**CS375 Lab 8 – Moving Text**

Use a Raspberry Pi to control a development board circuit that displays a message on the development board’s four 7-segment displays. The message should be a 16-character message made up of letters, numbers, or symbols. Credit will be withheld for inappropriate messages.

Clock – a clock pulse (default 1 Hz)

Clear – a signal to clear the data on the development board

Data[3-0] - 4 pins that provide one of 16 characters that can be used in a message. At each rising edge of the clock, each of the 3 right-most displays will move their data to the display to their left.

Example:

16 predetermined characters are the hex values 0-F.

At the first rising edge, clear is high, and the 0th predetermined 7-segment display is shown on all 4 development board displays.

At the next four clocks the values on Data[3-0] are 1, 2, 5, 9

The board displays will appear as follows:











Signals on the Raspberry Pi will be wired as follows:

|  |  |  |
| --- | --- | --- |
| Signal Name | Raspberry Pi WiringPi Pin # | Development Board Pin |
| Clock | 1 | AA20 |
| Clear | 4 | AB20 |
| Data[0] | 5 | AB19 |
| Data[1] | 6 | AA18 |
| Data[2] | 26 | AB17 |
| Data[3] | 27 | W17 |