How to control 16x64 LED matrix by Arduino code (pixel by pixel), using provided Cannon code as a starting point.

In the code one defines a matrix with 256 entries:

\[
\text{unsigned char BMP1[]} = \\
\begin{pmatrix}
0x00, 0x00, 0x3c, \ldots \\
\end{pmatrix}
\]

How to interpret this 2.

By trial and error, these are the conclusions:

0 \times \bigcirc \bigcirc

Always zero, does not affect anything.

Can be chosen to be one of four possibilities: 0, 1, a, c.

Other digits or letters will work also, but these four constitute the 4 independent choices.

Each entry in the matrix corresponds to 4 consecutive pixels in a row: 256 x 4 = 1024 entries per entry in the LED matrix 16 x 64.

The map for a given entry appears on the next page:
The number of possibilities for 4 binary pixels is $2^4 = 16$, which is exactly the number of drawn possibilities.

I hope you find it helpful. Enjoy!

Giora Peniakov 04/09/2016