

# CS50 for JDs

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# CS50 for JDs

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# Classes

- Computational Thinking
- Programming Languages
- Algorithms, Data Structures
- Cryptography
- Cybersecurity
- Internet Technologies, Cloud Computing
- Web Programming
- Database Design
- Challenges at the Intersection of Law and Technology
- ...

# Seminars

- Autonomous “...” and the Law
- Gathering People’s Private Data
- Git and GitHub
- ISPs and Net Neutrality
- Law Firm Websites: A Look under the Hood
- M&A and the Legality of Acquiring another Company’s Code
- The Quantum Edge: Computing, Cryptography and Communication
- Web Programming with Flask

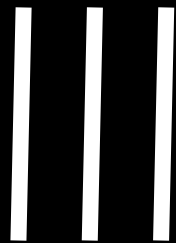
# Computational Thinking

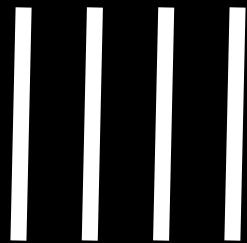


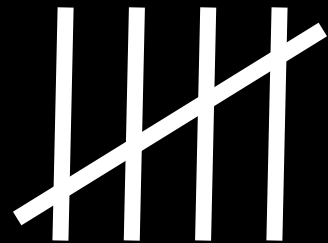
representation

!

||









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

1001000

1001001

100001

72

1001000

73

1001001

33

100001

H

72

1001000

I

73

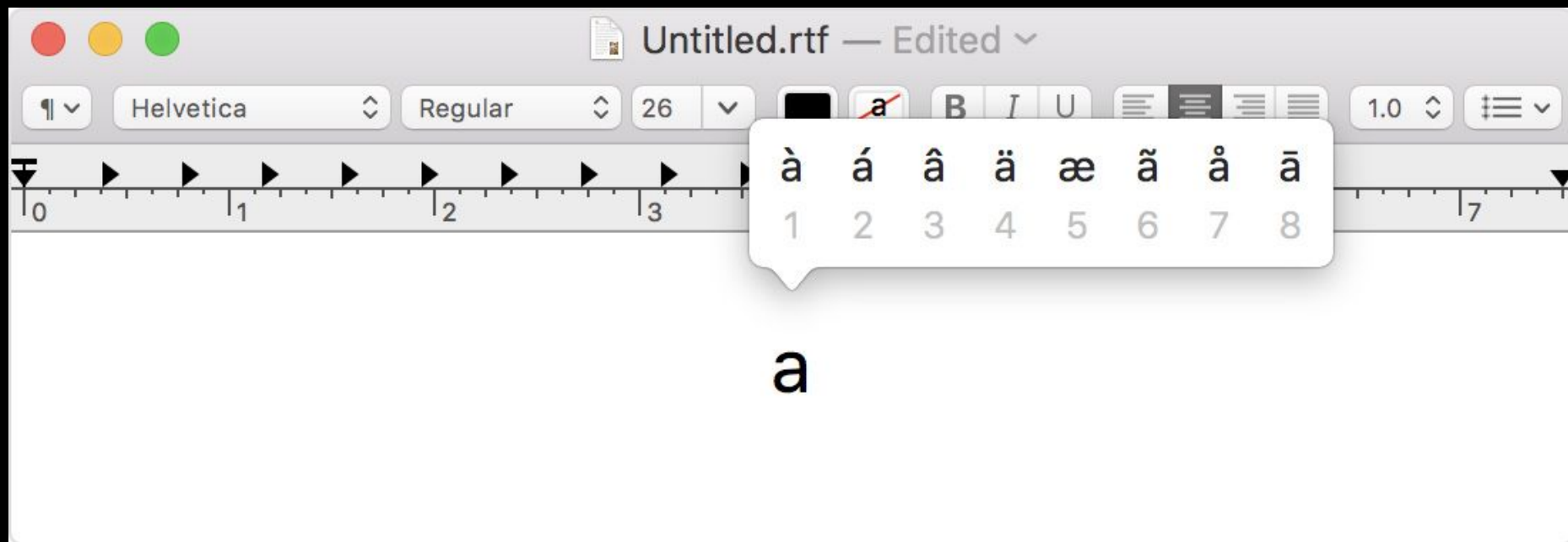
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!

33

100001

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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 ⬆		
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Search

## FAVORITES



## SMILEYS & PEOPLE



Unicode

UTF-8



128514

11111011000000010

1001000

1001001

100001

72

73

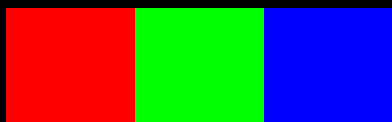
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RGB



72

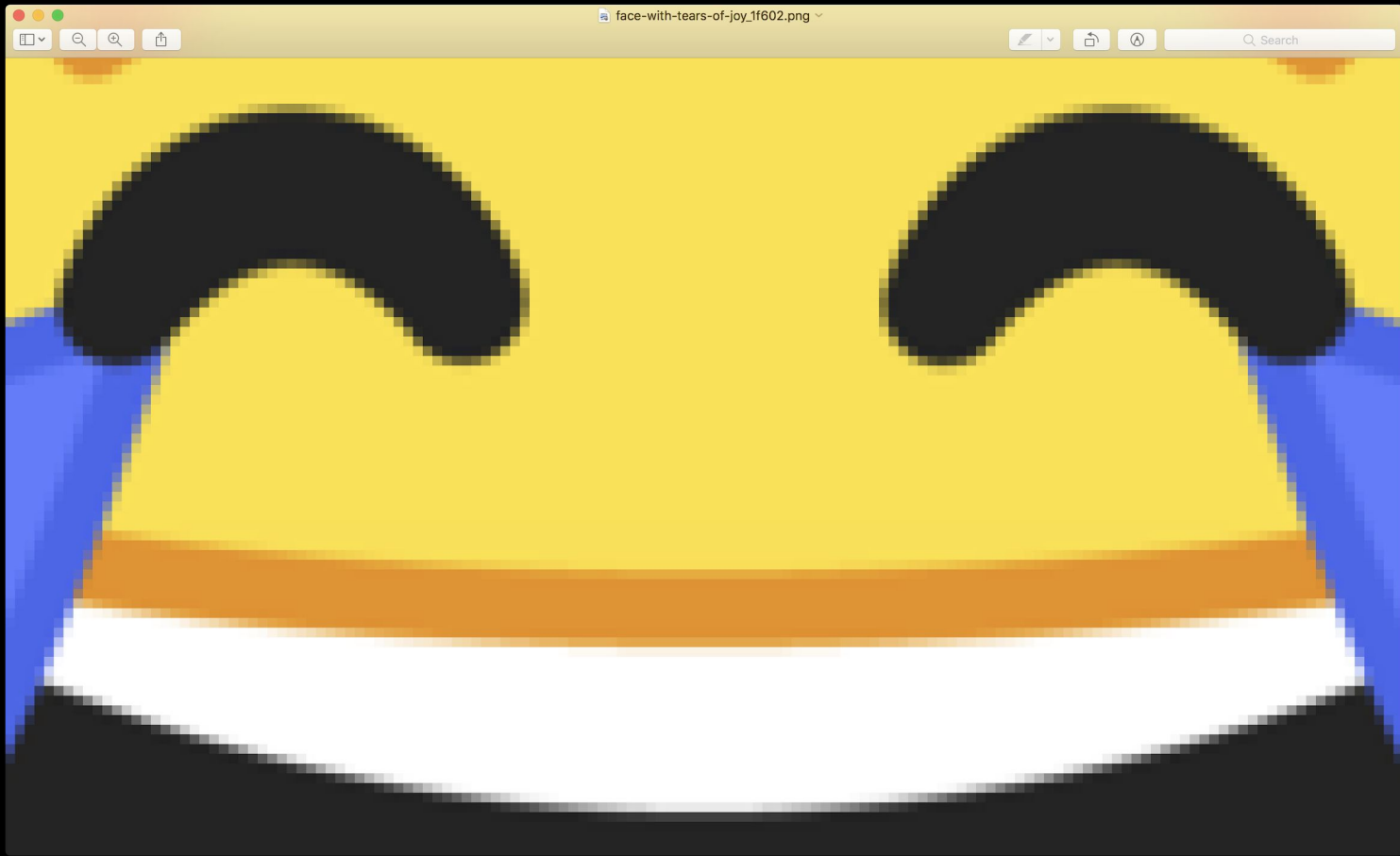
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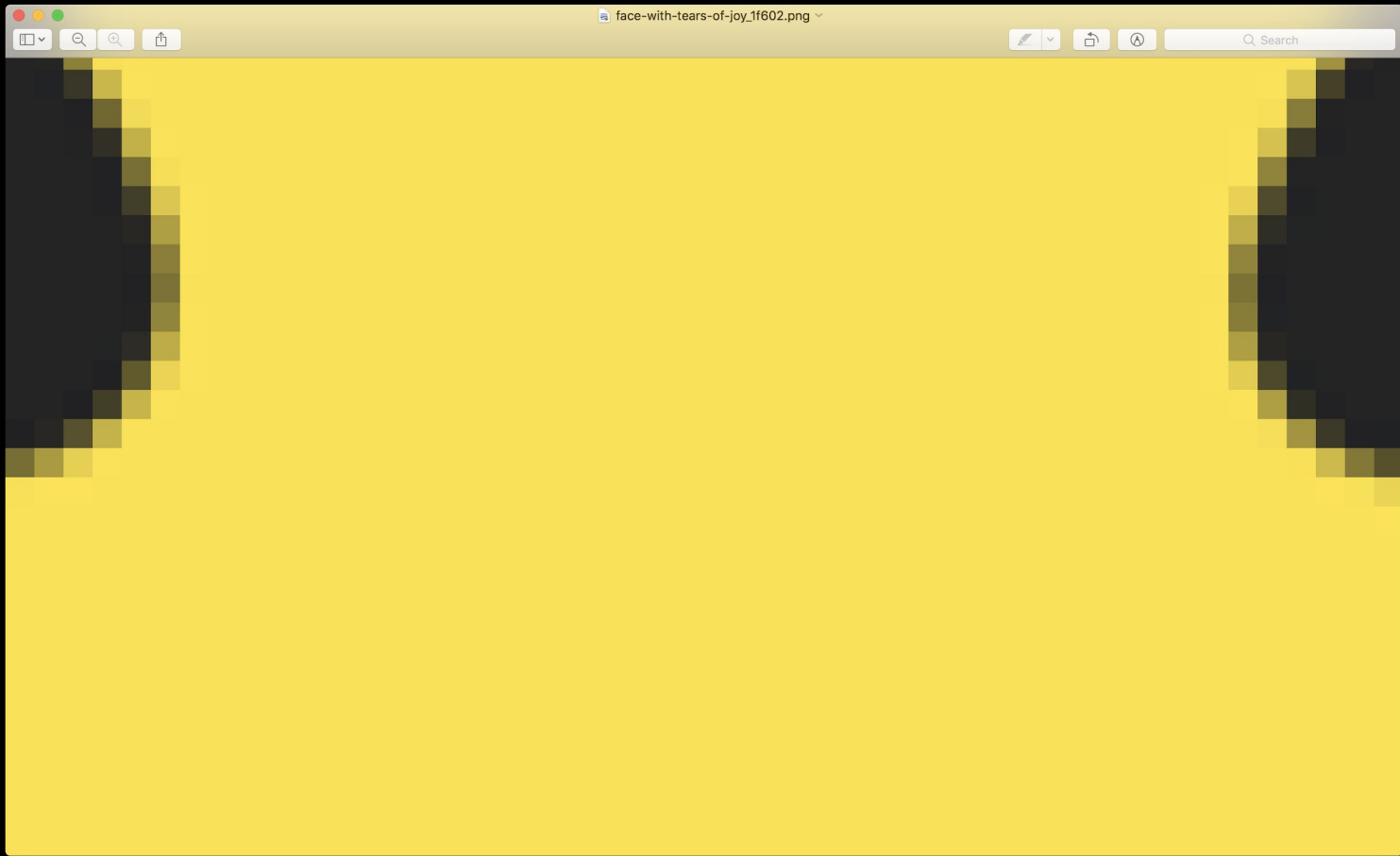
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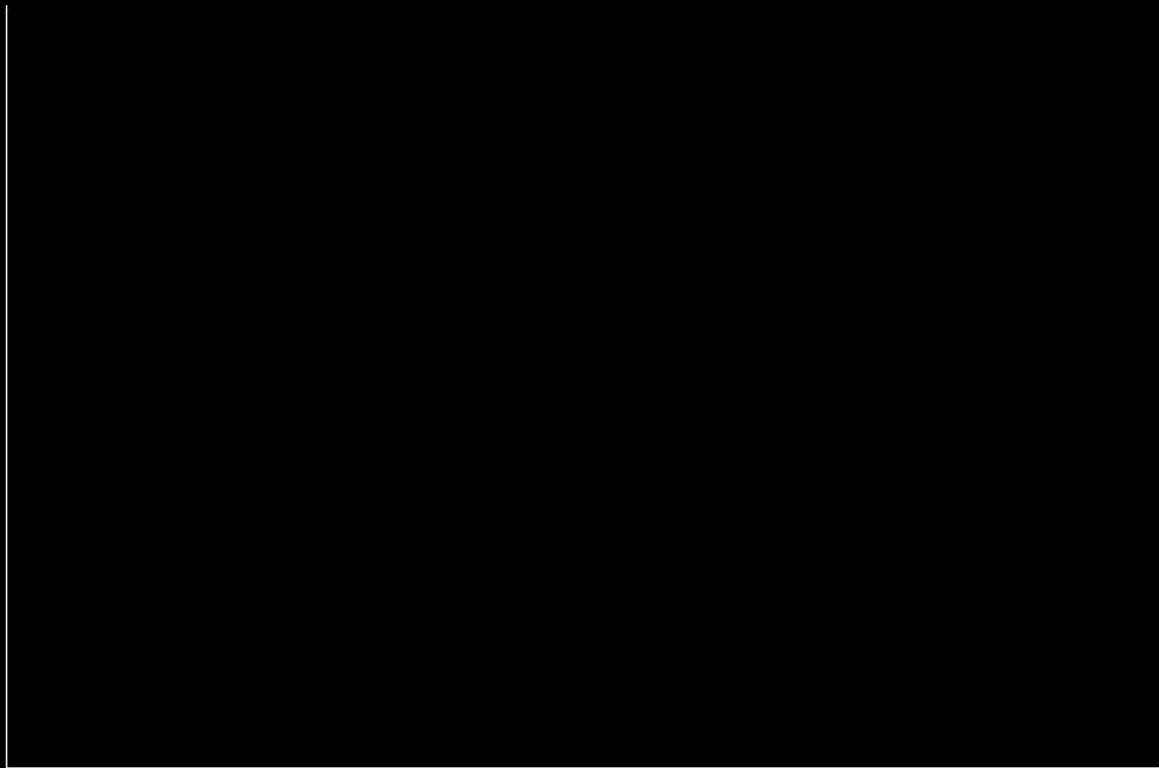


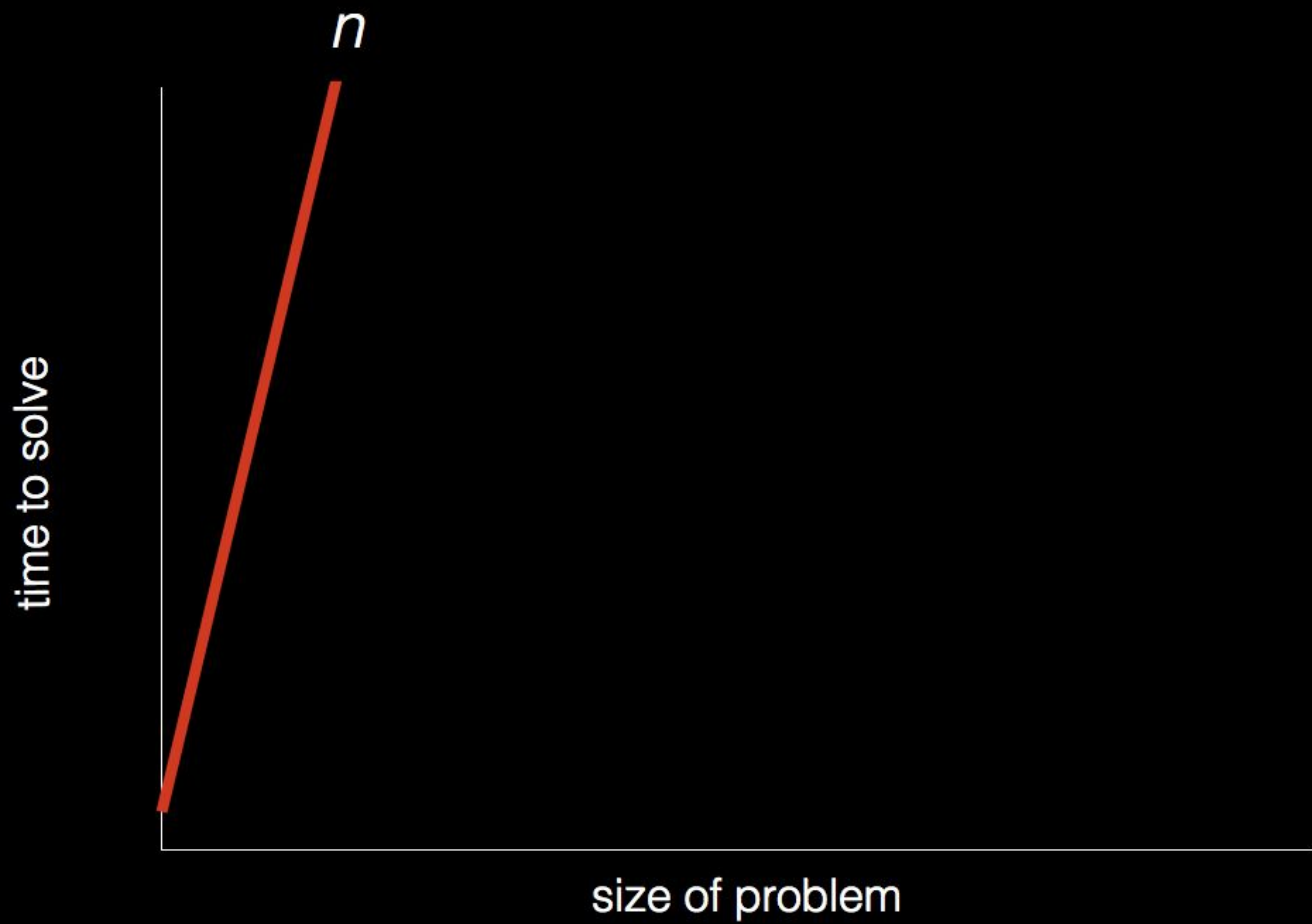


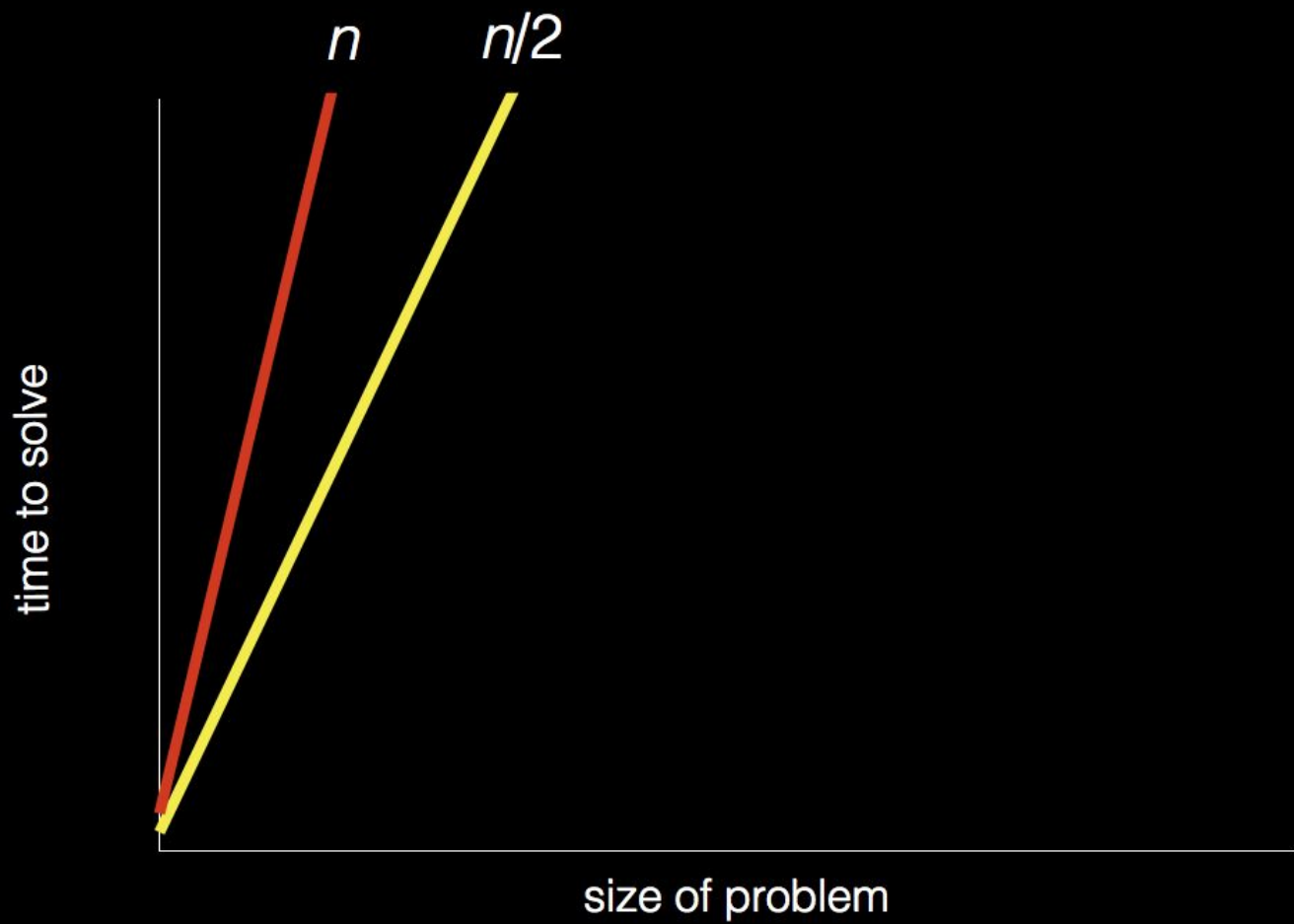
algorithms

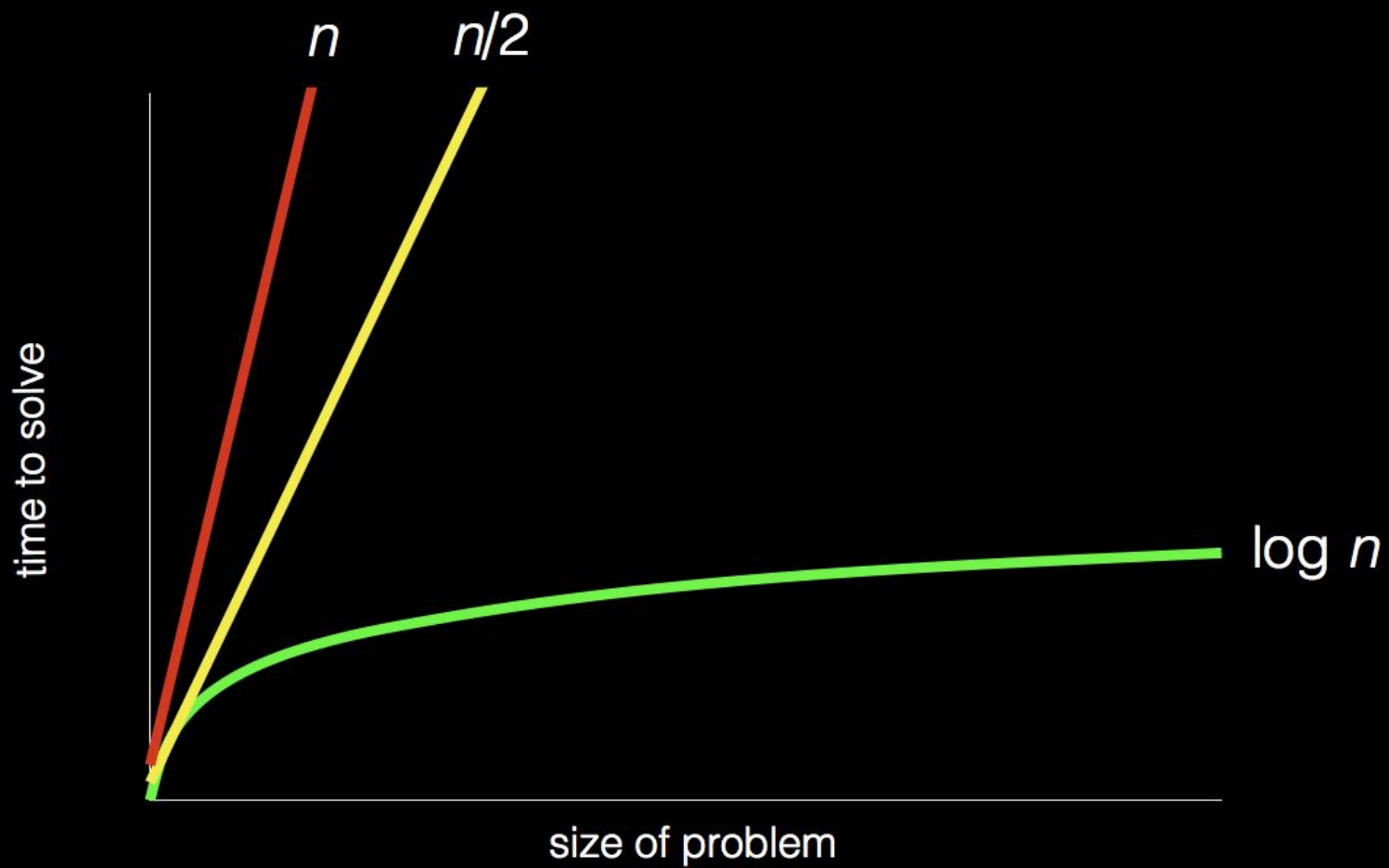
time to solve

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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- functions
- conditions
- Boolean expressions
- loops

- functions
- conditions
- Boolean expressions
- loops
- variables
- threads
- events
- ...



[scratch.mit.edu](https://scratch.mit.edu)





# Assignment 0