cutting problems

prof. dr. nicolas meseth

1. you can already do this
2. different ways to cut
3. a good cut is testable
4. cuts are agreements

how do you eat
an elephant?



image: ai-generated (gpt-image-2)

part 1

you can already do this

you plan like this without thinking

party, saturday, 30 guests

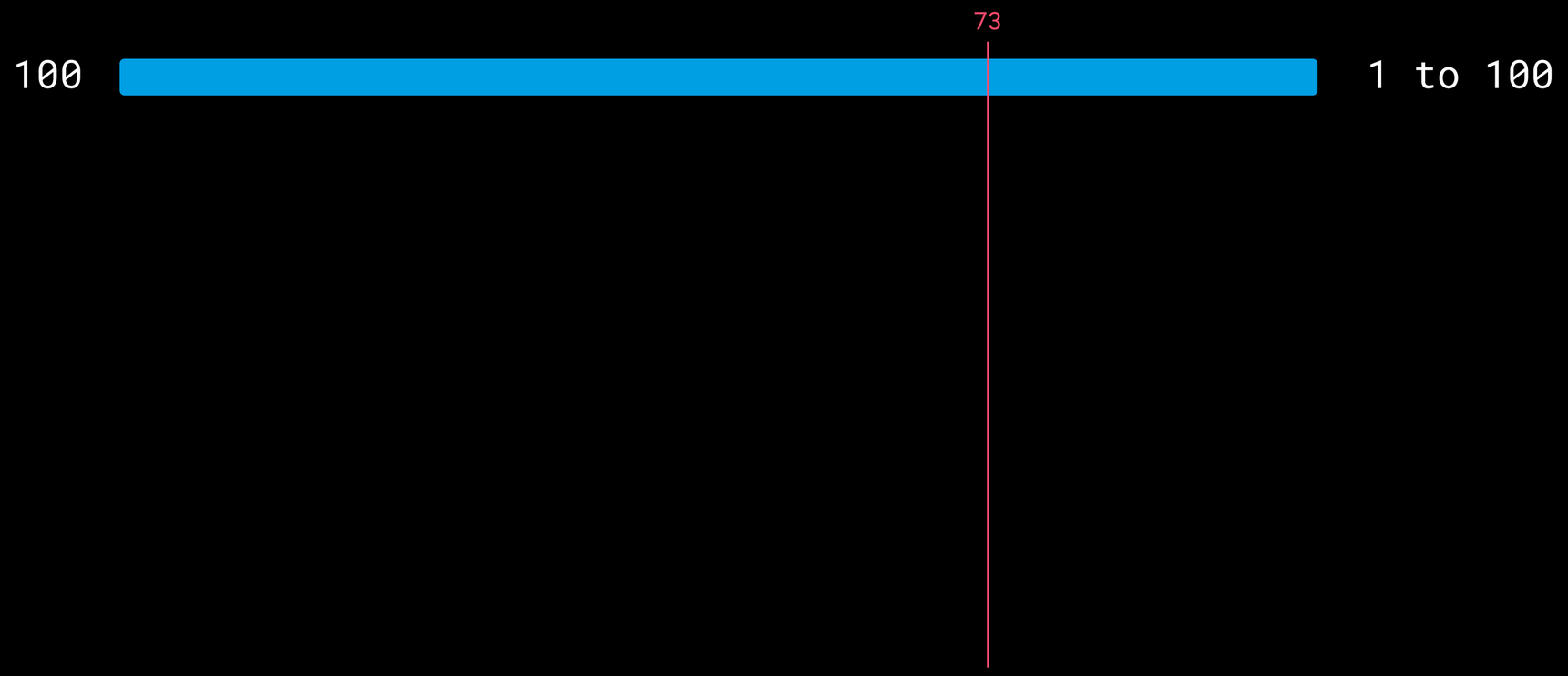
you plan like this without thinking



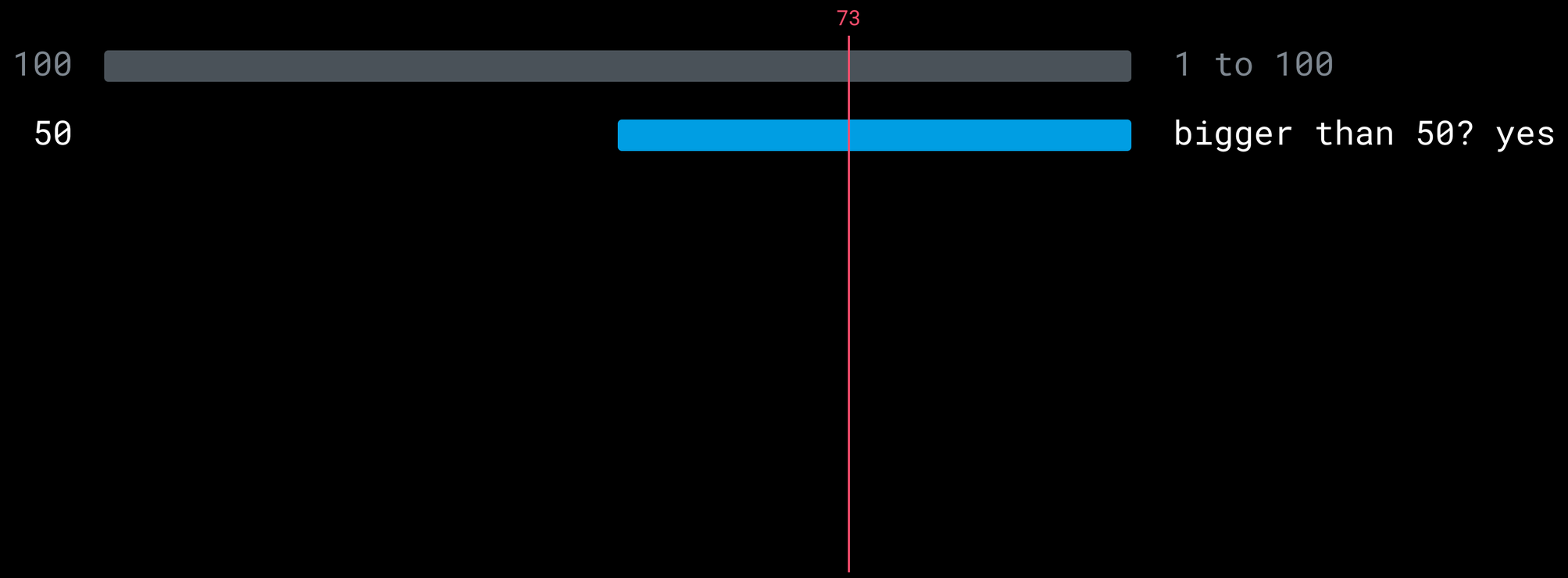
part 2

different ways to cut

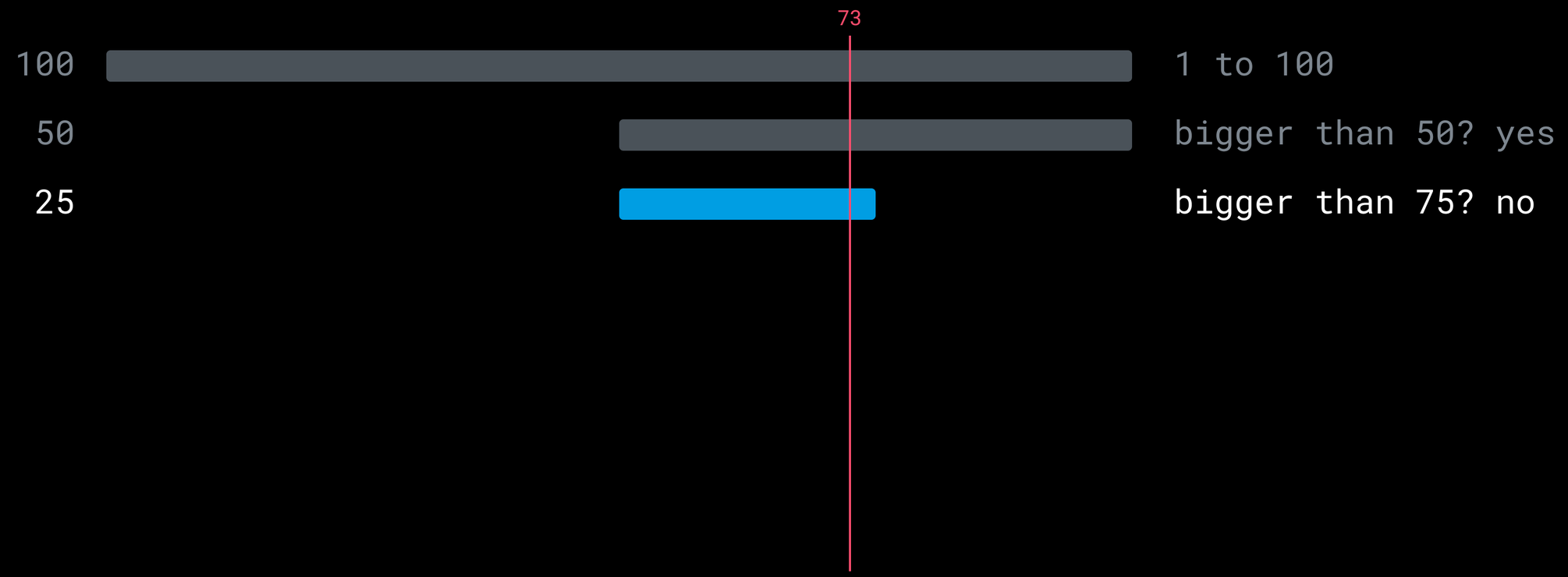
divide & conquer: halve until it's easy



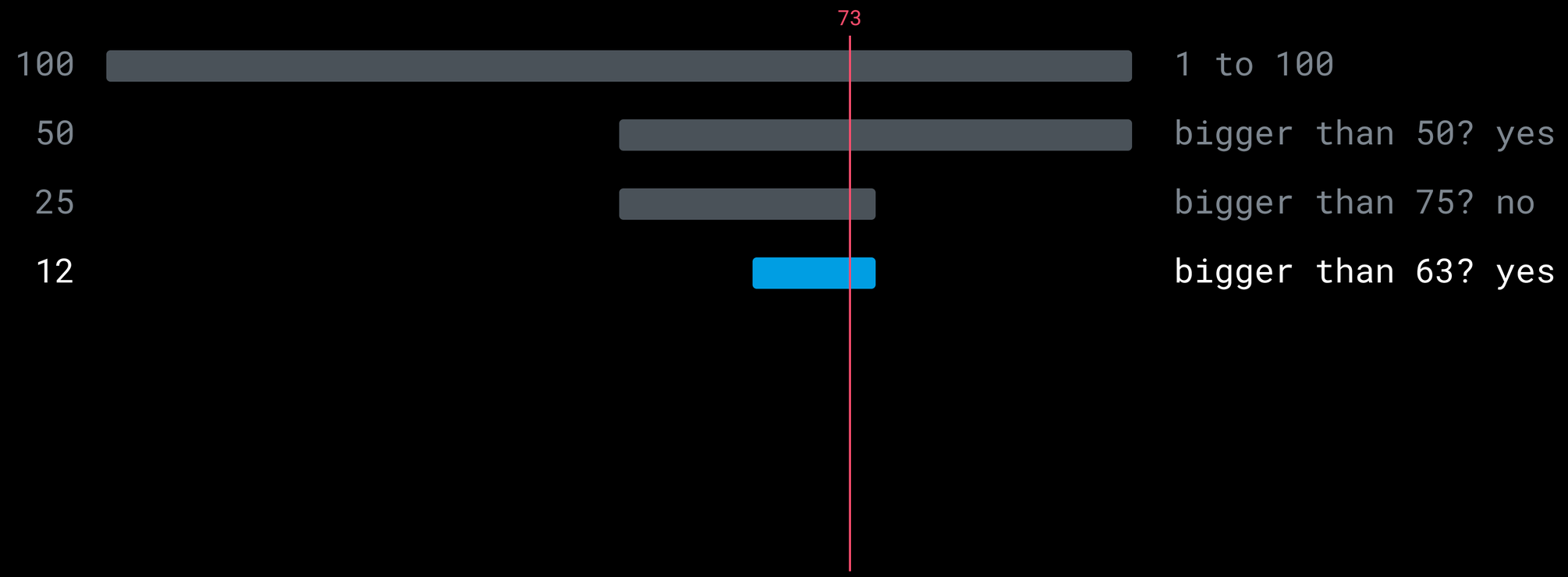
divide & conquer: halve until it's easy



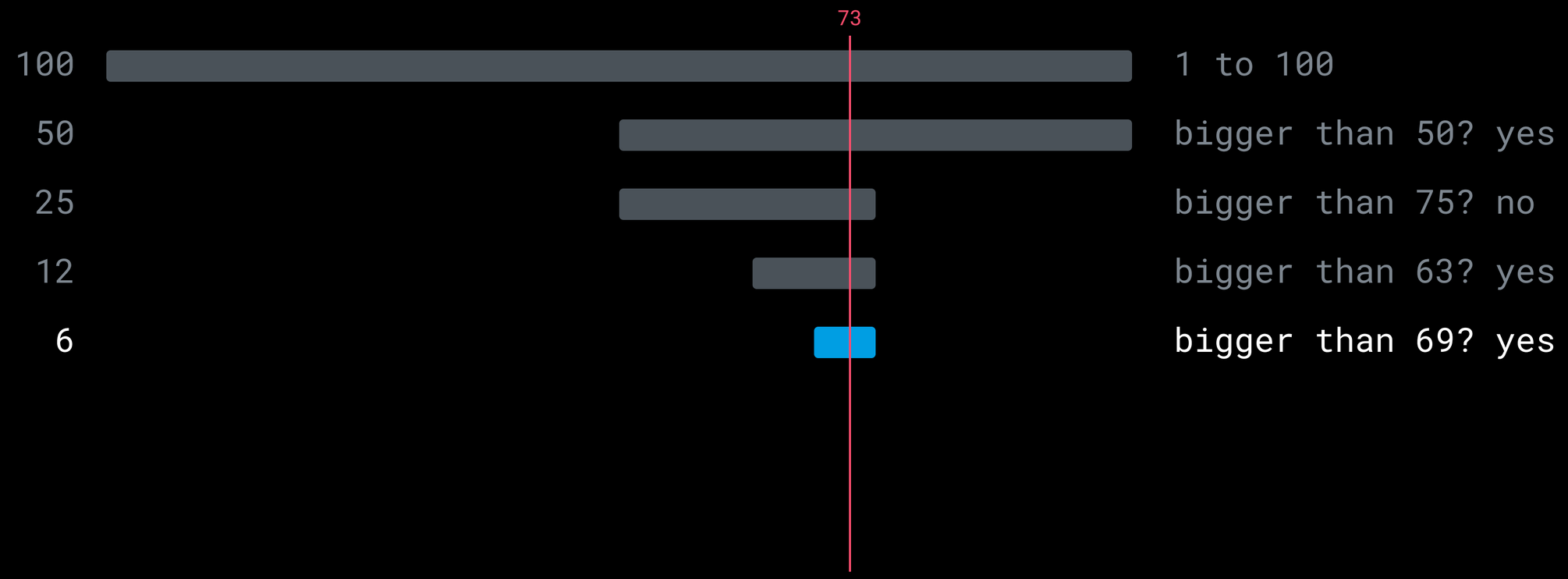
divide & conquer: halve until it's easy



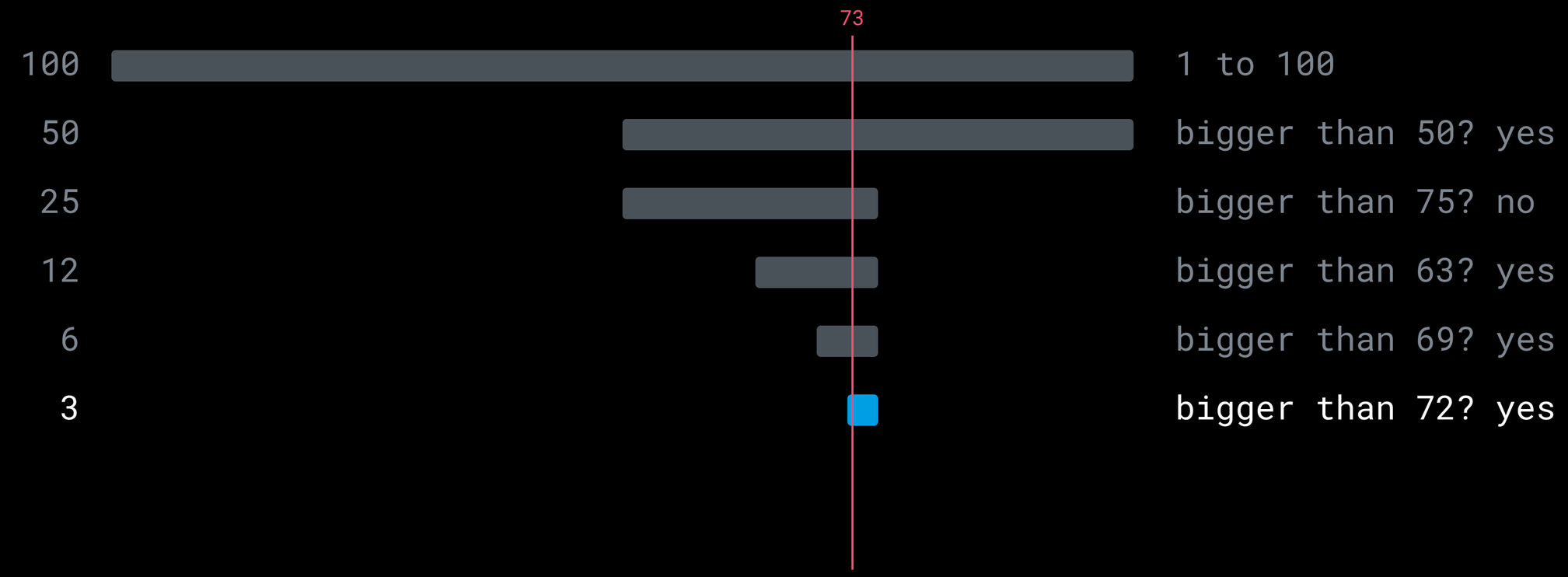
divide & conquer: halve until it's easy



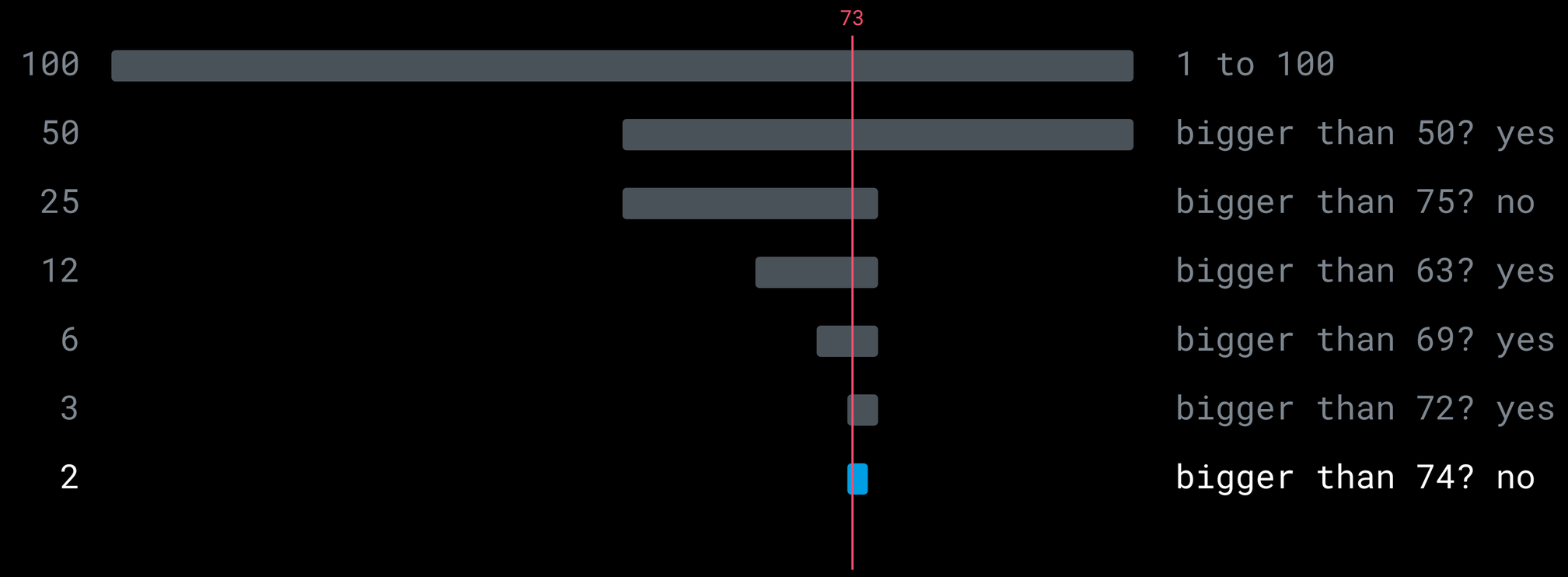
divide & conquer: halve until it's easy



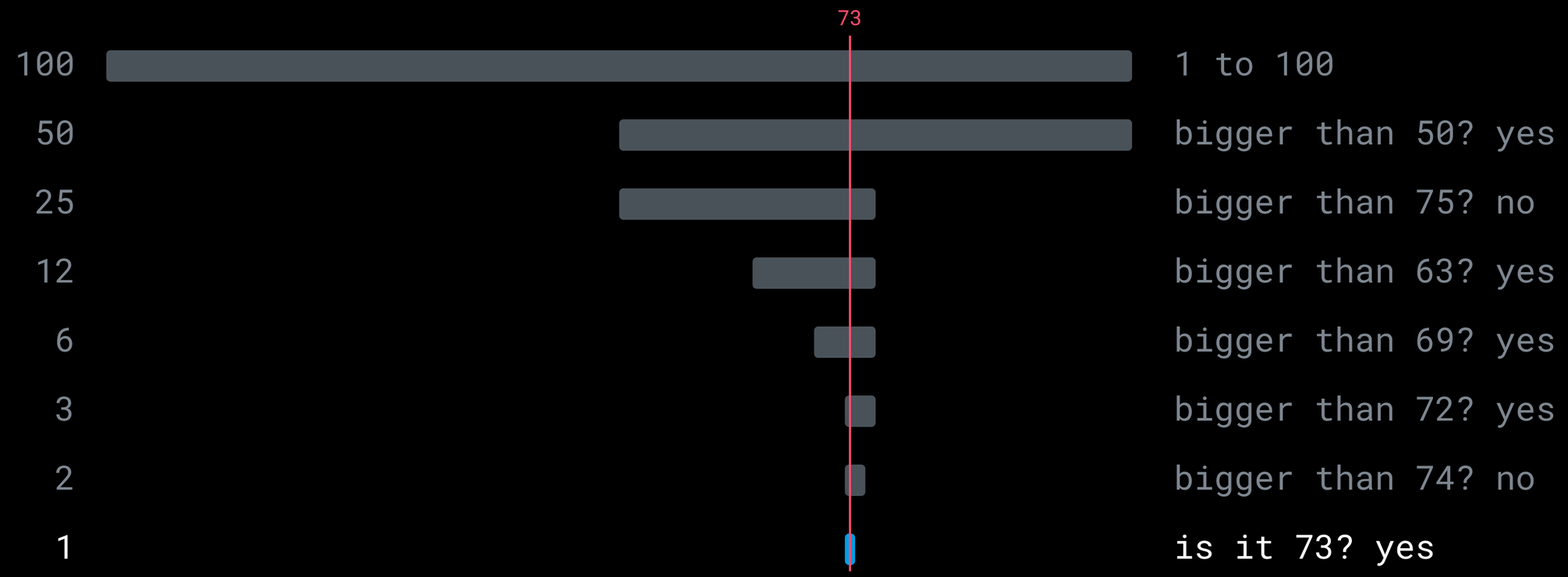
divide & conquer: halve until it's easy



divide & conquer: halve until it's easy



divide & conquer: halve until it's easy



seven questions are enough, whatever the number.

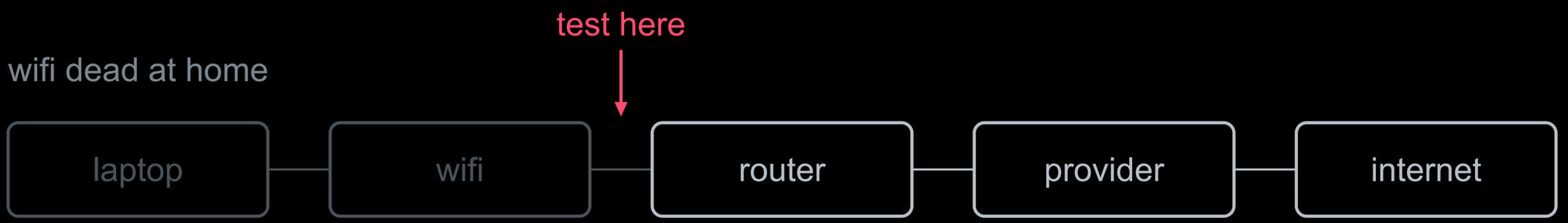
how many steps in general?

the same trick when something breaks

wifi dead at home

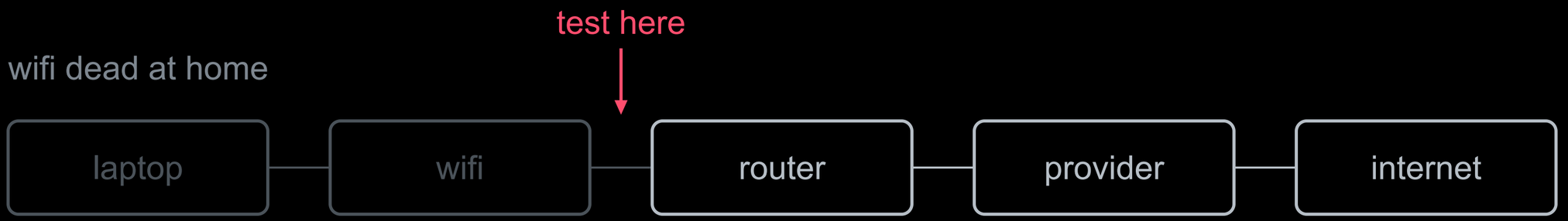


the same trick when something breaks

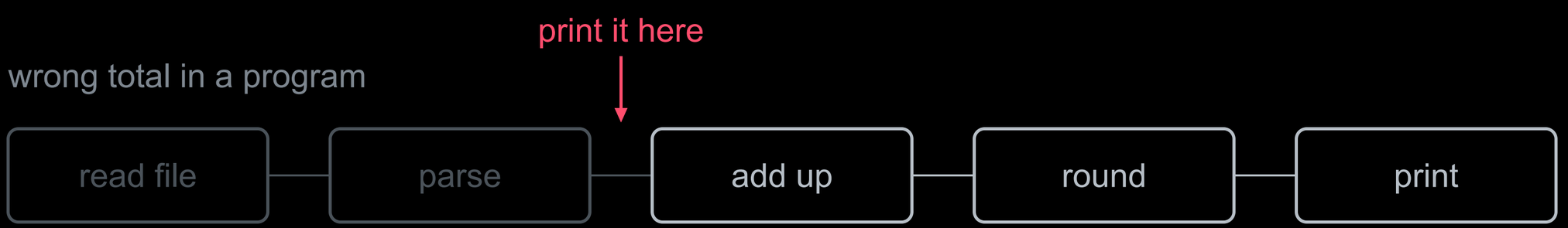


the same trick when something breaks

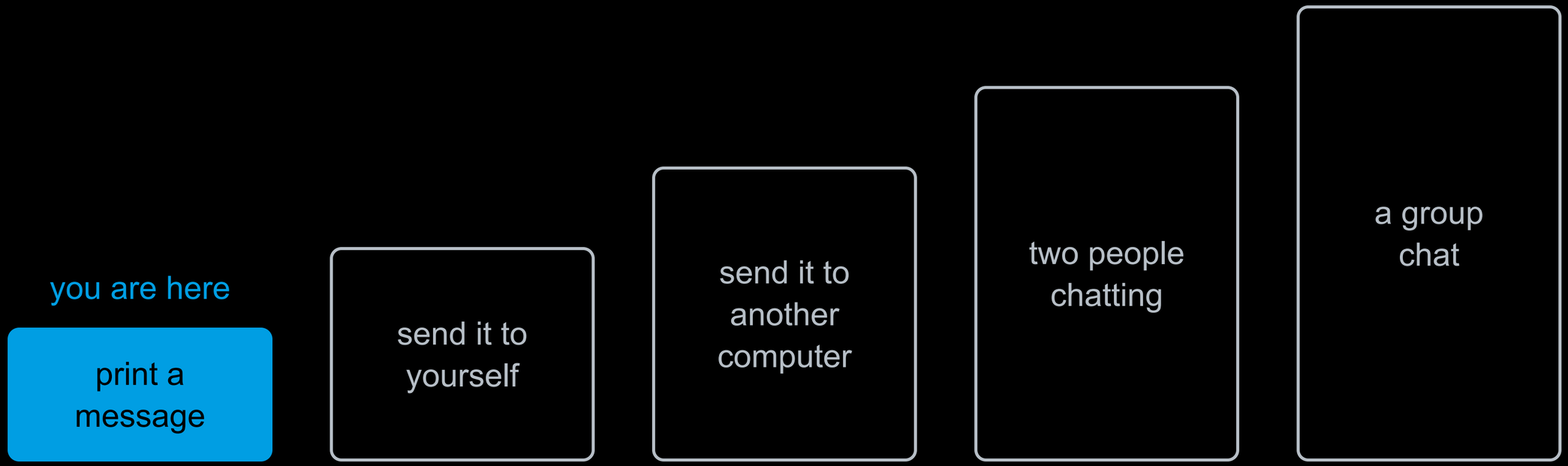
wifi dead at home



wrong total in a program



start smaller: solve an easier version first



part 3

a good cut is testable

which one are you actually preparing?

i need to learn maths.

i can solve an old exam in 90 minutes.

which one are you actually preparing?

i need to learn maths.

i can solve an old exam in 90 minutes.



the same, in a program

the app works.

a wrong password
shows an error,
10 times out of 10.

the same, in a program

the app works.

a wrong password
shows an error,
10 times out of 10.

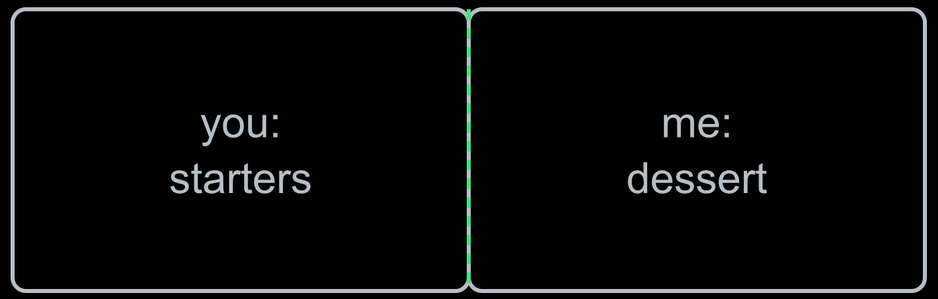


done means: the test passes.

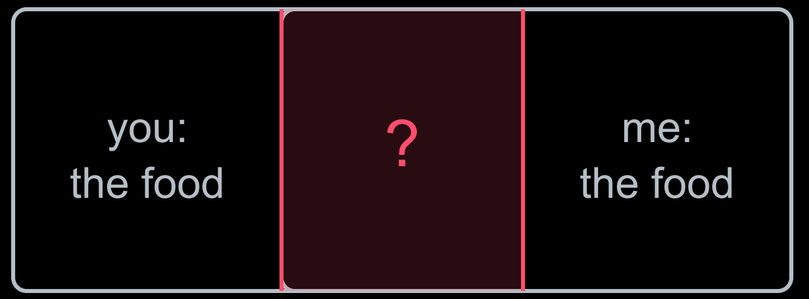
part 4

cuts are agreements

where you cut decides how much you must talk



works: the border is clear



chaos: who buys the bread?

and this is how you talk to the AI assistant

one big wish

```
build me a
chat app.
```

one small piece, with its test

```
write a function that puts
the time in front of a message.
test: "hi" at 9:05
gives "09:05 hi".
```

you cut the problem, the assistant solves the pieces, and you check each one.

and this is how you talk to the AI assistant

one big wish

```
build me a
chat app.
```

one small piece, with its test

```
write a function that puts
the time in front of a message.
test: "hi" at 9:05
gives "09:05 hi".
```



you cut the problem, the assistant solves the pieces, and you check each one.

one bite
at a time.



image: ai-generated (gpt-image-2)