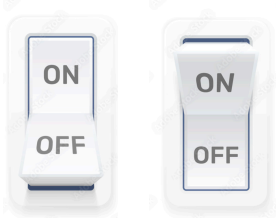# Take 2
# State

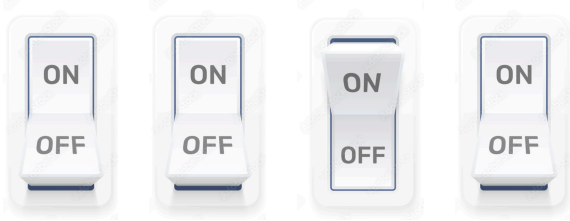**Describe this app interface:**



- How many states can a switch have?

- How many states can this interface with two switches have?

# Describe this app interface:



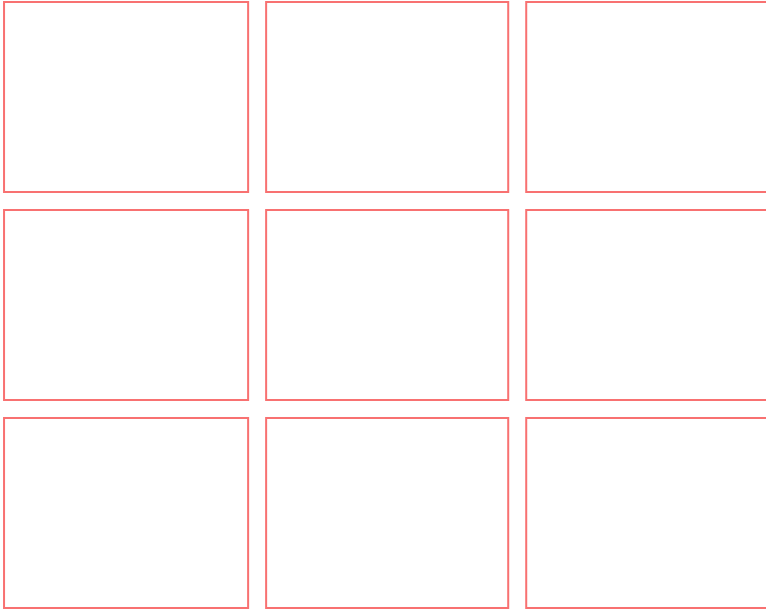- How many states can this interface with four switches have?

# How many states can this app have?

| | | |
|---|---|---|
| X | O | O |
| X | O | |
| X | | X |

- 3 states per cell
- 3^9 = 19,683 combinations

- How many combinations win?

| | | |
|---|---|---|
| | | |
| | | |

- Example: when does X win?
- row full: 3 combinations for X (1st row, 2nd row, 3rd row)
- column full: 3 combinations for X (1st col, 2nd col, 3rd col)
- diagonal full: 2 combinations for X (left-to-right, right-to-left)