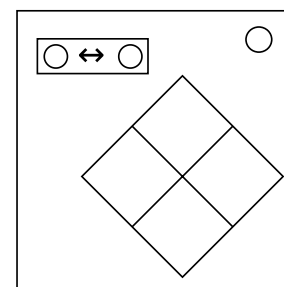


On the Subject of Simon's Statement

Simon is growing up and learned about logic.

A display with two colors and a logical expression will be displayed, as well as a Simon Says element with four buttons.



Step 1: Determine Stage Number

- Start with 0.
- For every serial number character present in a lit indicator, add 2.
- For every duplicate port type, subtract 4.
- Add the number of batteries, multiplied by the number of ports.
- Multiply by the stage number.
- Keep adding or subtracting 25 until in range 0-49.

(If the number is less than 10 prepend a 0. Example: 1 -> 01)

Step 2: Determine Color

- The Simon Says element will flash two colors per stage. If a color flashes, treat it as true. If it doesn't, it equates to false.
 - If the statement on the display is true, use Table A.
 - Otherwise, if the statement is false, use Table B.
- Press the colors from all previous stages as well as the new color from the table.

(Example: For True 32 you would press Red.)

Table A

	-0	-1	-2	-3	-4	-5	-6	-7	-8	-9
0-	Yellow	Yellow	Blue	Red	Red	Yellow	Red	Yellow	Blue	Blue
1-	Blue	Blue	Red	Green	Blue	Yellow	Green	Yellow	Red	Red
2-	Green	Yellow	Green	Yellow	Green	Yellow	Yellow	Green	Green	Yellow
3-	Green	Red	Red	Yellow	Green	Blue	Blue	Red	Blue	Blue
4-	Yellow	Green	Red	Blue	Red	Blue	Green	Yellow	Blue	Yellow

Table B

	-0	-1	-2	-3	-4	-5	-6	-7	-8	-9
0-	Green	Blue	Red	Blue	Blue	Green	Yellow	Red	Green	Red
1-	Green	Green	Green	Red	Yellow	Green	Yellow	Red	Green	Green
2-	Red	Red	Red	Blue	Blue	Yellow	Yellow	Red	Blue	Blue
3-	Yellow	Green	Blue	Red	Yellow	Red	Blue	Yellow	Green	Yellow
4-	Blue	Yellow	Red	Green	Yellow	Red	Green	Yellow	Blue	Blue

Table Ops: Operator explanations

Logical Connective	Symbol	Logic Gate Equivalent	Meaning
Conjunction	\wedge	AND	Returns true if all inputs are true. Else returns false.
Disjunction	\vee	OR	Returns true if any input is true. Else returns false.
Exclusive Disjunction	$\underline{\vee}$	XOR	Returns true if exactly one input is true. Else returns false.
Alternative Denial	$ $	NAND	Returns false if all inputs are true. Else returns true.
Joint Denial	\downarrow	NOR	Returns false if any input is true. Else returns true.
Biconditional	\leftrightarrow	XNOR	Returns false if exactly one input is true. Else returns true.
Implication (Left)	\rightarrow	IMP/IMPLY	Returns false when left input is true and right input is false. Else returns true.
Implication (Right)	\leftarrow	IMPBY/IMPLYBY	Returns false when left input is false and right input is true. Else returns true.