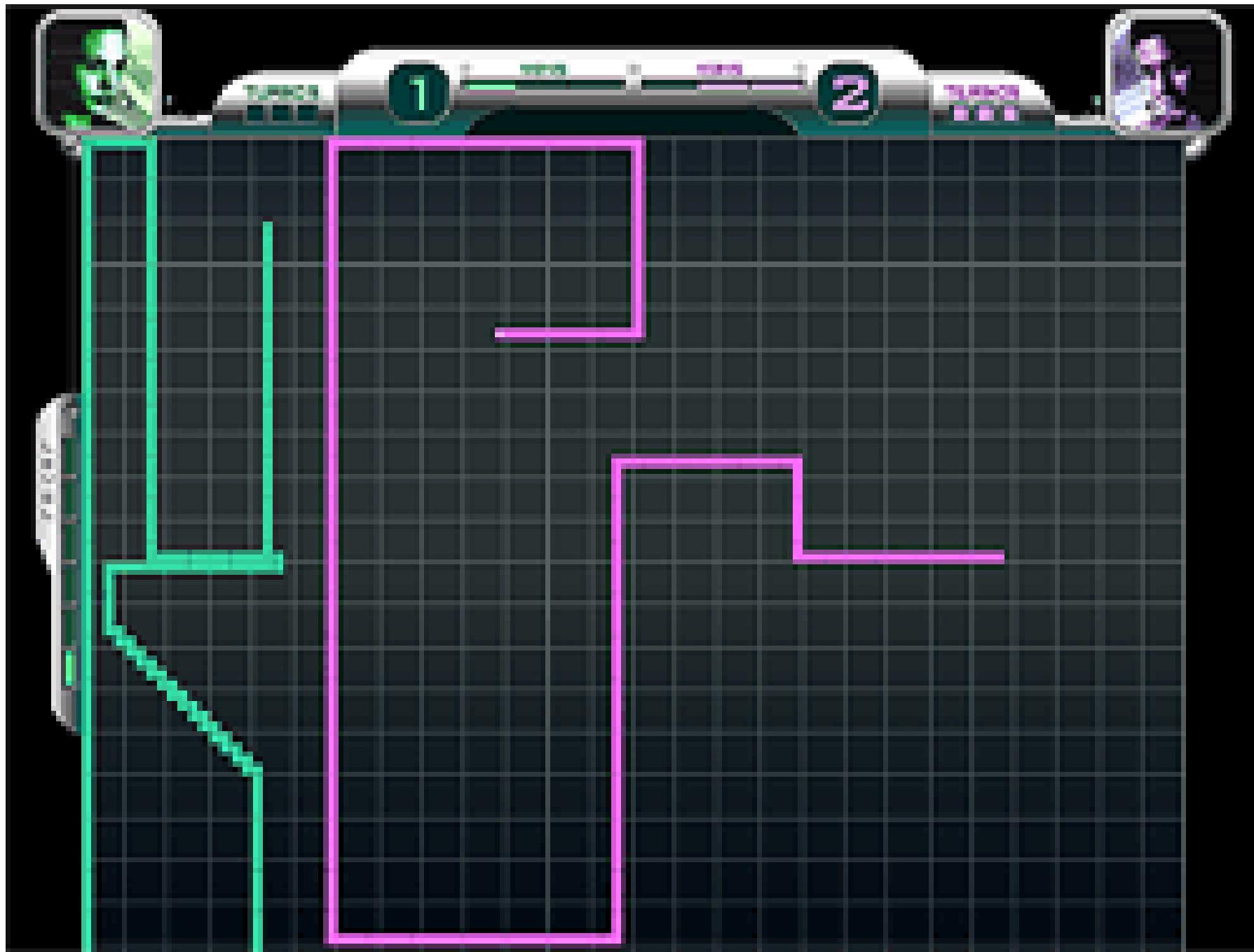




Tron - running example





1 Order

Definitions
Statements

A thin black horizontal arrow pointing to the right, positioned below the word "Statements".

The movie Tron from 1982 inspired the computer game Tron [4]. The game is played in a rectangle by two light cycles or motorbikes, which try to cut each other off, so that one, eventually has to hit a wall or a light ray.



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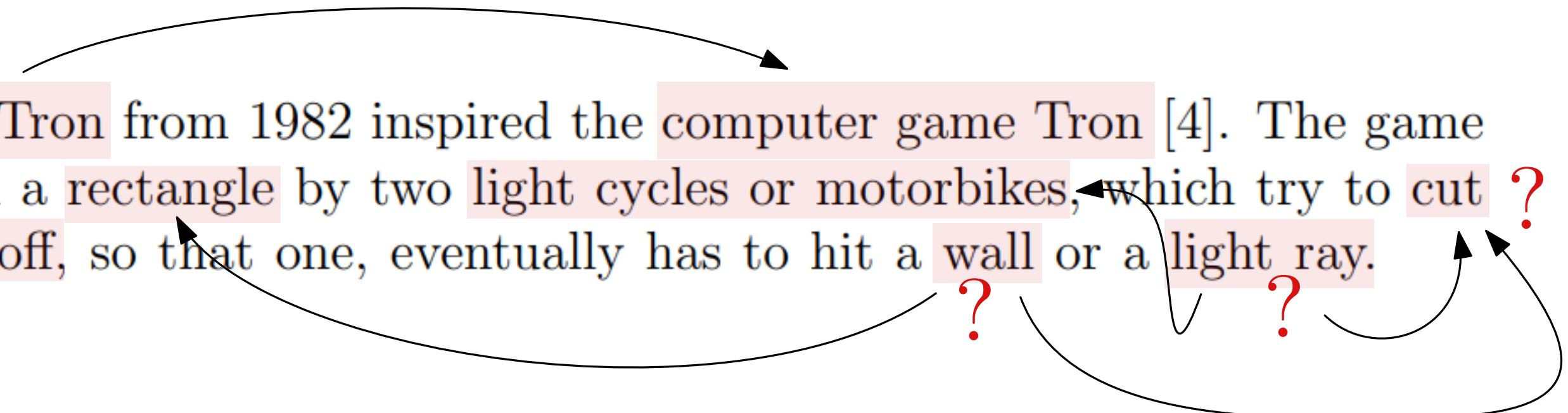
?

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10 minutes

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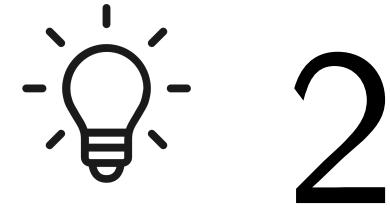
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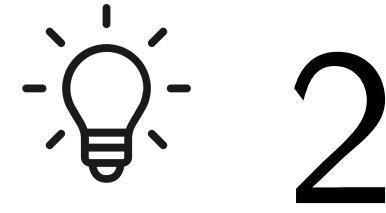
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Both motorcycles have at all times the same constant speed.
If a motorcycle hits a wall this player loses.
The two players try to cut each other off, so that this must happen.



2

Transitions



2

Transitions

This is the first sentence, which prepares for the second sentence.

The second sentence picks up the first and adds a new thing.

The new thing is an excellent start to introduce a new concept.

This concept is strongly connected to an important detail.

With this detail, we are ready to wrap up.

Wrapping up, we never felt lost in this content-free text.

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It inspired the computer game with the same name [4].

The game is played by "light cycles" or motorbikes.

Motorbikes must drive inside a rectangle with constant speed..

The rectangle has walls, which the light-cycles need to avoid.

The motorcycles also need to avoid lightrays.

Lightrays appear behind the motorcycles and never disappear.

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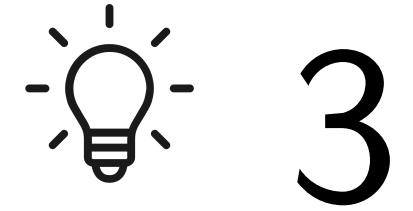
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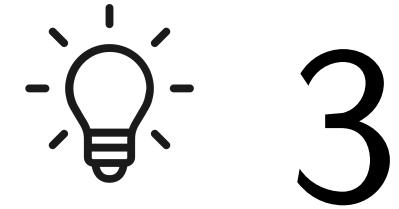
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3

Consistency



3 Consistency

one concept = one word

two concepts = two words

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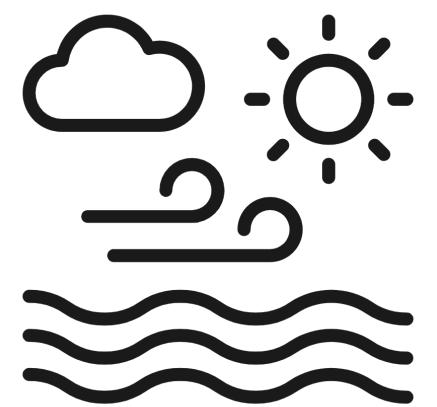
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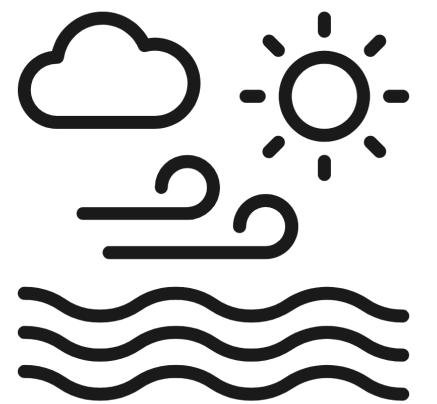
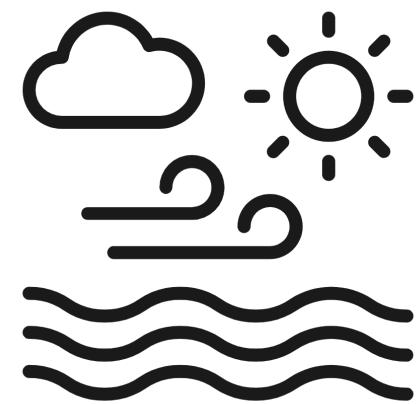
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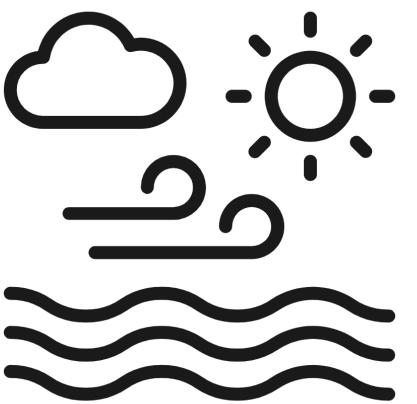
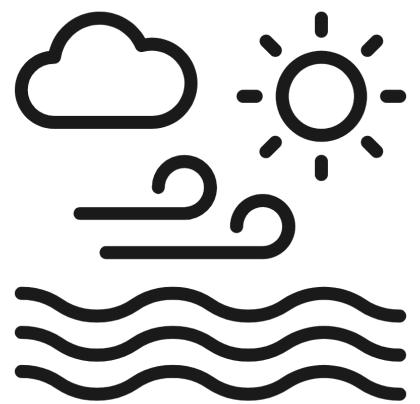
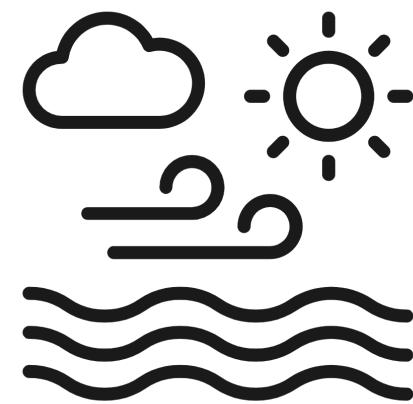
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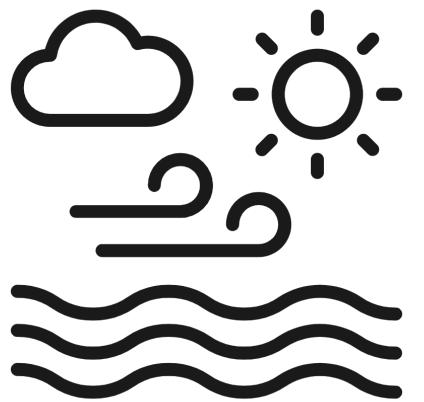
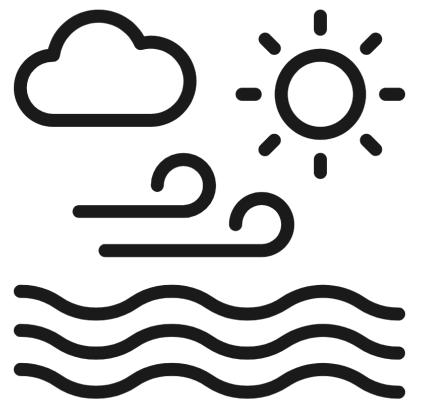
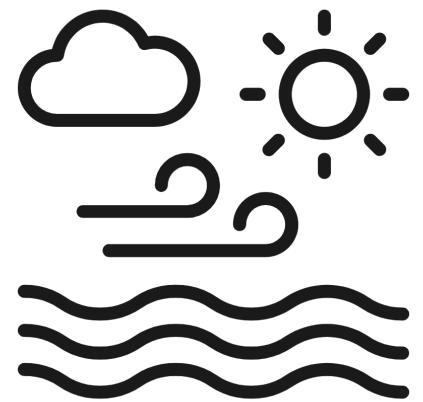
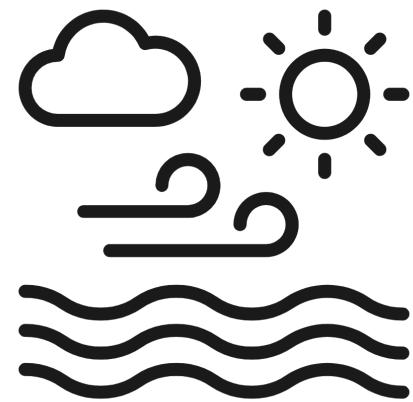
The motorcycles also need to avoid lightrays.

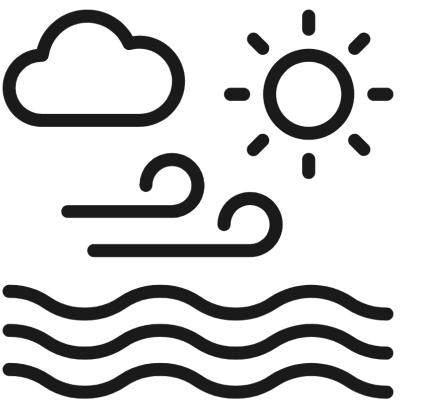
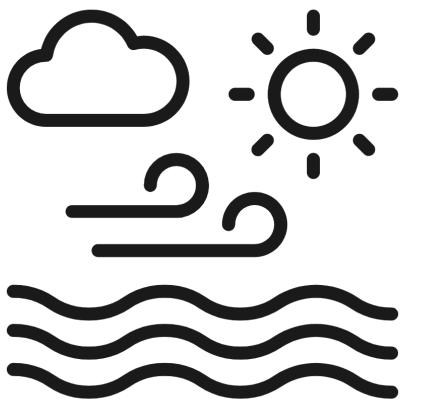
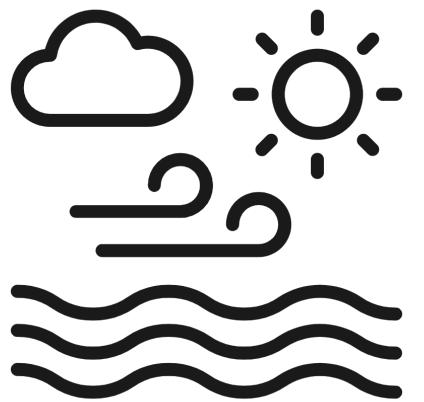
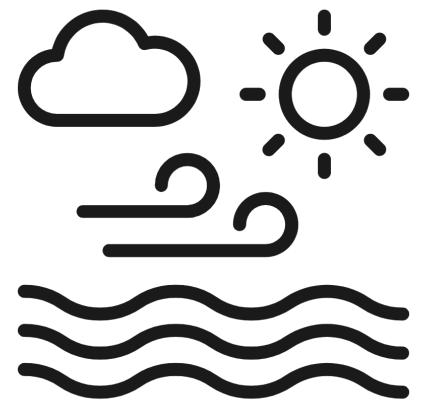
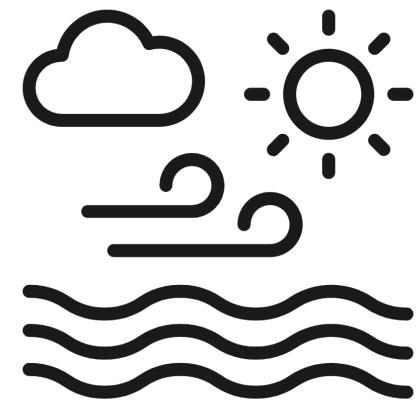
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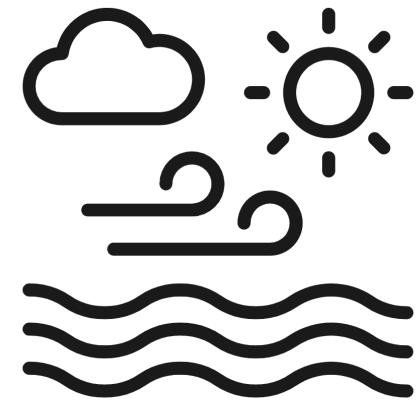
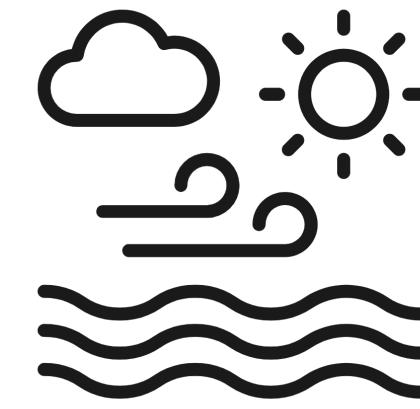
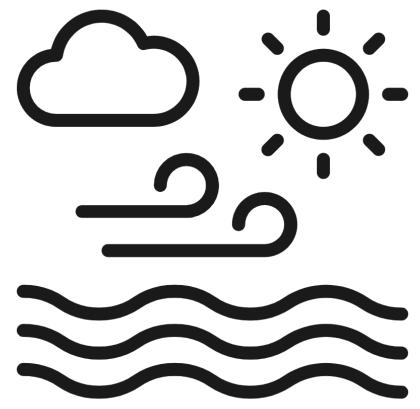
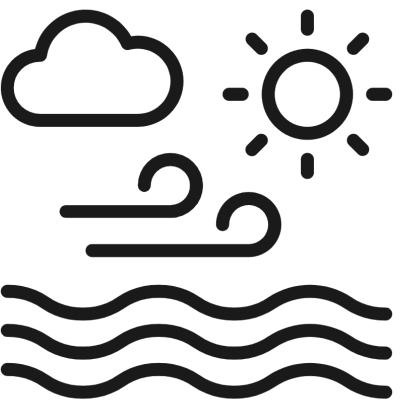
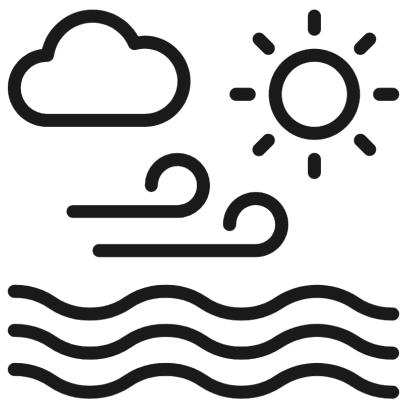
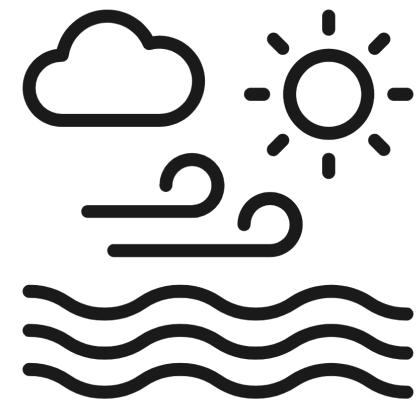


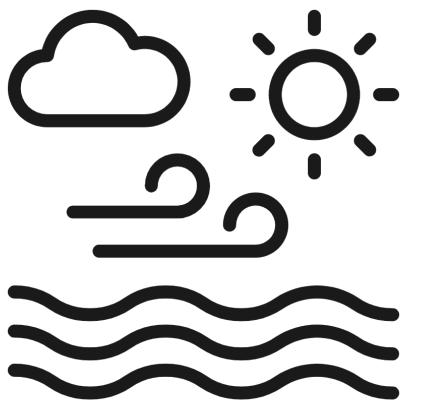
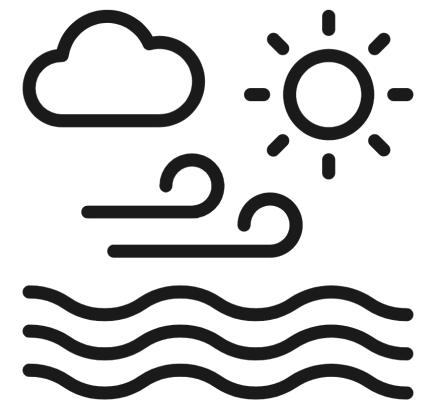
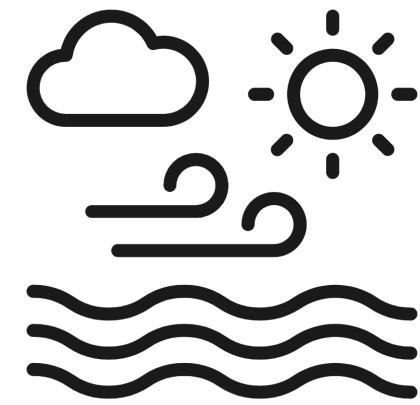
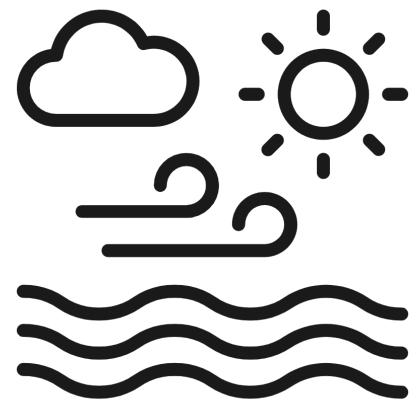
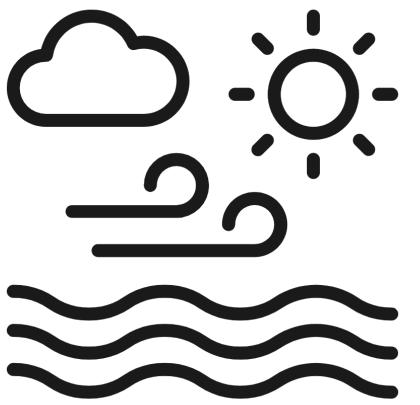
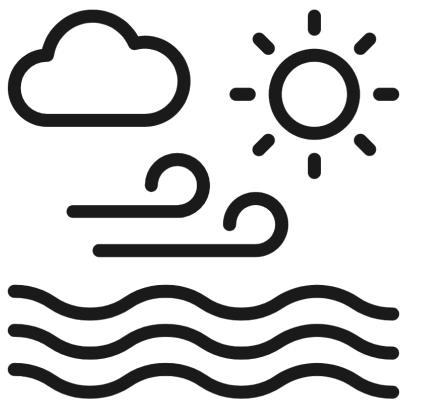
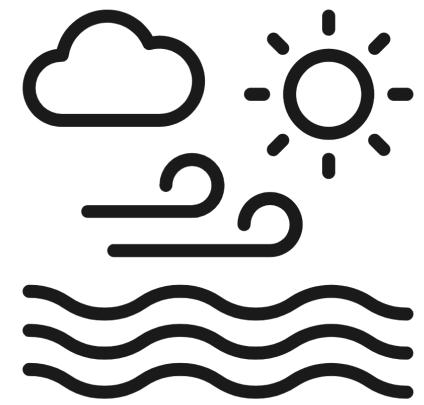


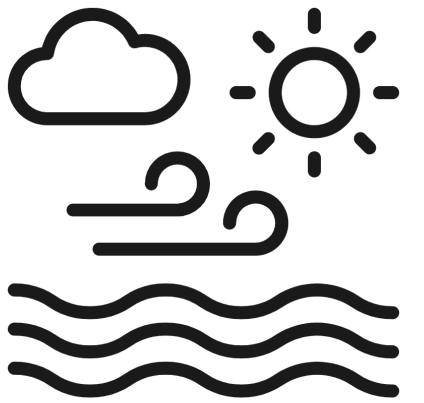
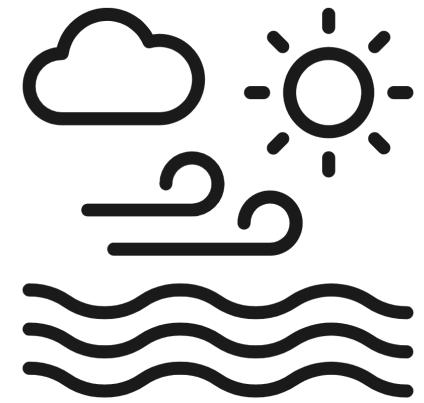
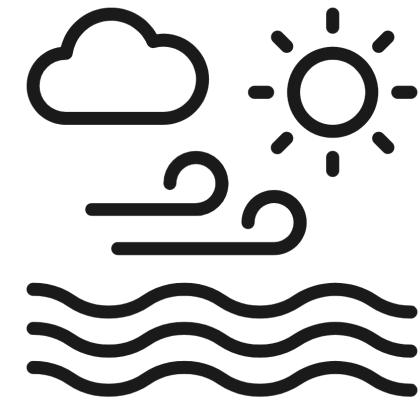
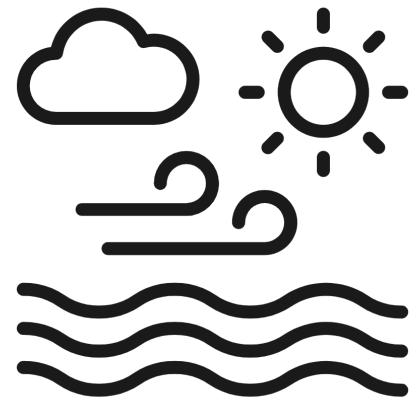
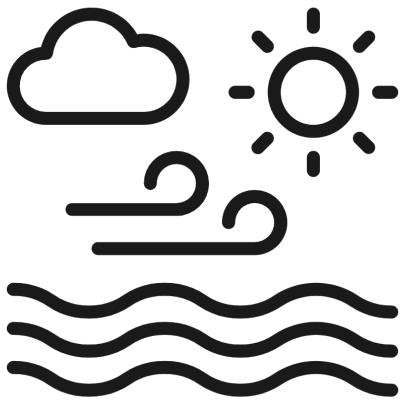
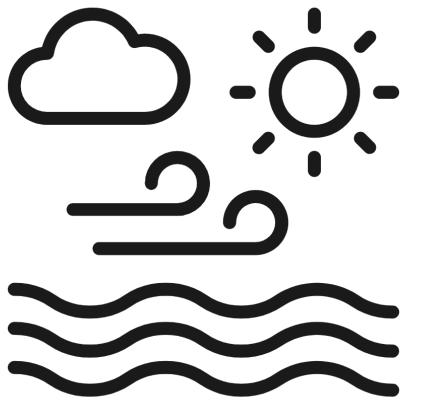
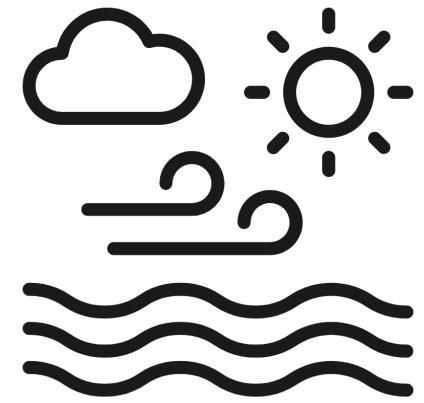


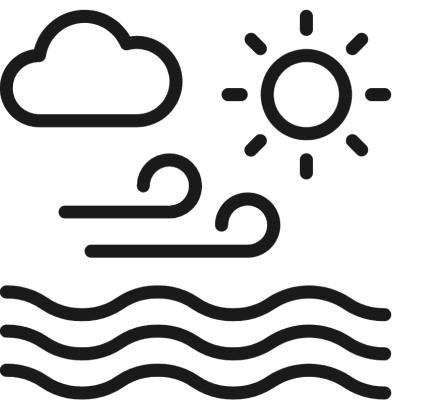
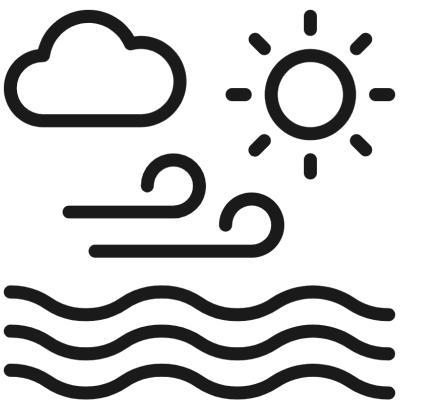
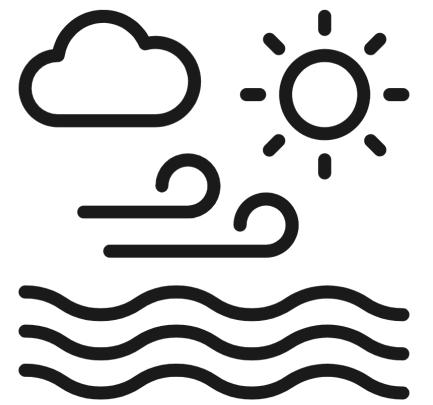
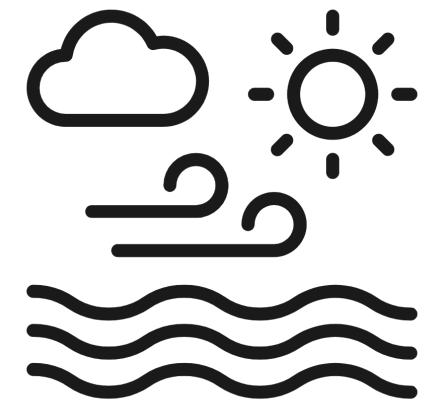
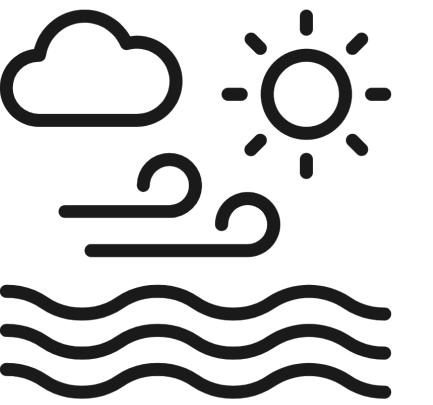
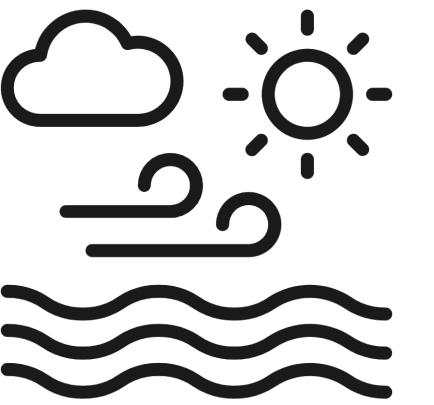
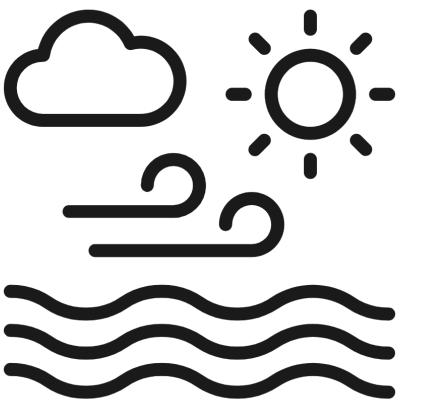
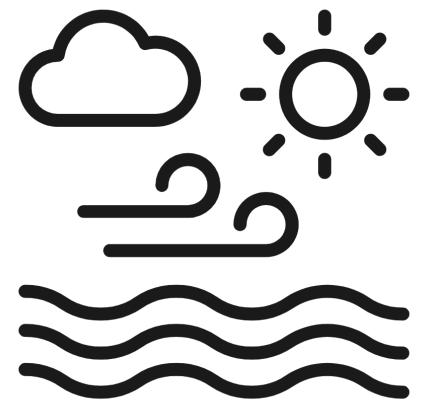


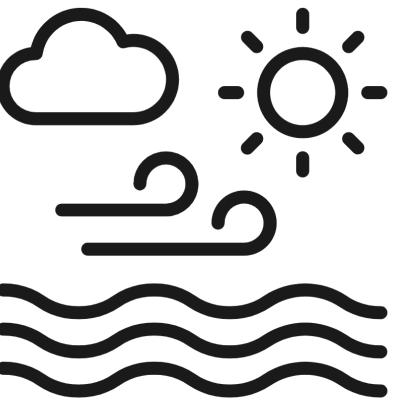
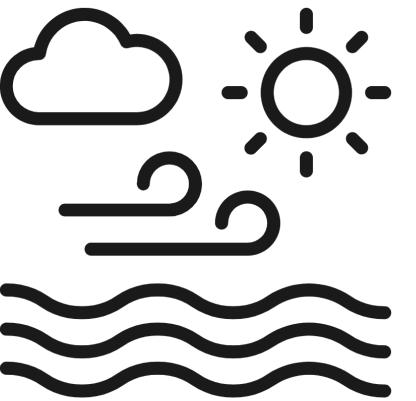
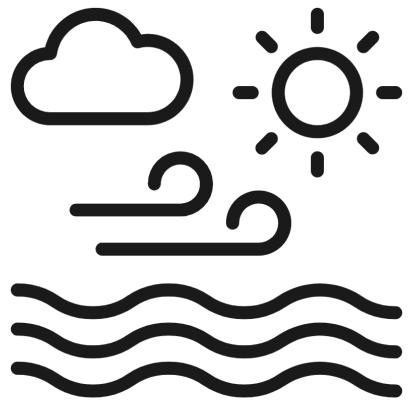
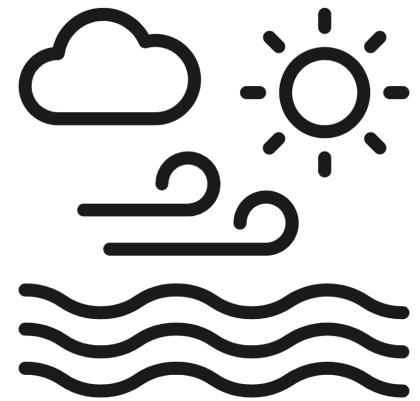
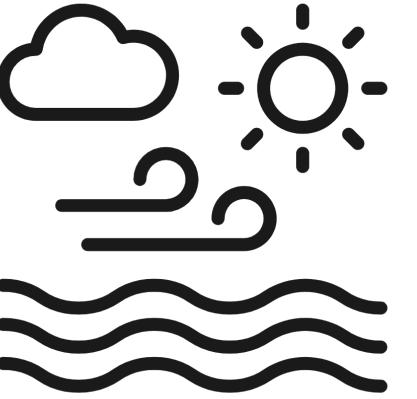
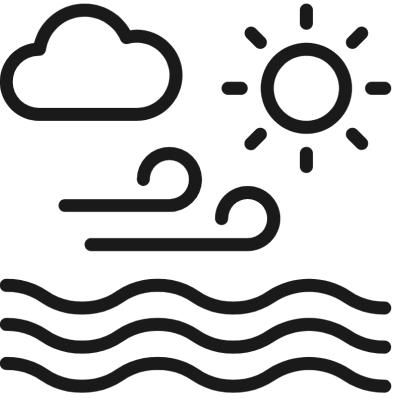
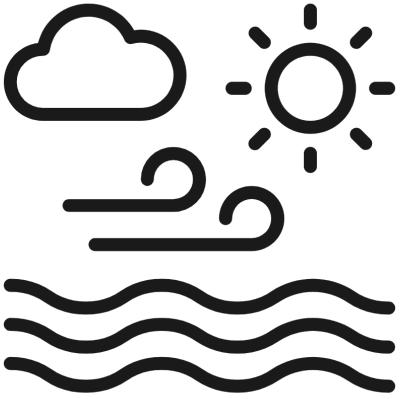
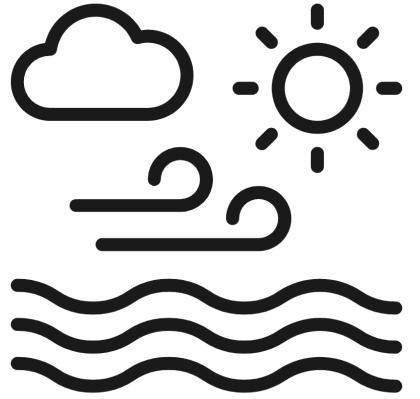
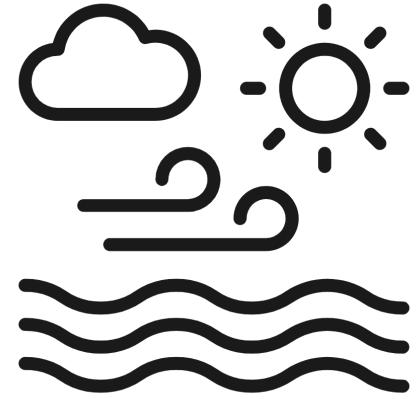






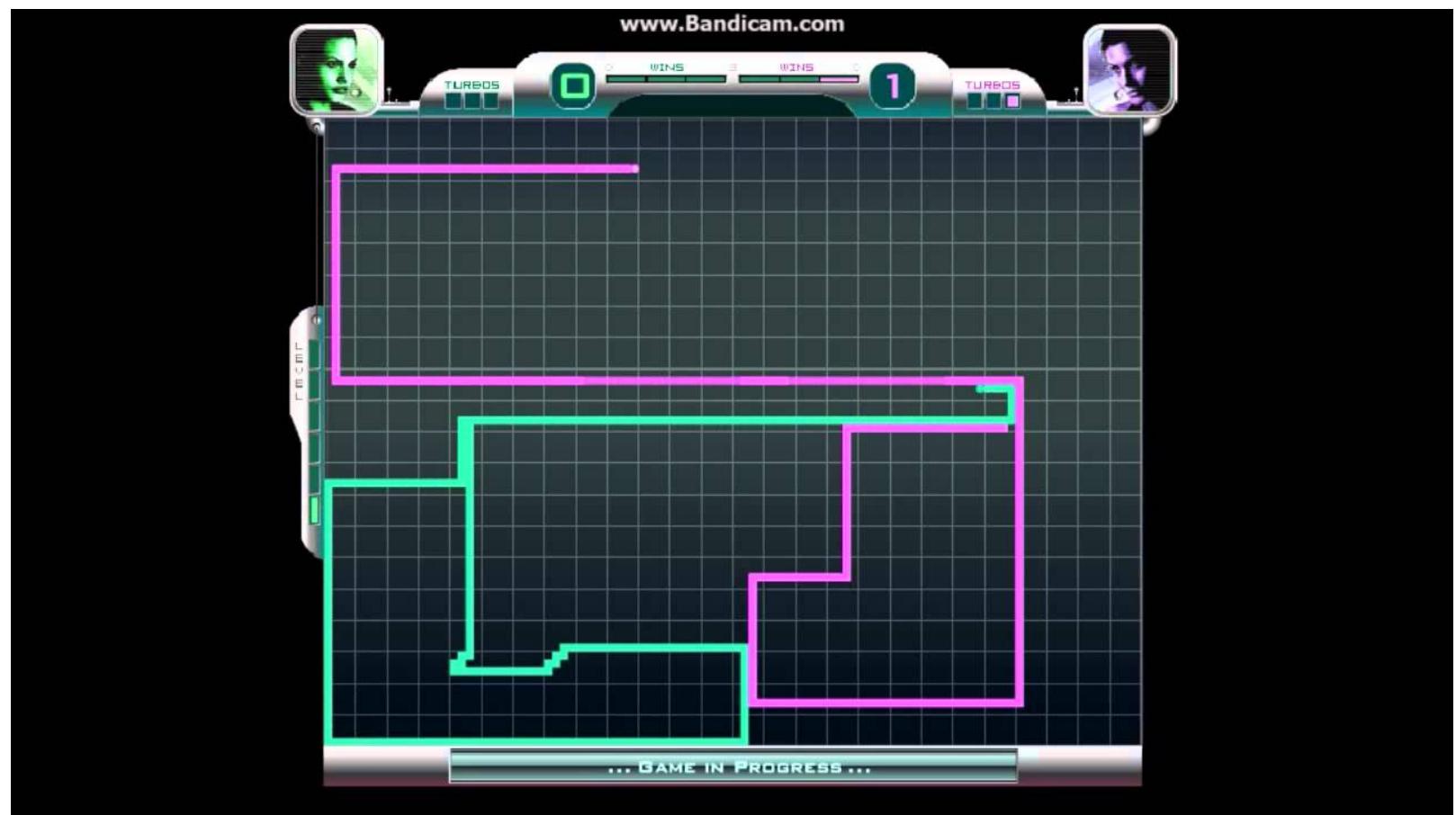
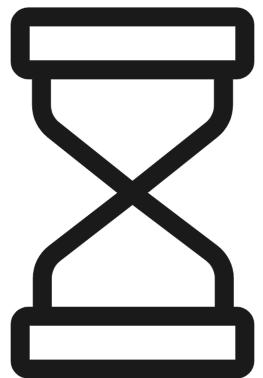








4 Visualization

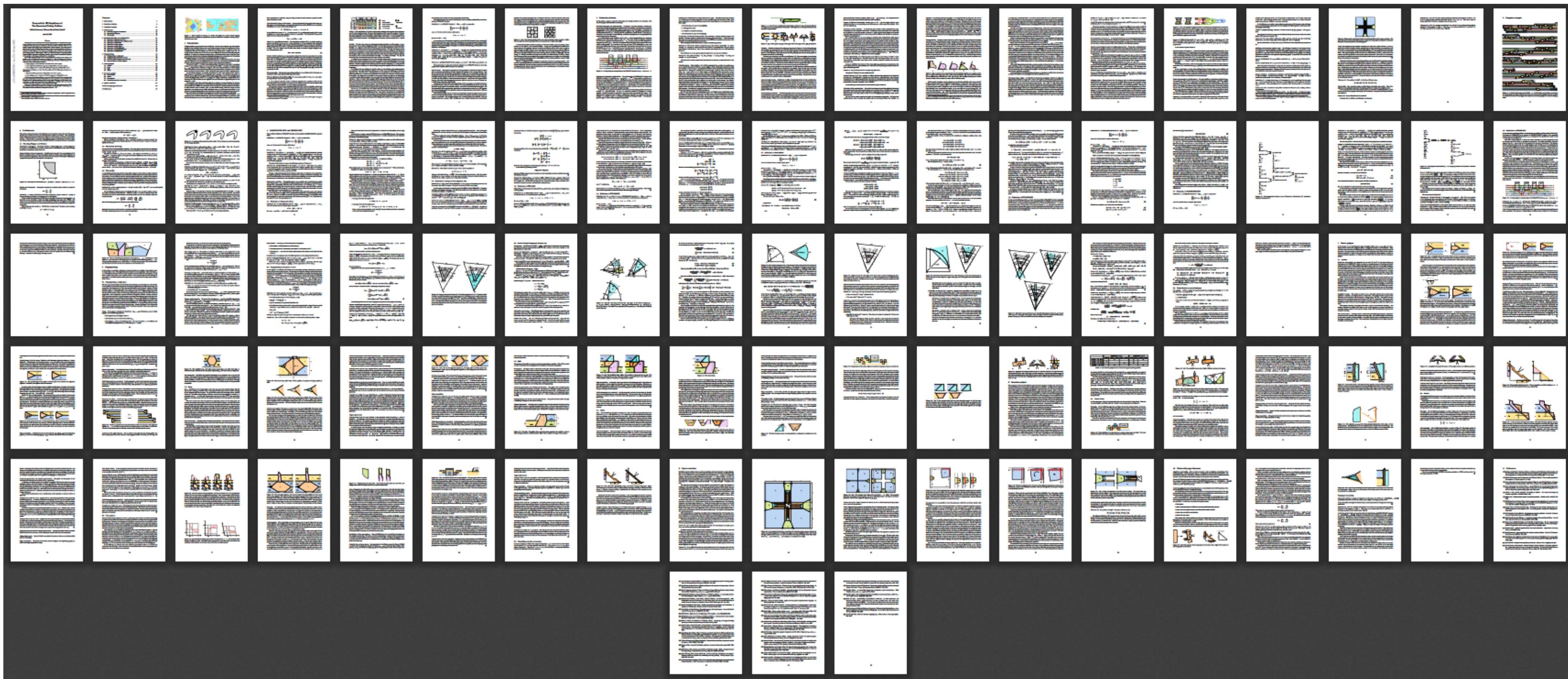


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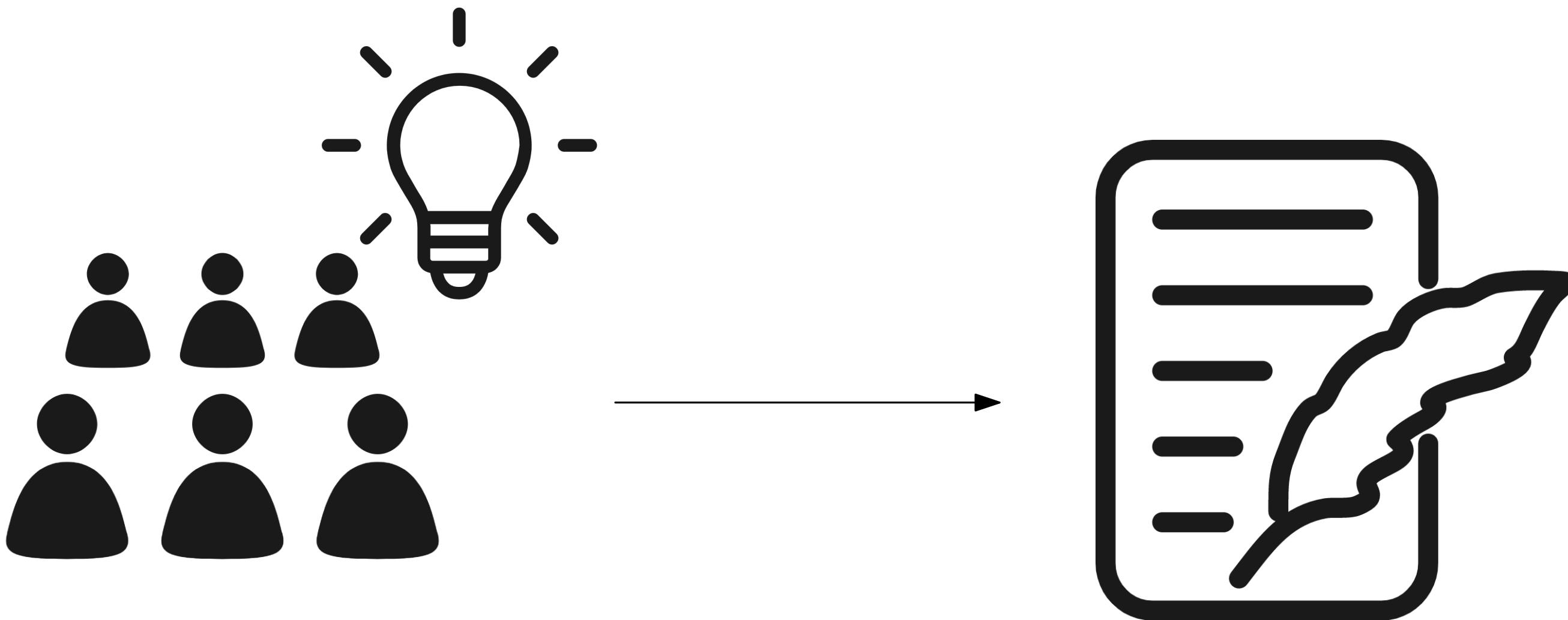
Search for anything





examples for excercise audience

examples for excercise audience





5

Culture / Tradition



5

Culture / Tradition

Let i be a graph with vertex set E and edge set T . We say two vertices α, Z are incident, if there exists an edge $B \in T$ such that $B = [\alpha|Z]$.



6 Short

Let i be a graph with vertex set E and edge set T . We say two vertices α, Z are incident, if there exists an edge $B \in T$ such that $B = [\alpha|Z]$.



6 Short

Let i be a graph with vertex set E and edge set T . We say two vertices α, Z are incident, if there exists an edge $B \in T$ such that $B = [\alpha|Z]$.

Let $G = (V, E)$ be a graph.

We say u, v are adjacent if $uv \in E$.

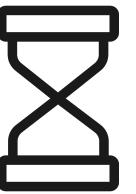
 6

Short

Let i be a graph with vertex set E and edge set T . We say two vertices α, Z are incident, if there exists an edge $B \in T$ such that $B = [\alpha|Z]$.

Let $G = (V, E)$ be a graph.
We say u, v are adjacent if $uv \in E$.

Let x_1, \dots, x_n be real numbers. We say $x_{i_1}, x_{i_2}, x_{i_3}$ are a solution, if $x_{i_1} + x_{i_2} + x_{i_3} = 0$, for $i_1, i_2, i_3 \in \{1, \dots, n\}$.



5 minutes

 6 Short

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5 minutes

Let X be a set of n real numbers. We say $x, y, z \in X$ are a solution, if $x + y + z = 0$.



7

Details - Completeness

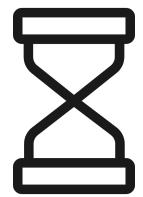
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7

Details - Completeness

The movie Tron from 1982 inspired the computer game Tron [4]. The game is played in a rectangle by two light cycles or motorbikes, which try to cut each other off, so that one, eventually has to hit a wall or a light ray. We



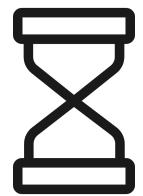
Missing?



7

Details - Completeness

The movie Tron from 1982 inspired the computer game Tron [4]. The game is played in a rectangle by two light cycles or motorbikes, which try to cut each other off, so that one, eventually has to hit a wall or a light ray. We



Missing?

real-time

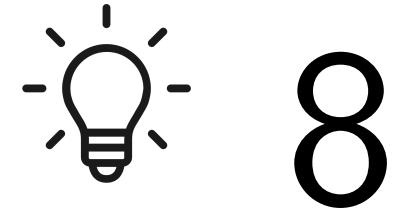
rectilinear movement

constant speed



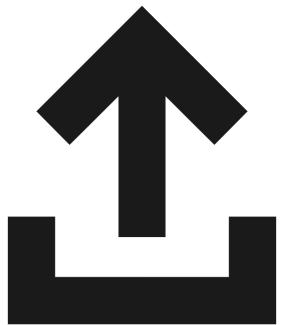
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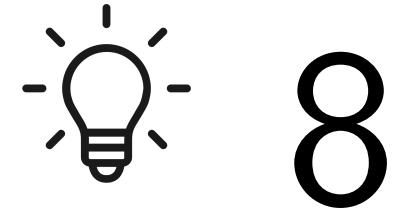
Bottom-Up Top-down



8

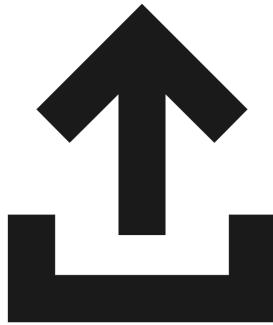
Bottom-Up Top-down





8

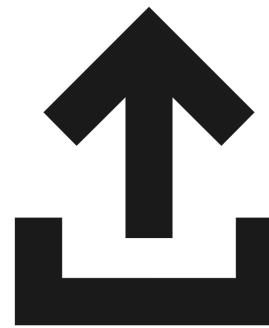
Bottom-Up Top-down



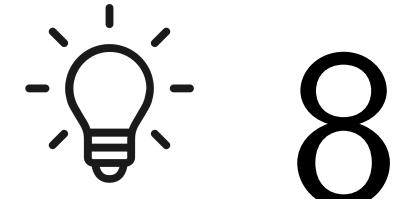


8

Bottom-Up Top-down

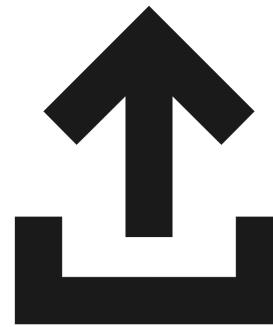


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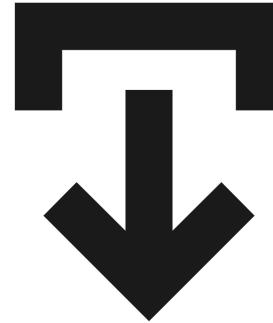


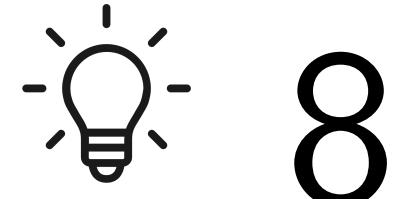
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Bottom-Up Top-down

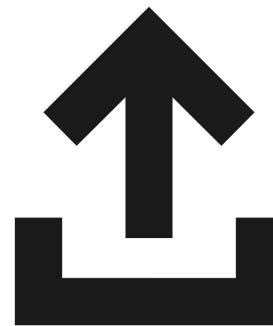


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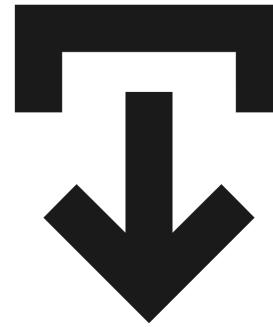


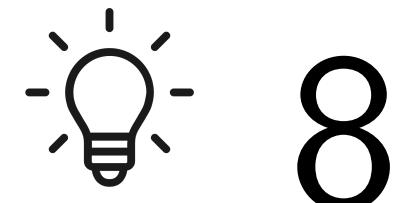


Bottom-Up Top-down

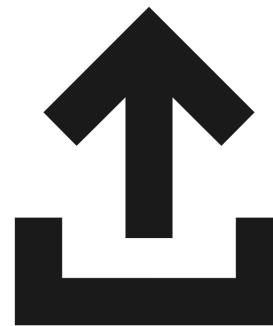


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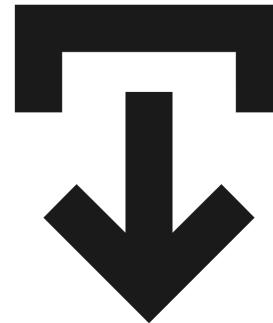




Bottom-Up Top-down

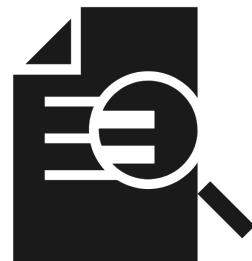
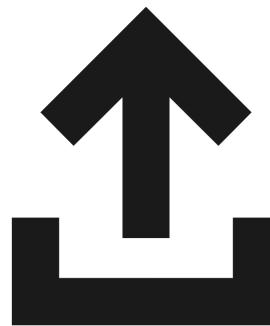


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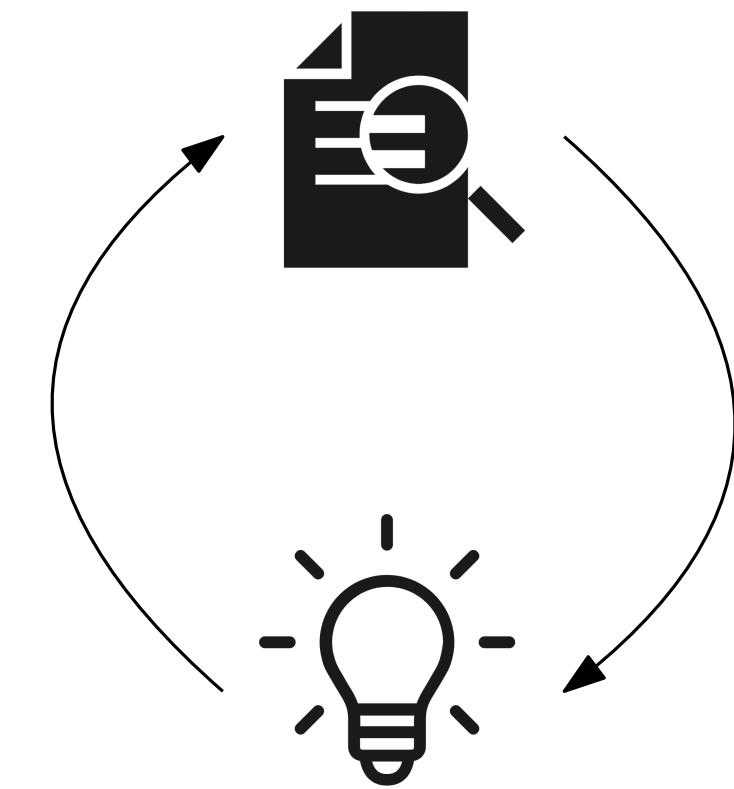
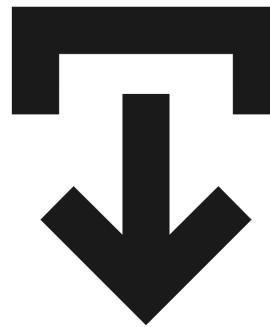


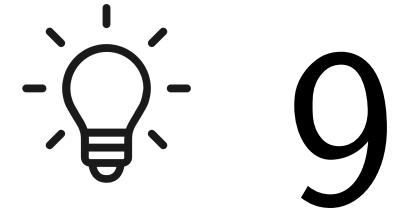
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Bottom-Up Top-down



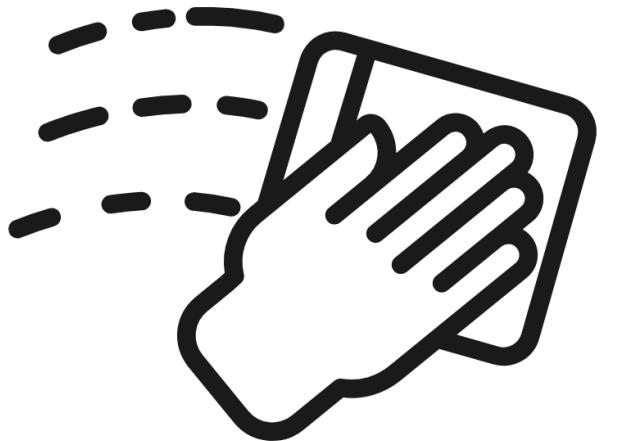
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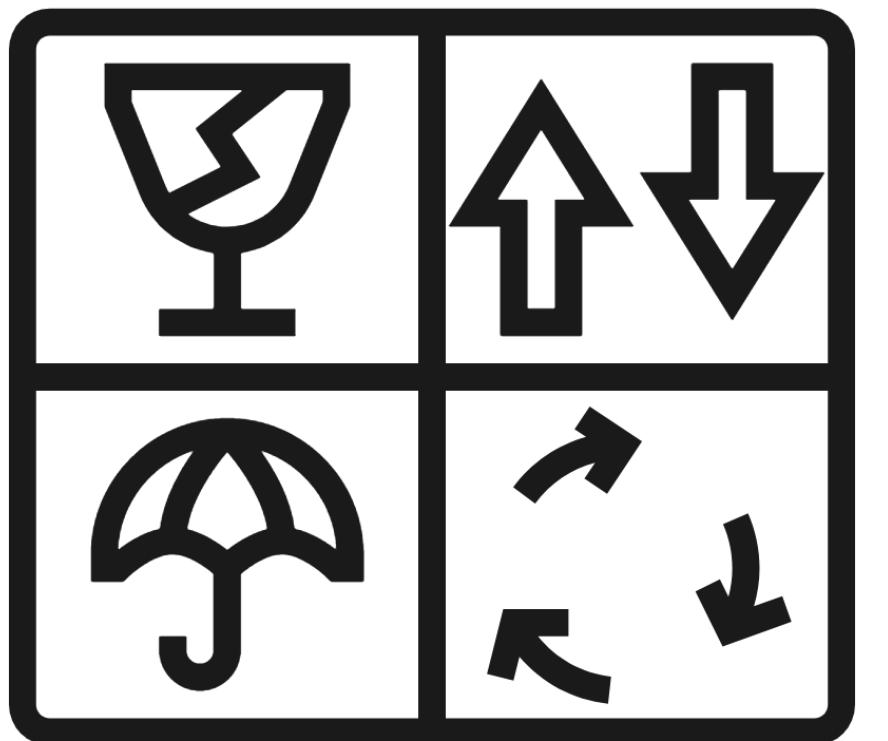
9

Polish





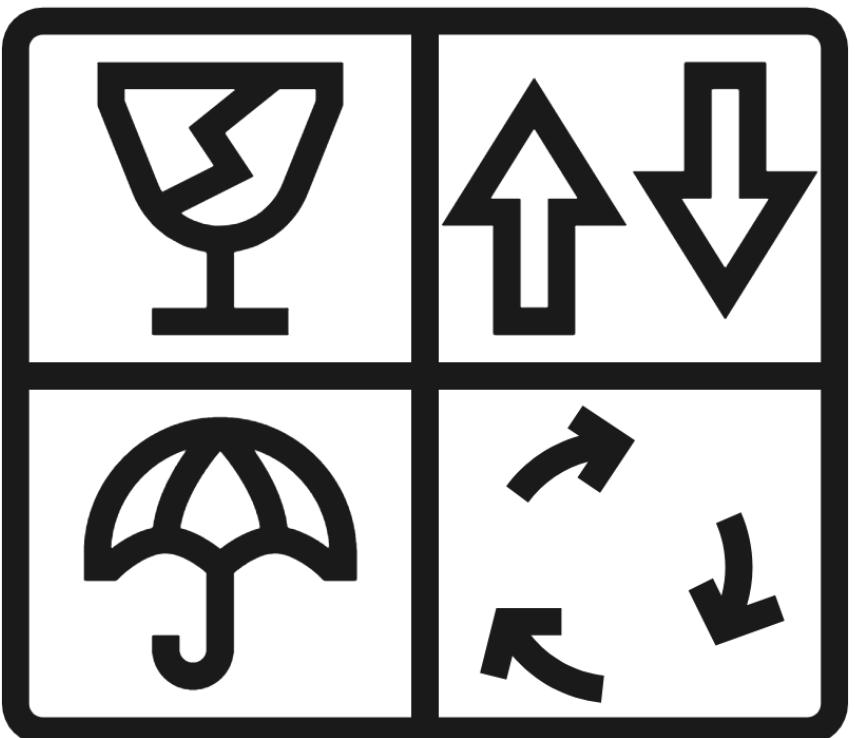
10 Caution





10 Caution

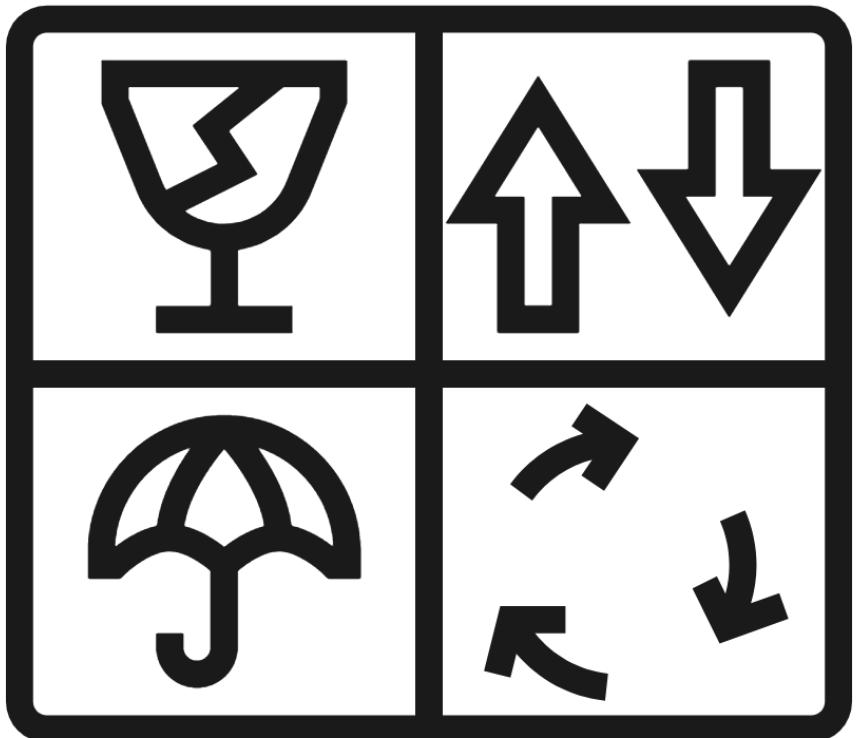
Clearly, ε -greedy is superior over UCB.





10 Caution

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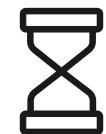
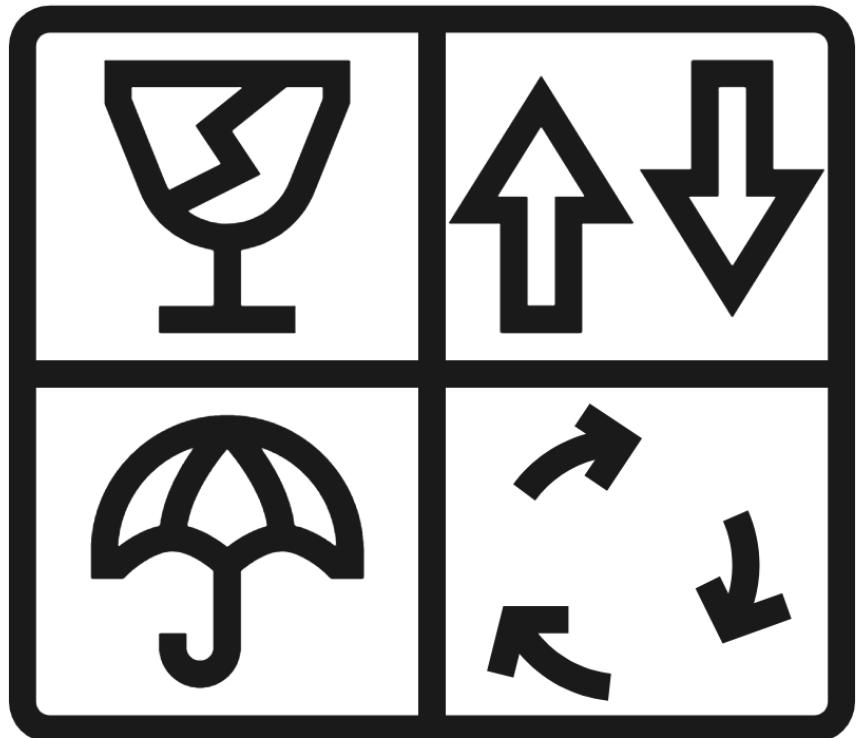


3 minutes



10 Caution

Clearly, ε -greedy is superior over UCB.



3 minutes

The ε -greedy method outperforms UCB in our experiments. The reasons for this can be manifold. For example the hyperparameters of our UCB implementation may just be less optimized for our setting.



11 Simple Sentences



11 Simple Sentences

The game is played in a rectangle by two light cycles or motorbikes, which try to cut each other off, so that one, eventually has to hit a wall or a light ray.



12 Specific



12 Specific

We observe that ε -greedy is better than UCB.



12 Specific

We observe that ε -greedy is better than UCB.

In our experiments ε -greedy outperforms UCB in all test cases.



13 Storytelling



13 Storytelling



hero



13 Storytelling



hero



villain



13 Storytelling



hero



villain



fight



13 Storytelling



hero



villain



fight



victory

Packing geometric objects into a container in the plane is a fundamental problem studied both in theory and practice. Despite much effort, we have only very limited practical and theoretical algorithms. We show that many geometric packing variants are ER-complete. This gives a solid explanation of the practical and theoretical difficulties to find efficient packing algorithms.



Packing geometric objects into a container in the plane is a fundamental problem studied both in theory and practice. Despite much effort, we have only very limited practical and theoretical algorithms. We show that many geometric packing variants are ER-complete. This gives a solid explanation of the practical and theoretical difficulties to find efficient packing algorithms.



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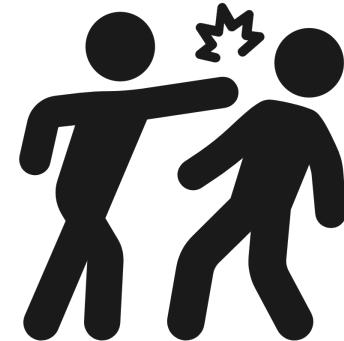


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Assignment MCTS



10 minutes





14 Descriptive Names



14 Descriptive Names

Dr. Jekill



14 Descriptive Names

Dr. Jekill

Mr. Hide



14 Descriptive Names

Dr. Jekill

Mr. Hide

lava lamp

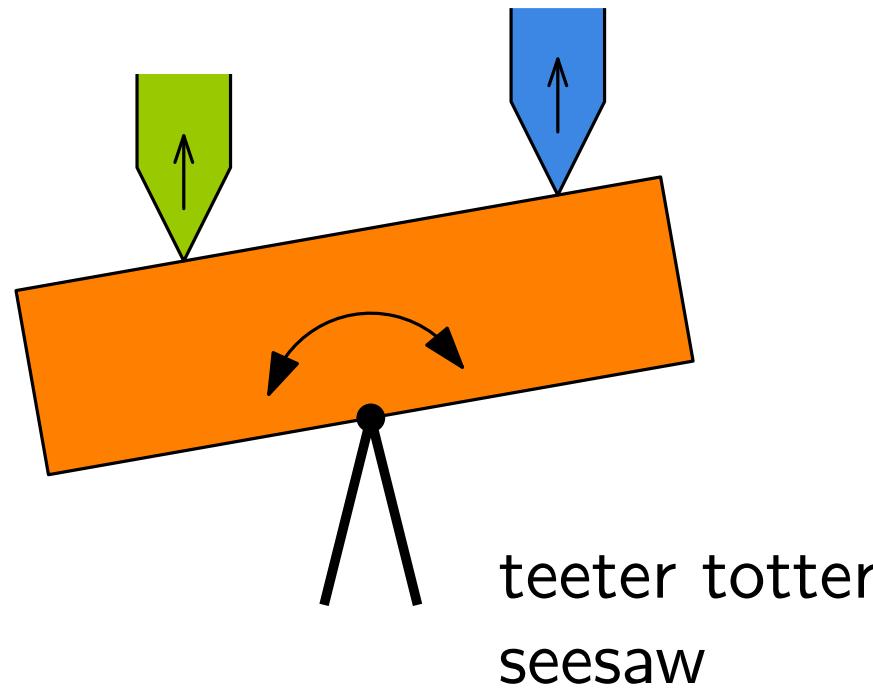


14 Descriptive Names

Dr. Jekill

Mr. Hide

lava lamp



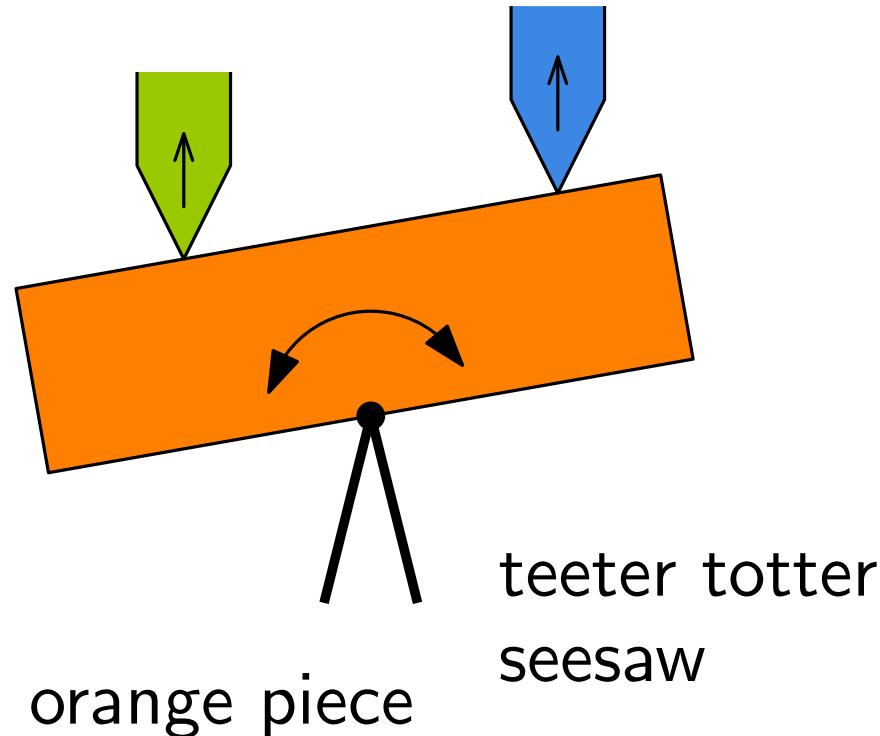


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Dr. Jekill

Mr. Hide

lava lamp





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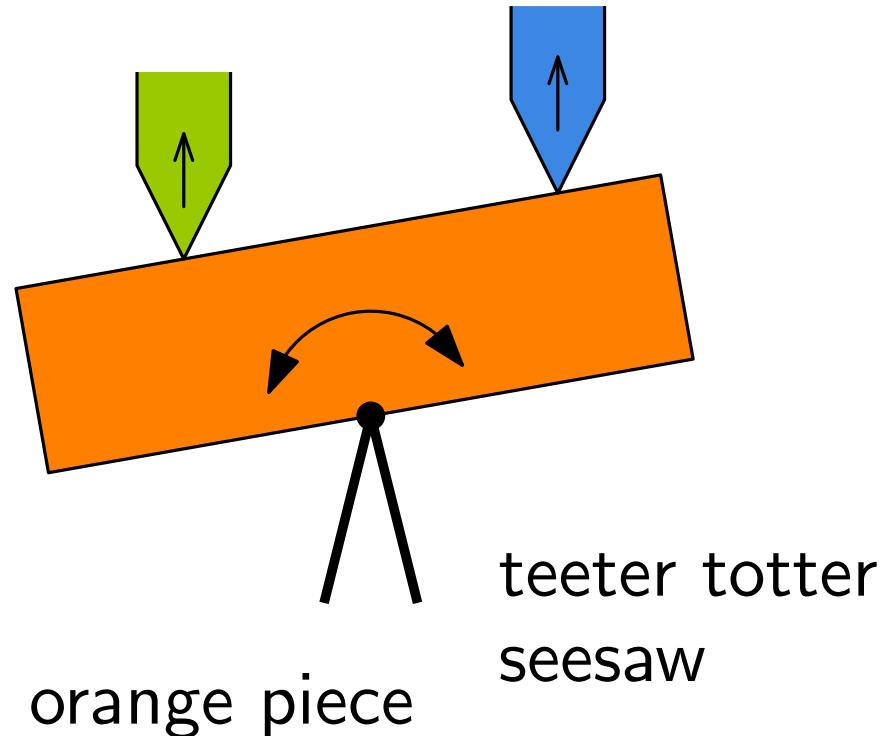
Dr. Jekill

$$x_1 + x_2 = x_3$$

$$x_2 \cdot x_3 = x_4$$

Mr. Hide

lava lamp





14 Descriptive Names

Dr. Jekill

$$x_1 + x_2 = x_3$$

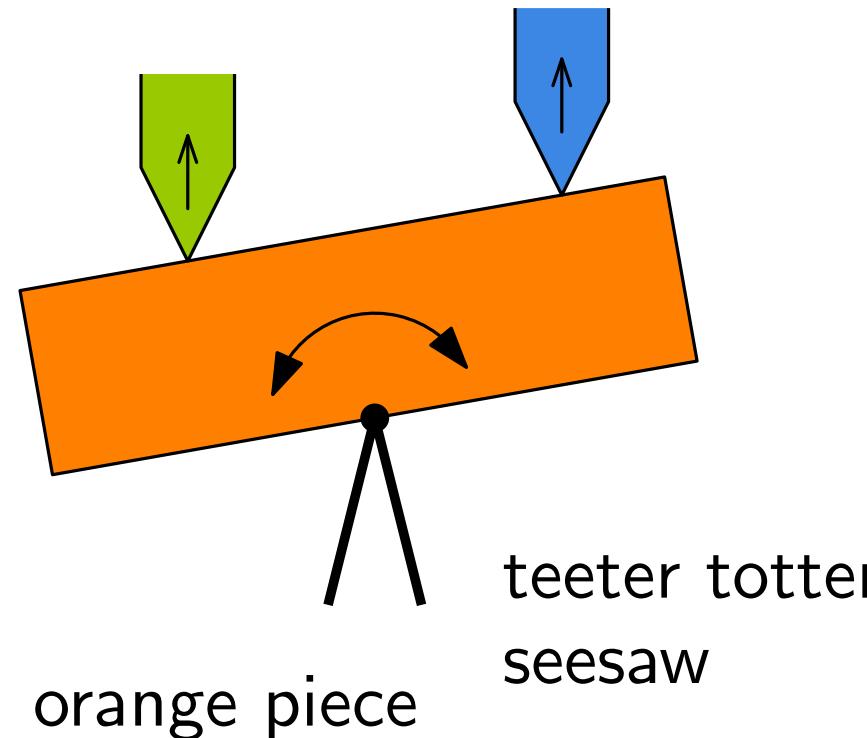
$$x_1 + x_2 = V_{x_1+x_2}$$

Mr. Hide

$$x_2 \cdot x_3 = x_4$$

$$x_2 \cdot V_{x_1+x_2} = V_{x_2(x_1+x_2)}$$

lava lamp





14 Descriptive Names

Dr. Jekill

$$x_1 + x_2 = x_3$$

$$x_1 + x_2 = V_{x_1+x_2}$$

$$x + y = V_{x+y}$$

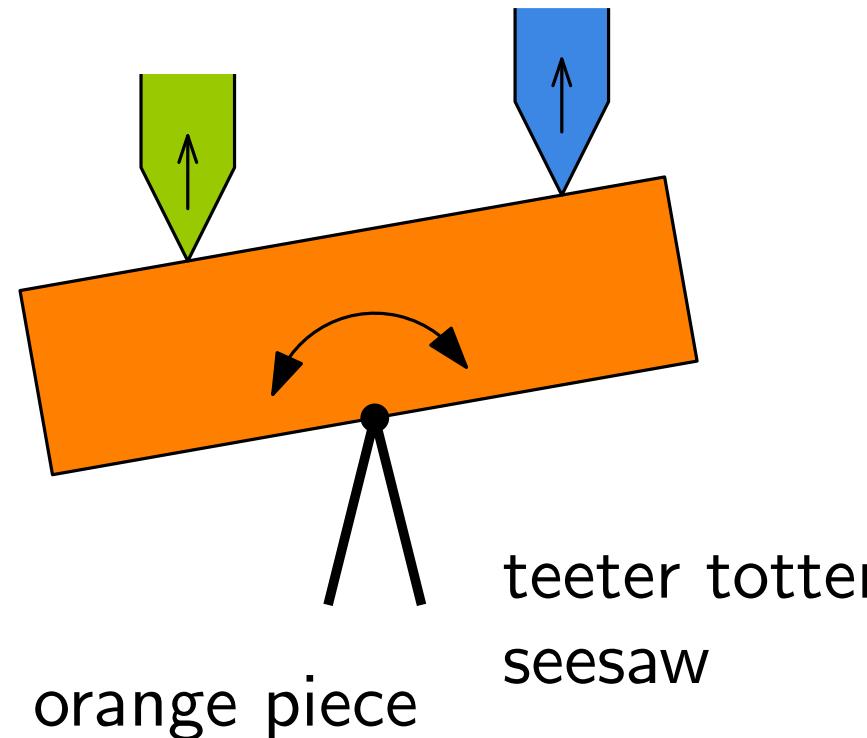
Mr. Hide

$$x_2 \cdot x_3 = x_4$$

$$x_2 \cdot V_{x_1+x_2} = V_{x_2(x_1+x_2)}$$

$$y \cdot V_{x+y} = V_{y(x+y)}$$

lava lamp





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Mr. Hide

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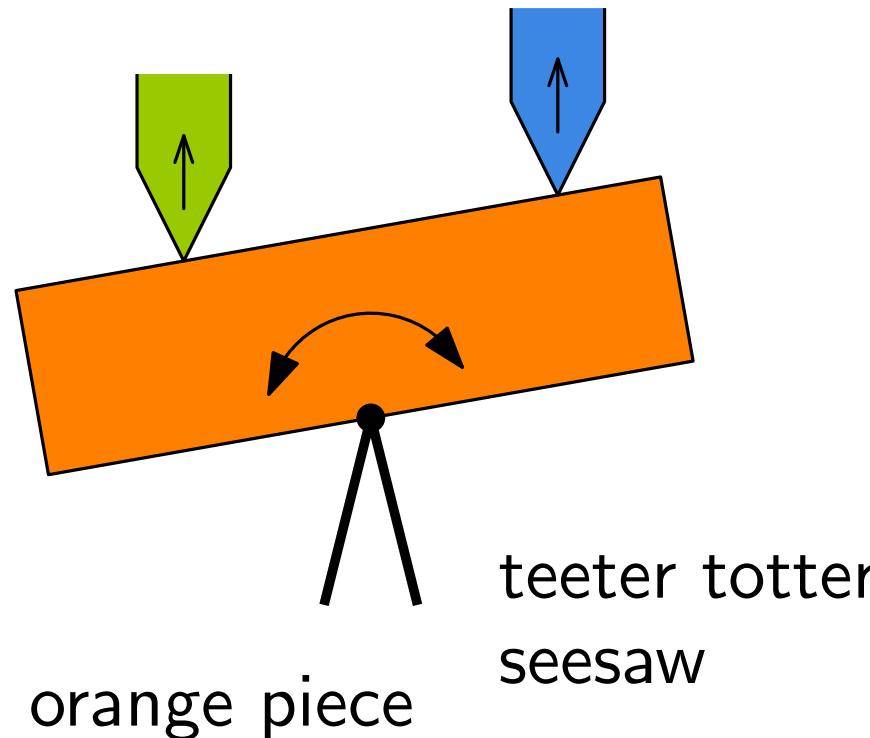
$$x_2 \cdot V_{x_1+x_2} = V_{x_2(x_1+x_2)}$$

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lava lamp

$$x + y = \llbracket x + y \rrbracket$$

$$y \cdot \llbracket x + y \rrbracket = \llbracket y(x + y) \rrbracket$$





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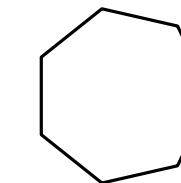
$$x_2 \cdot V_{x_1+x_2} = V_{x_2(x_1+x_2)}$$

$$y \cdot V_{x+y} = V_{y(x+y)}$$

lava lamp

$$x + y = \llbracket x + y \rrbracket$$

regular polygon



$$y \cdot \llbracket x + y \rrbracket = \llbracket y(x + y) \rrbracket$$

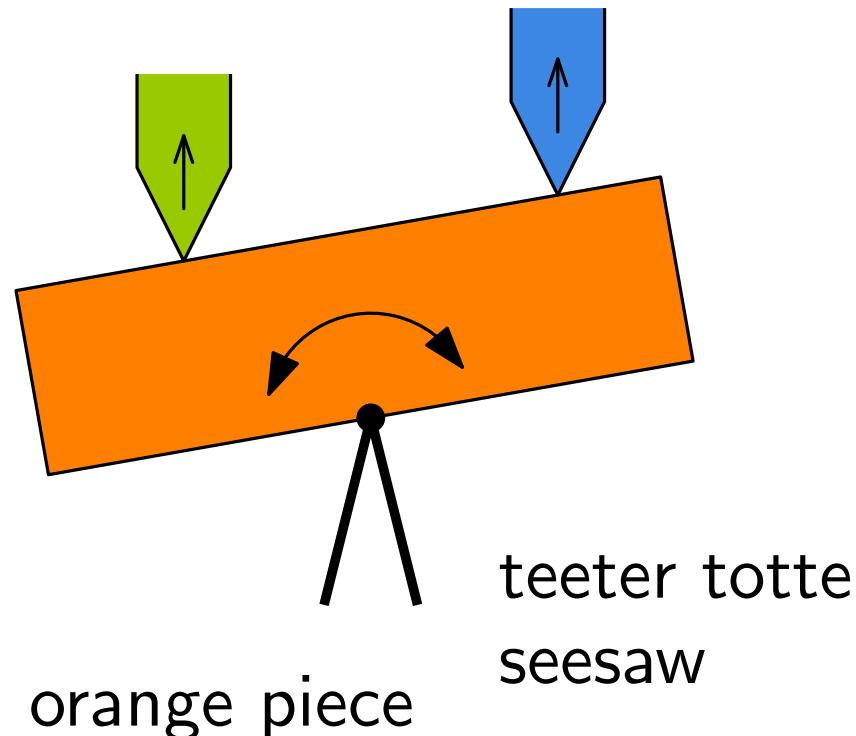
regular graph



regular group

general linear group

perfect graph





14 Descriptive Names

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Mr. Hide

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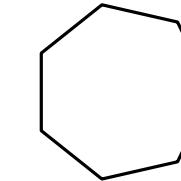
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lava lamp

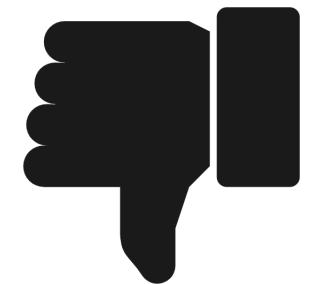
$$x + y = \llbracket x + y \rrbracket$$

regular polygon



$$y \cdot \llbracket x + y \rrbracket = \llbracket y(x + y) \rrbracket$$

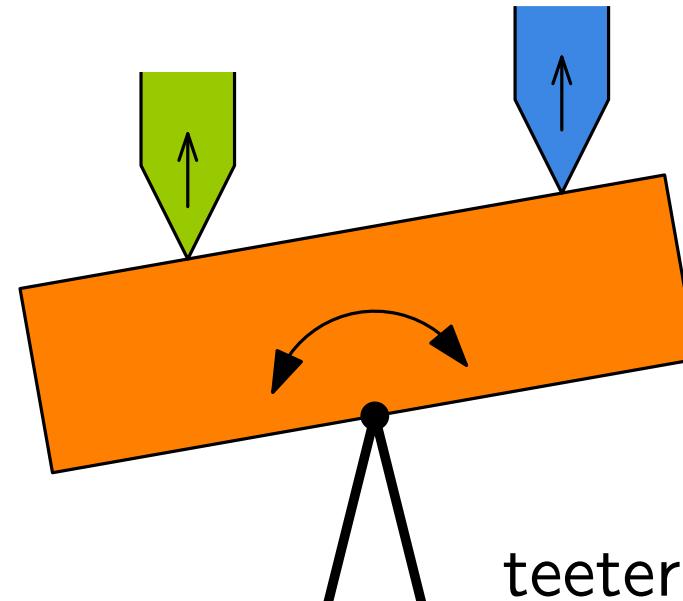
regular graph



regular group

general linear group

perfect graph



orange piece

teeter totter
seesaw

$$n = 1 - \left(1 - \left(\frac{\text{open positions left in simulation}}{\text{open simulations left in current board}} \right) \right)^2$$



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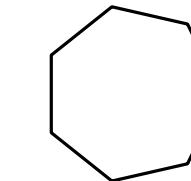
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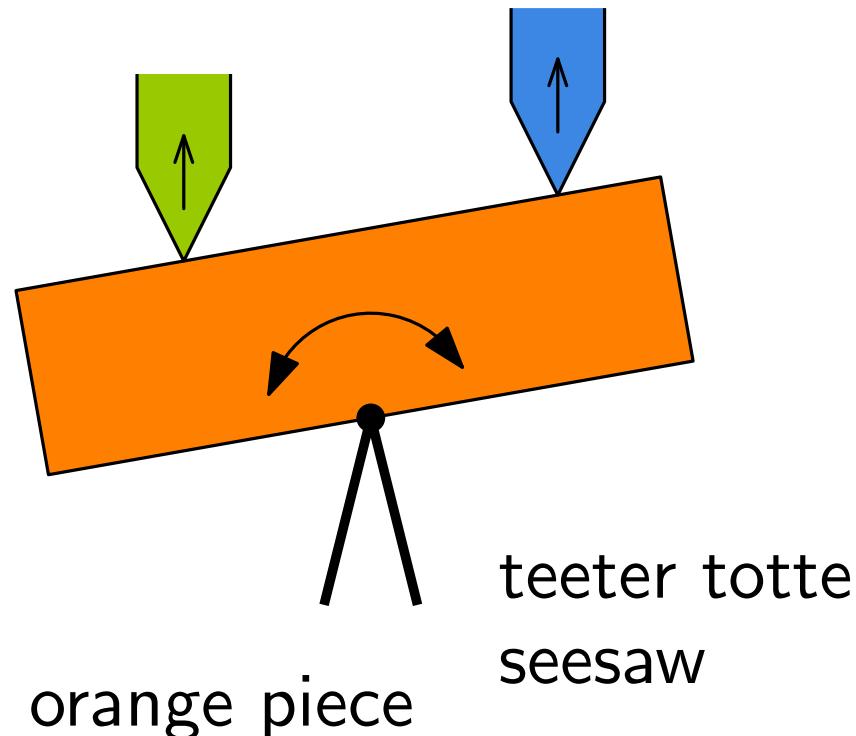
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Pack($\square \rightarrow \triangle, \circlearrowleft \leftrightarrow \circlearrowright$)



14 Descriptive Names

close to the actual meaning

specific

cultural reference

unique

