

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, solve the statements inside the brackets first.
- Statements are joined with logical connective symbols. Find how each symbol works in table 2.
- Apply negation (NOT gate: false becomes true and true becomes false) 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.

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

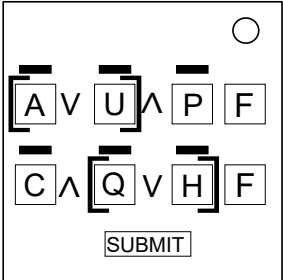


Table 2: Logical connective symbol list

Logical Connective	Symbol	Logic Gate Equivalent	Meaning
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	\veebar	XOR	Returns true if exactly one input is true. Else returns false.
Alternative Denial	\mid	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	-	Returns false when left input is true and right input is false. Else returns true.
Implication (Right)	\leftarrow	-	Returns false when left input is false and right input is true. Else returns true.