

THIS|SCS50.







128s

64s

32s

16s

8s

4s

2s

1s

ALGORITHM

The word 'ALGORITHM' is displayed in a stylized, outlined font. Orange arrows connect the letters in a specific sequence: from 'A' to 'L' (diagonal up), 'L' to 'G' (horizontal), 'G' to 'O' (diagonal up), 'O' to 'R' (diagonal down), 'R' to 'I' (horizontal), 'I' to 'T' (horizontal), 'T' to 'H' (diagonal down), and 'H' to 'M' (horizontal). This sequence of arrows traces the word 'ALGORITHM' in a zig-zag pattern.



Pseudocode

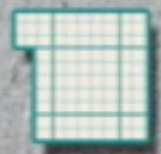
Pseudo

(RESEMBLING)

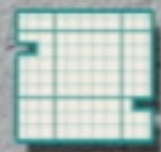
code

(PROGRAMMING LANGUAGE)

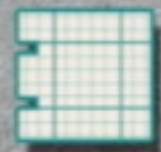
Pseudocode



let **N** = 0



for each person in room

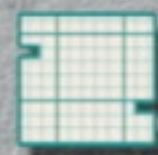


Set **N** = **N** + 1

variable



let **N** = 0



for each person in room



Set **N** = **N** + 1



let **N** = 0



for each person in room

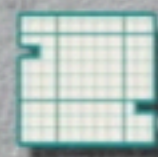


Set **N** = **N** + 1

loop



let **N** = 0



for each person in room



Set **N** = **N** + 1

TEST COMPLETE

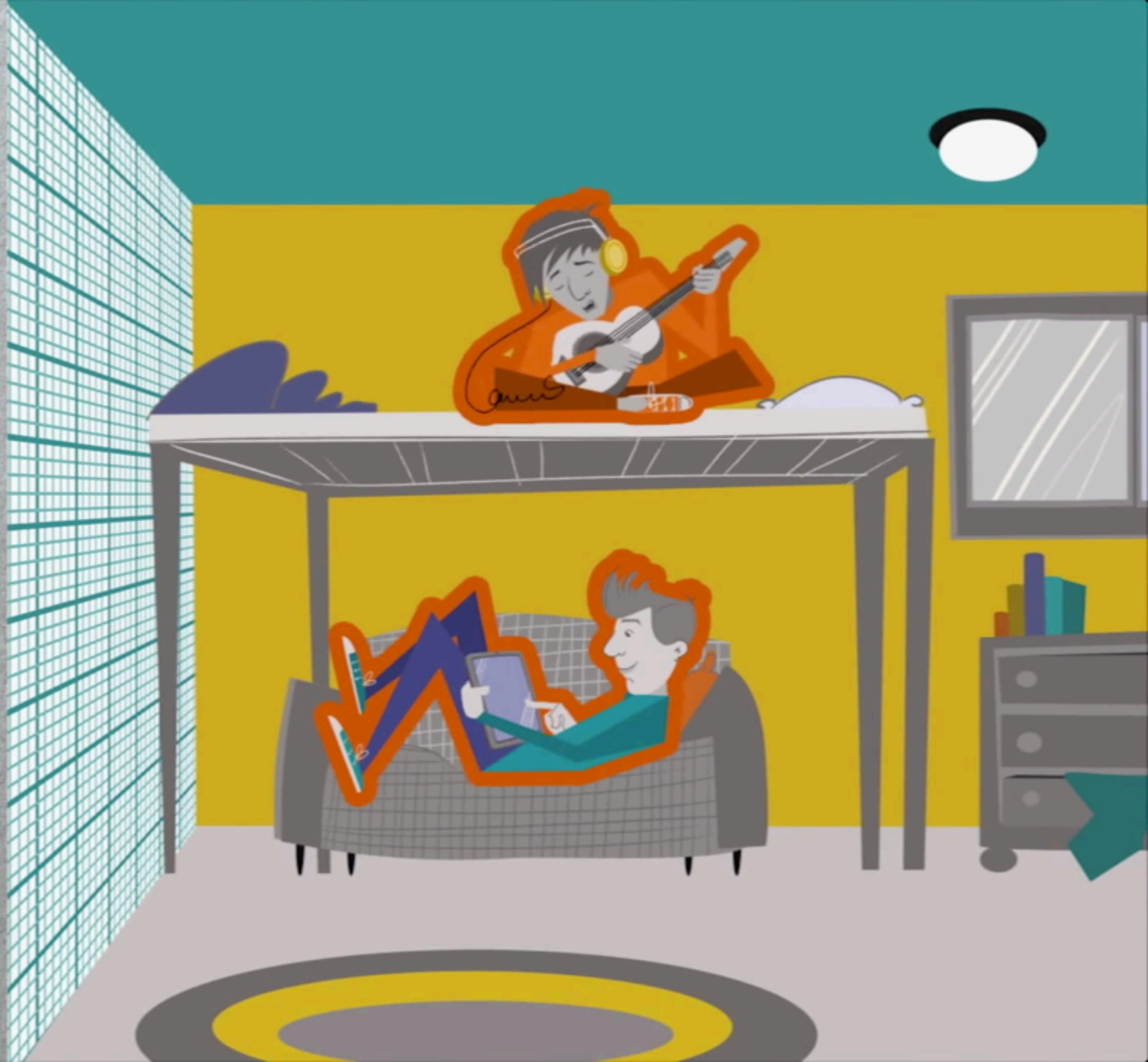


let **N** = 0

for each person in room

Set **N** = **N** + 1

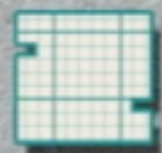
2



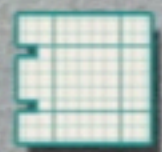
TEST COMPLETE



let **N** = 0

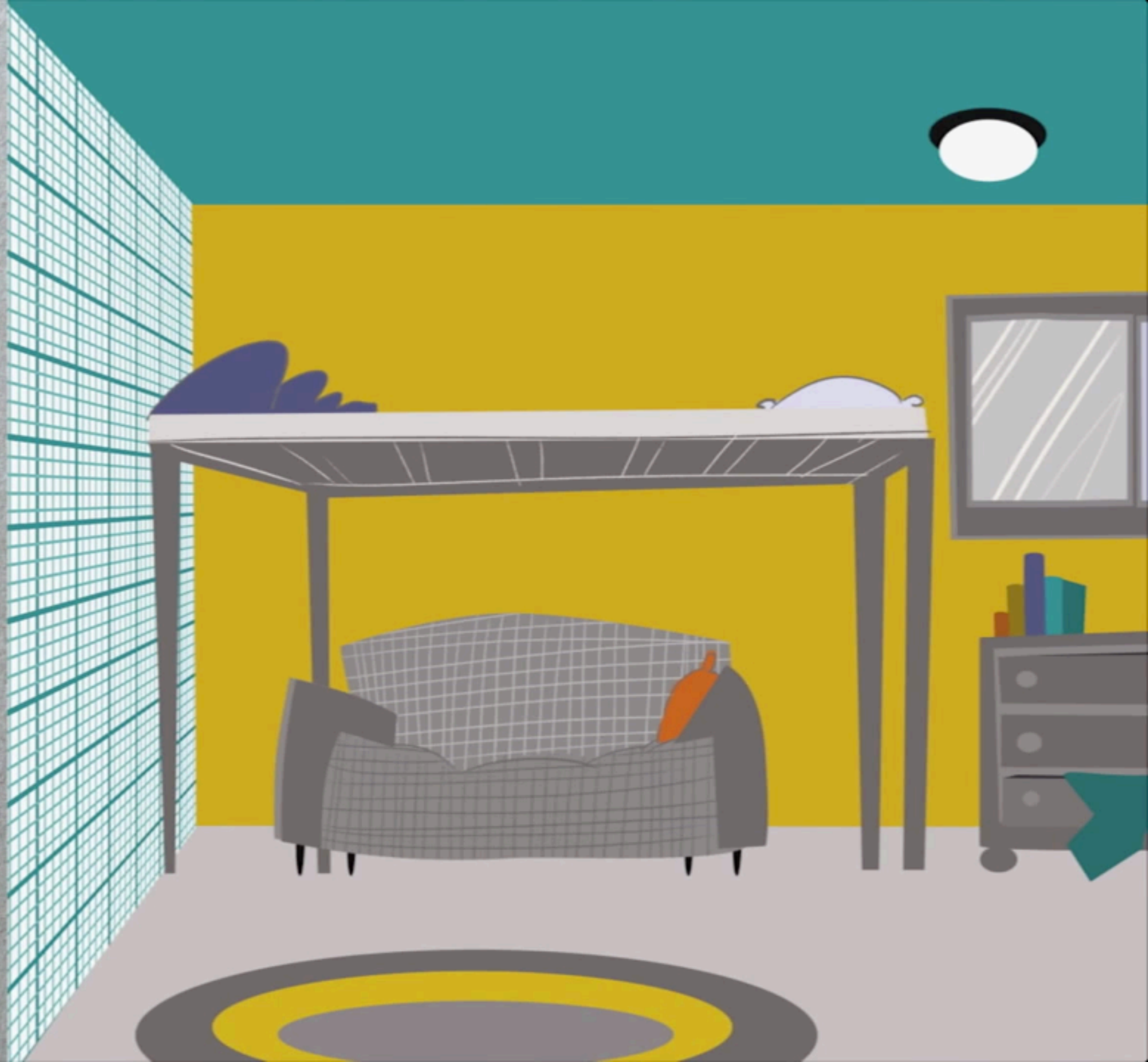


for each person in room



Set **N** = **N** + 1

0



TEST COMPLETE



let **$N = 0$**

for each pair of people in room

Set **$N = N + 2$**

2



TEST COMPLETE



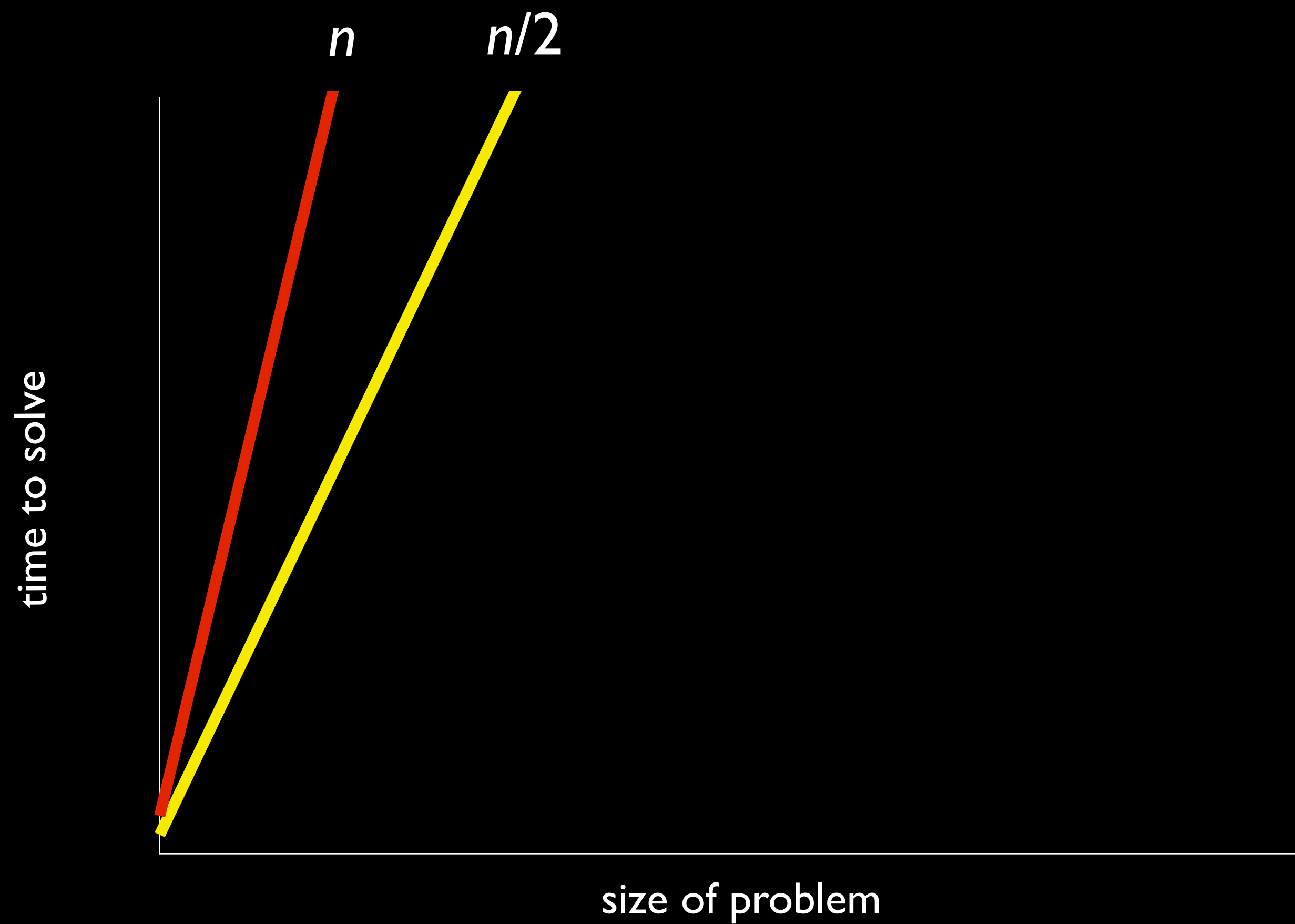
let **N** = 0

for each pair of people in room

Set **N** = **N** + 2

0





BUGGY!



let **N** = 0

for each pair of people in room

Set **N** = **N** + 2

2



condition

TEST COMPLETE



let **N** = 0



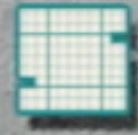
for each pair of people in room



Set **N** = **N** + 2



If 1 person remains then



Set **N** = **N** + 1

3



code

source code


```
#include <stdio.h>
```

```
int main(void)
```

```
{
```

```
    printf("hello, world\n");
```

```
}
```


compiler

source code



compiler

source code



compiler



object code

| | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|
| 10000011 | 00000001 | 00010001 | 00000000 | 00111101 | 11111100 | 01110100 | 00111101 |
| 00000000 | 01000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 10010000 | 00000000 | 00000000 | 00000000 | 01010000 | 00000000 | 00000111 | 00110000 |
| 00001011 | 00000001 | 00001011 | 00000011 | 00001010 | 00000000 | 00000000 | 00000000 |
| 00000000 | 00100000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 00000000 | 00100000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 01110000 | 00010000 | 00000000 | 00100000 | 00000001 | 00000000 | 00000000 | 00000000 |
| 00000000 | 00000000 | 00000000 | 00100000 | 00000001 | 00000000 | 00000000 | 00000000 |
| 00000000 | 00000000 | 00000000 | 01000000 | 00000001 | 00000000 | 00000000 | 00000000 |
| 00000000 | 00100000 | 00000000 | 01000000 | 00000001 | 00000000 | 00000000 | 00000000 |
| 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 | 11111111 |
| 10010000 | 10000000 | 00000000 | 01000000 | 00000001 | 00000000 | 00000000 | 00000000 |
| 00101110 | 01100100 | 01111001 | 01101110 | 01100001 | 01101101 | 01101001 | 01100011 |
| 10110000 | 00000100 | 00000000 | 00100000 | 00000001 | 00000000 | 00000000 | 00000000 |
| 10110000 | 00000100 | 00000000 | 00100000 | 00000001 | 00000000 | 00000000 | 00000000 |
| 10100000 | 00000001 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 10110000 | 00000100 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00000000 |
| 00000000 | 00000000 | 00000000 | 00000000 | 00000000 | 00100000 | 00000000 | 00000000 |

. . .



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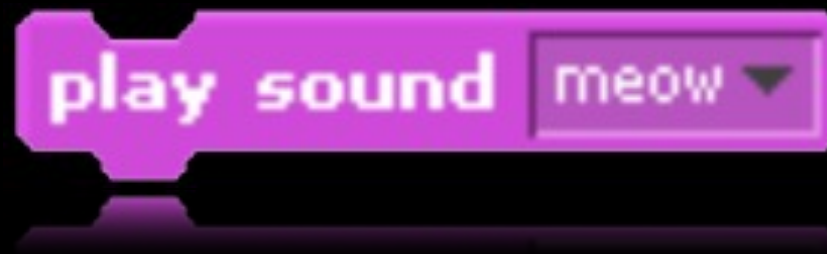
statements



statements



statements



Boolean expressions

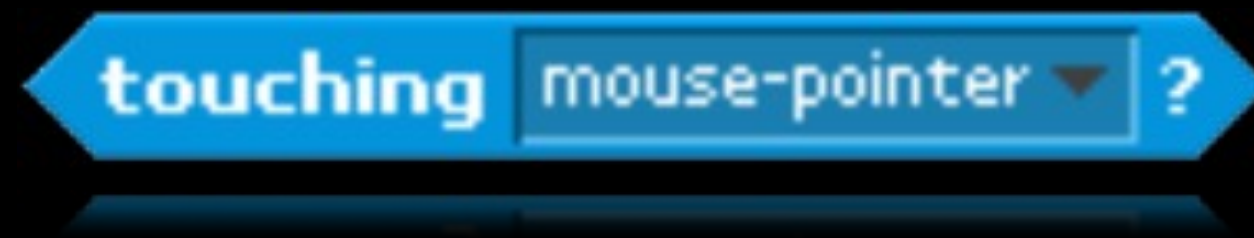


mouse down?

Boolean expressions



Boolean expressions



Boolean expressions



Boolean expressions

| | | | | |
|----------------------------------|--------|--|---|---|
| Term ▾ | Year ▾ | Search Courses | | ↻ |
| All Faculty ▾ | | All Fields of Study ▾ | | |
| Course Level ▾ | | <input type="checkbox"/> course ≥ 4.5 ▾ | doesn't conflict with | |
| General Education Requirements ▾ | | <input type="checkbox"/> faculty ≥ 4.5 ▾ | <input type="checkbox"/> Courses I'm Taking | |
| | | | <input type="checkbox"/> Time Constraints ▾ | |

| | | | |
|----------------------------------|--|---|---|
| General Education Requirements ▾ | <input type="checkbox"/> faculty ≥ 4.5 ▾ | <input type="checkbox"/> Time Constraints ▾ | <input type="checkbox"/> Courses I'm Taking |
|----------------------------------|--|---|---|

conditions



conditions



conditions



loops



loops



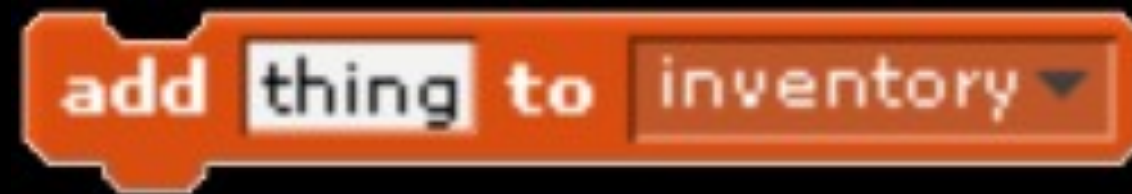
variables



functions



arrays





threads



events



problem set 0

to be continued...