

15 puzzle solving program

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Motivation

There are many programs around us that help people.

We wanted to create programs that are more efficient than humans do.

Research content

- ① We make a 15puzzle making program.
- ② We make programs that can solve 15puzzle no longer than ourselves.

What is 15 puzzle?

First, randomly place numbers from 1 to 15 on a 4x4 board.

It's a puzzle that makes it the desired shape.



【Figure1】

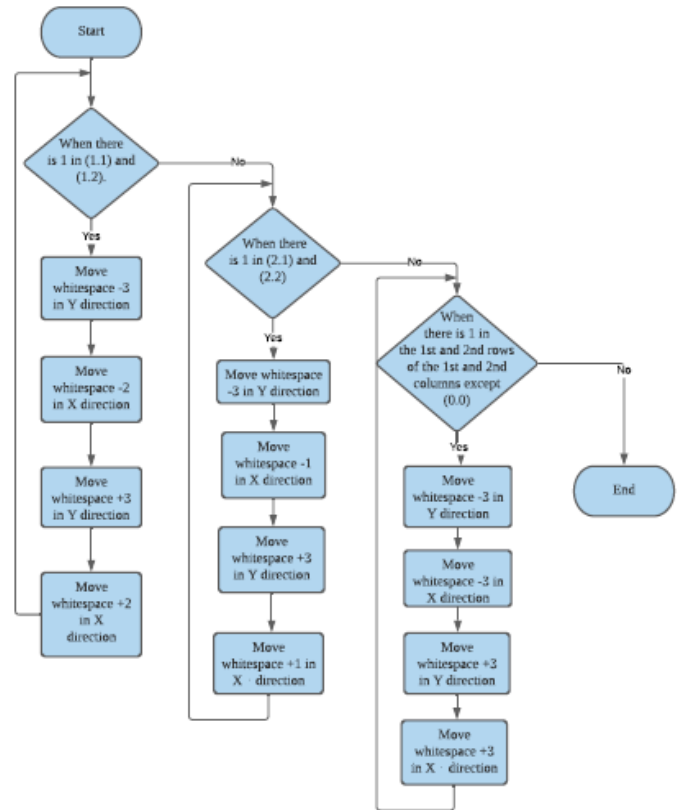
The program that makes 15puzzles

- (1) Randomly move the numbers to make a puzzle.
- (2) Move the created puzzle with the WASD key.

15 puzzle solving program

- (1) Find [1] in the program and move it to the upper left limit.
- (2) Move [2] to [8] one by in the same way.
- (3) (2) Move [9] to [15] one by in the same way.

【Figure 2】 flowchart



15 puzzle solving program execution result

Program	14ms
Human(5 times average)	2600ms

Prospect.

We use a basic if statement to program.

However there were still many unless movements in the one created this time.

Improvements are still needed to make it more efficient.

References are as follows.

<https://www.youtube.com/watch?v=YoQt9Hy8rA>