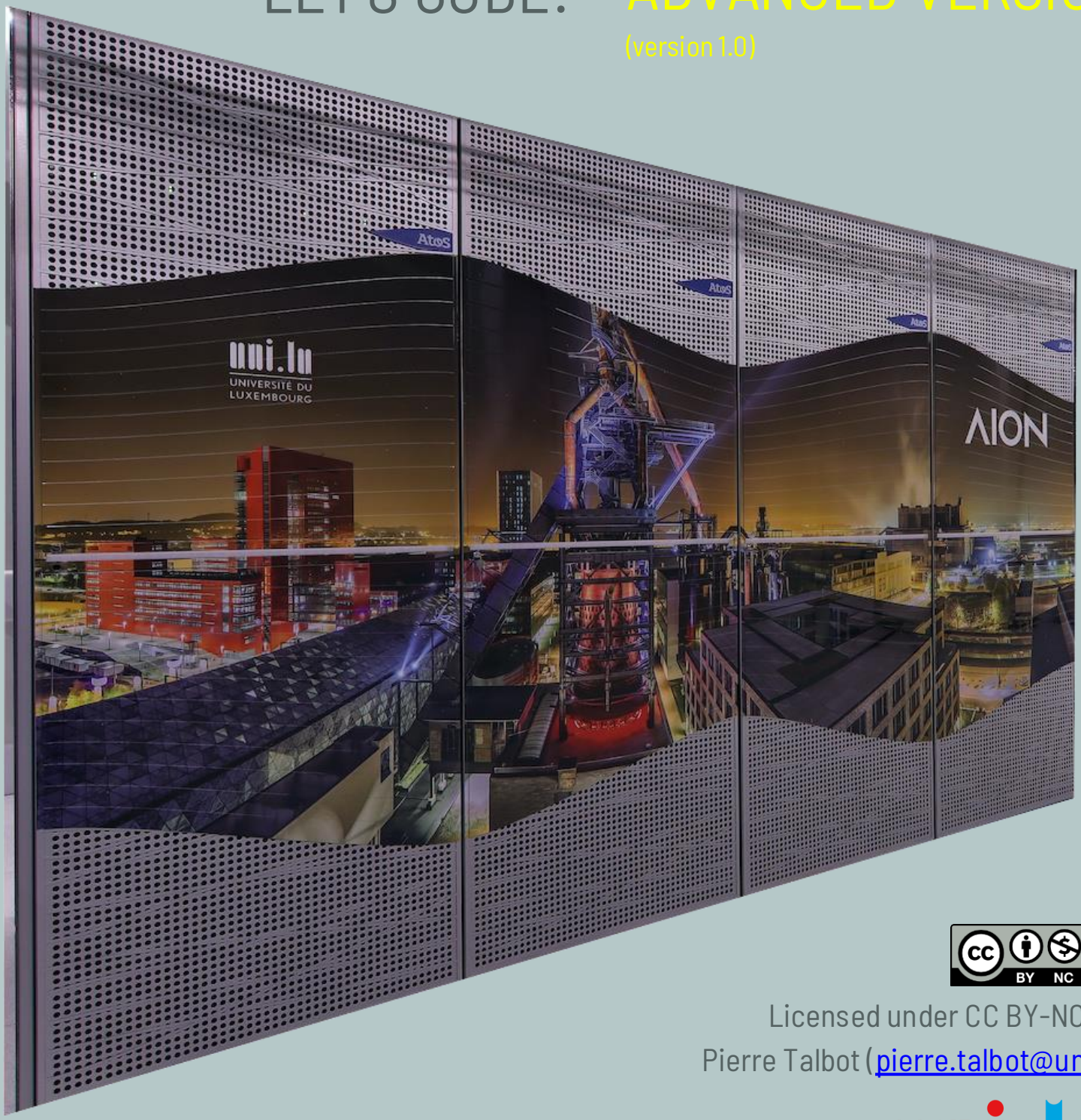
Supercomputer: Always Faster?

LET'S CODE! ADVANCED VERSION

(version 1.0)



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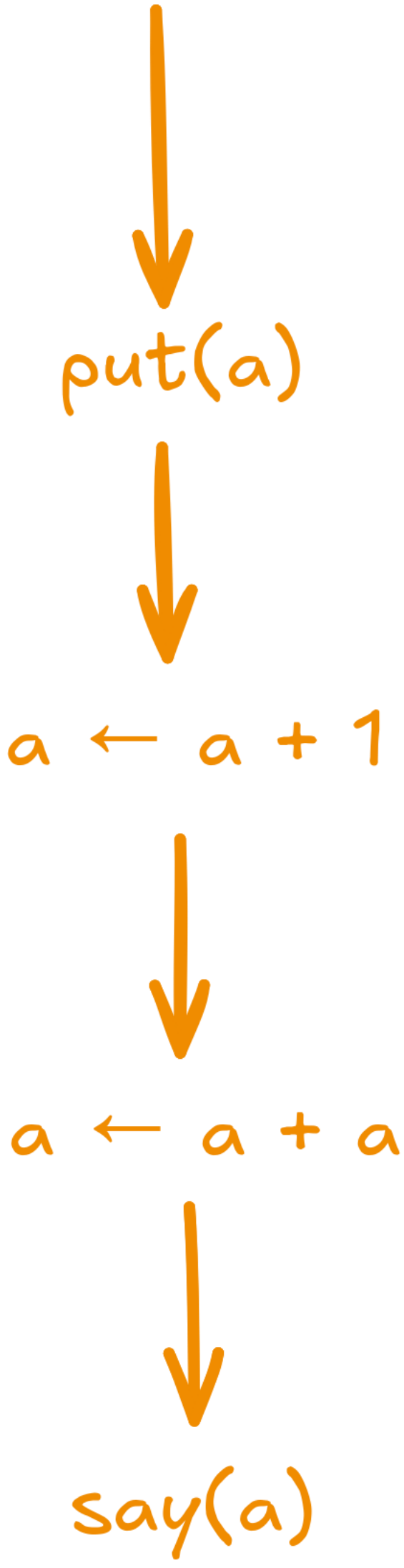
UNIVERSITY OF LUXEMBOURG


put(a)
a ← a + 1
a ← a + a
say(a)

Write a program!

The bowl "a" is the number of candies Alice got.
The bowl "b" is the number of candies Bob got.

Write a program that exchanges the candies of Alice and Bob.
Hint: you can use an extra bowl "c".

Write a program! SOLUTION

The bowl "a" is the number of candies Alice got.
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Write a program that exchanges the candies of Alice and Bob.
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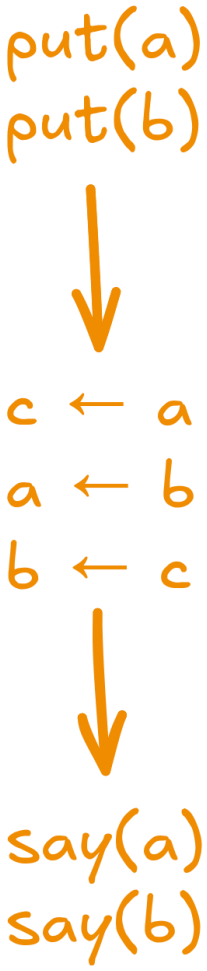
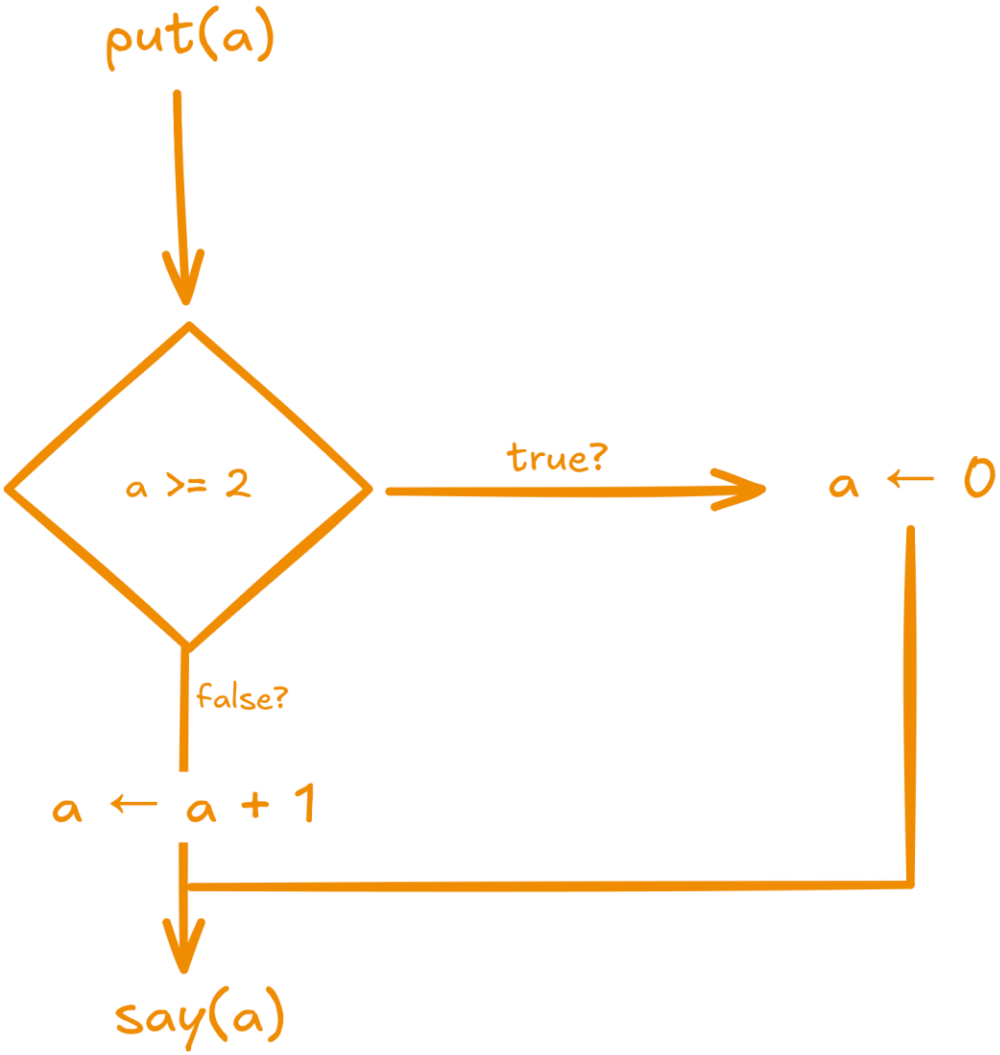


Greedy Alice!

The bowl "a" is the number of candies Alice took.

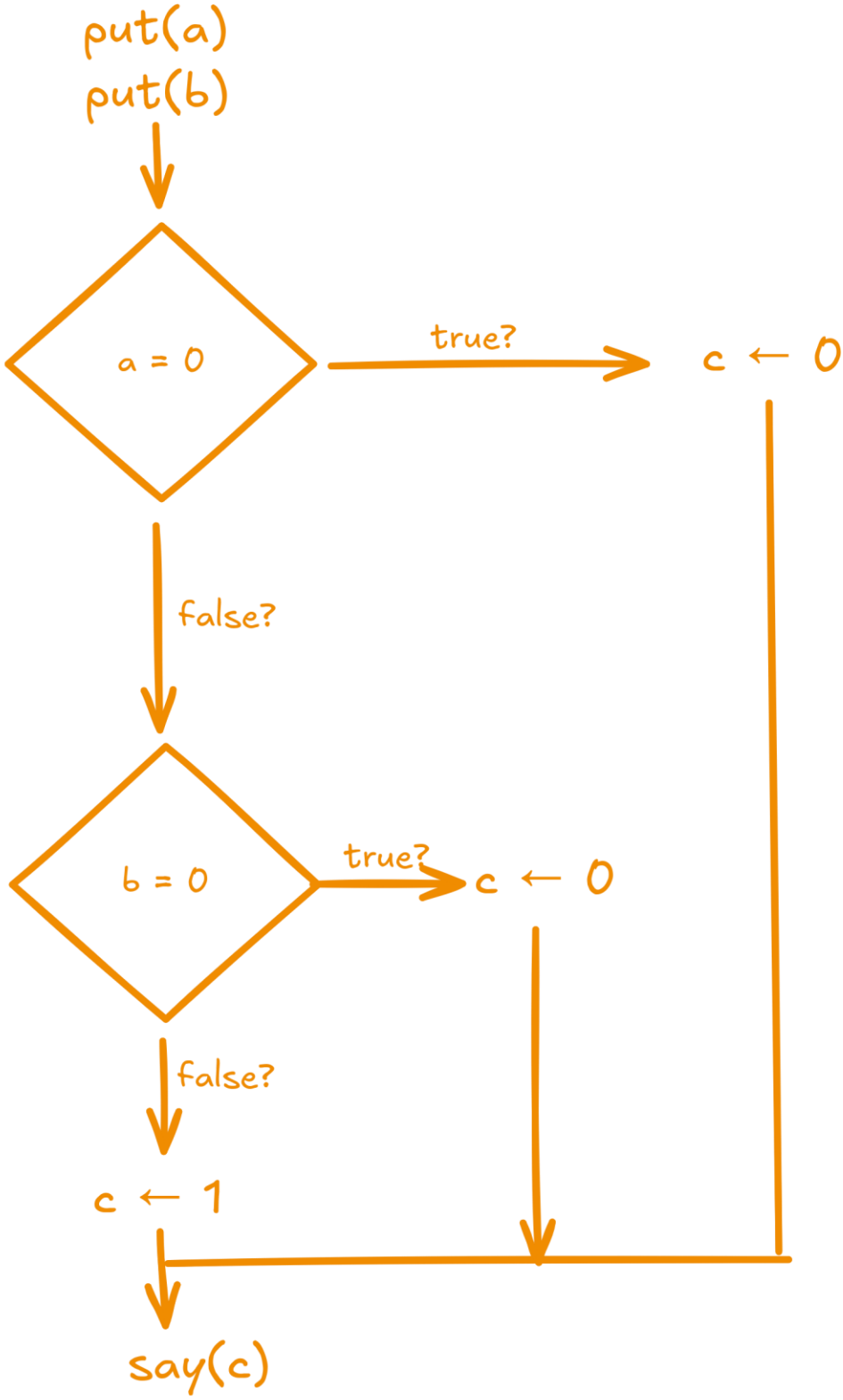
If she took more than 2, punish her, and take away all her candies.

If not, give her one more candy.

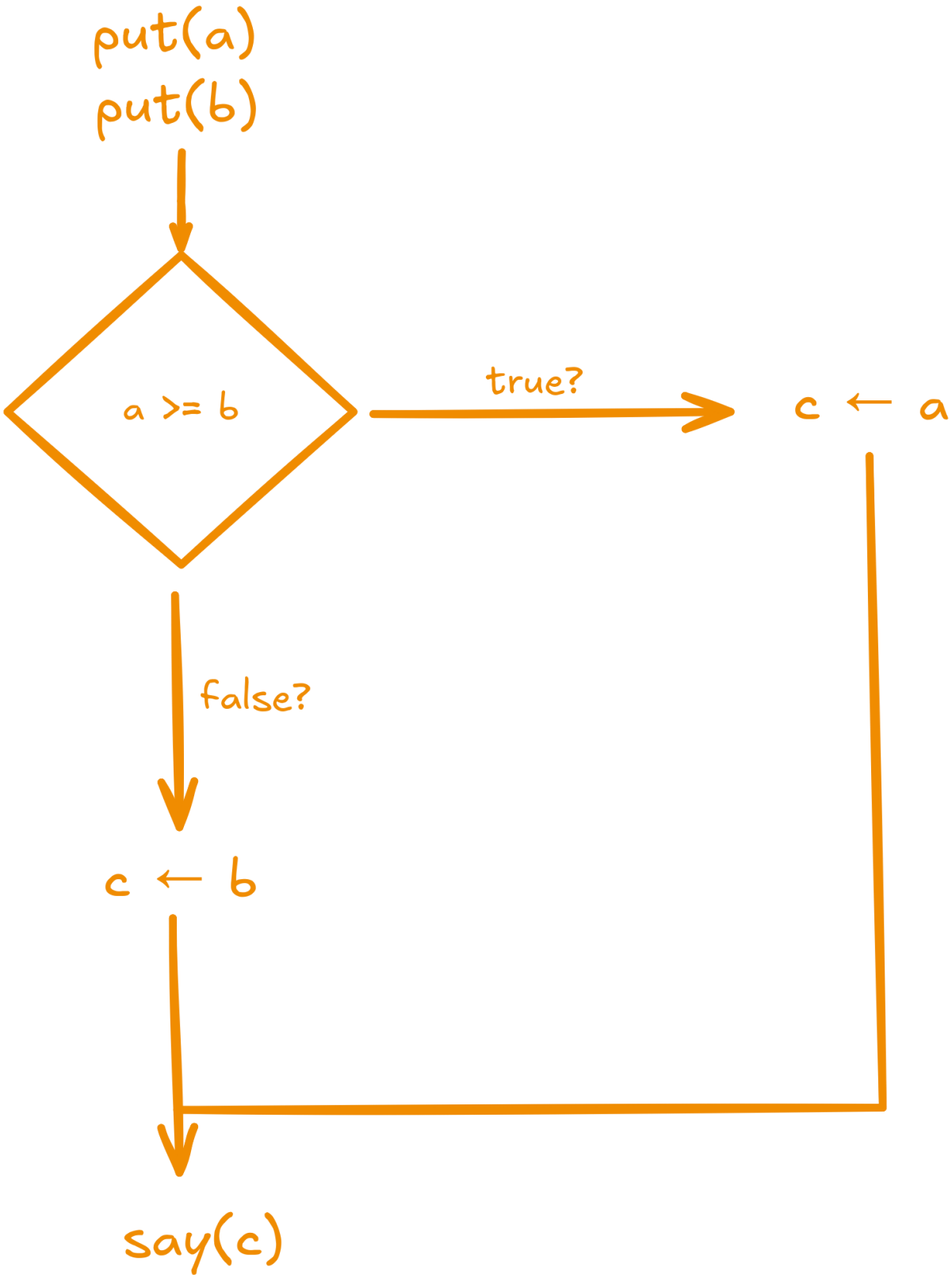


The bowl "a" is the number of candies Alice got.
The bowl "b" is the number of candies Bob got.

We want to know if they both got at least one candy.
Put 1 in the bowl "c" if yes, and 0 otherwise.



What is this program doing?



Try with a = 1, b = 2
Then, try with a = 2, b = 1

Write a program!

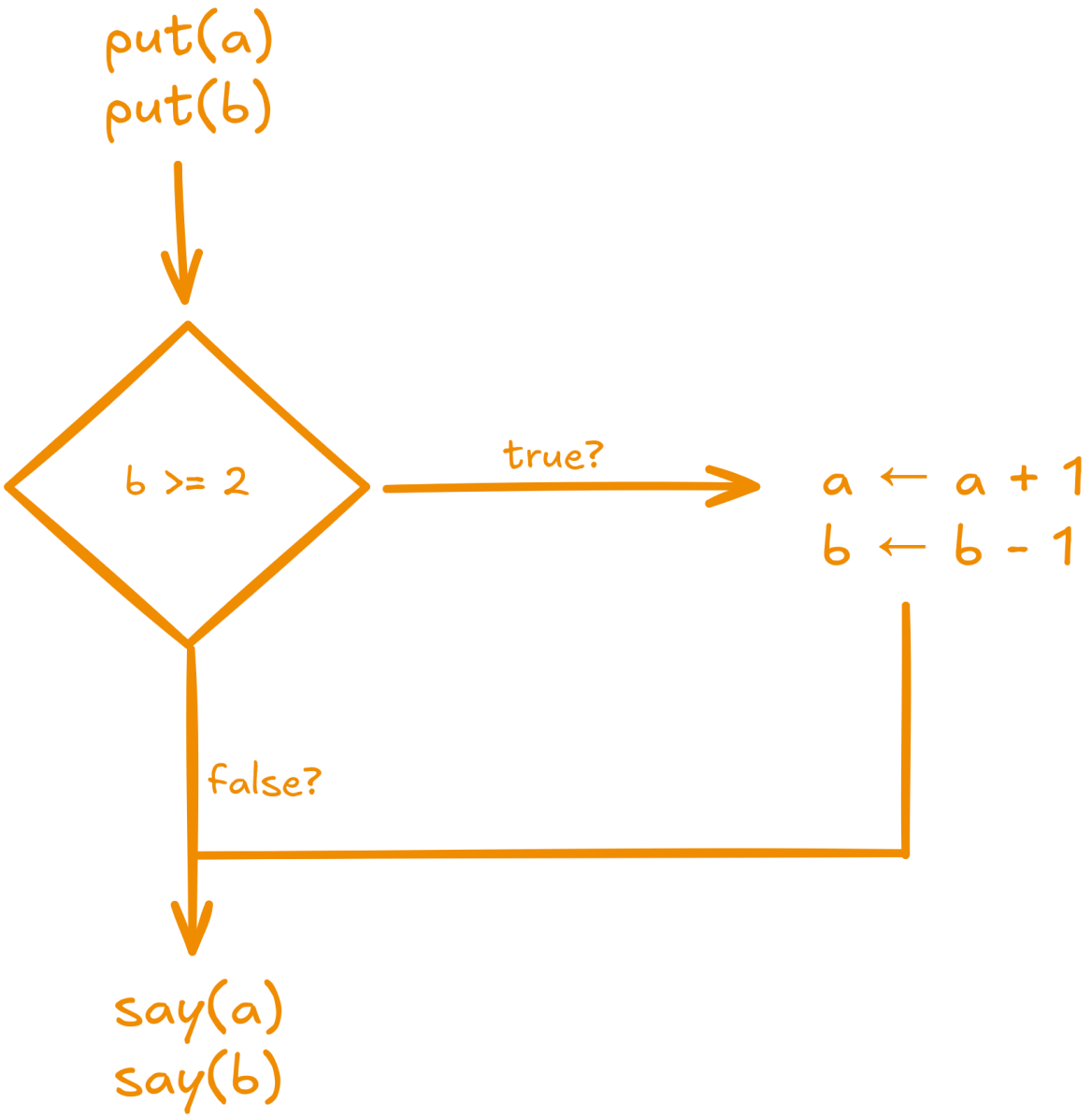
The bowl "a" is the number of candies Alice got.
The bowl "b" is the number of candies Bob got.

If Bob got 2 candies or more, he gives 1 to Alice.

Write a program! SOLUTION

The bowl "a" is the number of candies Alice got.
The bowl "b" is the number of candies Bob got.

If Bob got 2 candies or more, he gives 1 to Alice.



Write a program!

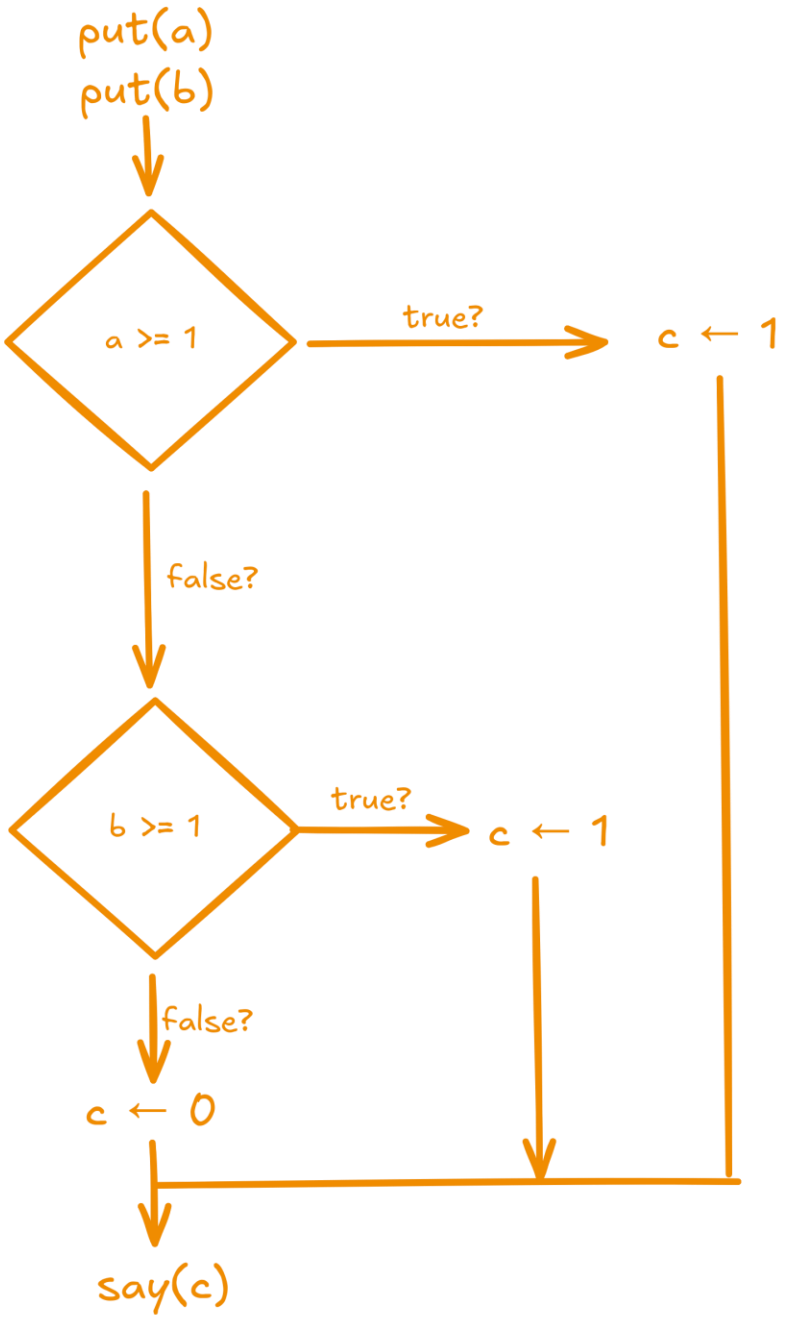
The bowl "a" is the number of candies Alice got.
The bowl "b" is the number of candies Bob got.

We want to know if at least one of them got one or more candies.
Put "1" in bowl "c" if yes, and "0" otherwise.

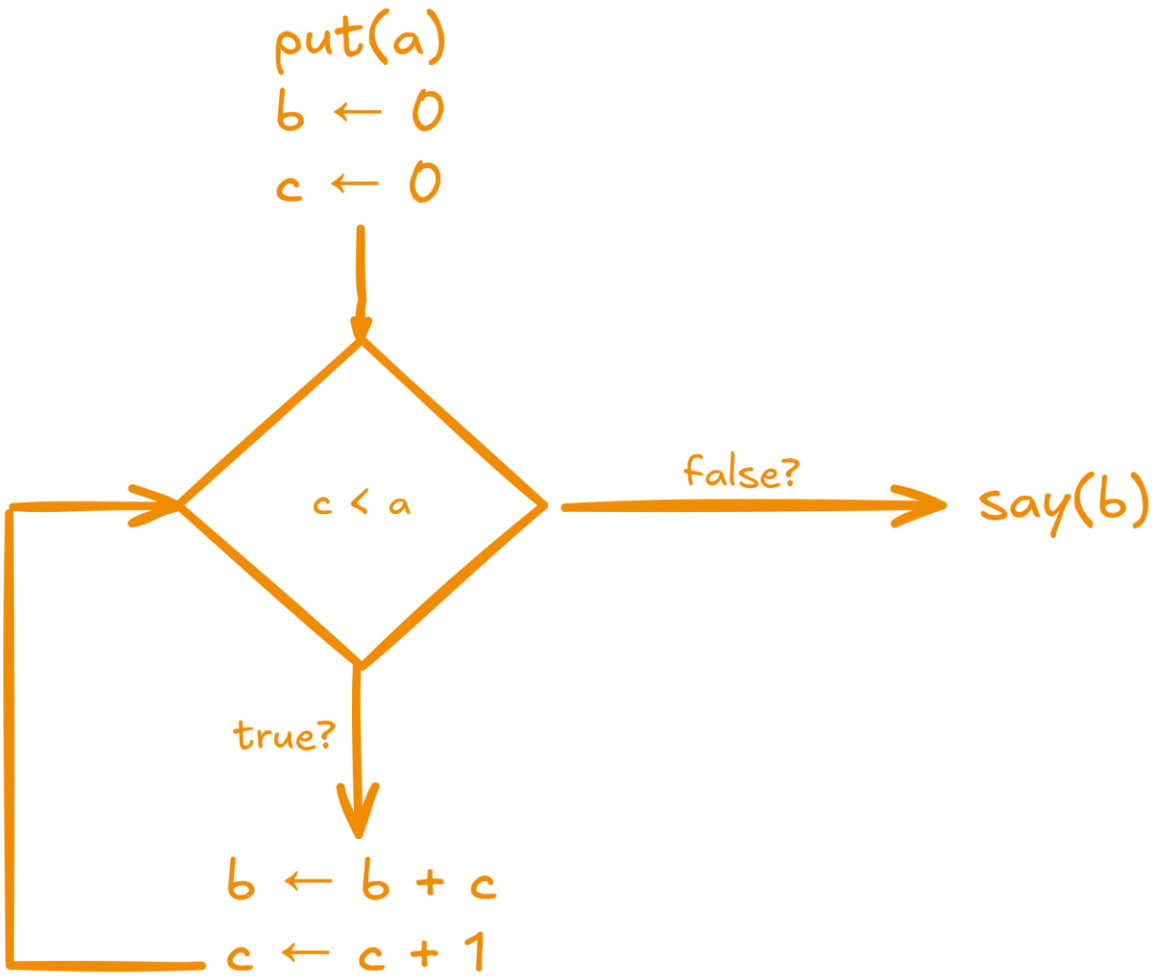
Write a program! SOLUTION

The bowl "a" is the number of candies Alice got.
The bowl "b" is the number of candies Bob got.

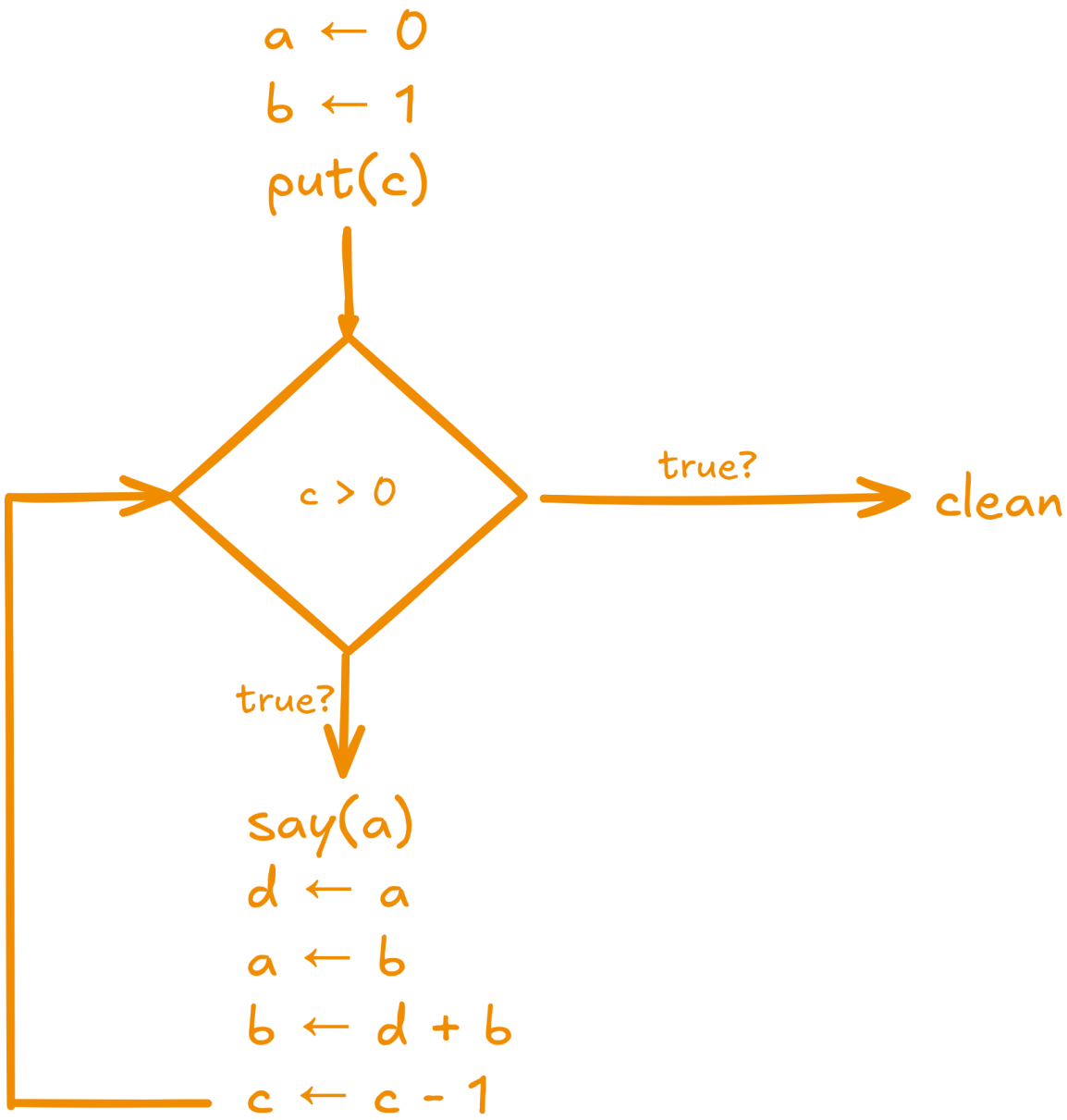
We want to know if at least one of them got one or more candies.
Put "1" in bowl "c" if yes, and "0" otherwise.



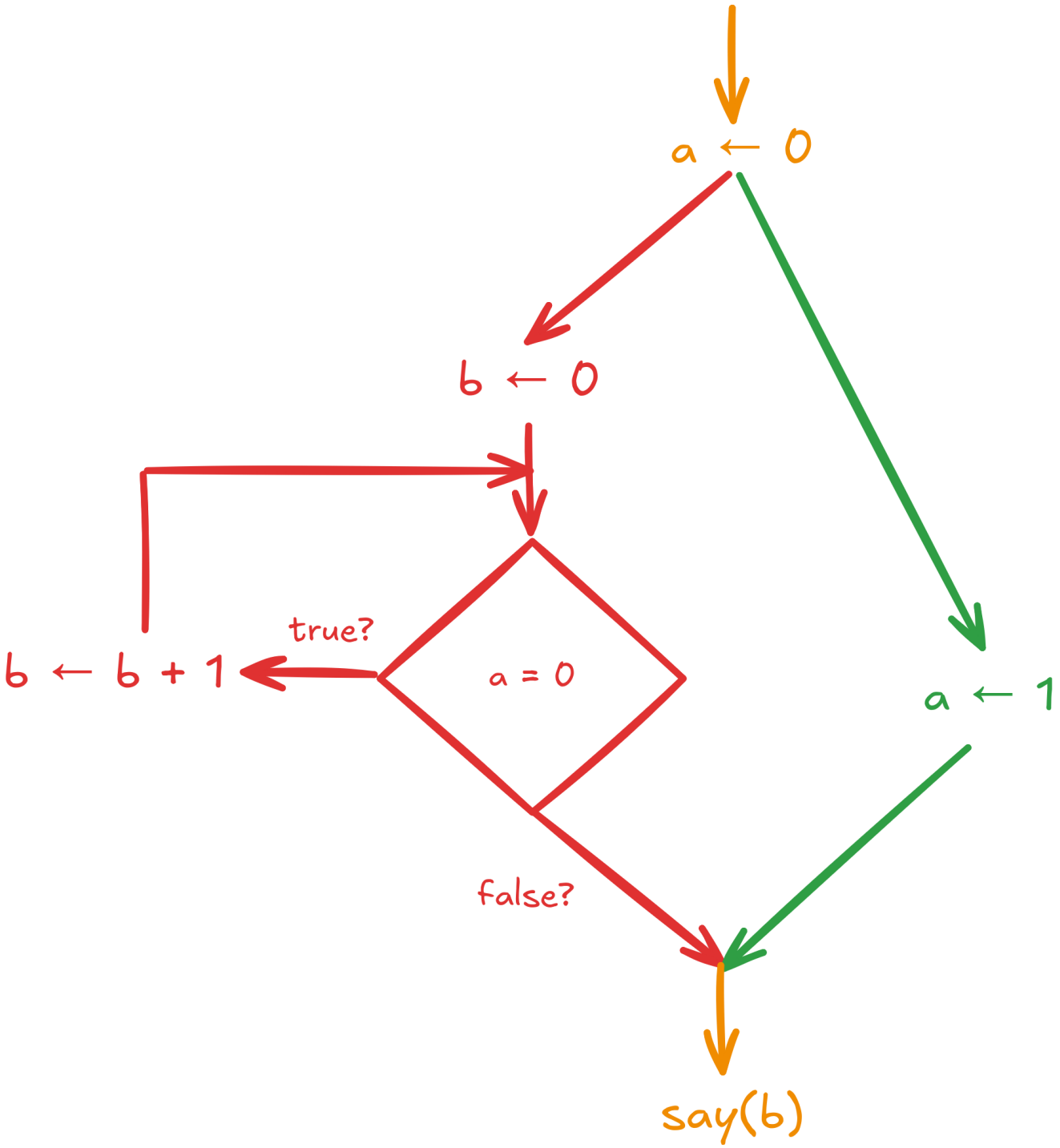
What is this program computing?



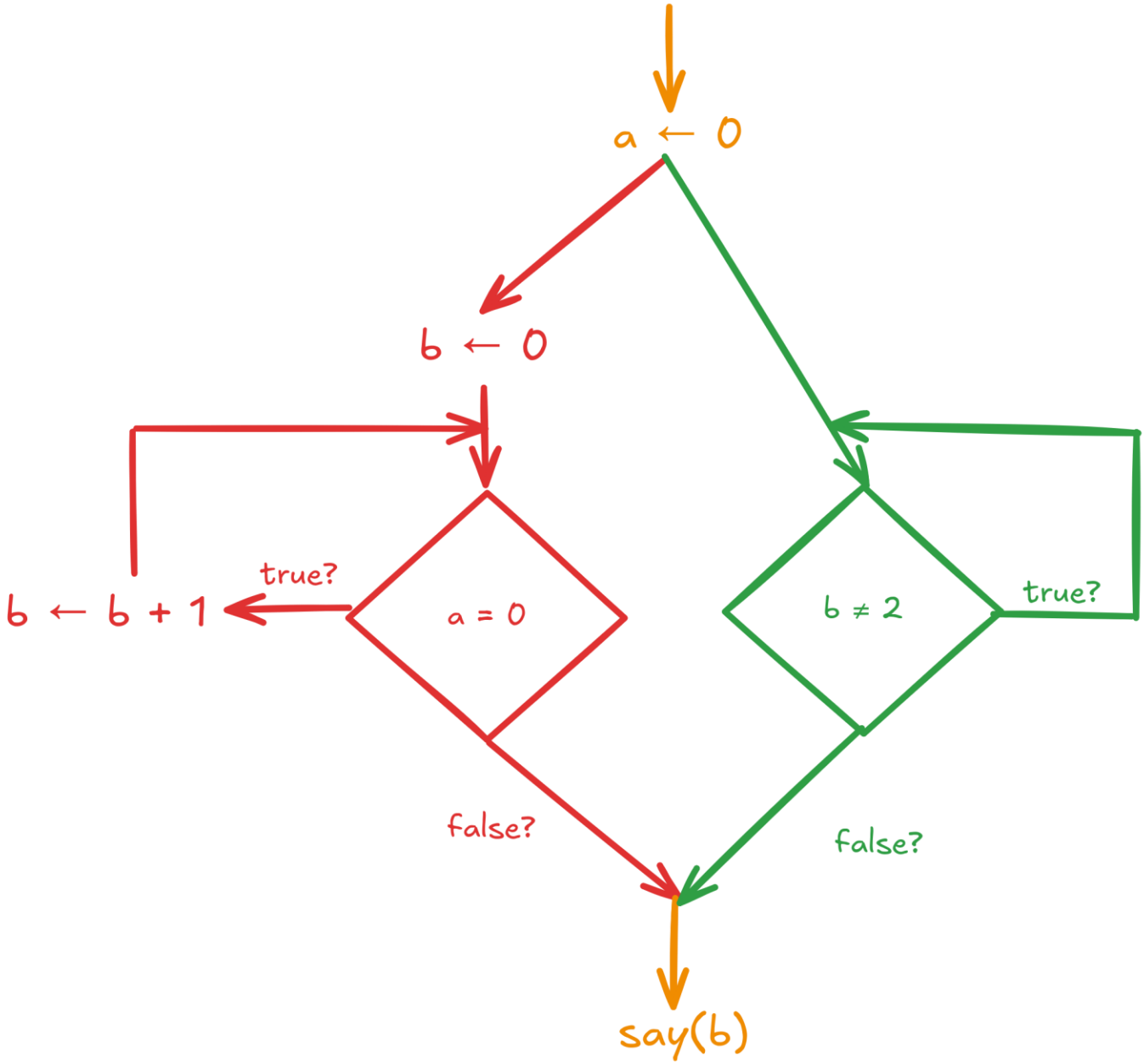
What is this program computing?



hint: take note of the number you are saying!



What are the possible results?



What are the possible results?

Write your own program and put it in the slipper :)