**1. Why do you have a sleep command in your loop?**

The sleep command is needed to pause the program for a specified amount of time. For a display, it prevents text from changing too rapidly, allowing users to read messages before they change. So if it were a board displaying information, people would have time to read it before it changed.

**2. What is the purpose of having a text display on an embedded device?**

A text display on an embedded device allows the system to communicate information directly to the user without needing an external computer or interface. This is useful for showing status updates, sensor readings, error messages, or menu options. Example: We use embedded systems in the hospital I work in to display the hospitals logo on a display.

**3. How can you think of the display device as something that could relate to a state machine?**

In a device with modes like “Idle,” “Processing,” and “Error,” the display shows different messages for each. Updating the display based on state transitions helps users understand what the system is doing at any given time.

Reflection:

I faced a couple challenges when doing this lab. Firstly, making sure I put the jumpers in the correct area. It was confusing at times just which tiny hole was which, I even had to start over at one point. The biggest part of this issue was the 5v row. I struggled to determine which whole was the 37th, 38th, and 39th as they didn’t line up perfectly with the other rows.

Another obstacle I faced was running the display test. I had the correct packages installed and the LCD screen lit up as it should but when I ran the display test, it could not find it. To be able to test the LCD, I created my own script to test it and that worked, though I was never able to run the one provided.

Screenshot:

A electronic device with wires

Description automatically generated