CS50

at DHS

what ultimately matters in this ~~course~~ club is not so much where you end up relative to your classmates but where you, in **Week X**, end up relative to yourself in **Week 0**

```c
#include <stdio.h>

int main(void)
{
    printf("hello, world\n");
}
```

computational thinking

inputs → algorithms → outputs

computational thinking

inputs → algorithms → outputs

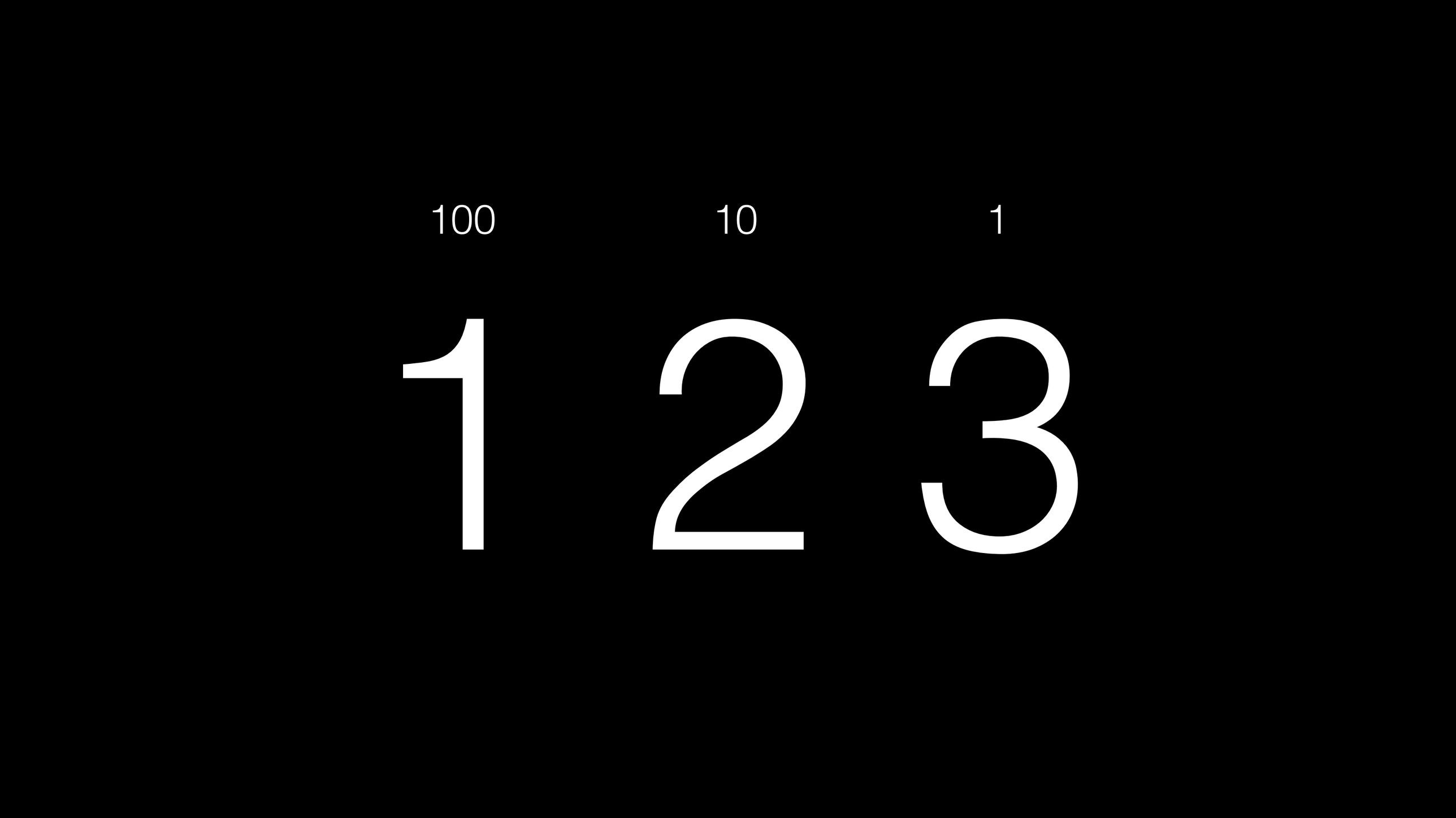
binary

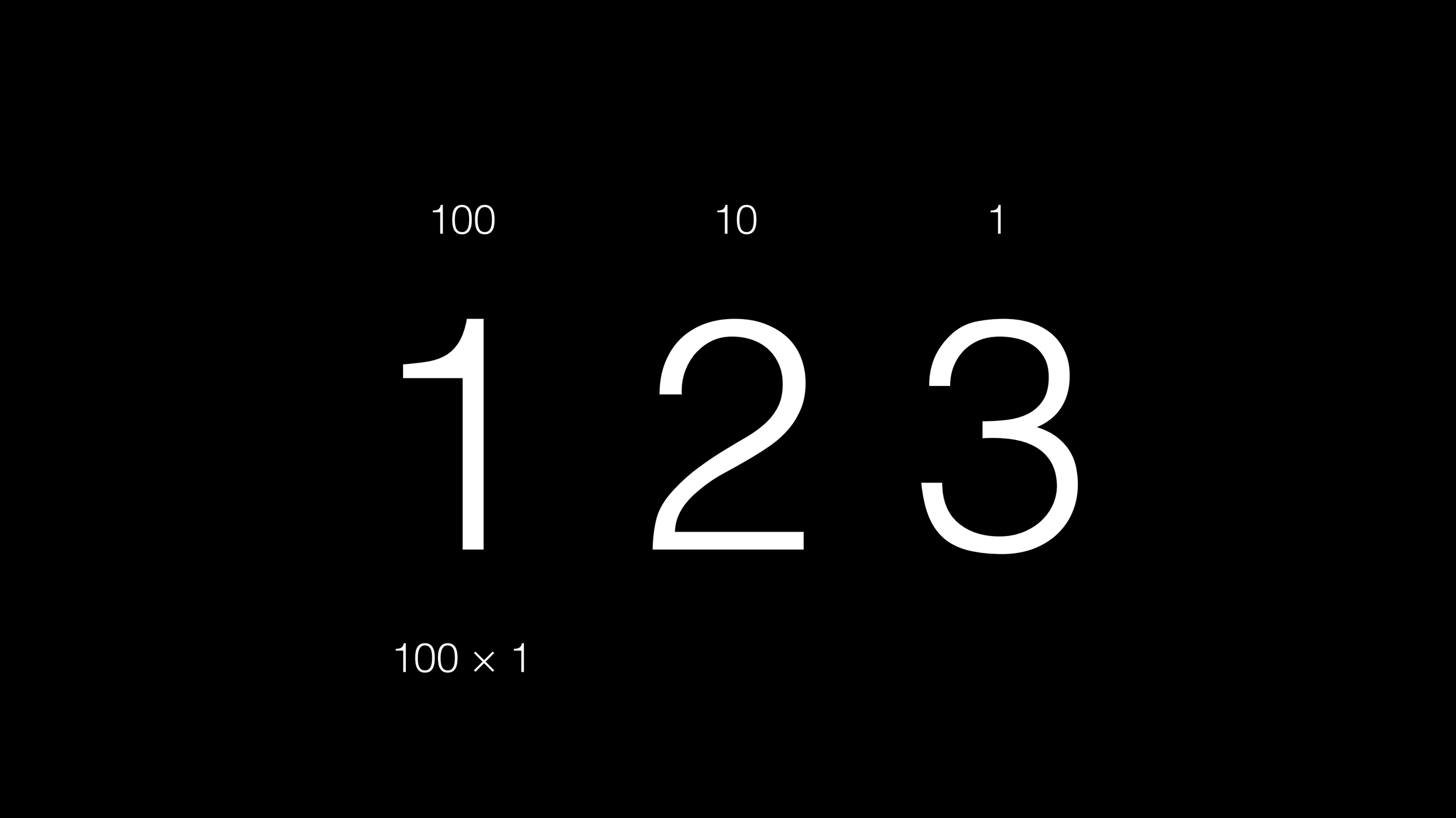
0, 1

decimal

0, 1, 2, 3, 4, 5, 6, 7, 8, 9

1 2 3


100
10
1
1
2
3

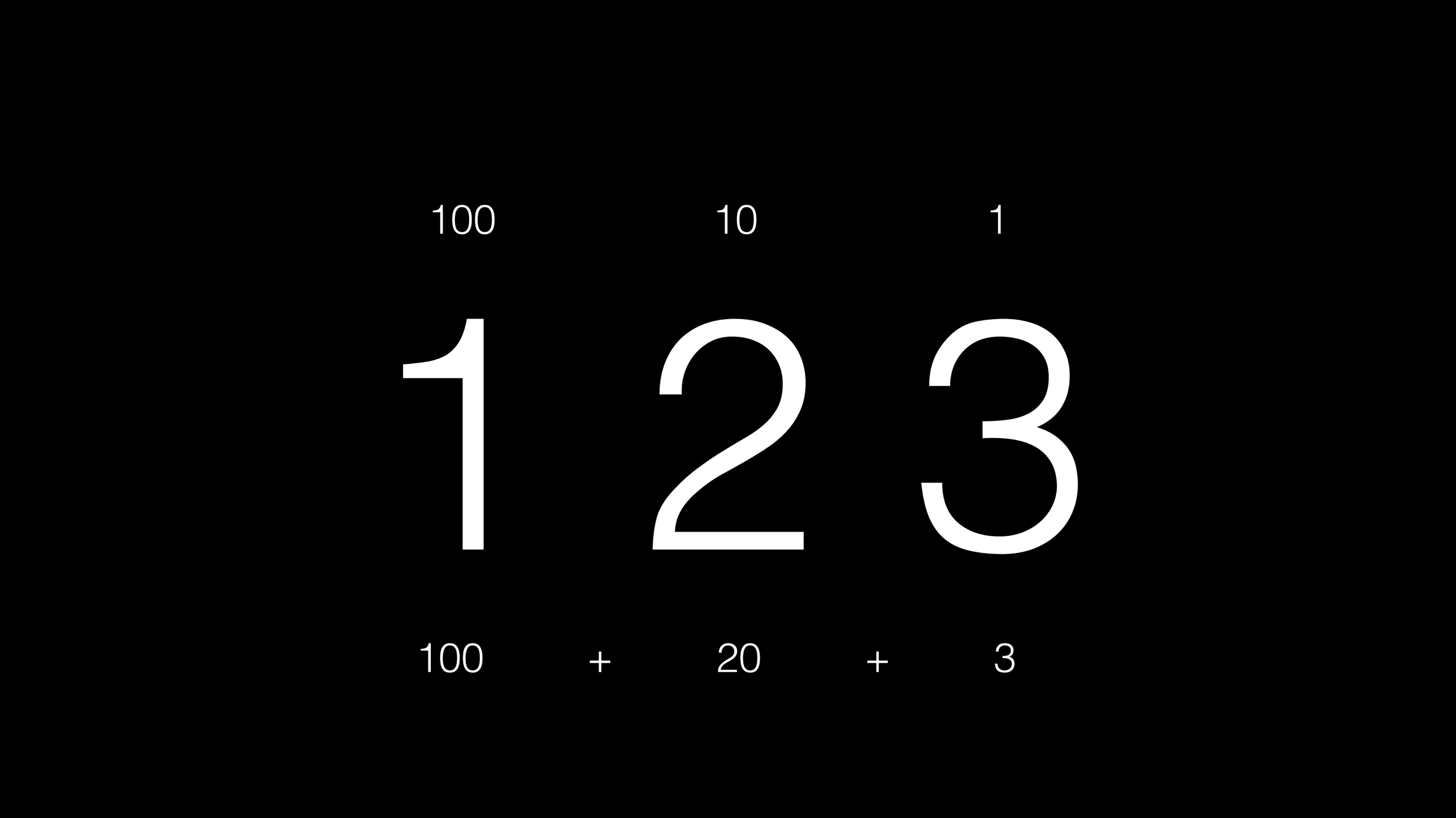

100
10
1
1
2
3
100 × 1

100	10	1
1	2	3

$100 \times 1 + 10 \times 2$

100	10	1
1	2	3

$100 \times 1 + 10 \times 2 + 1 \times 3$


100
10
1
1 2 3
100 + 20 + 3

1 2 3

O O O

4 2 1

0 0 0

4 2 1

0 0 1

4 2 1

0 1 0

4 2 1

0 1 1

4 2 1

1 0 0

4 2 1

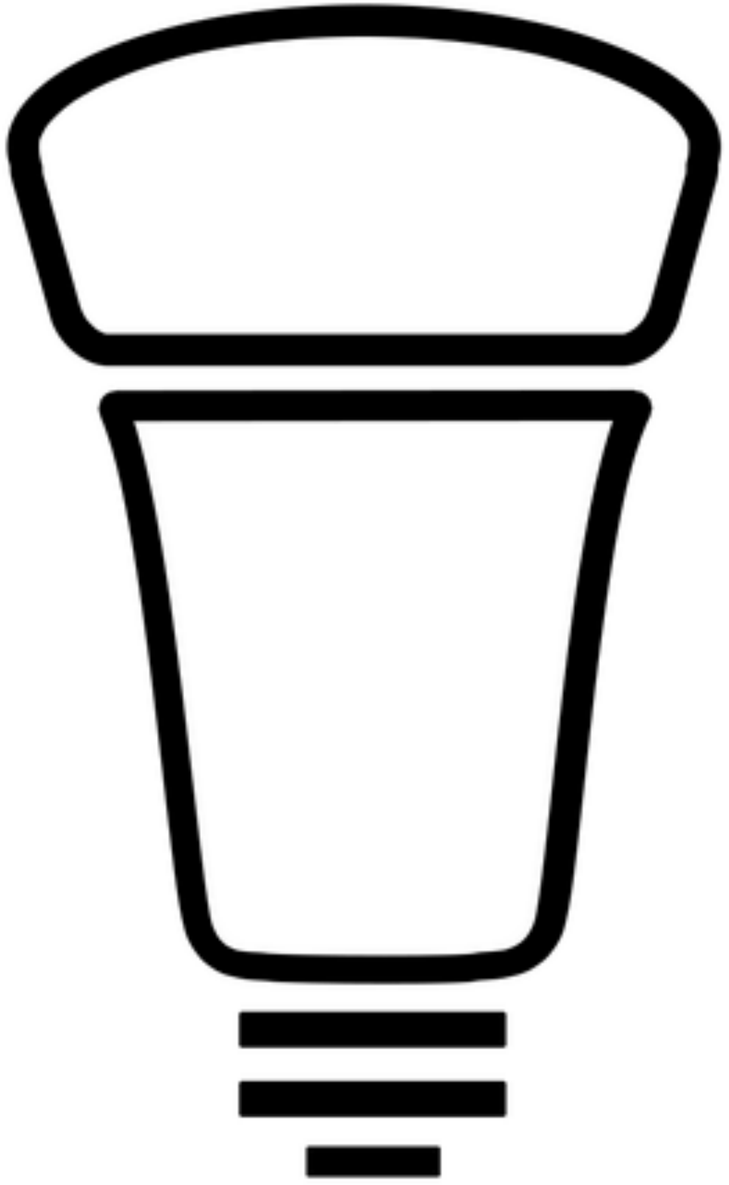
1 0 1

4 2 1

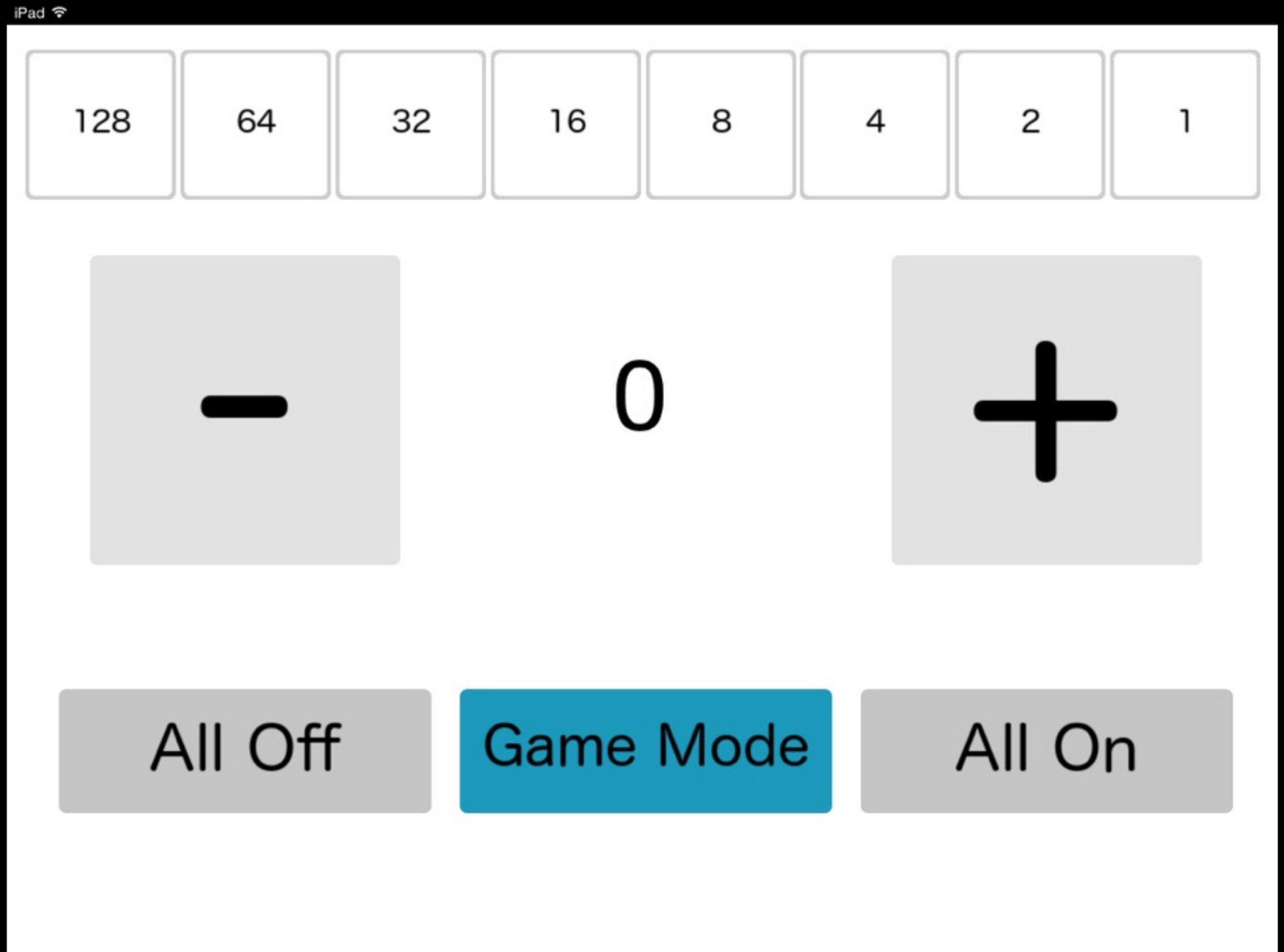
1 1 0

4 2 1

1 1 1



amazon.com


iPad
128
64
32
16
8
4
2
1
0
All Off
Game Mode
All On

PHILIPS

```
PUT /api/newdeveloper/lights/1/state HTTP/1.1

{"on":true, "bri":255, "transitiontime":0}
```

ASCII

A	B	C	D	E	F	G	H	I	J	K	L	M
65	66	67	68	69	70	71	72	73	74	75	76	77

N	O	P	Q	R	S	T	U	V	W	X	Y	Z
78	79	80	81	82	83	84	85	86	87	88	89	90

72 73 33

H

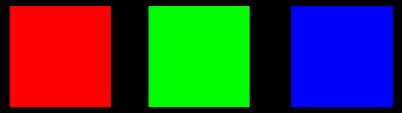
72 73 33

H I

72 73 33

H I !

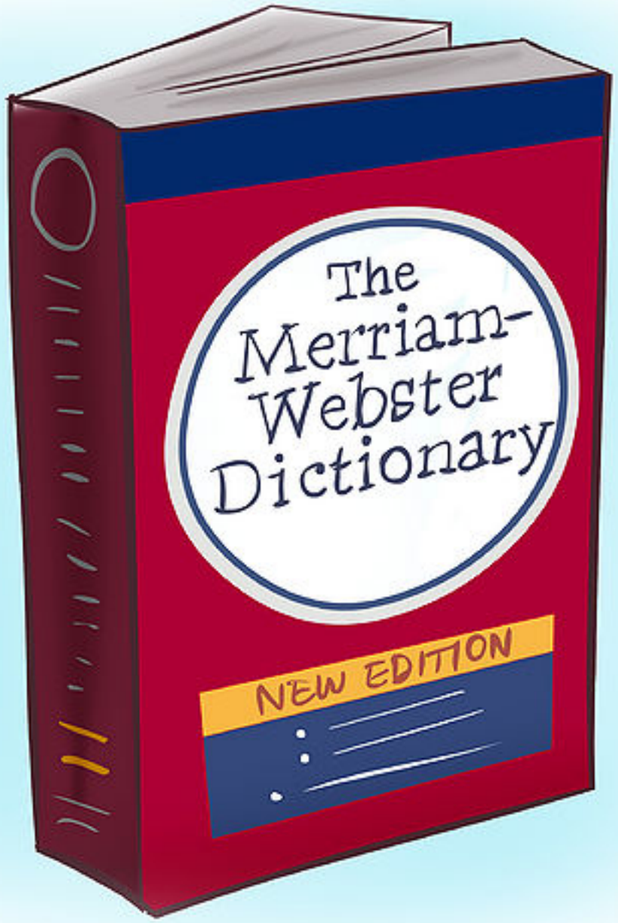
72 73 33



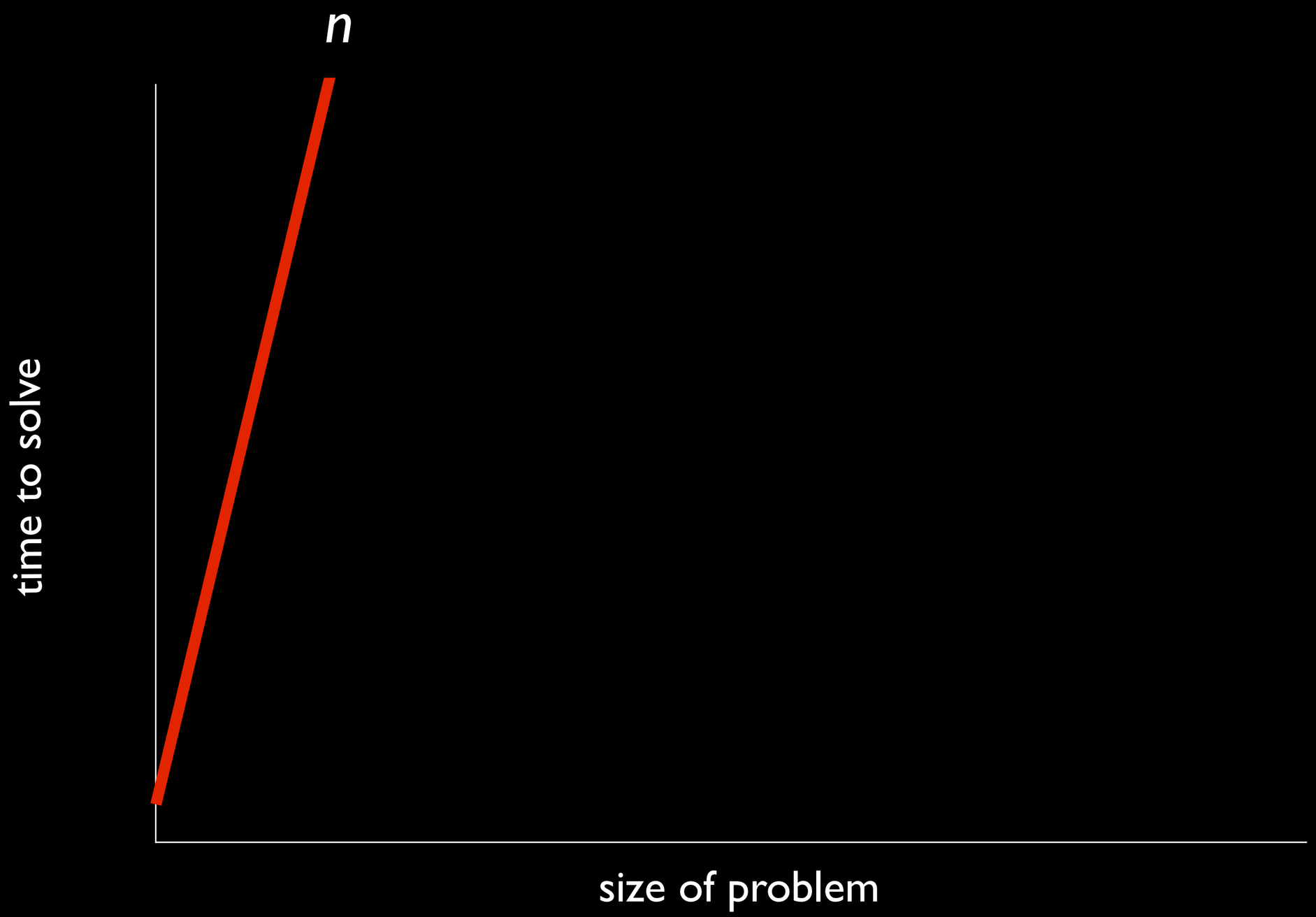
72 73 33

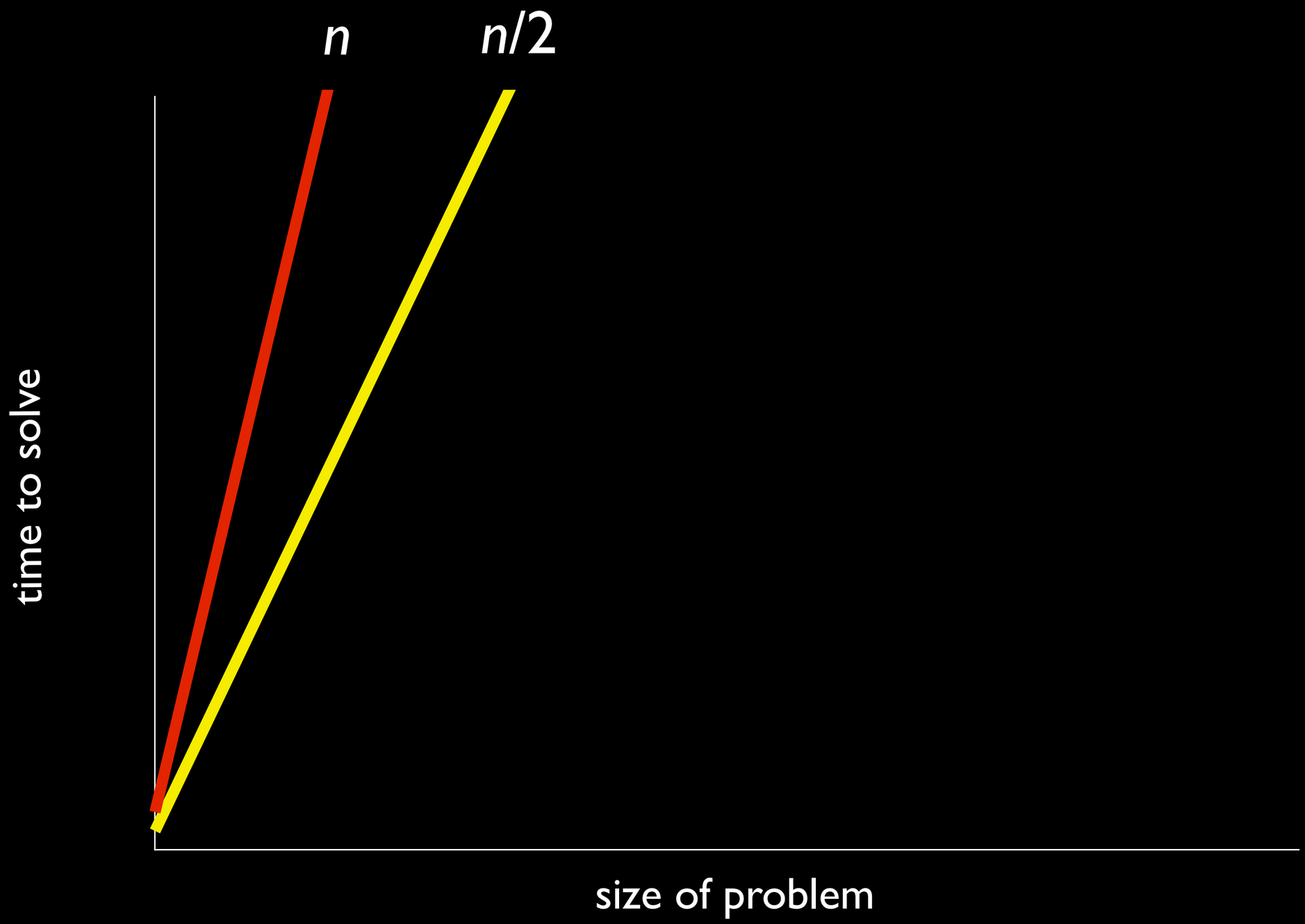
computational thinking

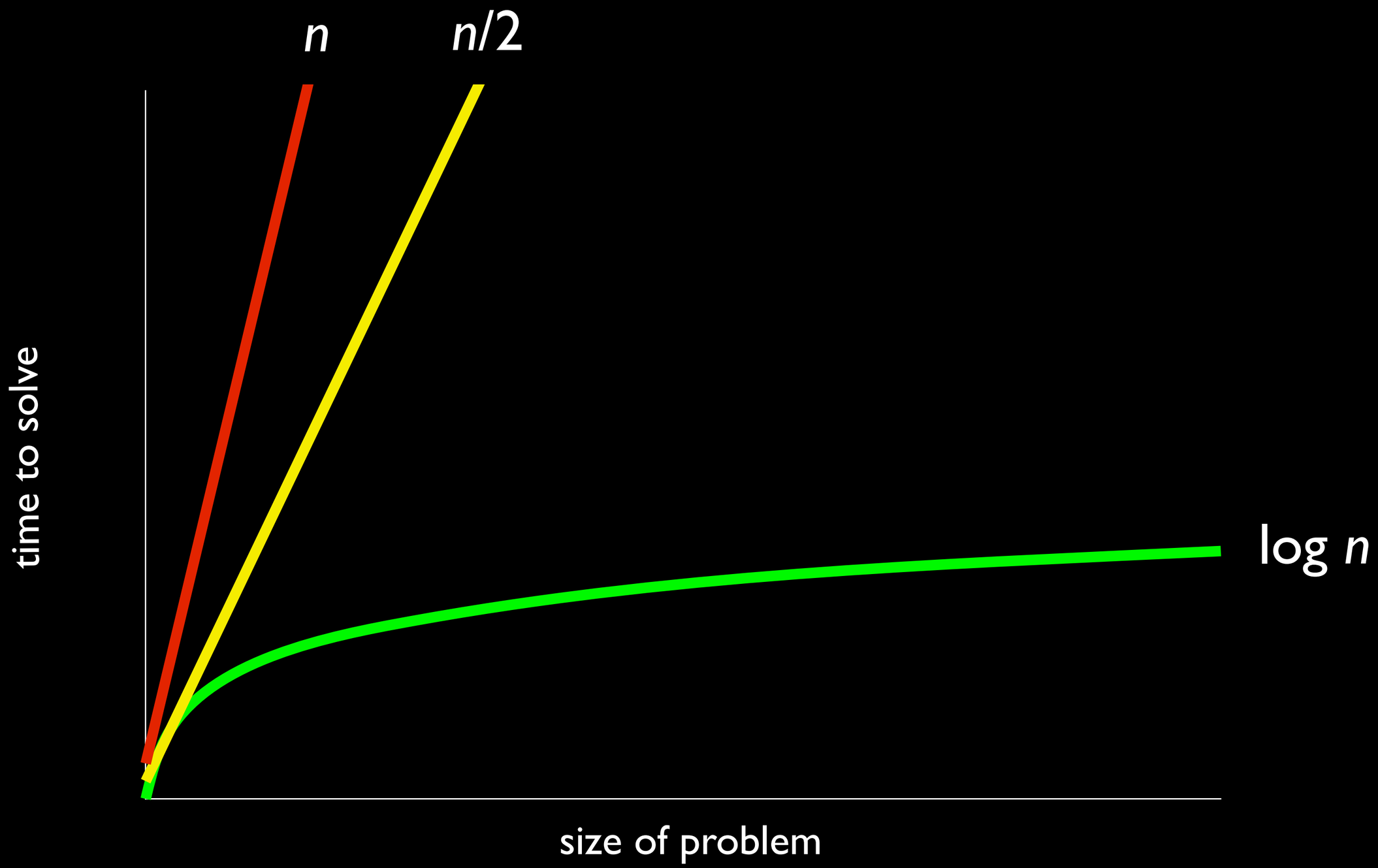
inputs → algorithms → outputs



wikiHow


n
time to solve
size of problem


n
n/2
time to solve
size of problem


n
n/2
time to solve
log n
size of problem

pseudocode

```
 1  pick up dictionary
 2  open to middle of dictionary
 3  look at definitions
 4  if "code" is among definitions
 5      learn "code"
 6  else if "code" is earlier in book
 7      open to middle of left half of book
 8      go to line 3
 9  else if "code" is later in book
10      open to middle of right half of book
11      go to line 3
12  else
13      give up
```

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13      give up
```

Bill (if’s)

```
 1  pick up dictionary
 2  open to middle of dictionary
 3  look at definitions
 4  if "code" is among names
 5      learn "code"
 6  else if "code" is earlier in book
 7      open to middle of left half of book
 8      go to line 3
 9  else if "code" is later in book
10      open to middle of right half of book
11      go to line 3
12  else
13      give up
```

Mark (Loops)

Mark Zuckerberg

August 27 at 4:33pm ·

We just passed an important milestone. For the first time ever, one billion people used Facebook in a single day.

On Monday, 1 in 7 people on Earth used Facebook to connect with their friends and family.

About CS50

About CS50

Popular university course for introductory CS Students

About CS50

Offered at eDX. Harvard. Yale.

About CS50

Awesome. Teaches "useful things"

Differences

Slower :P than CS50. Potentially different.

problem sets

walkthroughs, postmortems

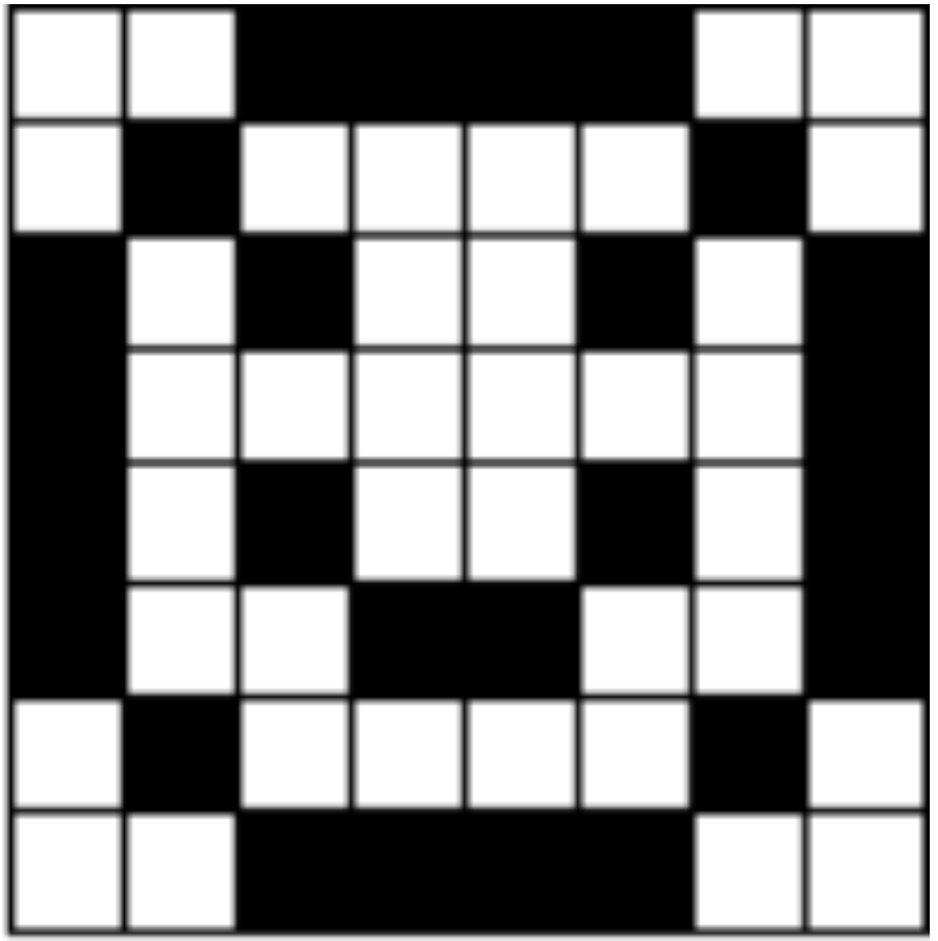
Resources

All on eDX

when clicked
say
hello, world!

uggcf://lbhgh.or/bUt5FWLEUN0

11000011
10111101
01011010
01111110
01011010
01100110
10111101
11000011



143,091

GET / HTTP/1.1

C$50 Finance

final project

CS50 DHS Hackathon, CS50 Fair

This is CS50.

This is CS50.

At DHS