

MECE-301 Engineering Applications Laboratory

Assignment #4

As a somewhat practical application of arrays and array functions, create a scrolling LED banner that mimics the devices used in public displays, and as represented in the screenshot below. The idea is to continuously scroll some desired text across the “screen” for advertising or announcement purposes. Note that the scheme consists of an array of round LED indicators, colored as shown (or according to some other scheme of your choice), where the values of the LED’s are continuously shifting. To do this, you must construct an array constant at the beginning of your program where you “load” the text, and a loop architecture which continuously strips off the first column of the array (actually numbered as column zero) and appends it to the other end. Repeating this process creates the scrolling effect. Include in your program, as shown in the figure, a means of changing the timing (speed) of the scrolling effect.

As always, include appropriate documentation of your code, such as wire labels, free labels, and so forth, and maintain best practices for organization and readability.

