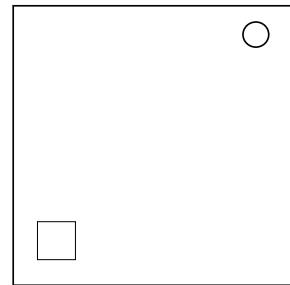


On the Subject of Rebooting M-OS

Make a big reboom!



This module uses an unknown operation system. We're calling it "M-OS". At the start of each bomb, this OS will display a fatal error message. However, there is just a moving square instead of any text. The square will cycle through 4 of 7 possible colors: red, green, blue, yellow, cyan, magenta and white. To defuse it, simply reboot M-OS. Unfortunately, the bomb's time greatly affects M-OS and turns it into an *advanced version*, which is harder to reboot. As usual, rebooting takes 3 taps on the square. So all you need worry about is a pressing time. To calculate the pressing time, obtain 3 values and apply the final operation to them.

Calculating Value A

For this you need the square's colors and moves (it will be cycling through 4 moves). Using the table below, obtain 16 cells and add up all values in those cells. Modulo the received number by 1000. This is value A.

	T	B	R	L	BL	TR	BR	TL
Red	60	44	86	89	48	47	54	88
Green	45	71	48	65	49	93	98	87
Blue	68	92	83	96	77	53	99	64
Yellow	80	70	66	63	74	98	50	48
Cyan	54	48	83	53	81	57	61	91
Magenta	63	52	58	54	62	50	86	90
White	46	63	70	72	83	69	58	52

T - Square moves from bottom to top.

B - Square moves from top to bottom.

R - Square moves from left to right.

L - Square moves from right to left.

BL - Square moves from top-right corner to bottom-left corner.

TR - Square moves from bottom-left corner to top-right corner.

BR - Square moves from top-left corner to bottom-right corner.

TL - Square moves from bottom-right corner to top-left corner.

Calculating Value B

For this you need to modify your A value. Apply to value A 4 operations based on the square's colors in the order they appear on it. This is your value B.

ALWAYS modulo your number by 1000 after EACH applied operation.

Red	$A_n = A_{n-1} + E$
Green	$A_n = A_{n-1} - E$
Blue	$A_n = A_{n-1} * n$
Yellow	$A_n = 2A_{n-1} + E * n$
Cyan	$A_n = (A_{n-1} * n) - E$
Magenta	$A_n = E^2 - A_{n-1}$
White	$A_n = 2n^2 - (A_{n-1} * E)$

E = sum of serial number digits.

n = current step of the sequence, starting from 1.

A_{n-1} is the previous modified A value or your initial value A, if $n=1$.

Calculating Value C

Add value A to value B and modulo 10 to get a single digit. Press the status light when last digit of the bomb's timer will equal the received digit. After one successful press the background will flash 2 of 26 possible colors. Using the table below, convert those 2 colors into a 6-digit base 3 number: take the red value, green value, and blue value of the first color. Then take the values from the second color in the same order. Also, each color has its own associated value that's written on itself in table below.

You can freely press the status light after one successful press.

Colors		Red			Red			Red		
	Numbers	0	1	2	0	1	2	0	1	2
Green	0	99	75	66	15	38	93	12	89	46
	1	33	90	76	45	81	55	19	27	91
	2	63	71	35	42	50	14	69	21	99
	Numbers	0			1			2		
Colors		Blue								

Convert your base 3 values to decimal. Multiply it by last digit of the serial number (if it's 0, multiply it by 10) and then modulo 27. Convert the received digit back to a base 3 number and then to a color with table above. Take the associated value of your new color. This is value C.

Final modifications

Once you have calculated all 3 values, perform an operation to them using the table below. If value A or B is 0, make it 1.

Last digit of SN	Operation		Last digit of SN	Operation
0	A + B + C		5	3C - (A + B)
1	ABS(B - C) * A		6	((B - (B % 2)) / 2 - A) * C
2	B ² - (A + C)		7	-A + ABS(B - C)
3	2A - (B % C)		8	A * B * C
4	(A * B) % C		9	A - B - C

If the calculated value is negative, make it positive. If the calculated value greater than 1000, modulo it by 1000. If your value is less than 100, add 100 until it isn't.

Submission info

Once you have your final 3-digit value you can reboot the module. Tap the square 3 times when the last digit of the bomb's timer equals the first digit of your value, then the second, etc.

Appendix COLOR: Color names

Black	Maroon	Red	Indigo	Plum	Rose	Blue	Violet	Magenta
Forest	Olive	Orange	Teal	Gray	Salmon	Azure	Maya	Pink
Green	Lime	Yellow	Jade	Mint	Cream	Cyan	Aqua	White

Some additional info

Each color is paired with each move in shown order.

When all 4 moves are done, the square will disappear for a second, then will repeat all moves again.

Submitting three of the same numbers will toggle colorblind mode.

$\text{Abs}(x)$ - make x positive.

$A \% B$ or $A \text{ modulo } B$ - Subtract B from A until A is in range 0 to B .

The module will not depend on the bomb's timer if you submit your settings with twitch commands.