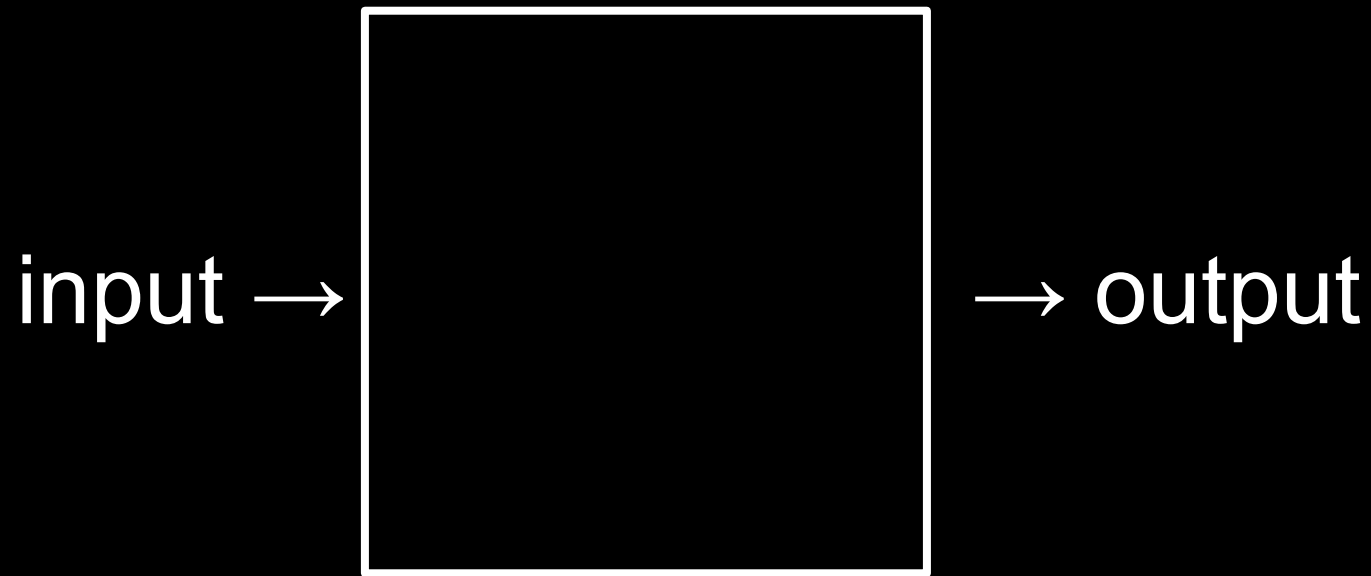


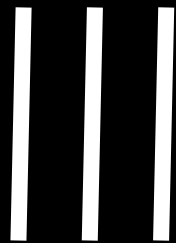
Computational Thinking

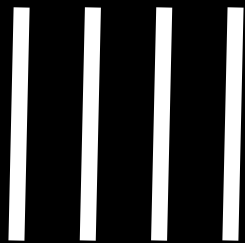


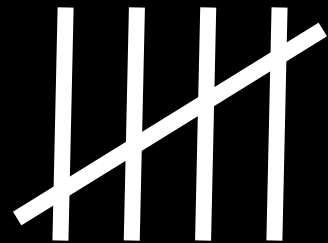
representation

!

||









0 1 2 3 4 5 6 7 8 9

0 1





1 2 3

A

65

ASCII

A	B	C	D	E	F	G	H	I	...
---	---	---	---	---	---	---	---	---	-----

65	66	67	68	69	70	71	72	73	...
----	----	----	----	----	----	----	----	----	-----

72

73

33

H
72

I
73

33

H

72

I

73

!

33

H

72

1001000

I

73

1001001

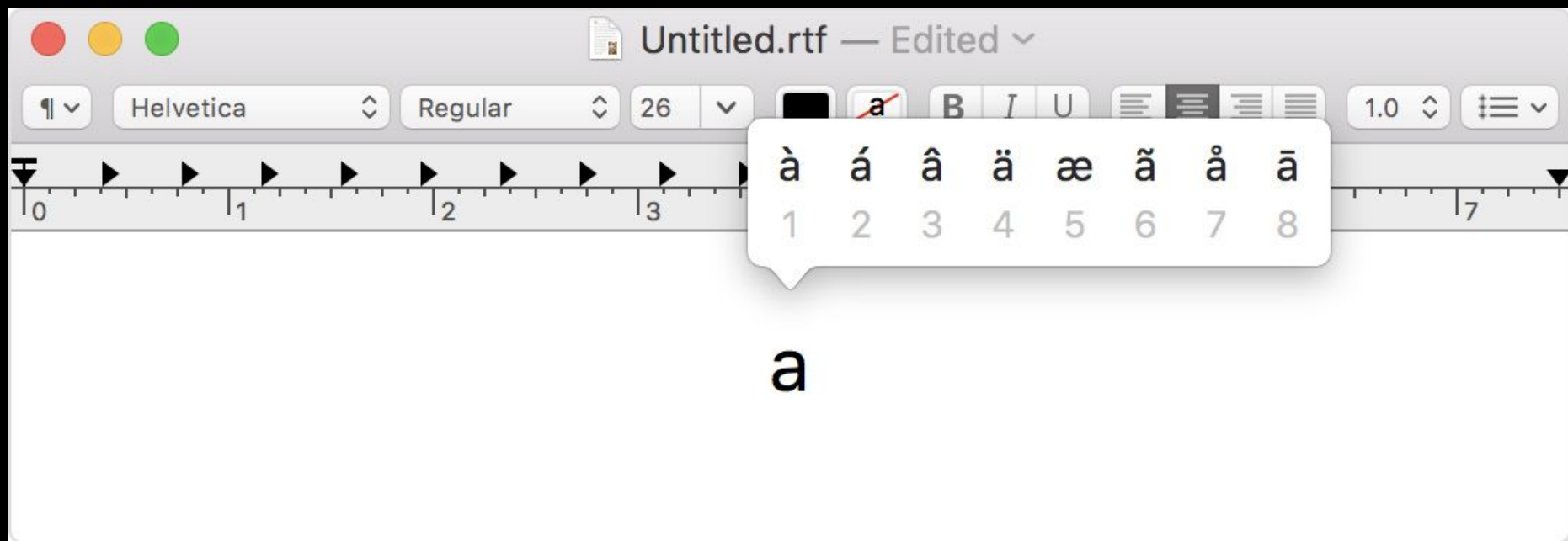
!

33

100001

abstraction

~ `	1 !	2 @	3 #	4 \$	5 %	6 ^	7 &	8 *	9 (0)	- _	+ =	← Backspace
Tab ⇐ ⇒	Q	W	E	R	T	Y	U	I	O	P	{ [}]	 \ _
Caps Lock ⬆	A	S	D	F	G	H	J	K	L	: ;	" '	Enter ↵	
Shift ⬆	Z	X	C	V	B	N	M	< ,	> .	? /	Shift ⬆		
Ctrl	Win Key	Alt								Alt	Win Key	Menu	Ctrl





Search

FAVORITES



SMILEYS & PEOPLE



Unicode

UTF-8



128514

11111011000000010

RGB



72

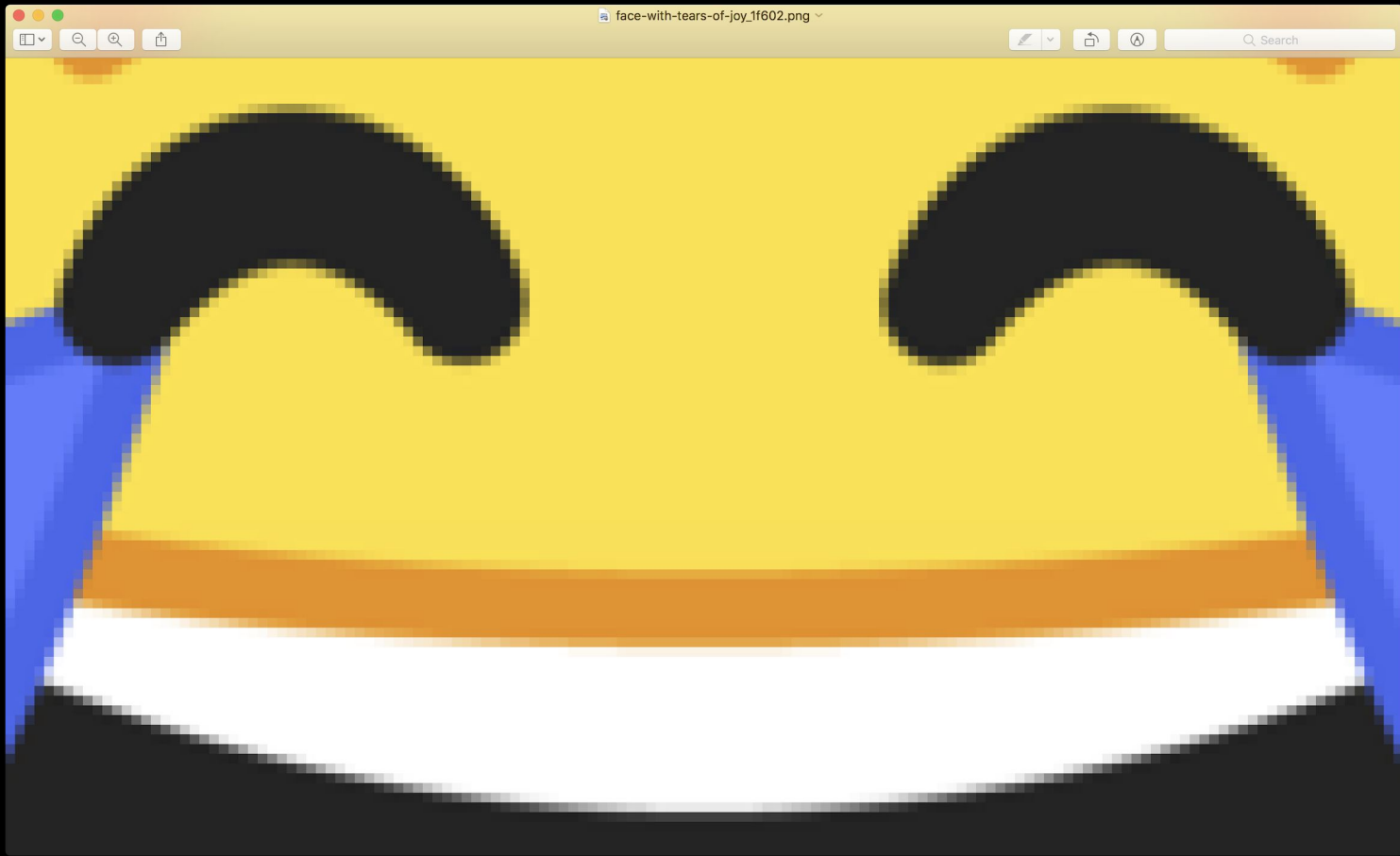
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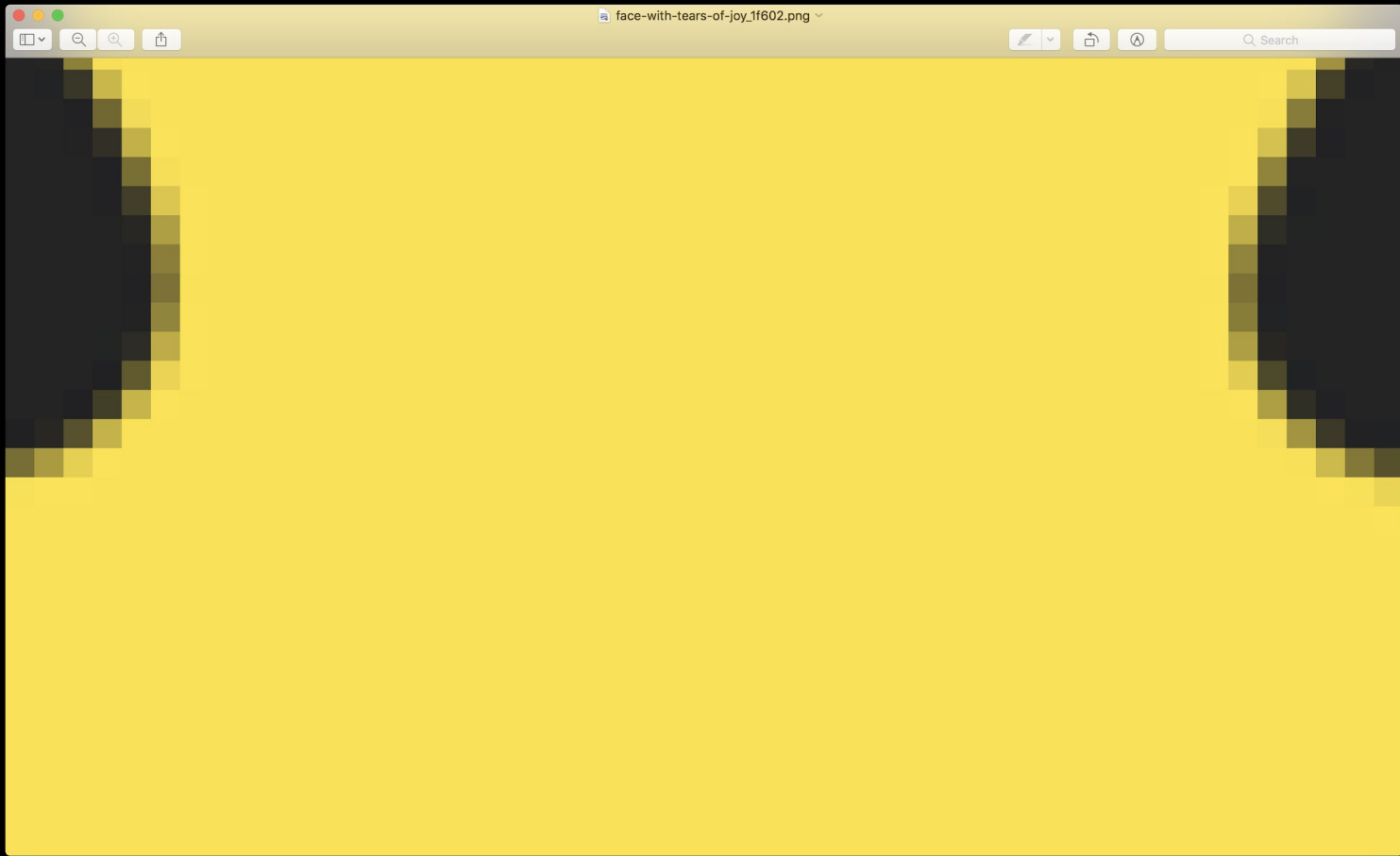
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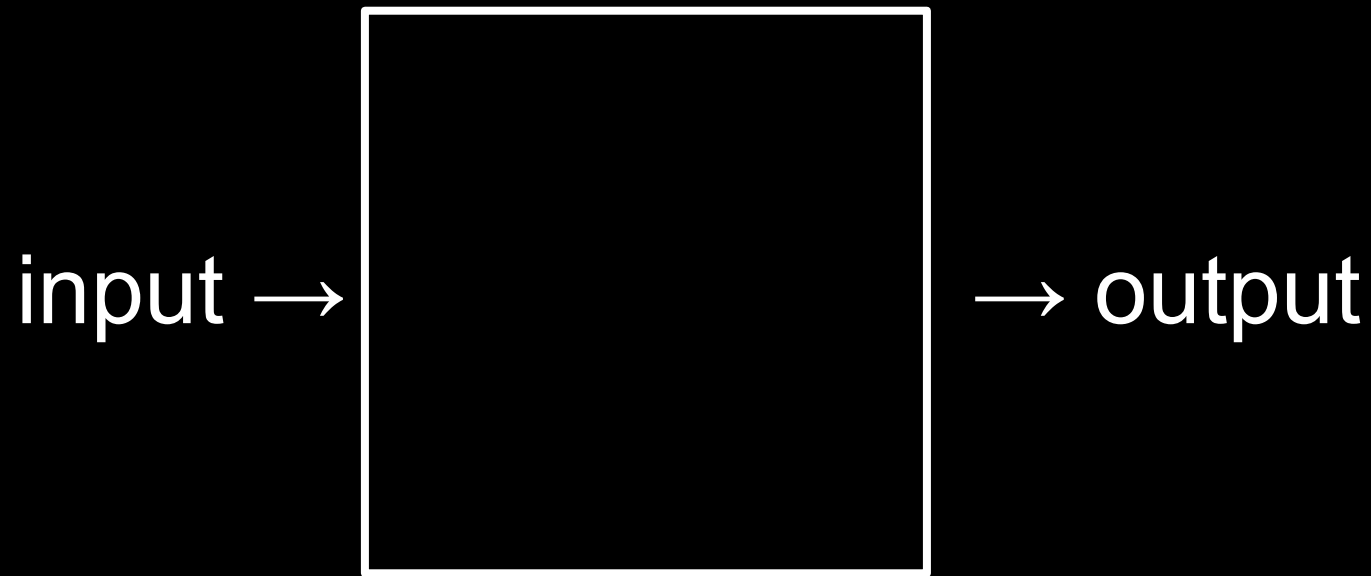










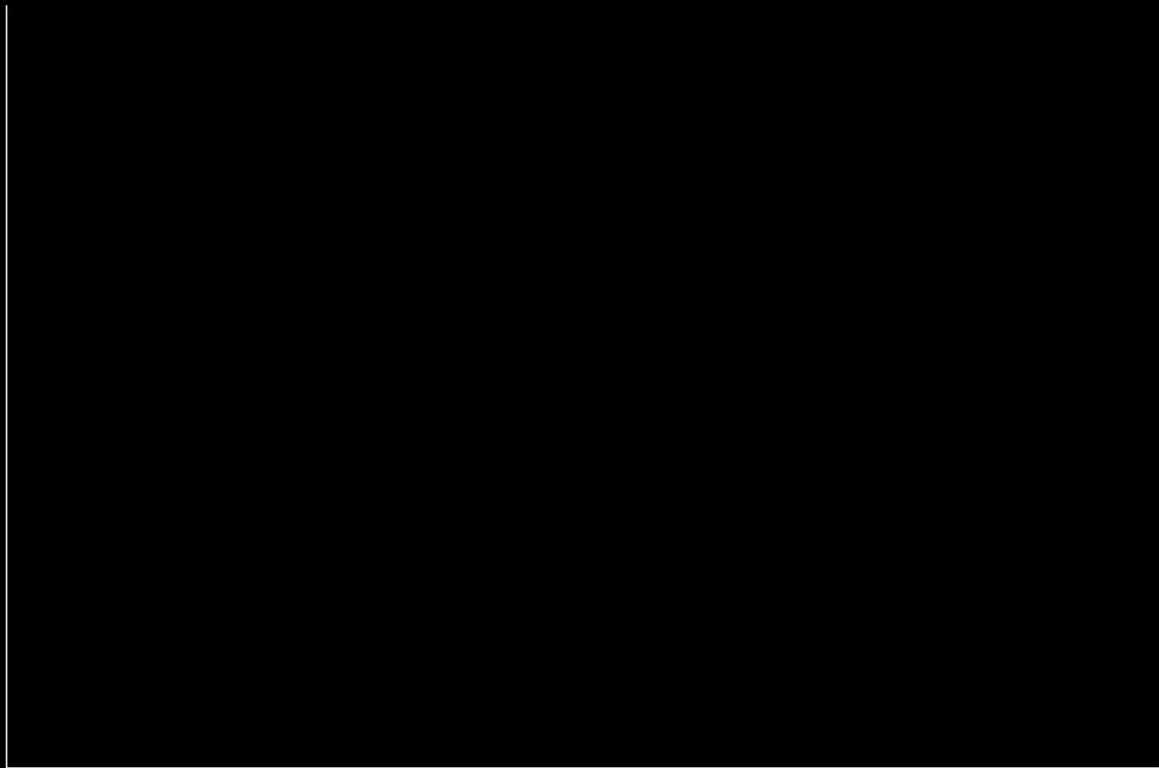


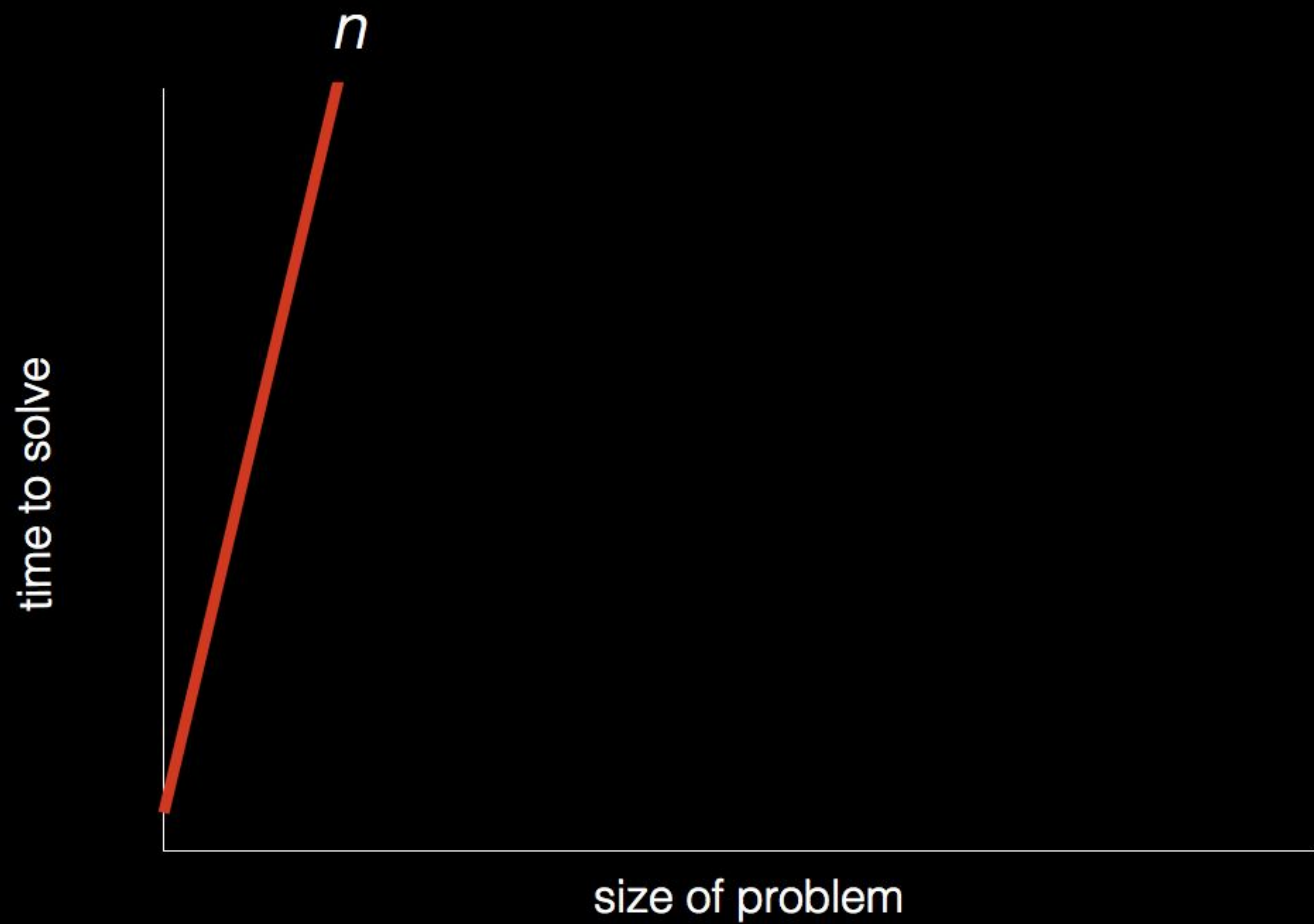


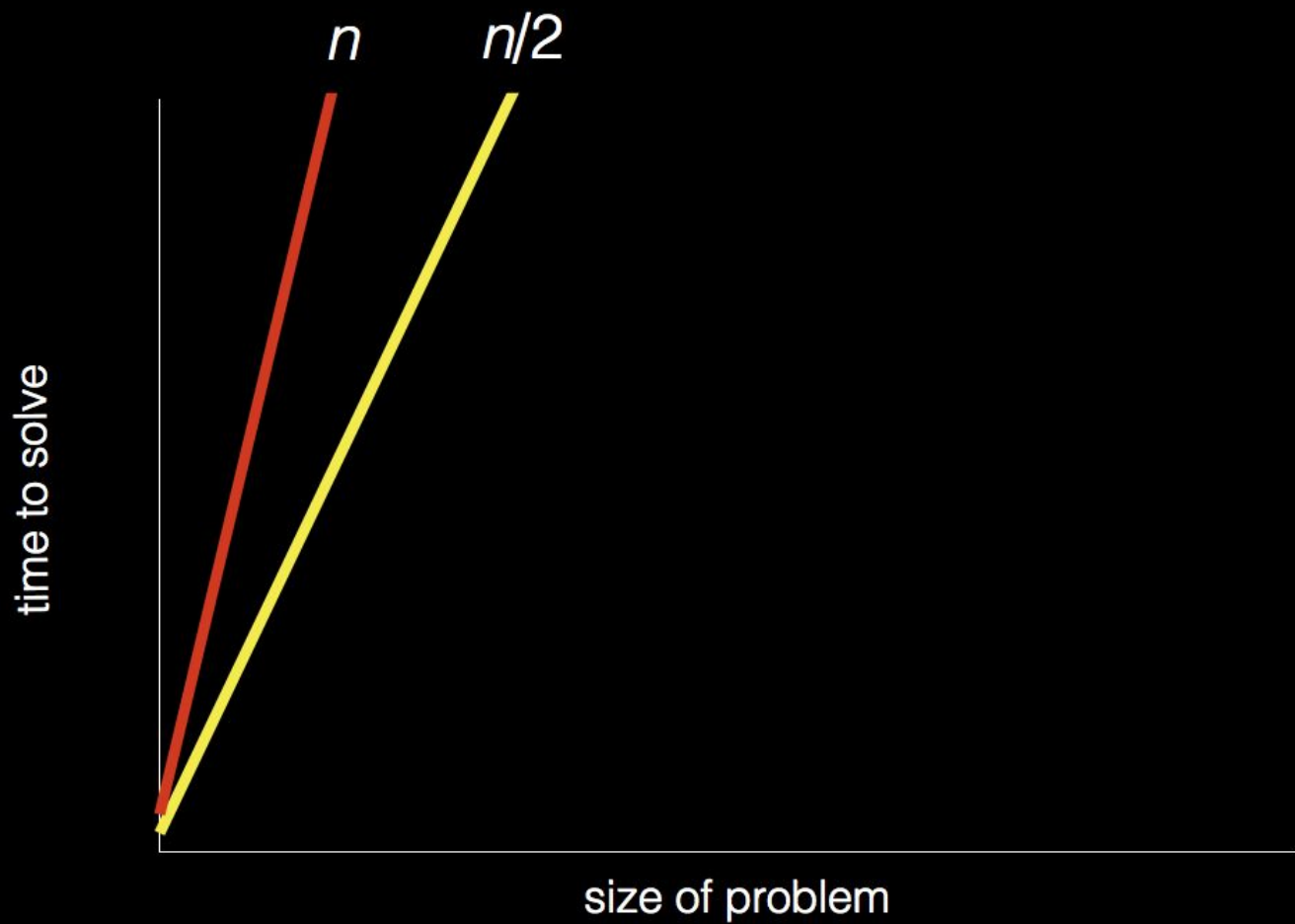
algorithms

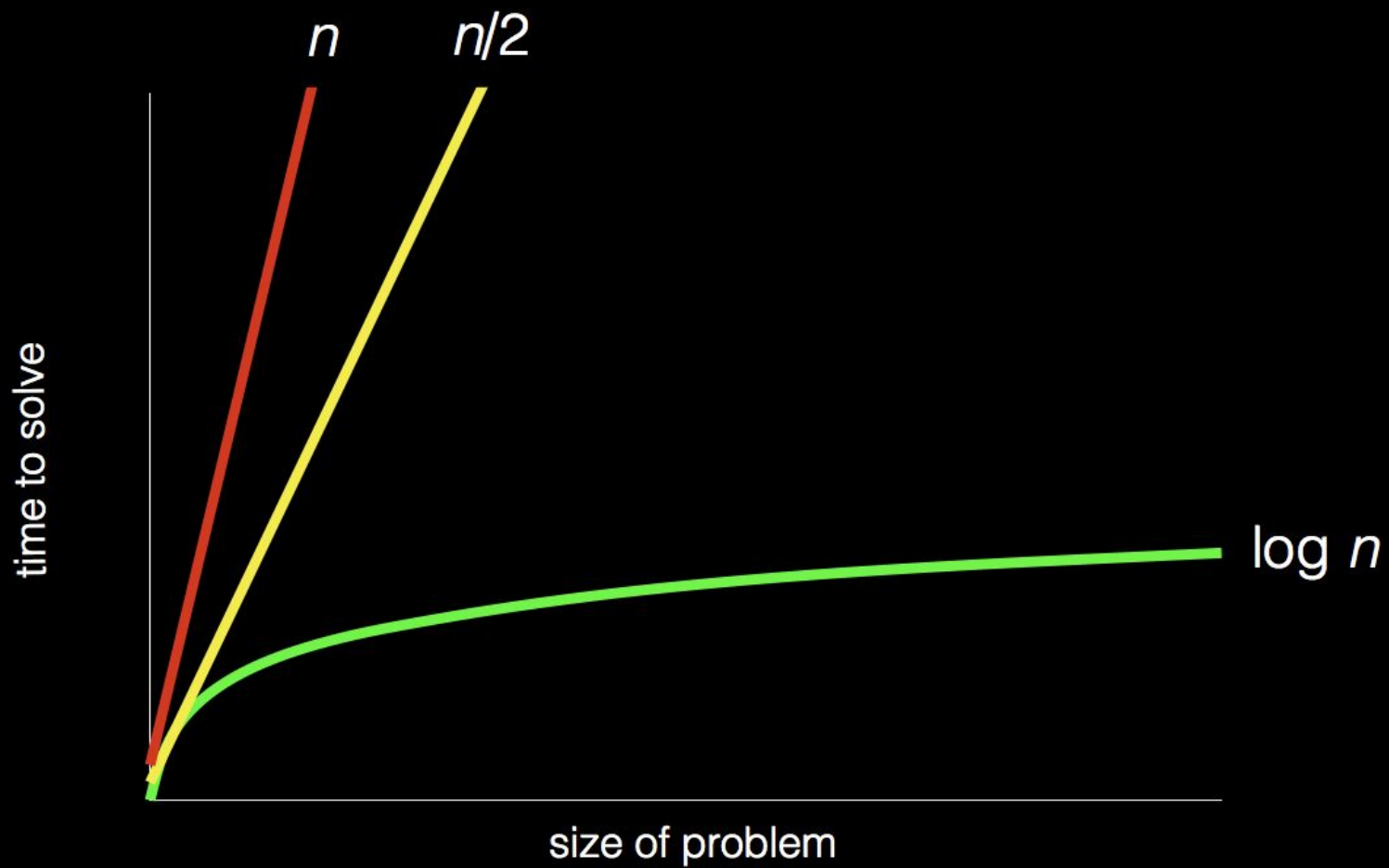
time to solve

size of problem









pseudocode

```
0  pick up phone book
1  open to middle of phone book
2  look at names
3  if Smith is among names
4      call Mike
5  else if Smith is earlier in book
6      open to middle of left half of book
7      go back to step 2
8  else if Smith is later in book
9      open to middle of right half of book
10     go back to step 2
11 else
12     quit
```



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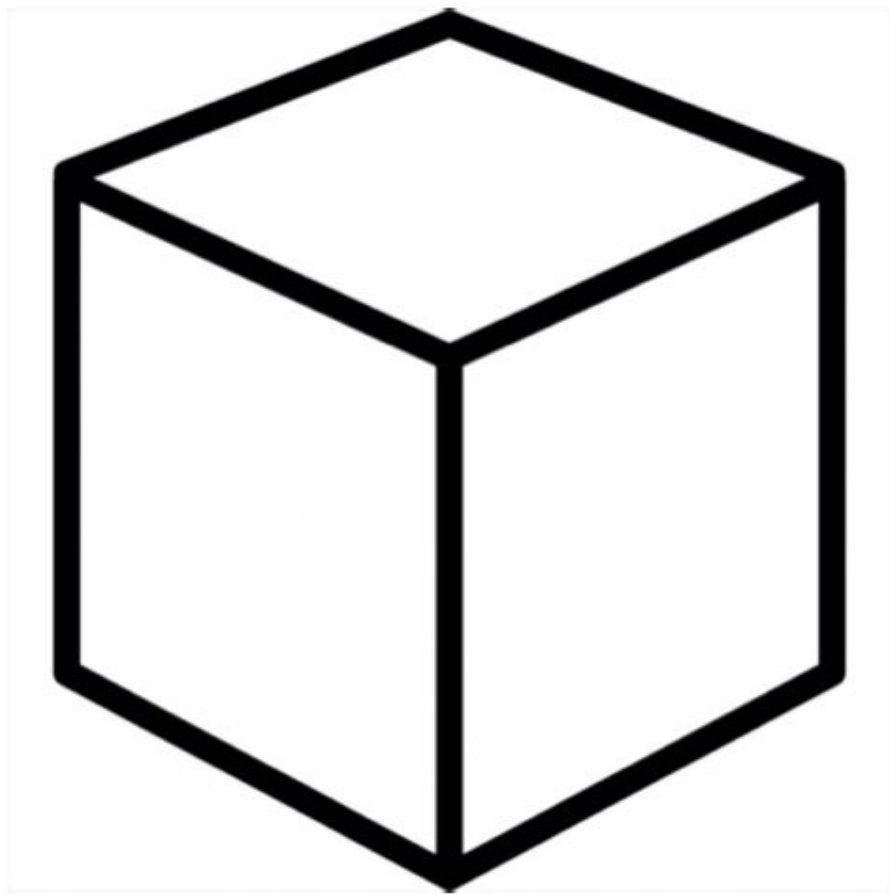
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- functions
- conditions
- Boolean expressions
- loops
- ...





Computational Thinking