Connections of 16x2 LCD with ATtiny85

1. **Power Connections:**
    - The **VSS** pin of the LCD is connected to **GND**.
    - The **VDD** pin of the LCD is connected to the **+5V** from the battery pack.
    - The **V0** pin (Contrast Control) is connected to a **10kΩ potentiometer**, with one terminal to **+5V**, another to **GND**, and the middle pin to **V0**.
2. **Control Pins:**
    - The **RS (Register Select)** pin is connected to **ATtiny85 Pin 0 (PB0)**.
    - The **RW (Read/Write)** pin is directly connected to **GND** (always in write mode).
    - The **E (Enable)** pin is connected to **ATtiny85 Pin 1 (PB1)**.
3. **Data Pins (4-bit Mode):**
    - The **D4** pin of the LCD is connected to **ATtiny85 Pin 2 (PB2)**.
    - The **D5** pin is connected to **ATtiny85 Pin 3 (PB3)**.
    - The **D6** pin is connected to **ATtiny85 Pin 4 (PB4)**.
    - The **D7** pin is connected to **ATtiny85 Pin 5 (PB5)**.

4. **Power Source:**
    - The circuit is powered by a **4xAA battery pack (6V)**, which is regulated to **5V** for the ATtiny85 and LCD.

Working Principle

1. **LCD Initialization**
    - The **LiquidCrystal library** is used to initialize the LCD in **4-bit mode** using the defined GPIO pins.
    - The LCD is set up to display **16 columns and 2 rows**.
2. **Displaying Text**
    - The first line of the LCD prints a **static message ("this is me")**.
    - The second line prints another **static message ("hello")**.
3. **Real-Time Counter**
    - The `millis()` function is used to calculate the time elapsed since the program started.
    - This value (in seconds) is displayed on the LCD next to `"hello"`, updating every **100 milliseconds**.
4. **Loop Execution**

- The cursor is set to a specific position in the second row before updating the counter.

- A short **delay (100ms)** is used to improve performance and readability.