

CS50

at DHS

what ultimately matters in this ~~club~~ ~~course~~ is not so much where you end up relative to your classmates but where you, in **Week 12**, end up relative to yourself in **Week 0**

```
#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

100×1

+

10×2

100

10

1

1

2

3

100×1

+

10×2

+

1×3

100

10

1

1

2

3

100

+

20

+

3

1 2 3

000

4

0

2

0

1

0

4

0

2

0

1

1

4

2

1

0

1

0

4

2

1

0

1

1

4

2

1

100

4 2 1

101

4

2

1

1

1

0

4

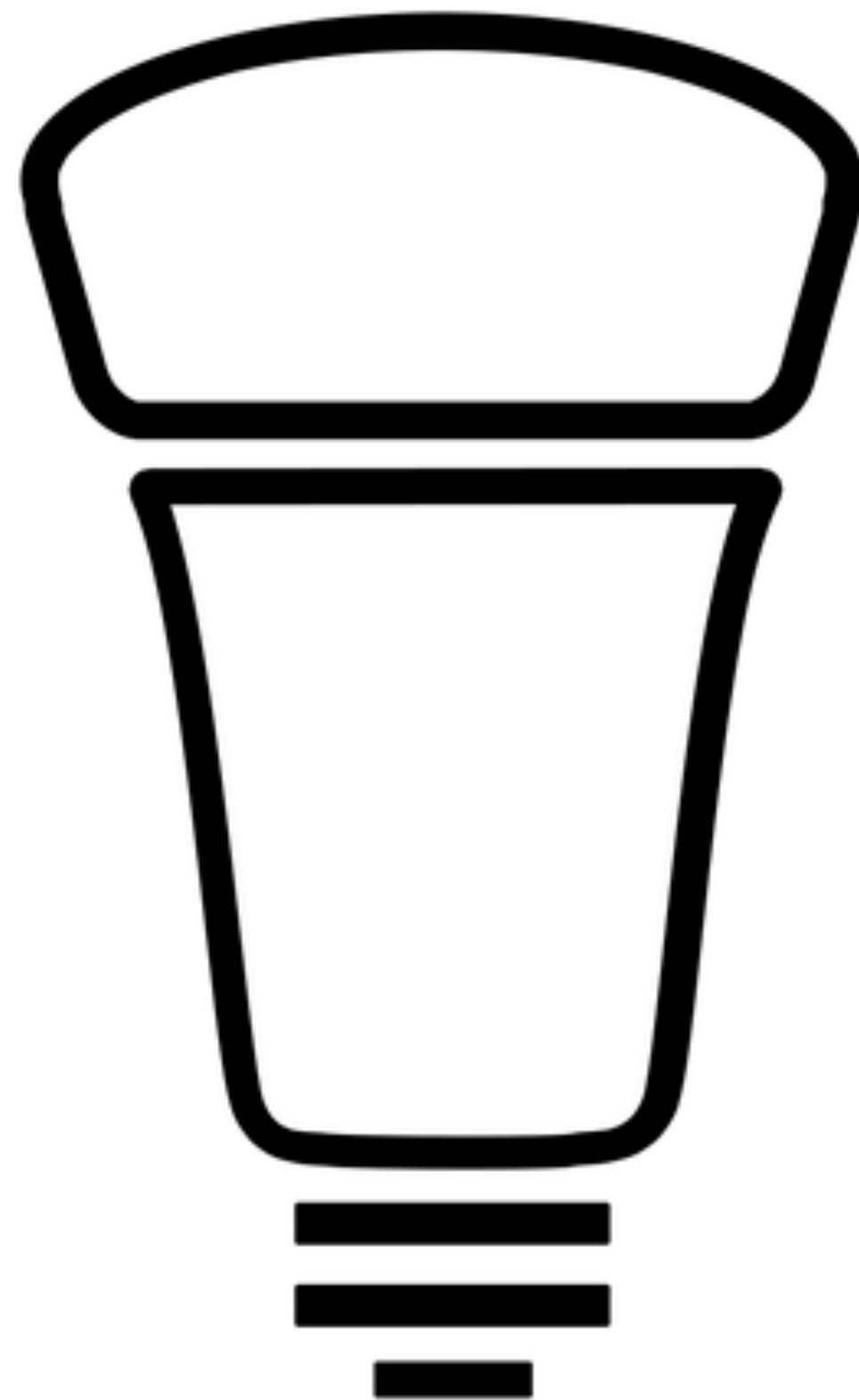
1

2

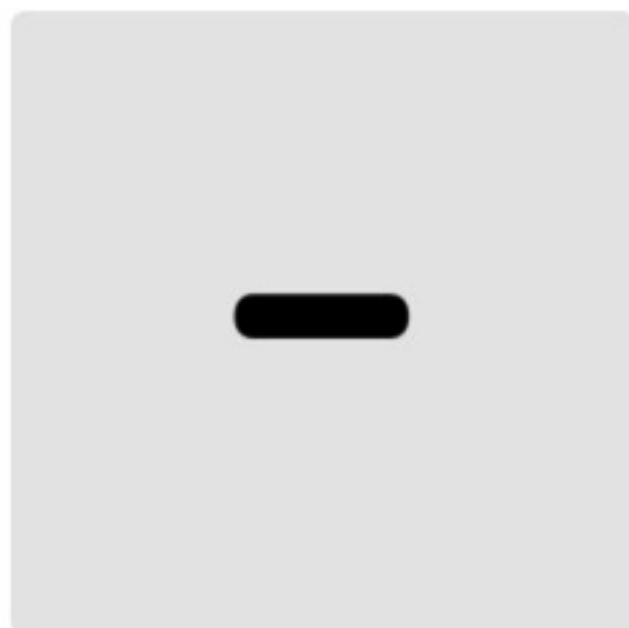
1

1

1







0



All Off

Game Mode

All On



```
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 |

H

72

73

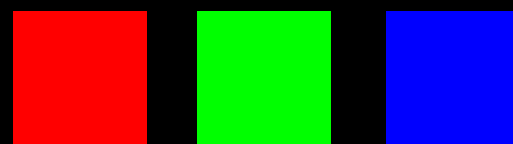
33

H I

72 73 33

H I !

72 73 33

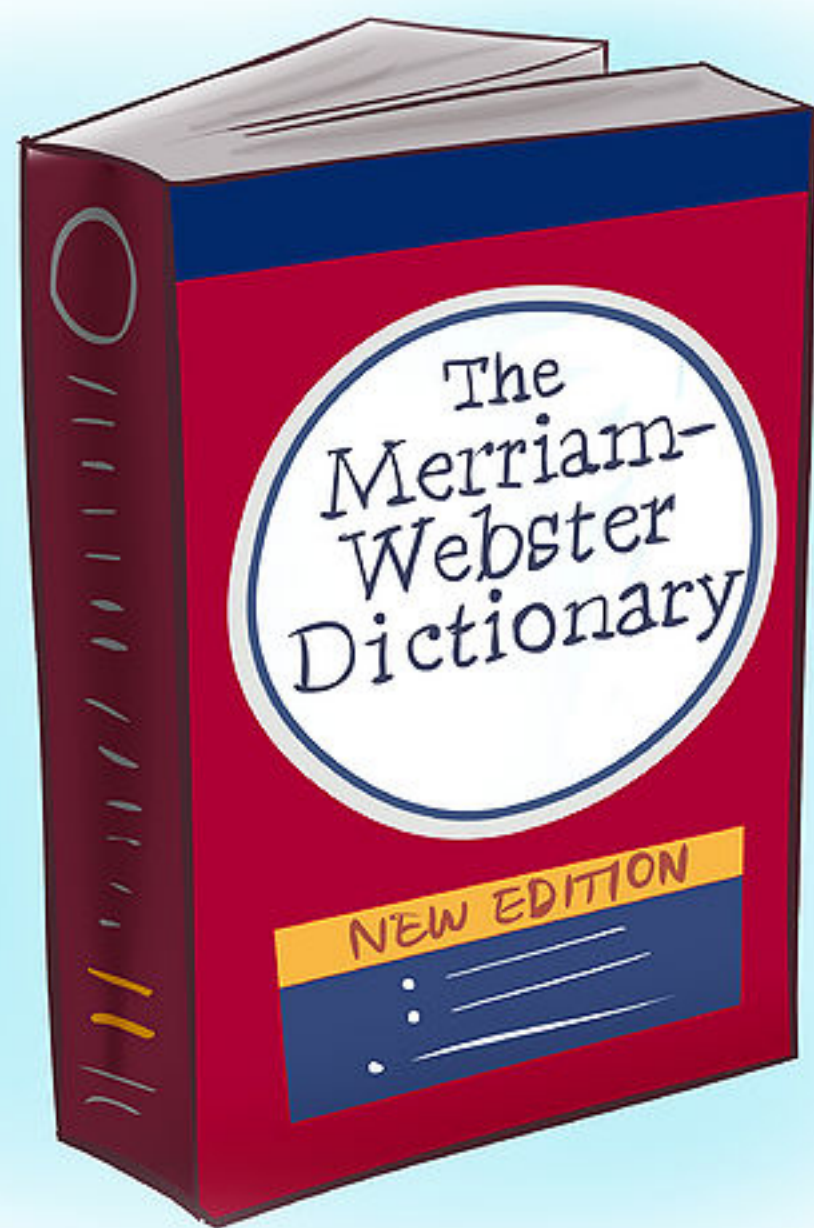


72 73 33



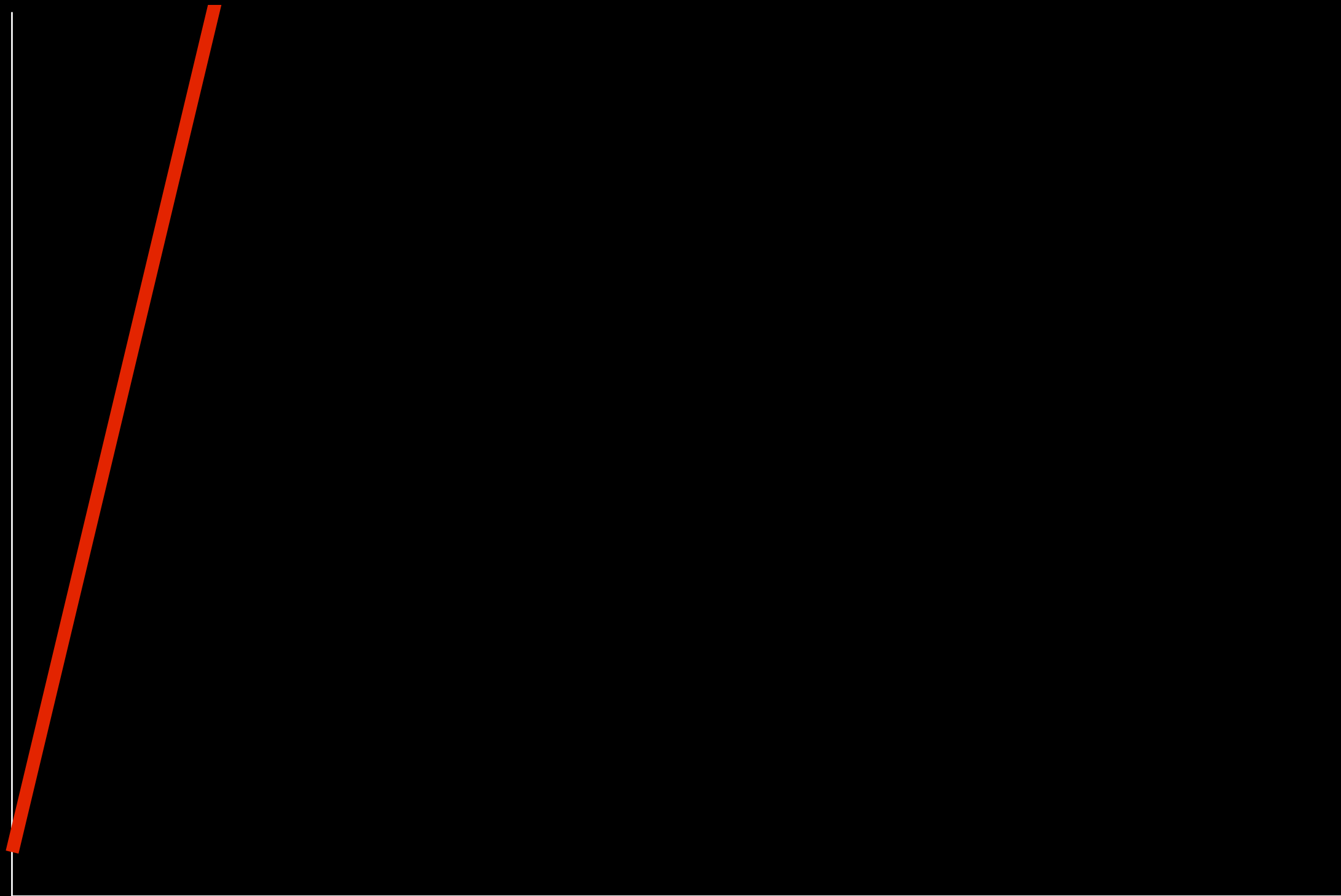
computational thinking

inputs → algorithms → outputs



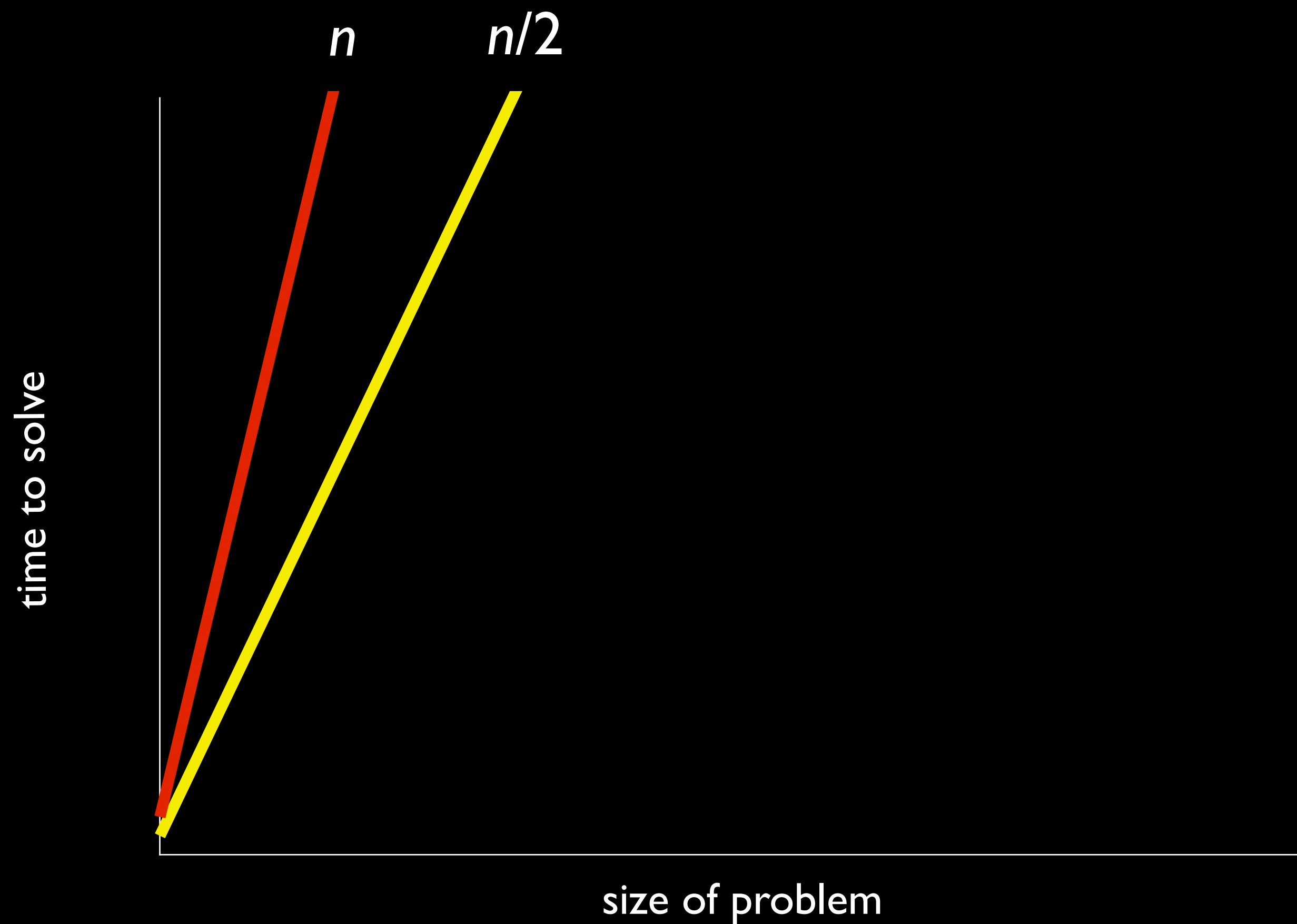
wikiHow

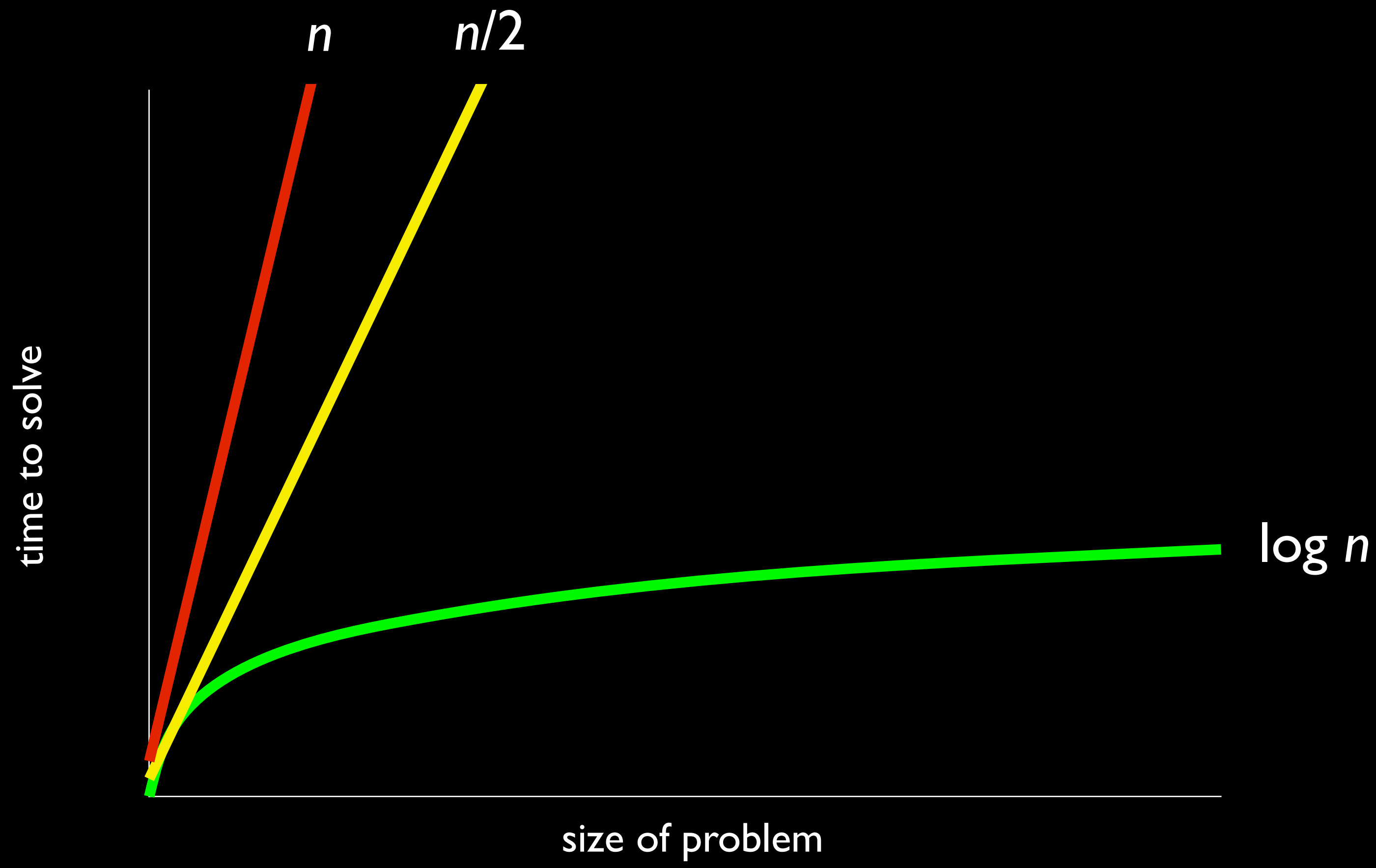
time to solve



n

size of problem





pseudocode

```
1  pick up phone book
2  open to middle of phone book
3  look at names
4  if "Smith" is among names
5      call Mike
6  else if "Smith" is earlier in book
7      open to middle of left half of book
8      go to line 3
9  else if "Smith" 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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Bill (if's)

```
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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.

lectures

sections

less comfortable, more comfortable, somewhere in between

office hours

problem sets

walkthroughs, postmortems

problem sets

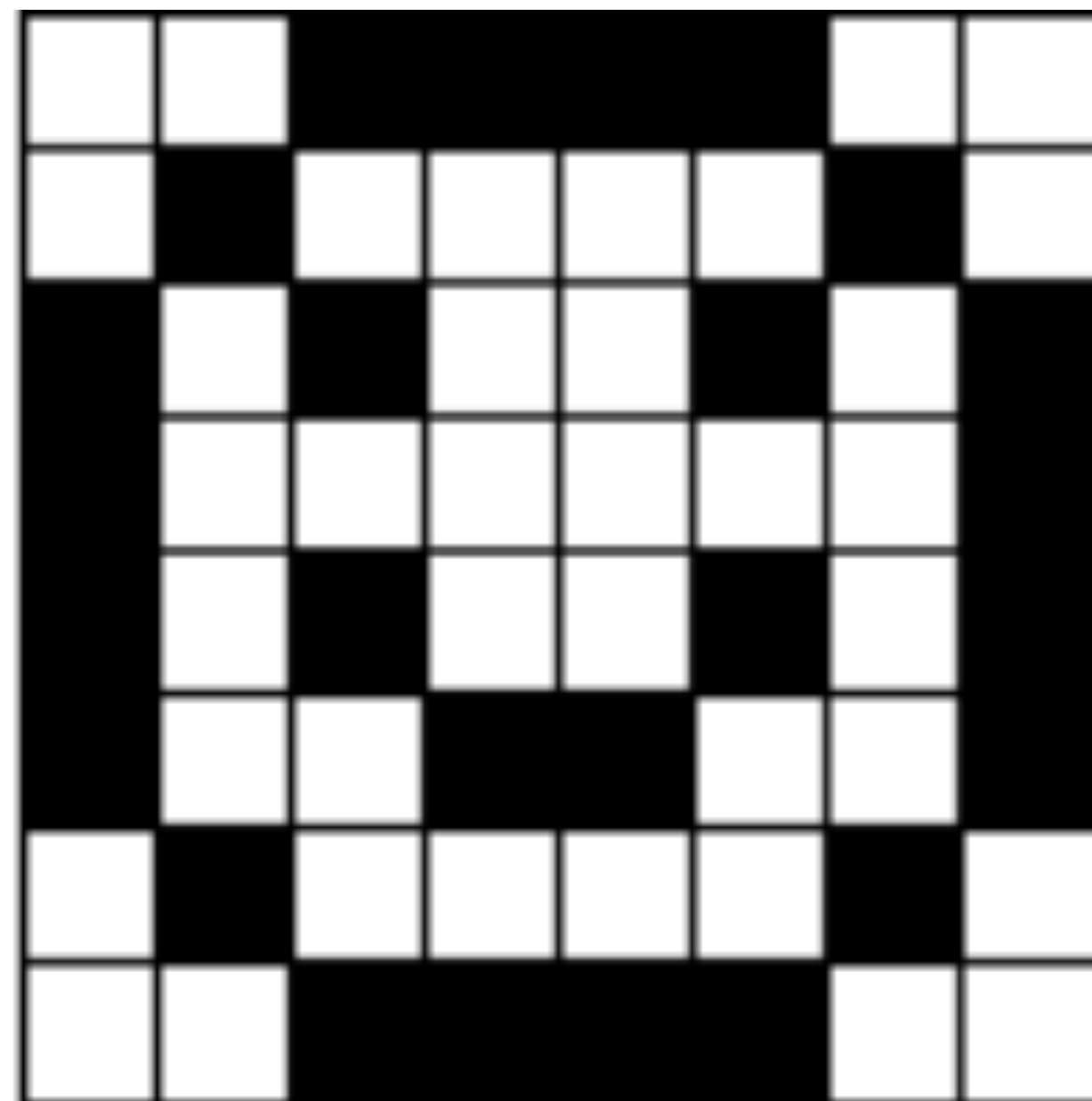
2 editions, 9 late days, lowest dropped

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 Hackathon, CS50 Fair

This is CS50.