

Recursion

functional

Iteration

loops

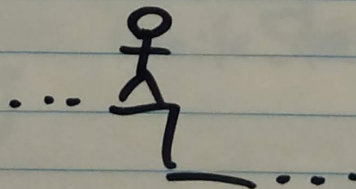
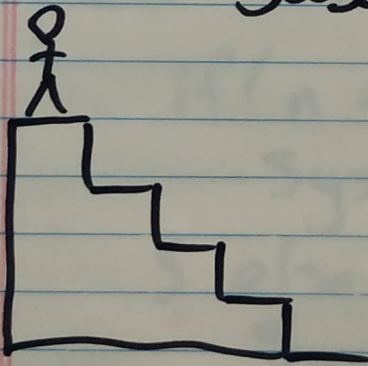
procedural

Ziang

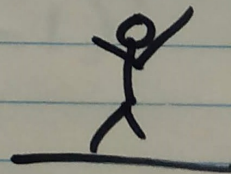
Jason

Ash
~~Ash~~

Kyle



recursive
case



base
case

```

public void writeStars(int n) {
    for(int i=0; i<n; i++) {
        System.out.print("*");
    }
    System.out.println();
}

```

```

public void writeStars(int n) {
    if(n == 0) {
        System.out.println();
    } else {
        System.out.print("*");
        writeStars(n-1);
    }
}

```

leaf of
faith

ws(3)
ws(2)
ws(1)
ws(0)

* * * ↓

~~is~~ this
 → is
 fun
 no?

→

no?
 fun
 is
 this

pseudo-
code

```
public void reverse(Scanner input) {
```

```
    if the file is empty  
        do nothing
```

```
    otherwise
```

```
        read one line of the file  
        reverse the rest of the file  
        print the first line
```

```
}
```

```
public void reverse(Scanner input) {  
    input.hasNextLine() if (input.isEmpty()) {  
        String line = input.nextLine();  
        reverse(input);  
        System.out.println(line);  
    }  
}
```

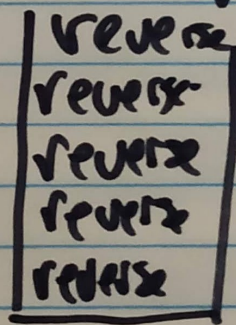
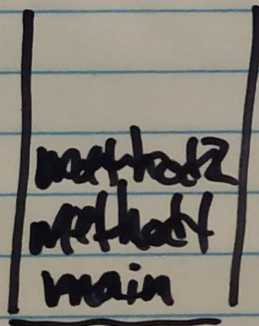
```
}
```

→ this
→ is
→ fun
→ no?
→

no?
fun
is
this

call stack

Stack
frames



reverse
reverse

StackOverflow