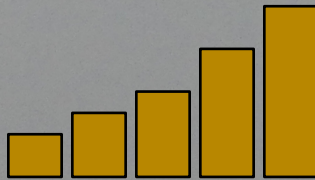


the **Algorithm**
Experience

SORTING



WELCOME!

With this book, you will be able to feel like a computer. You will sort cards from small to large without even knowing what you are doing.

Are you ready?

What you need

- 10 identical envelopes
- scissors
- a large empty surface
- line indicator
- a stopwatch or timer

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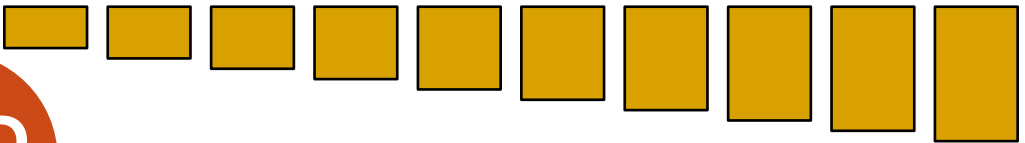


SORTING

Sorting is putting things in the right order.
For example, we can sort numbers.



But we can also sort other things. For example, rectangles.

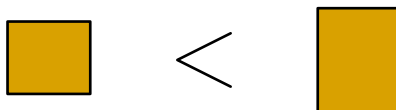


Or letters.



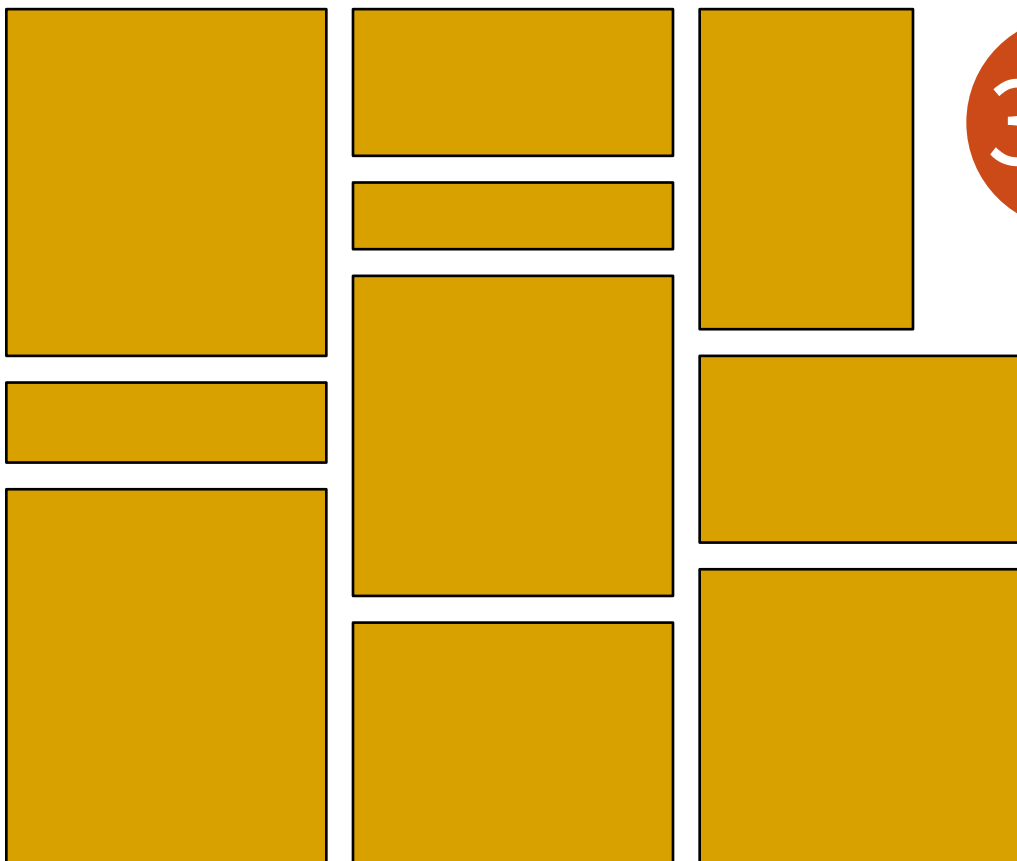
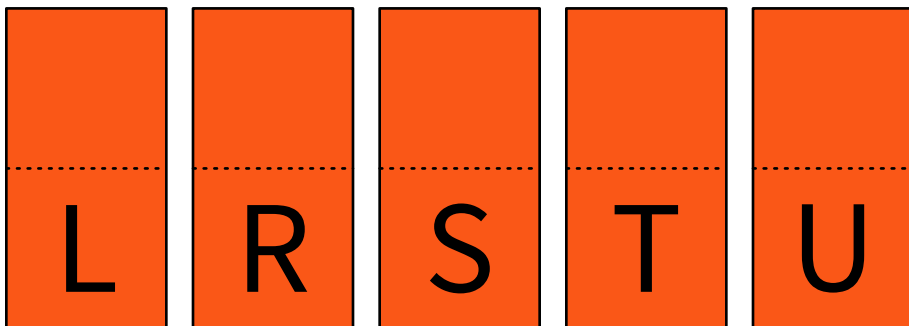
Checks

The only thing you need to sort things, is to be able to check for two things which one should come first.

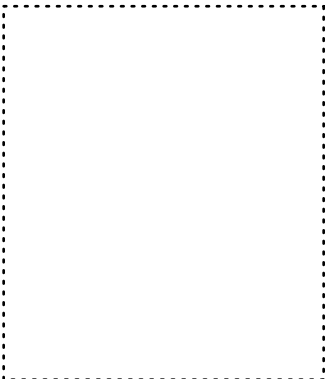
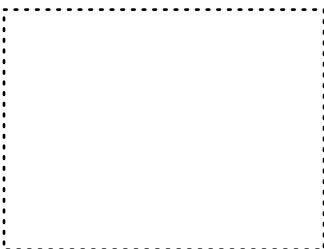
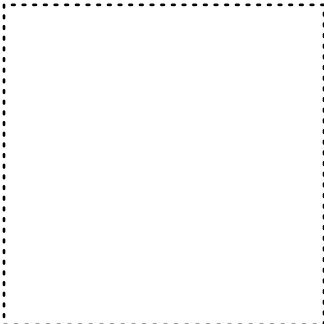
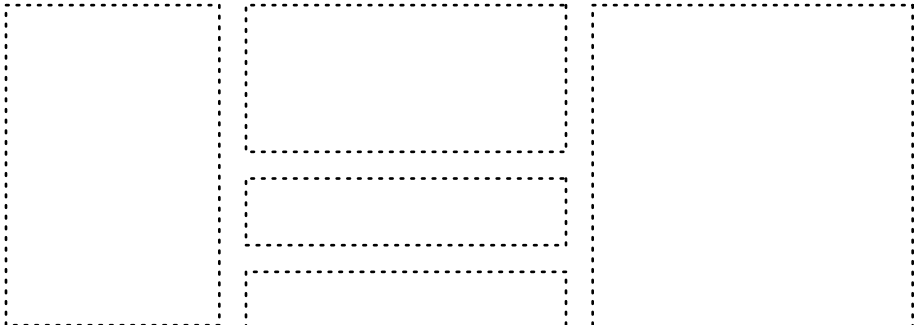


MATERIALS

Cut these shapes, fold the dotted lines.



4



INSTRUCTIONS

Before the experience

- cut out the yellow cards
- put each card into an envelope
- shuffle the envelopes
- cut and fold the orange stack markers
- pick one of the algorithms to execute
- point the marker to the first line
- start the timer

During the experience

- follow the instructions in the algorithm
- keep track of where you are in the algorithm with the marker
- do exactly what the algorithm tells you to do (even if you think it is silly)

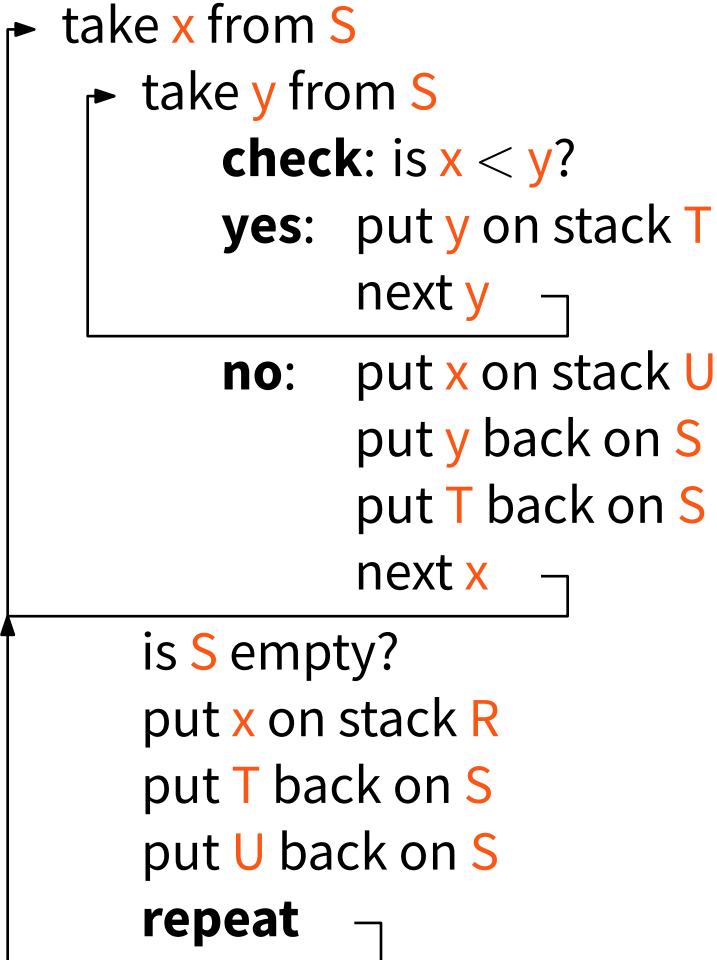
After the experience

- stop the timer
- check if the result is correct
- write down your time on page 9
- try again with another algorithm

ALGORITHM 1



input: stack S



is S empty?

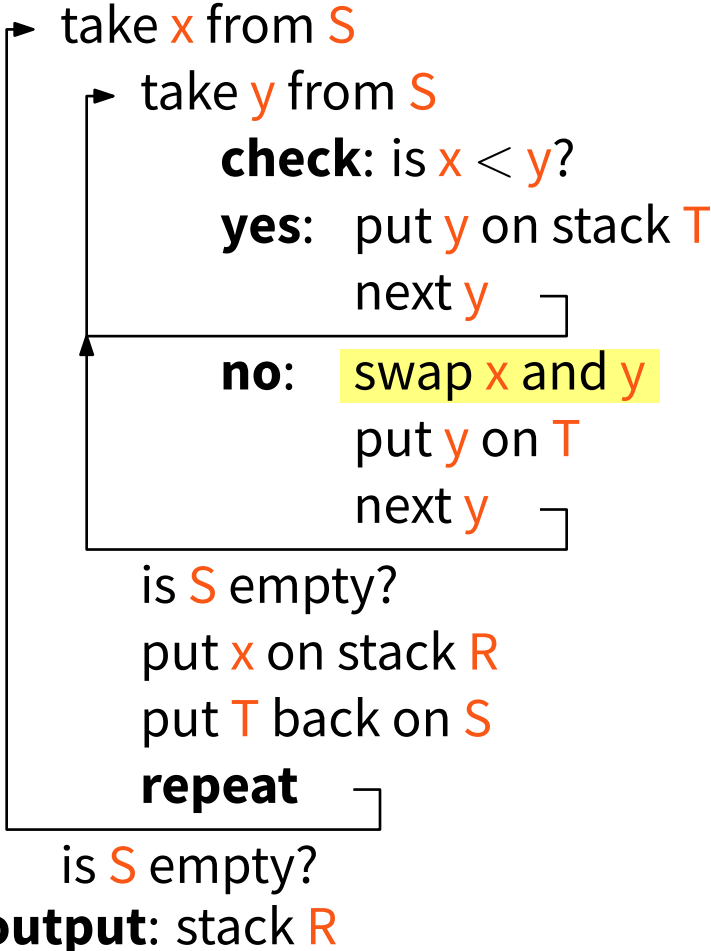
output: stack R

6

ALGORITHM 2



input: stack S



ALGORITHM 3



input: stack S

take x from S

▶ take y from S

check: is $x > y$?

yes: put y on stack L

next y]

no: put y on stack R

next y]

is S empty?

recurse on L

put output on stack T

put x on stack T

recurse on L

put output on stack T

is S empty?

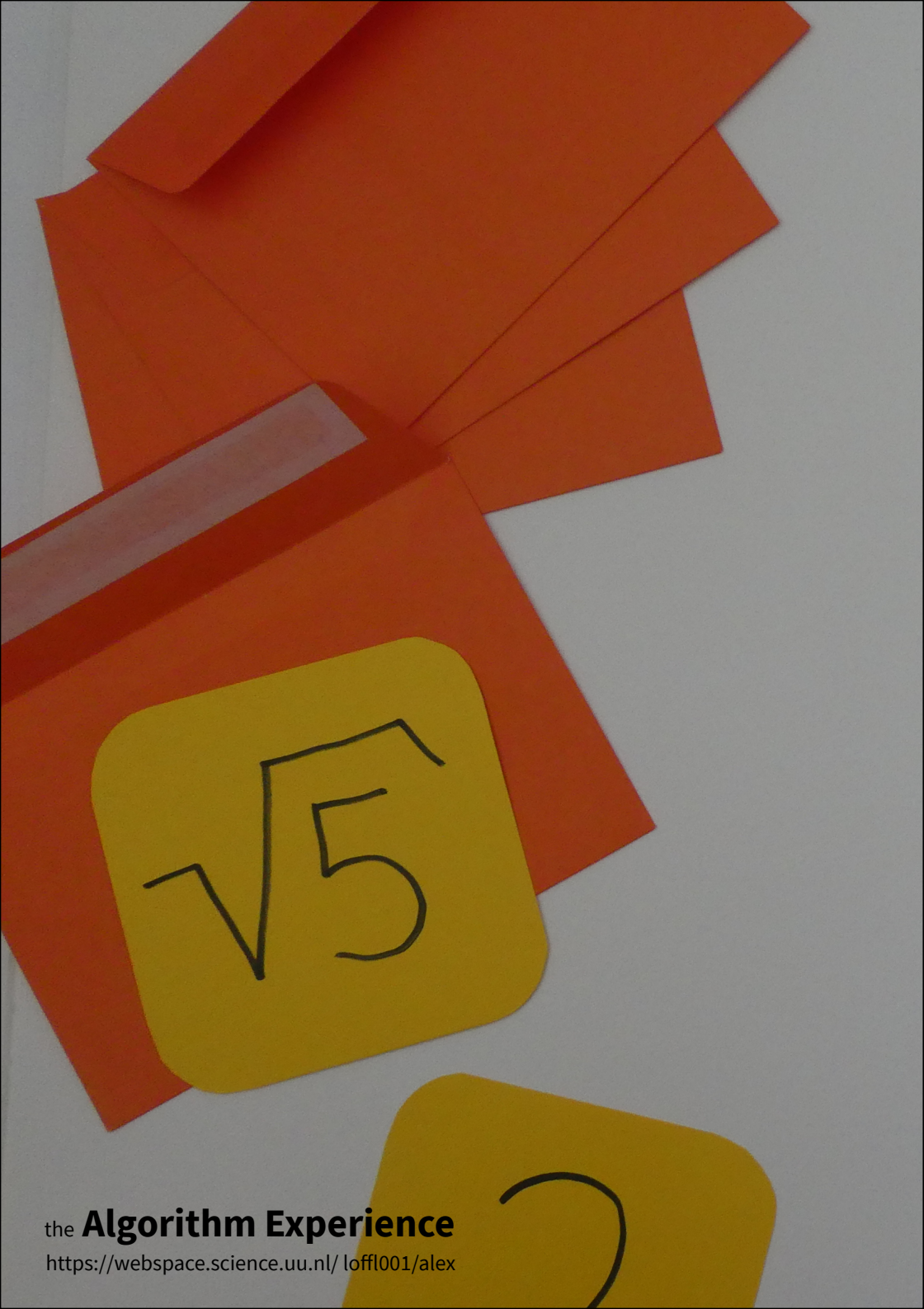
output: stack T

8

SCORES

Keep track of your times here.

date	name	algorithm	time



$\sqrt{5}$

the **Algorithm Experience**

<https://webspacescience.uu.nl/loffl001/alex>