LED CUBE FRAME MAKER TOOL

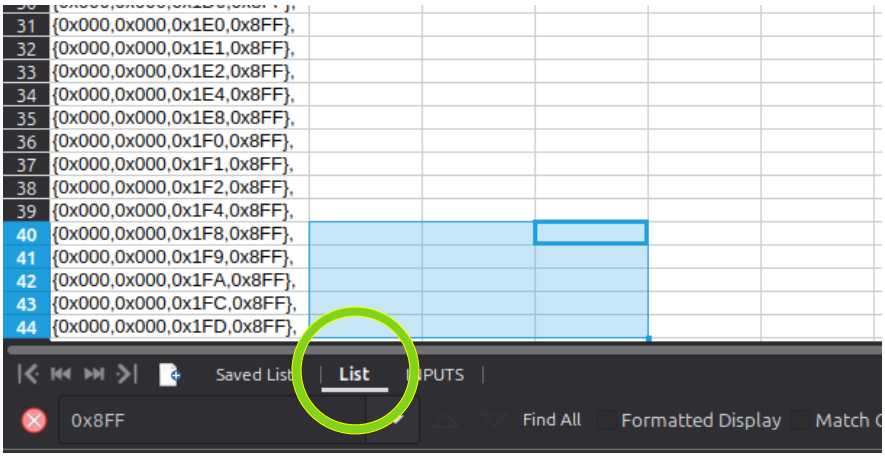
INFO:

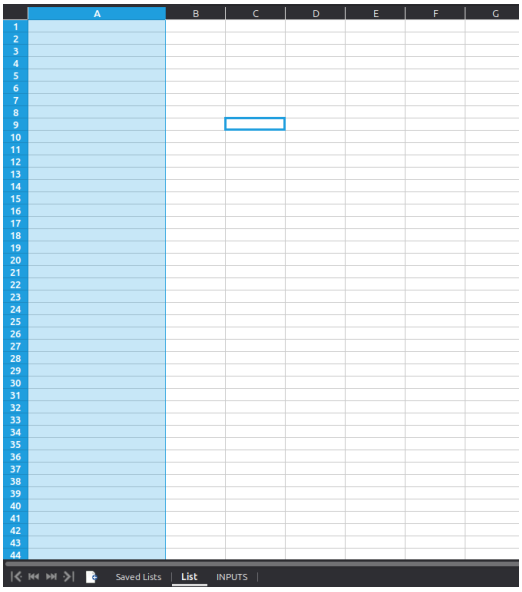
This tool was made for Libre Office Calc. It provides a semi visual means to create frame lists for the RadioShack LED Cube Hat for Arduino. The output from this tool can be pasted into the “stock” Arduino code to produce various LED Cube patterns.

Made By:

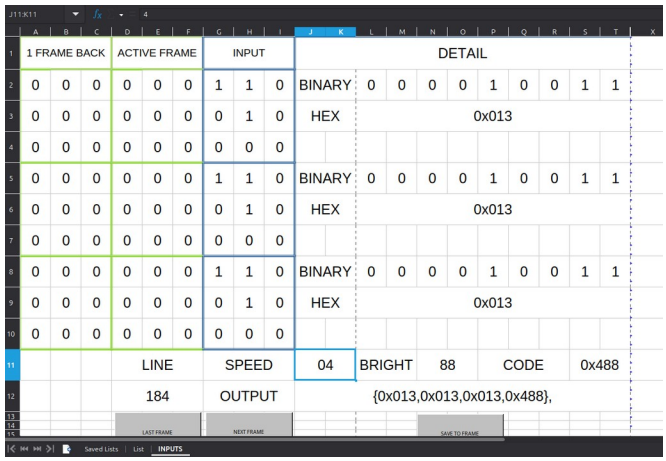
Tony
V1.0….February 2026

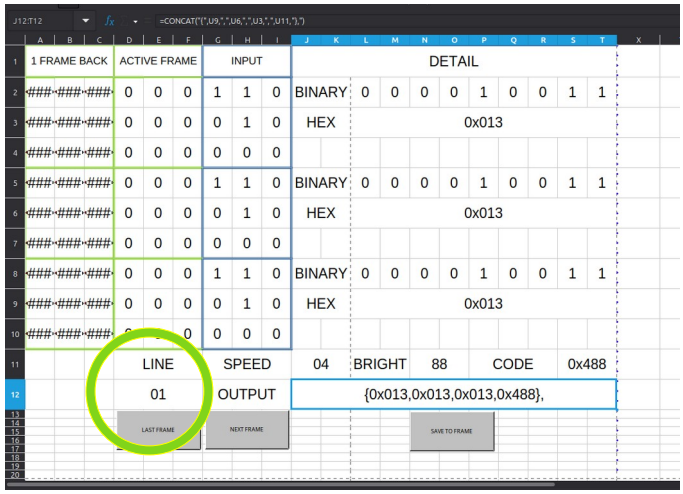
How To Use:

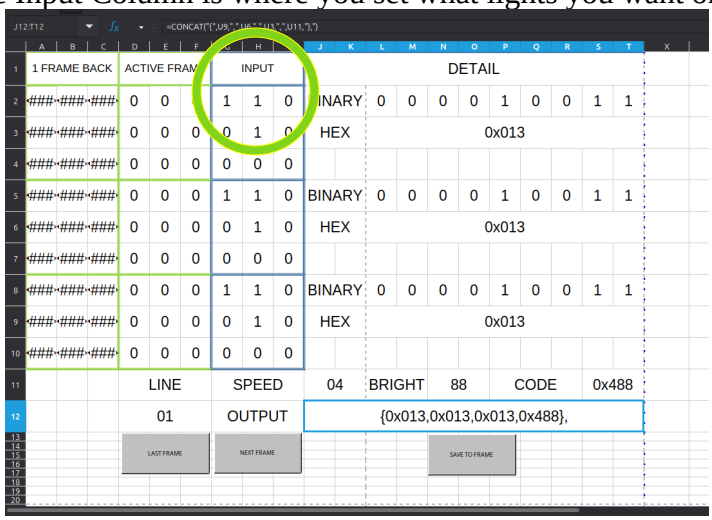
1. Select the “Lists” Sheet
   1. 

2. Select all Cells and delete the contents
   1. 

LED CUBE FRAME MAKER TOOL

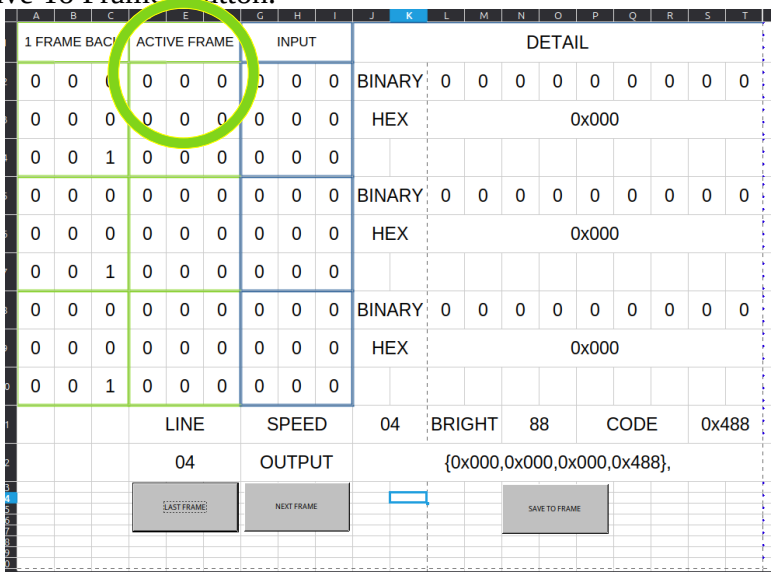
3. Select the “INPUTS” Sheet
   1. 

4. Set the Line Count to 1.
   1. 

5. The Input Column is where you set what lights you want on in each “frame”.
   1. 

LED CUBE FRAME MAKER TOOL

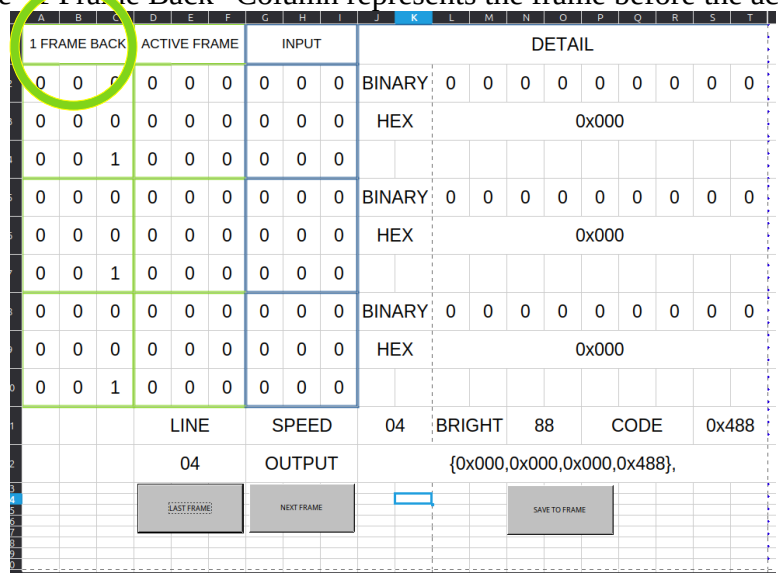
6. The “Active Frame” Column represents the frame you will overwrite when clicking on the “Save To Frame” button.



1 FRAME BACK			ACTIVE FRAME			INPUT			DETAIL									
0	0	0	0	0	0	0	0	0	BINARY	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	HEX	0x000								
0	0	1	0	0	0	0	0	0										
0	0	0	0	0	0	0	0	0	BINARY	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	HEX	0x000								
0	0	1	0	0	0	0	0	0										
0	0	0	0	0	0	0	0	0	BINARY	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	HEX	0x000								
0	0	1	0	0	0	0	0	0										
			LINE			SPEED			04	BRIGHT		88		CODE			0x488	
			04			OUTPUT			{0x000,0x000,0x000,0x488},									
			LAST FRAME			NEXT FRAME						SAVE TO FRAME						

1.

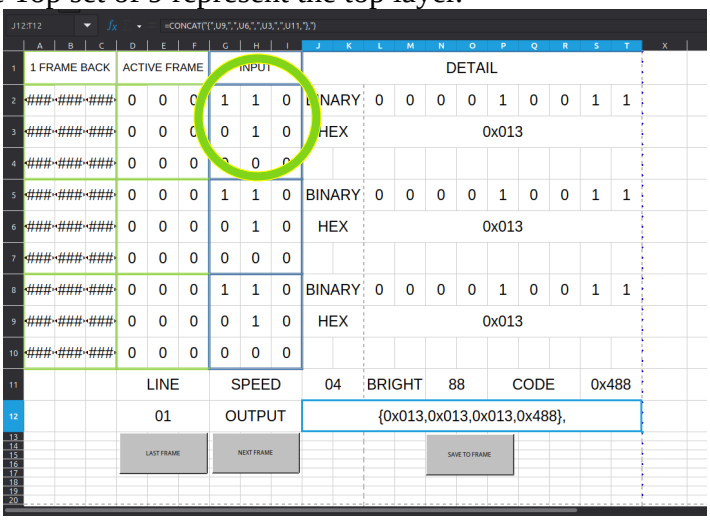
7. The “1 Frame Back” Column represents the frame before the active frame.

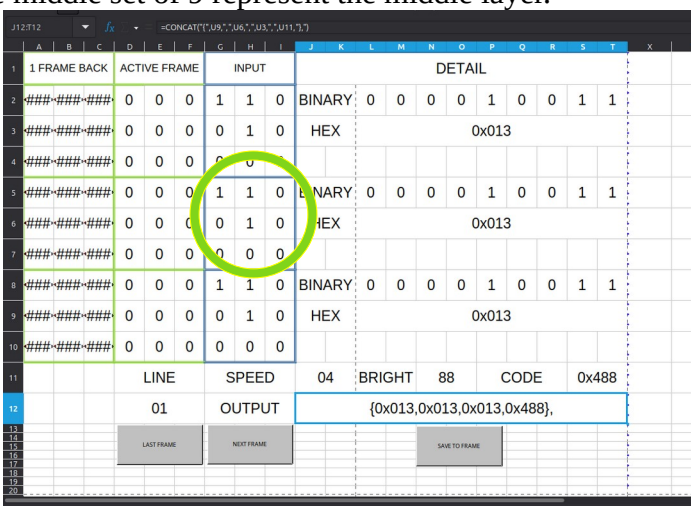


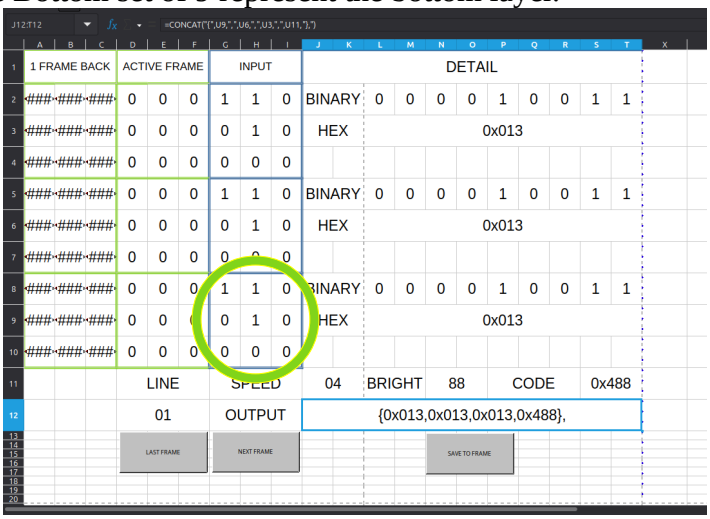
1 FRAME BACK			ACTIVE FRAME			INPUT			DETAIL									
0	0	0	0	0	0	0	0	0	BINARY	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	HEX	0x000								
0	0	1	0	0	0	0	0	0										
0	0	0	0	0	0	0	0	0	BINARY	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	HEX	0x000								
0	0	1	0	0	0	0	0	0										
0	0	0	0	0	0	0	0	0	BINARY	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	HEX	0x000								
0	0	1	0	0	0	0	0	0										
			LINE			SPEED			04	BRIGHT		88		CODE			0x488	
			04			OUTPUT			{0x000,0x000,0x000,0x488},									
			LAST FRAME			NEXT FRAME						SAVE TO FRAME						

1.

LED CUBE FRAME MAKER TOOL

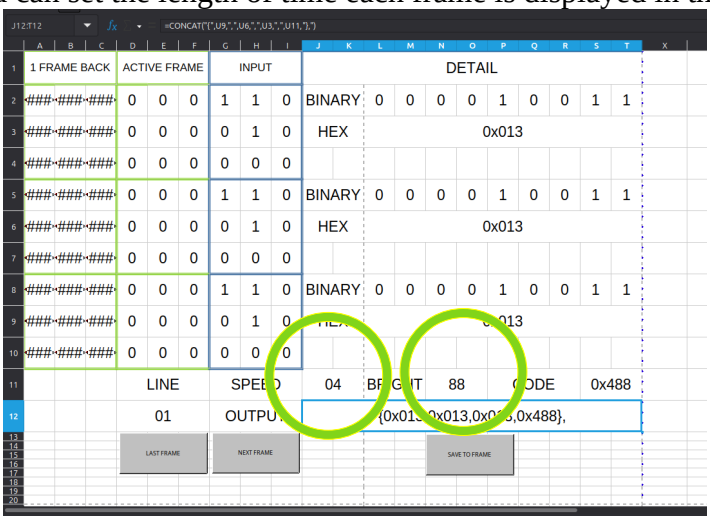
8. The Top set of 9 represent the top layer.
   1. 

9. The middle set of 9 represent the middle layer.
   1. 

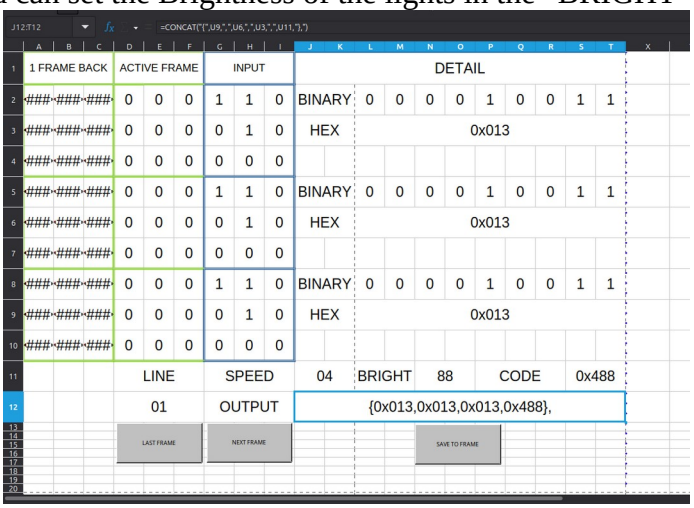
10. The Bottom set of 9 represent the bottom layer.
    1. 

LED CUBE FRAME MAKER TOOL

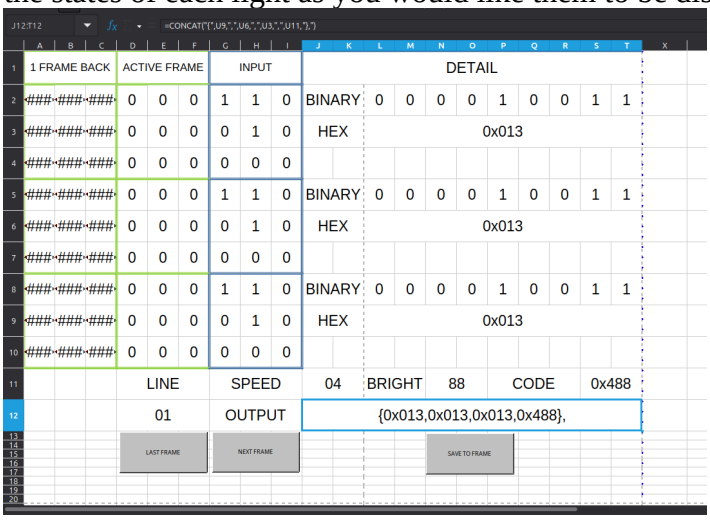
11. You can set the length of time each frame is displayed in the “Speed” field.

1. 

12. You can set the Brightness of the lights in the “BRIGHT” field.

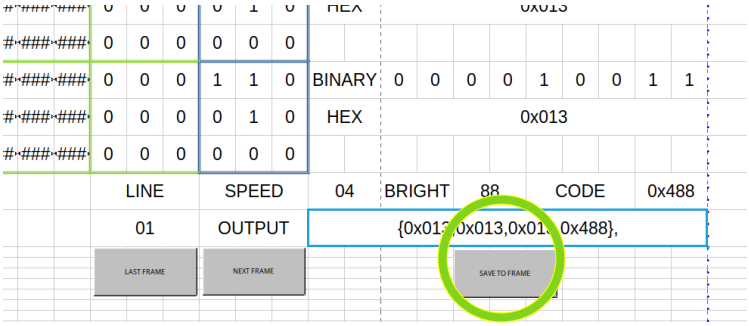
1. 

13. Set the states of each light as you would like them to be displayed in the “Input Colunm”.

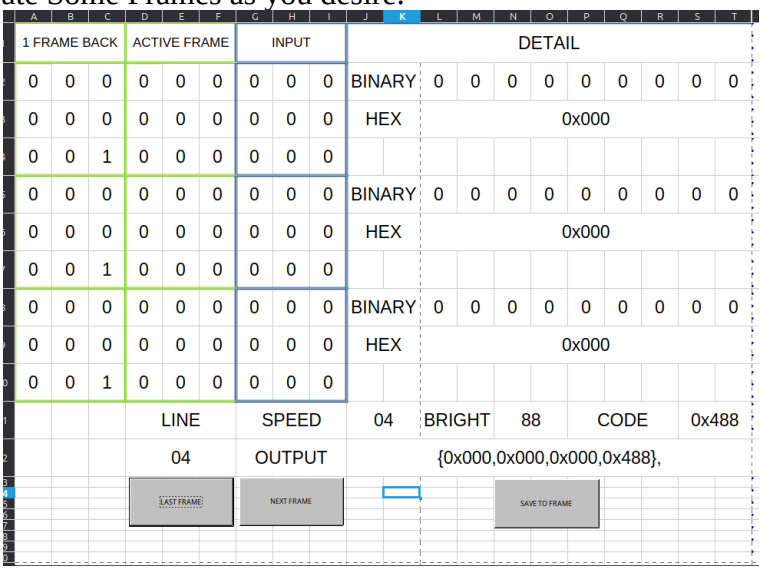
1. 

LED CUBE FRAME MAKER TOOL

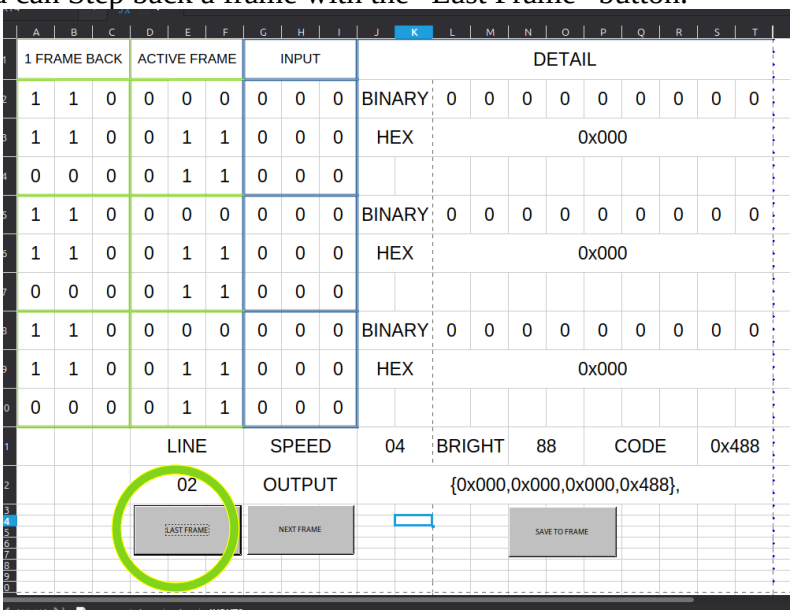
14. Select the “Save To Frame” Button, to save the Input to the current frame and step to the next frame.

1. 

15. Create Some Frames as you desire.

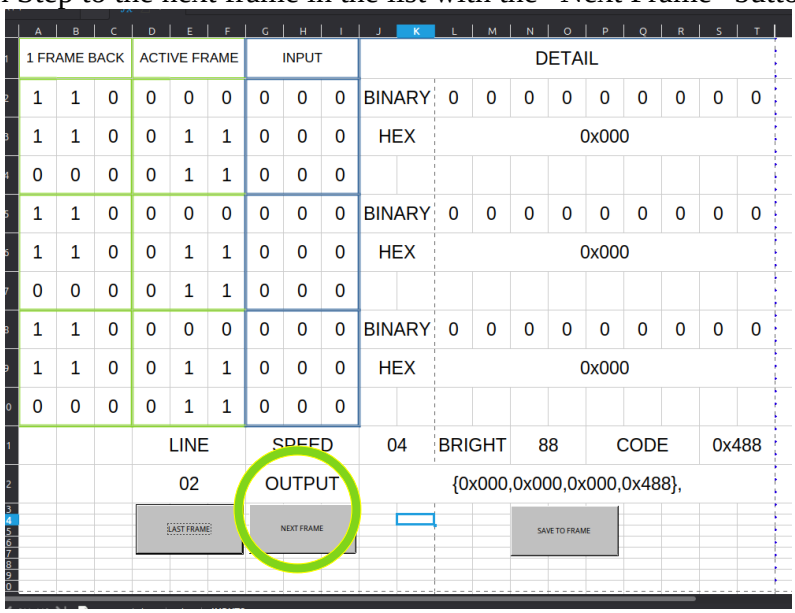
1. 

16. You can Step back a frame with the “Last Frame” button.

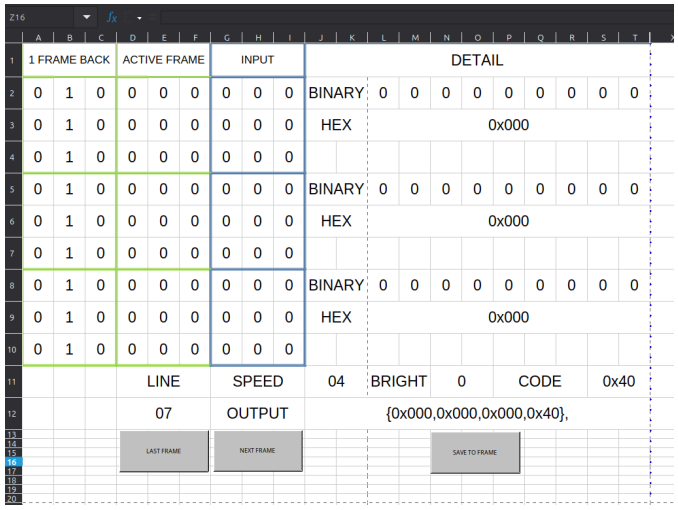
1. 

LED CUBE FRAME MAKER TOOL

17. Can Step to the next frame in the list with the “Next Frame” button

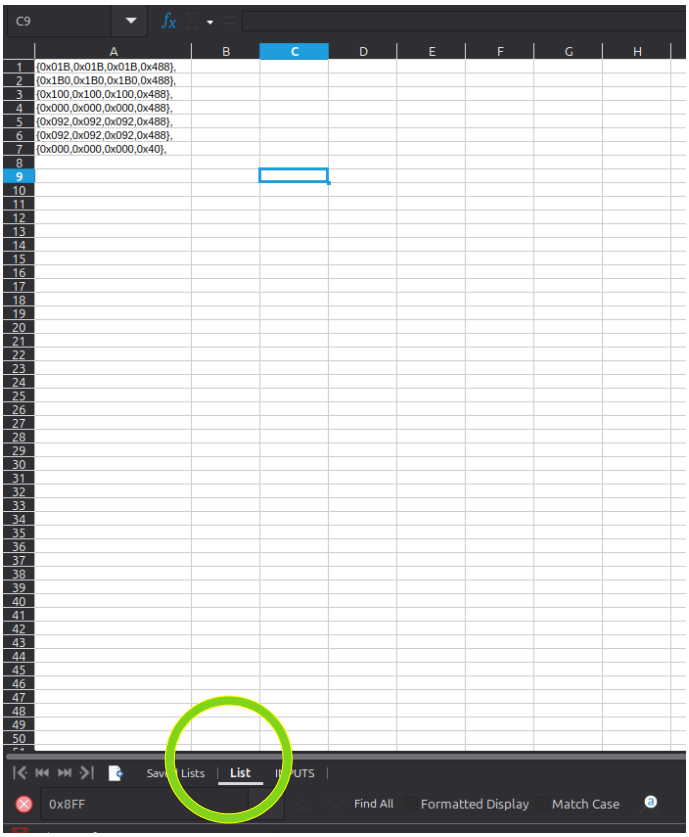
1. 

18. For your very last Frame, Set the “Bright” field to 00 and all lights to 0. Save this frame at the end of your frames List. This prevents an issue of weird light patterns displayed at the end of a frame list.

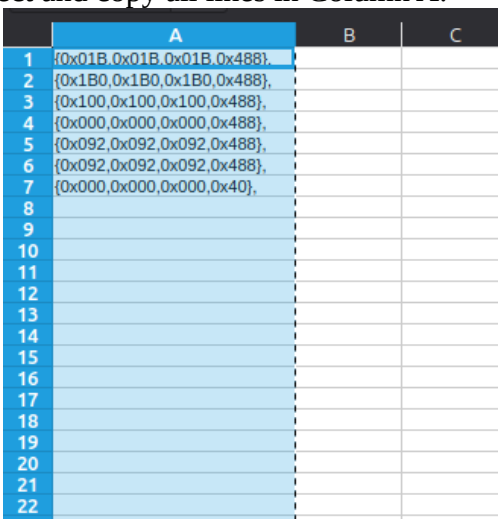
1. 

LED CUBE FRAME MAKER TOOL

19. Select the “Lists” sheet.

1. 

20. Select and copy all lines in Column A.

1. 

LED CUBE FRAME MAKER TOOL

21. Paste this List into the Arduino Code after the line “const unsigned int table[][4]={”. You can leave the existing lines if you wish and comment them out or delete them all so only the new frame List is left.

```
// #define page 64          // Repeats four patterns
#define page 214

const unsigned int table[][4]={

{0x01B,0x01B,0x01B,0x488},
{0x1B0,0x1B0,0x1B0,0x488},
{0x100,0x100,0x100,0x488},
{0x000,0x000,0x000,0x488},
{0x092,0x092,0x092,0x488},
{0x092,0x092,0x092,0x488},
{0x000,0x000,0x000,0x40},



};


int scannow=0,scandir=0;
```

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22. Set “Page” to equal the number of lines in your frames list.

```
// #define page 32       // Repeats two patterns
// #define page 48       // Repeats three patterns
// #define page 64          // Repeats four patter
#define page 7

const unsigned int table[][4]={

{0x01B,0x01B,0x01B,0x488},
{0x1B0,0x1B0,0x1B0,0x488},
{0x100,0x100,0x100,0x488},
{0x000,0x000,0x000,0x488},
{0x092,0x092,0x092,0x488},
```

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23. Upload the Arduino Code to your target device and watch your frames cycle through the cube.

File Edit Sketch Tools Help

Arduino UNO

RSLED_CUBE_TONYS.ino

```
// ***************************************************************

// * The #define page parameter determines how many lines are inc
// * the first 48 lines, omitting one grayed out section. To inclu

// #define page 16       // Repeats one pattern
// #define page 32      // Repeats two patterns
// #define page 48      // Repeats three patterns
// #define page 64         // Repeats four patterns
#define page 7

const unsigned int table[][4]={

{0x01B,0x01B,0x01B,0x488},
{0x1B0,0x1B0,0x1B0,0x488},
```

1.