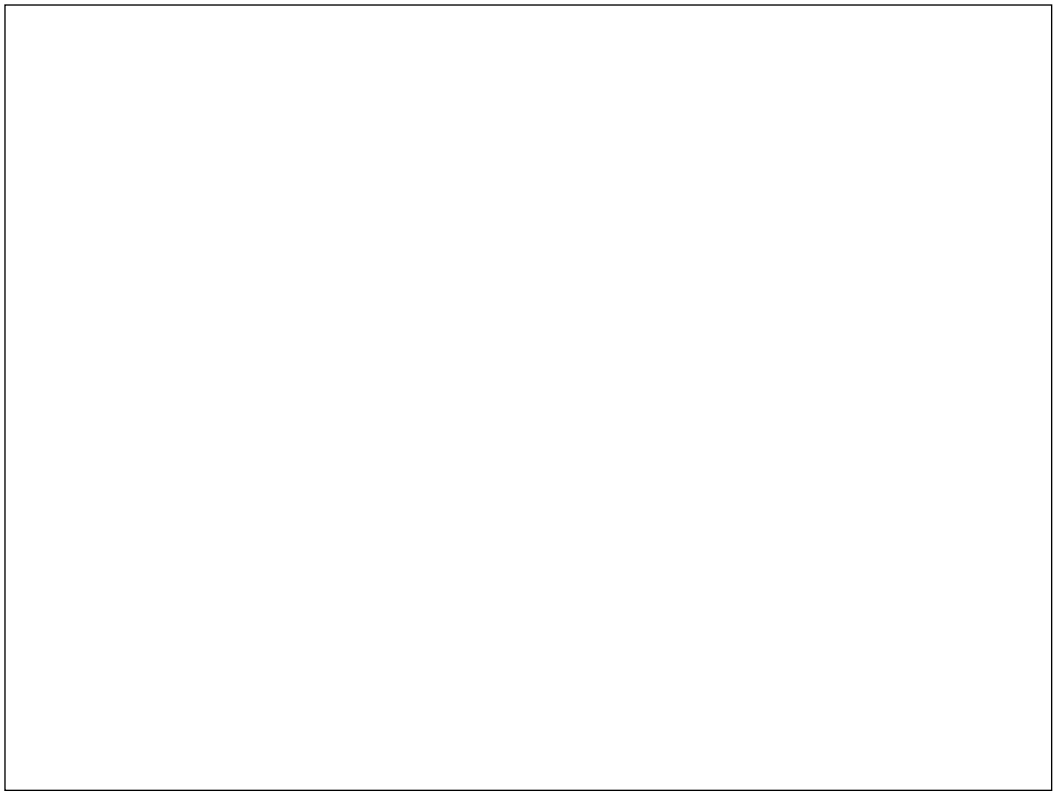
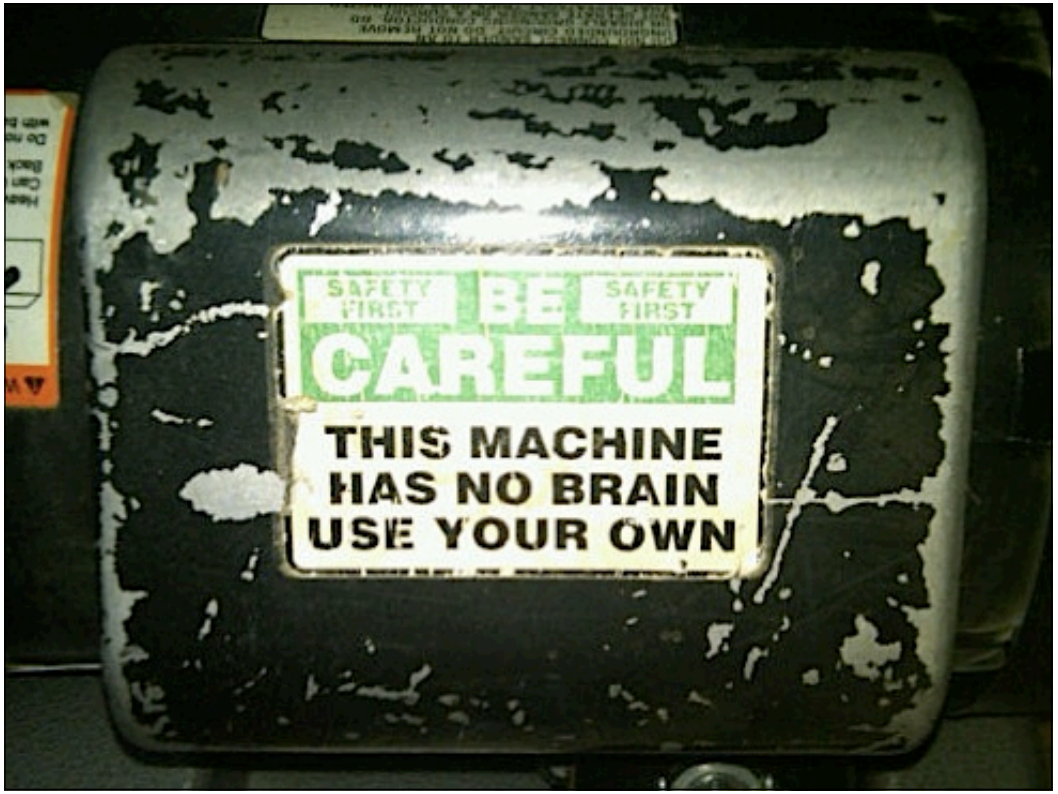




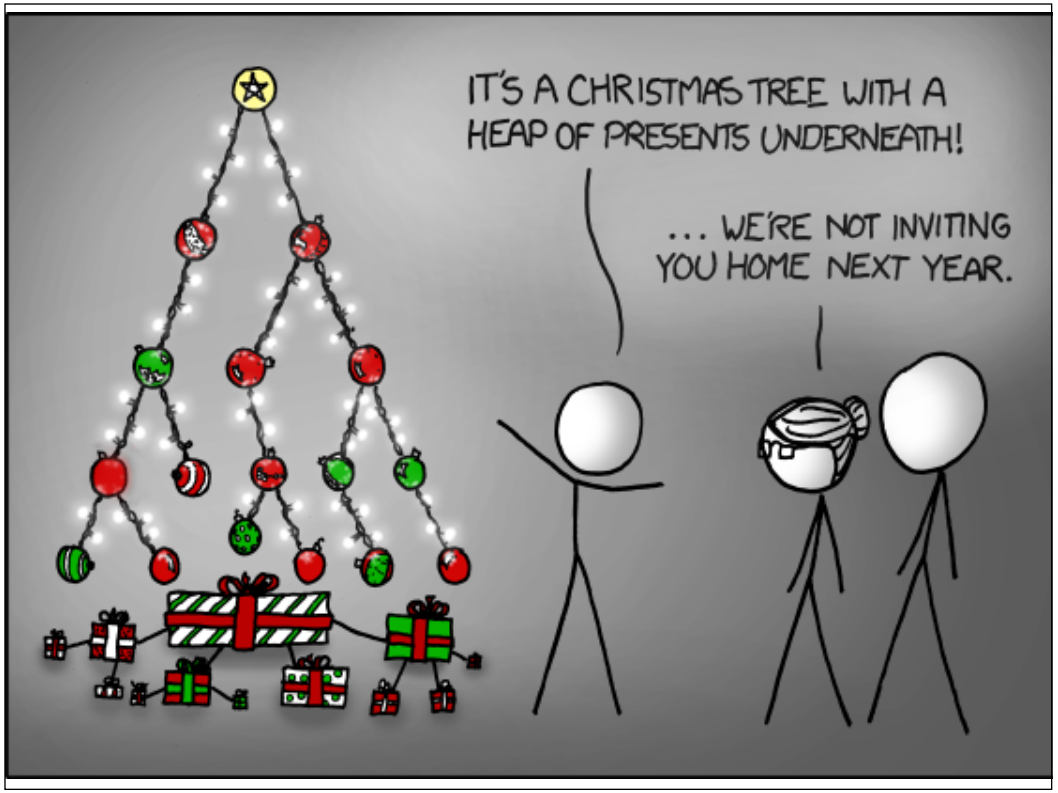
In the problem solving business.

Don't know how our frameworks are implemented
- therefore we don't know when to go off the reservation
- if you write code and complexly as you can...
- sometimes the 'magic' behind the scenes makes me uncomfortable

Machine Does not have a mind of it's own
- each application has its own personality
- solutions that work in one place, might not work in another
- know your data
- know your users


THE
SIX MILLION
DOLLAR MAN

Know what you are implementing



SafeAuto Print Tool Queue example

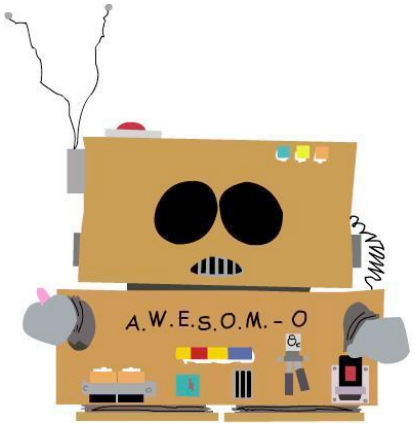
- need to understand our data structures
- List vs. Dictionary, Queue vs. Stack, Tree vs. Heap

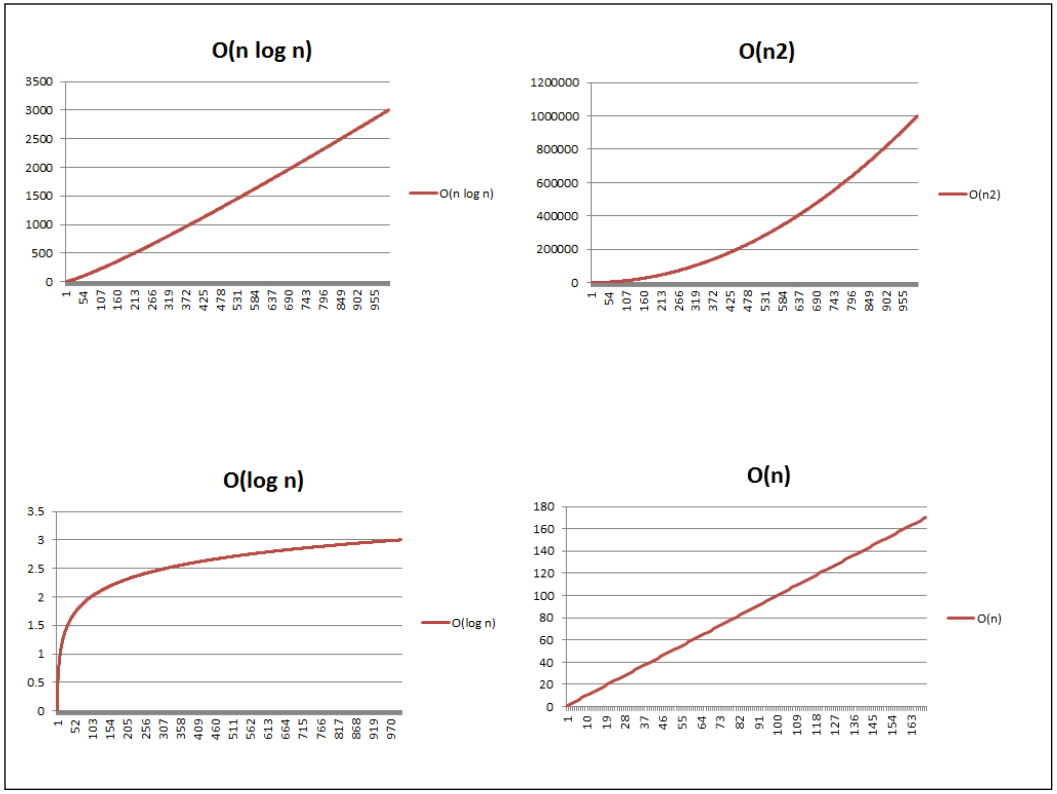
Simple Example

Know how to evaluate solutions

It’s about finding the right solution for your customer

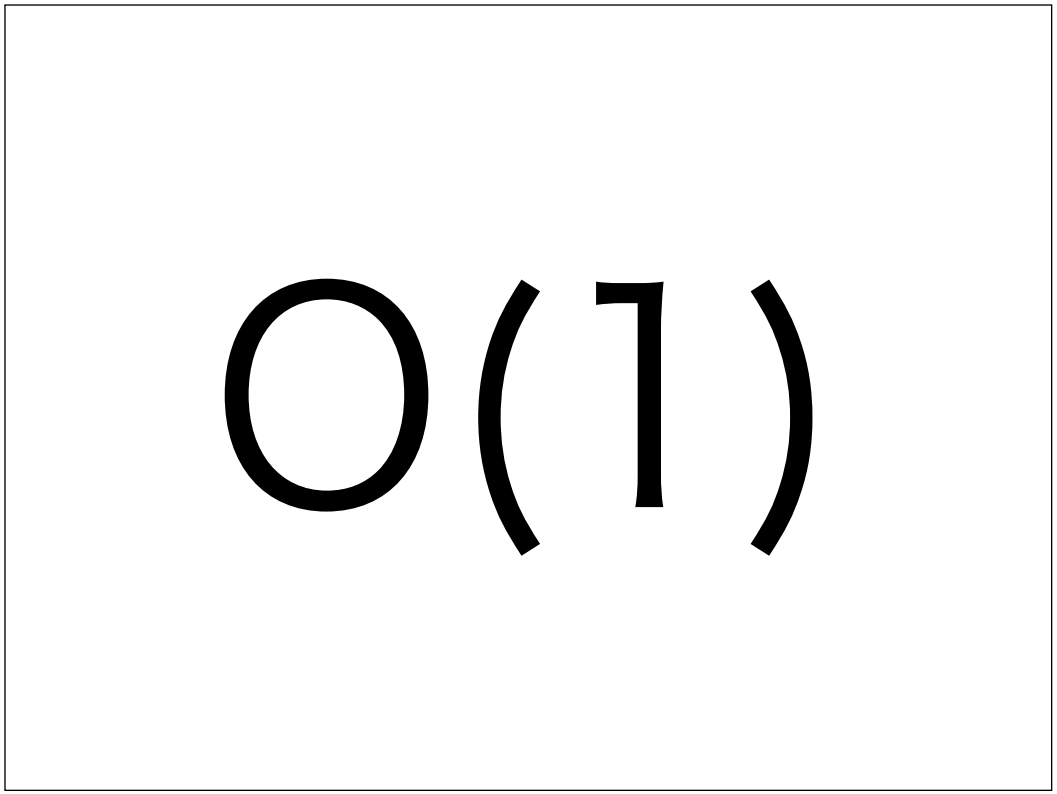
Big O Notation




O(n log n)
3500
3000
2500
2000
1500
1000
500
0
1 54 107 160 213 266 319 372 425 478 531 584 637 690 743 796 849 902 955
O(n log n)
O(n2)
1200000
1000000
800000
600000
400000
200000
0
1 54 107 160 213 266 319 372 425 478 531 584 637 690 743 796 849 902 955
O(n2)
O(log n)
3.5
3
2.5
2
1.5
1
0.5
0
1 52 103 154 205 256 307 358 409 460 511 562 613 664 715 766 817 868 919 970
O(log n)
O(n)
180
160
140
120
100
80
60
40
20
0
1 10 19 28 37 46 55 64 73 82 91 100 109 118 127 136 145 154 163
O(n)

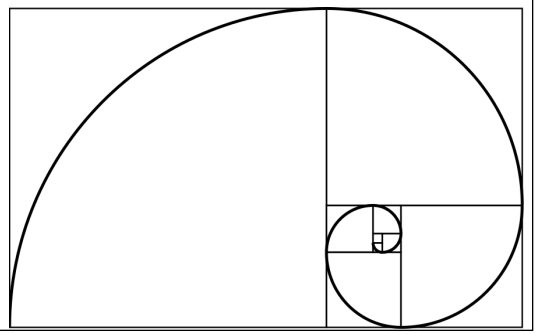
$$F_n = F_{n-1+} F_{n-2}$$
$$where$$
$$F_0=0, F_1=1$$

Iterative Methods


O(1)

$$Fibonacci(n) = \frac{\emptyset^n - (1 - \emptyset)^n}{\sqrt{5}}$$

$$\emptyset = \frac{1 + \sqrt{5}}{2}$$



Accuracy

Fibonacci (with a proof) - www.maths.surrey.ac.uk/hosted-sites/R.Knott/Fibonacci/fibFormula.html

Project Euler - www.projecteuler.net

Algorithms in a Nutshell, George T. Heineman, Gary Pollice, Stanley Selkow

Shawn Wallace

Source: https://github.com/shawnewallace/TheAlgorithmsStillCount

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Shirt size: XXL
Shoe Size: 11.5