

A+ ACTIVE ELEMENT

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MOTIVAATIO

- Työkalut helposti käytössä
- Tulosten visualisointi
- Interaktiivisuus
- Konseptien demoaminen

KÄYTTÖ

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21
22 Logic-Based Sudoku Planner
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25 To illustrate the flexibility of logical descriptions even
26 further, an automated Sudoku planner is provided below. Given
27 a collection of hints, one solution is computed for the puzzle
28 and shown below. The grid is filled with question marks if
29 no solution exists. In addition, yet another solution is
30 computed for the puzzle, if such a solution exists. This
31 can be used to check that the puzzle has a unique solution
32 in the end. **Explain why!**
33
34 .. ae-input:: in1
35   :id: input_1
36   :title: Input for generating sudokus
37   :class: active-element ae-input left
38   :width: 40%
39   :height: 200px
40
41 Insert the hints into the input field on the left using
42 the syntax *clue(x,y,n)* where *x* and *y* give the coordinates
43 of the cell and *n* is the number to be placed in the cell.
44 Any number of clues can be given and the solutions below
45 are revised once the clues are submitted for evaluation.
46
47 .. ae-output:: sudoku
48   :config: exercises/sudoku/config.yaml
49   :inputs: input_1
50   :title: First Solution
51   :width: 50%
52   :clear: left
53   :class: active-element left no-border
54
```

Course

- rst-demo
 - Course materials
 - Exercise results
- ### Course staff
- Participants
 - Groups
 - All results
 - Edit news
 - Edit course

Logic-Based Sudoku Planner

To illustrate the flexibility of logical descriptions even further, an automated Sudoku planner is provided below. Given a collection of *hints*, one solution is computed for the puzzle and shown below. The grid is filled with question marks if no solution exists. In addition, yet another solution is computed for the puzzle, if such a solution exists. This can be used to check that the puzzle has a unique solution in the end. **Explain why!**

Input for generating sudokus

```
clue(1,3,2). clue(1,9,1).
clue(2,2,7). clue(2,5,3).
clue(3,5,4). clue(3,7,2).
clue(4,4,2).
clue(5,7,4). clue(5,8,3).
clue(6,1,1). clue(6,3,5). clue(6,4,6).
clue(7,5,7).
clue(8,2,3).
clue(9,4,1). clue(9,9,3).
```

Submit

Insert the hints into the input field on the left using the syntax *clue(x,y,n)*, where *x* and *y* give the coordinates of the cell and *n* is the number to be placed in the cell. Any number of clues can be given and the solutions below are revised once the clues are submitted for evaluation.

First Solution

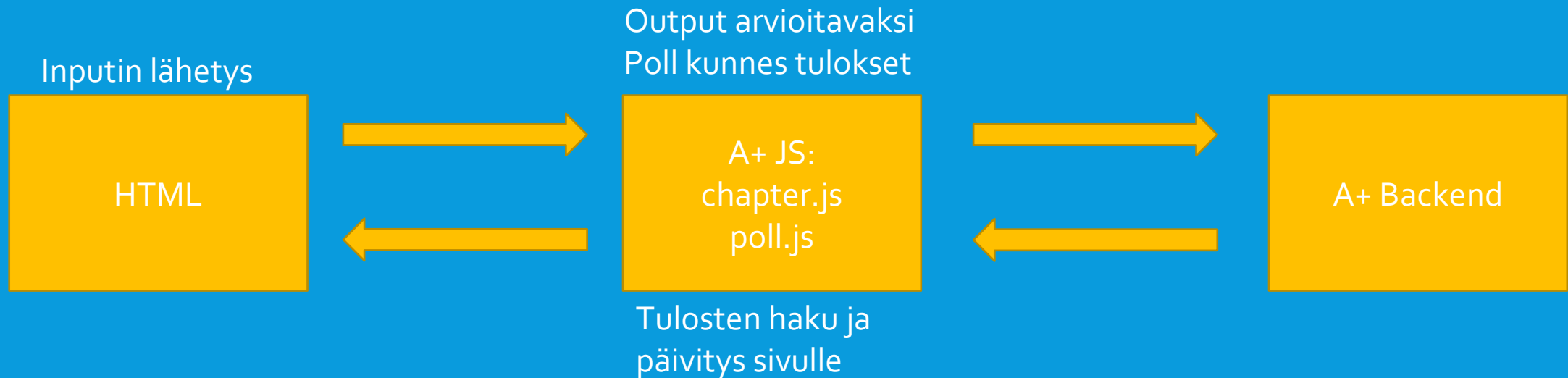
1	4	6	5	9	7	2	8	3
7	5	8	6	3	2	4	1	9
3	9	2	1	4	8	6	5	7
5	2	1	4	7	3	8	9	6
6	3	4	8	1	9	7	2	5
9	8	7	2	5	6	3	4	1
2	1	3	7	8	5	9	6	4
8	7	5	9	6	4	1	3	2
4	6	9	3	2	1	5	7	8

Second Solution

1	4	6	5	9	7	2	8	3
7	5	8	6	3	2	4	1	9
3	9	2	1	4	8	6	5	7
5	2	1	4	7	3	9	6	8
6	3	4	8	1	9	7	2	5
9	8	7	2	5	6	3	4	1
2	1	3	7	6	5	8	9	4
8	7	5	9	2	4	1	3	6
4	6	9	3	8	1	5	7	2

TOIMINNALLISUUS

- Output ~ A+ tehtävä
- Erilliset input-elementit
- Toiminnallisuus Javascriptillä



JATKOKEHITYS

- Interaktiivisempi input
- Erilaiset outputformaatit
- Output-elementtien "ketjutus"
- Virallisesti osaksi A+

KYSYMYKSIÄ?