

On the Subject of Logic

Logic is easy, but logic AND bomb defusal might not.

- Each row displays 3 letters. Each letter represents a statement which can be found in table 1.
- On each row, the GREEN statements should be considered as if they were enclosed in parentheses. These must be solved before the rest.
- Statements are joined with logical connective symbols. Find how each symbol works in table 2.
- Apply negation (NOT) to each statement first if the red LED above that statement is lit.
- Find the end result of each row, and then use the T/F button to the right to select True/False. Press “Submit” when done.

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☐ V ☐ ^ ☐
☐ F

☐ ^ ☐ V ☐
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See Appendix A for indicator identification reference.

See Appendix B for battery identification reference.

See Appendix C for port identification reference.

Table 1: Statement list

Letter	Statement	Letter	Statement
A	Number of batteries = number of indicators	N	More than 2 battery holders
B	Serial number has more letters than digits	O	Has both lit and unlit indicators
C	Has IND indicator	P	Has parallel port
D	Has FRK indicator	Q	Exactly 2 ports
E	Exactly 1 unlit indicator	R	Has PS/2 port
F	More than 1 port type	S	Sum of digits in serial number > 10
G	2 batteries or more	T	Has MSA indicator
H	Less than 2 batteries	U	Exactly 1 battery holder
I	Last digit of serial number is odd	V	Serial number contains vowels
J	More than 4 batteries	W	No indicators
K	Exactly 1 lit indicator	X	Exactly 1 indicator
L	More than 2 indicators	Y	More than 5 ports
M	All ports are unique	Z	Less than 2 ports

Table 2: Logical connective symbol list

Logical Connective	Symbol	Logic Gate Equivalent	Meaning
Negation	\neg	NOT	Toggles boolean value.
Conjunction	\wedge	AND	Result is true if all inputs are true.
Disjunction	\vee	OR	Result is true if any input is true.
Exclusive Disjunction	$\underline{\vee}$	XOR	Result is true if one input is true.
Alternative Denial	\mid	NAND	Result is false if all inputs are true.
Joint Denial	\downarrow	NOR	Result is false if any input is true.
Biconditional	\leftrightarrow	XNOR	Result is false if one input is true.
Implication (Left)	\rightarrow	-	Result is false if the input is True→False.
Implication (Right)	\leftarrow	-	Result is false if the input is False←True.