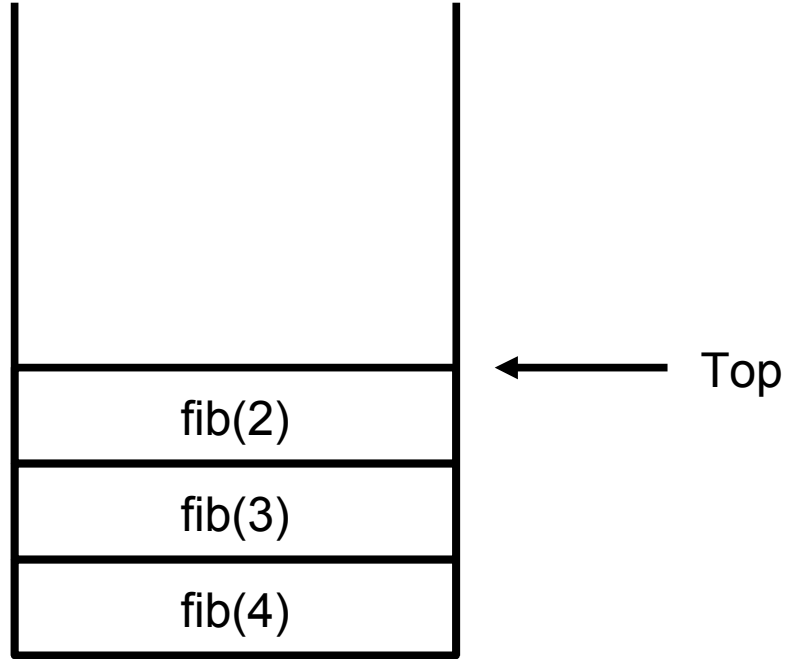
$\text{fib}(4) = \text{fib}(3) + \text{fib}(2)$



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

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

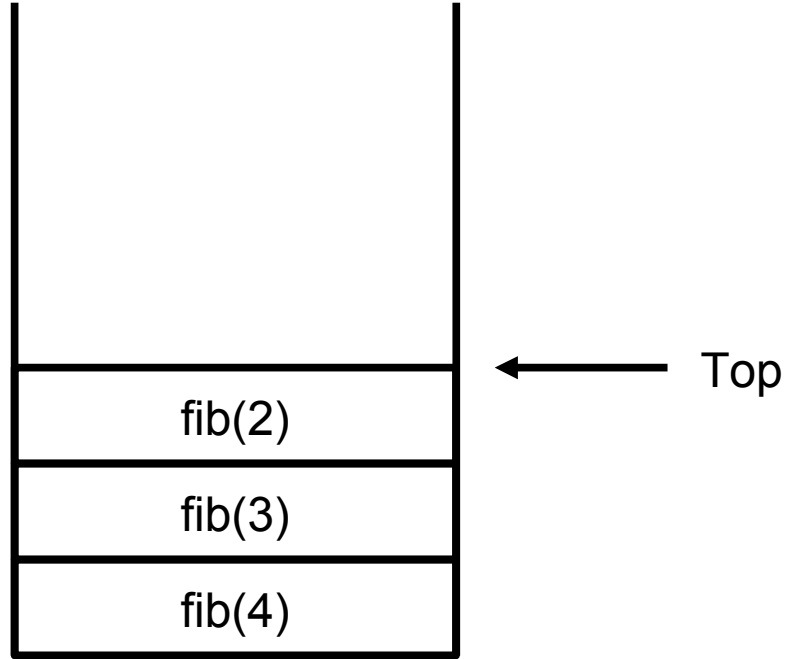
`fib(4) = fib(2) + fib(1) + fib(2)`



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

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

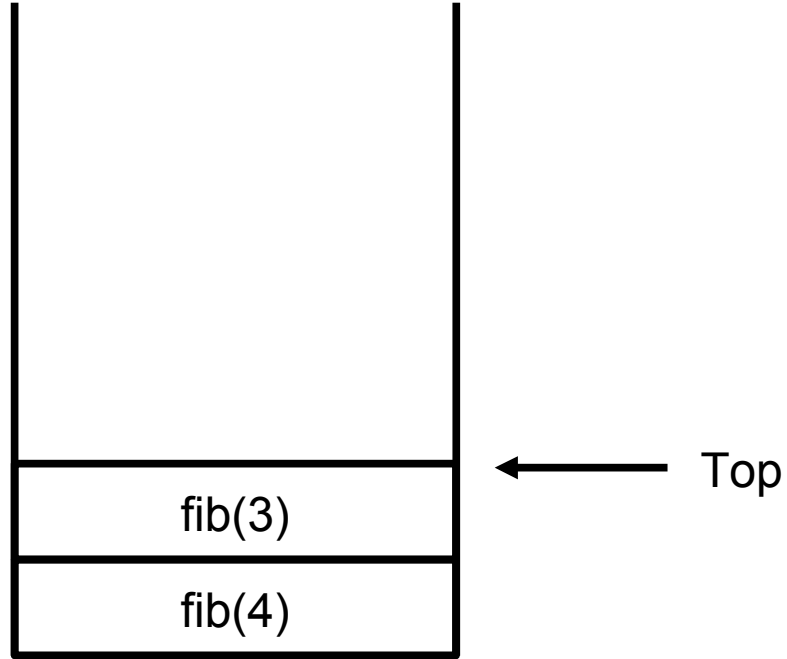
`fib(4) = fib(1) + fib(0) + fib(1) + fib(0)`



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

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

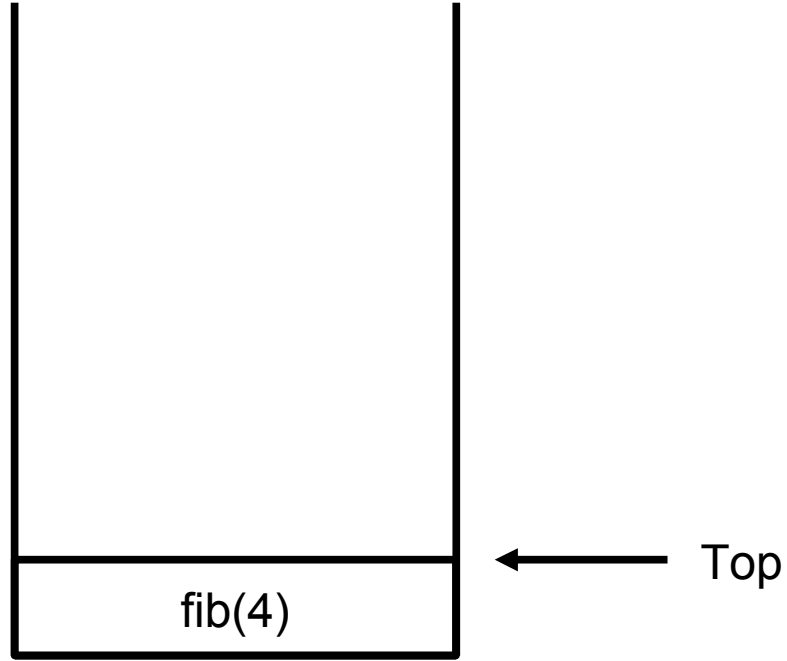
`fib(4) = 1 + 0 + 1 + fib(2)`



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

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

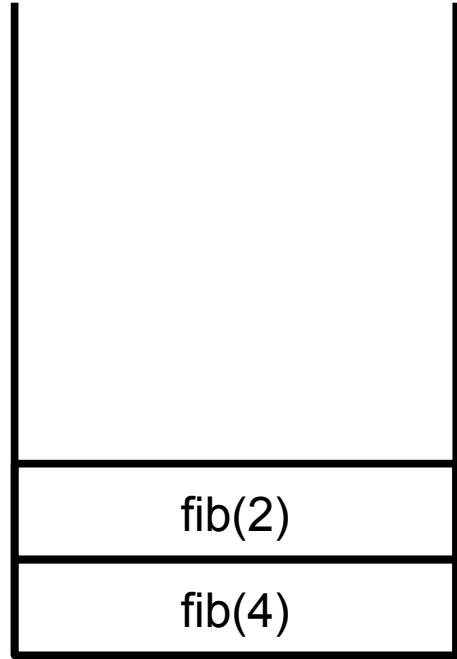
`fib(4) = 1 + 0 + 1 + fib(2)`



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

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

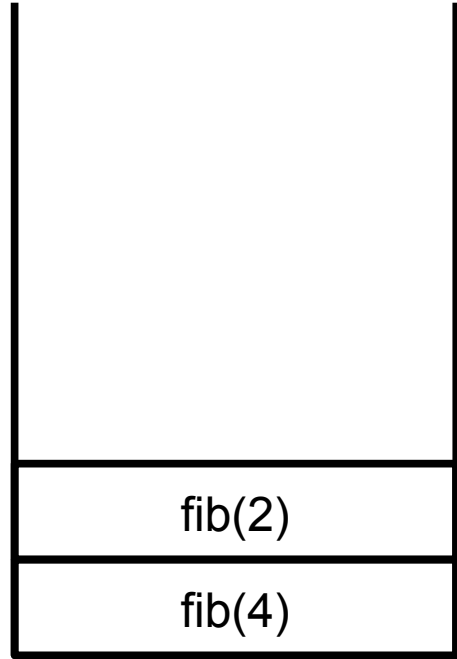
$\text{fib}(4) = 1 + 0 + 1 + \text{fib}(2)$



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

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

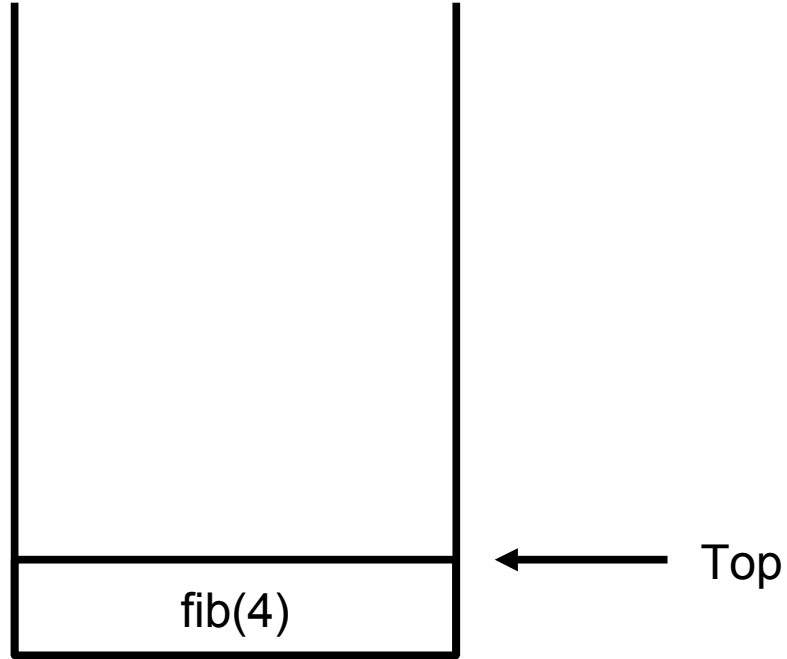
`fib(4) = 1 + 0 + 1 + fib(1) + fib(0)`



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

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

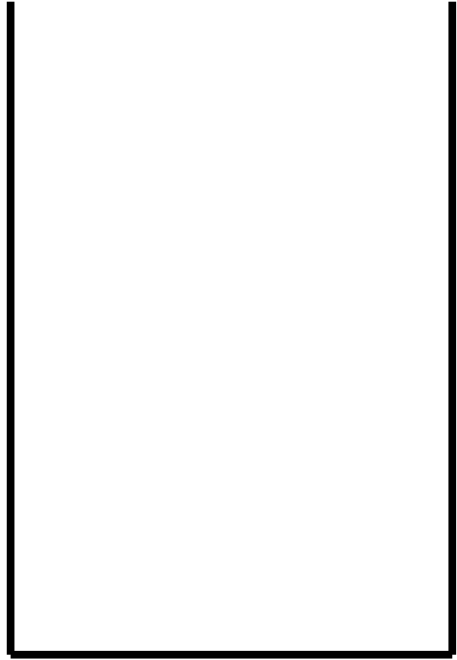
`fib(4) = 1 + 0 + 1 + 1 + 0`



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

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

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

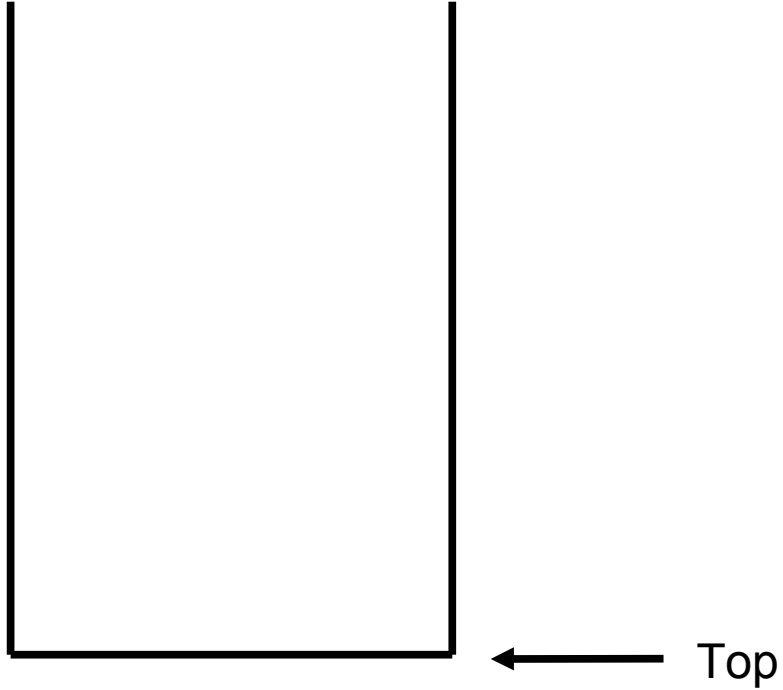


← Top

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

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

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



```
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

