**Analog Sampling:**

TMP36 VOUT → 4.7 kΩ resistor → Node X → 100 nF capacitor → Ground.

Node X → Arduino A0.

A circuit board with wires connected to it

AI-generated content may be incorrect.

**Interrupt & Shift Register:**

External Interrupt Source → Arduino Pin 2 (INT0).

Arduino Pin 3 → DS (MC74HC595A Pin 14).

Arduino Pin 4 → SH\_CP (MC74HC595A Pin 11).

Arduino Pin 5 → ST\_CP (MC74HC595A Pin 12).

Arduino Pin 6 → OE (MC74HC595A Pin 13).

+5V → MR (MC74HC595A Pin 10) and Vcc.

Ground → MC74HC595A GND.

A circuit board with wires and wires

AI-generated content may be incorrect.

**I2C Communication:**

Arduino A4 (SDA) → LCD SDA.

Arduino A5 (SCL) → LCD SCL.

+5V → LCD Vcc.

Ground → LCD GND.

A circuit board with a wire connected to it

AI-generated content may be incorrect.