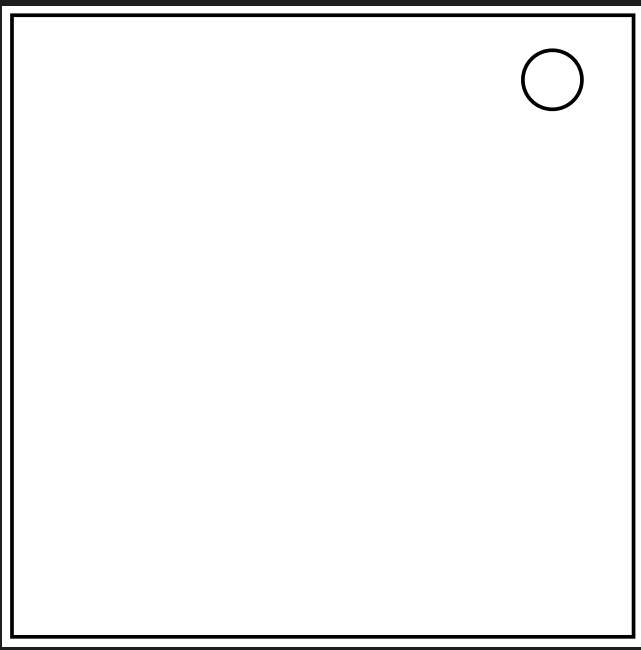


# On the Subject of Binary Juggle


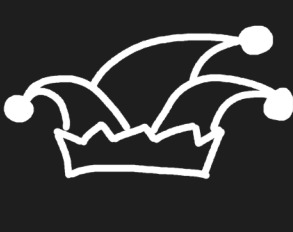



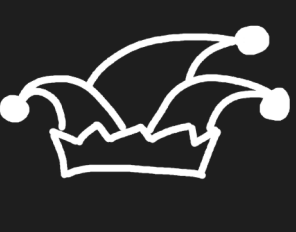


This module takes "juggling numbers" to another level.



The module starts with 6 balls in the first stage, then switches to 8 new balls in the second. Each ball presents 4 pieces of information you need to note down to solve the module.

- Color
  - Symbol
- Rotation
  - Direction

Use the 4 characteristics of each ball to find its matching binary digit in the table, then join the digits in the exact order the balls were juggled.

		Clockwise				Counterclockwise			
									
Left	Red	0	0	1	1	0	1	0	0
	Green	1	1	1	0	1	0	0	1
	Yellow	1	1	0	1	0	1	1	0
	Magenta	0	0	1	0	1	0	1	1
Right	Red	1	0	0	1	0	0	1	1
	Green	0	1	0	0	1	1	0	0
	Yellow	1	0	1	0	1	1	0	1
	Magenta	0	1	0	1	0	0	1	0

## Determine the amount of juggling

- If more balls move to the right than rotate counterclockwise, juggle according to the number of 1s in your binary string.
- Otherwise, if more balls move to the left than rotate clockwise, juggle according to the number of 0s in your binary string.
- Otherwise, juggle based on the difference between the number of 1s and 0s.

## How to juggle numbers the correct way

1. Split the binary string into two equal halves.

0110101011 → 01101 | 01011

2. For each juggle, take the leftmost digit of the right half and place it at the front of the left half.

01101 | 01011 → 001101 | 1011

3. Then take the rightmost digit of the left half and place it at the end of the right half.

001101 | 1011 → 00110 | 10111

Repeat steps 2 and 3 the required number of times. Afterward, merge the two halves into a single binary string and press every ball whose position matches a 1. Once all correct balls are pressed, the current stage is solved.