CAD_PHASE 4

UV Sensor Connection:

UV Sensor VCC (Power): Connect the UV sensor's VCC (Power) pin to a 5V output on your Arduino. This provides power to the UV sensor.

UV Sensor GND (Ground): Connect the UV sensor's GND (Ground) pin to one of the GND (Ground) pins on your Arduino to complete the circuit.

UV Sensor Analog Output: Connect the analog output pin of the UV sensor (usually labeled as "OUT") to an analog input pin on your Arduino. In the code example provided, we used A0 as the analog input pin.

Servo Motor Connection:

Servo Motor VCC (Power): Connect the servo motor's VCC (Power) wire to a 5V output on your Arduino. This supplies power to the servo motor.

Servo Motor GND (Ground): Connect the servo motor's GND (Ground) wire to one of the GND (Ground) pins on your Arduino to complete the circuit.

Servo Motor Signal: Connect the servo motor's signal wire (usually orange or yellow) to a PWM (Pulse Width Modulation) capable pin on your Arduino. In the code example, we connected it to pin 9. The signal pin is used to control the servo's position.

With these connections, the UV sensor will be powered, and its analog output will be read by the Arduino. When an object is detected within 5cm, the Arduino will send a signal to the servo motor to move to 90 degrees. If no object is detected, the servo motor will return to 0 degrees.
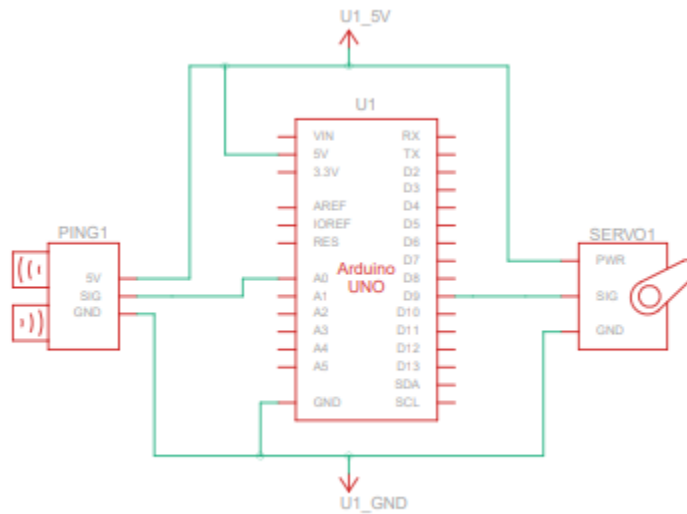
TMP36 Temperature Sensor Connections:

VCC (Power): Connect the VCC (Power) pin of the TMP36 to the 5V output on your Arduino. This supplies power to the sensor.

GND (Ground): Connect the GND (Ground) pin of the TMP36 to one of the GND (Ground) pins on your Arduino to complete the circuit.

Output: Connect the Output pin of the TMP36 to the analog input pin A0 on your Arduino. This is where the Arduino will read the analog voltage output from the sensor.

I2C LCD Connections:

SDA (Serial Data): Connect the SDA (Serial Data) pin of the I2C LCD to the corresponding SDA pin on your Arduino. On most Arduino boards, this is A4.

SCL (Serial Clock): Connect the SCL (Serial Clock) pin of the I2C LCD to the corresponding SCL pin on your Arduino. On most Arduino boards, this is A5.

VCC (Power): Connect the VCC (Power) pin of the I2C LCD to the 5V output on your Arduino for power.

GND (Ground): Connect the GND (Ground) pin of the I2C LCD to one of the GND (Ground) pins on your Arduino to complete the circuit.
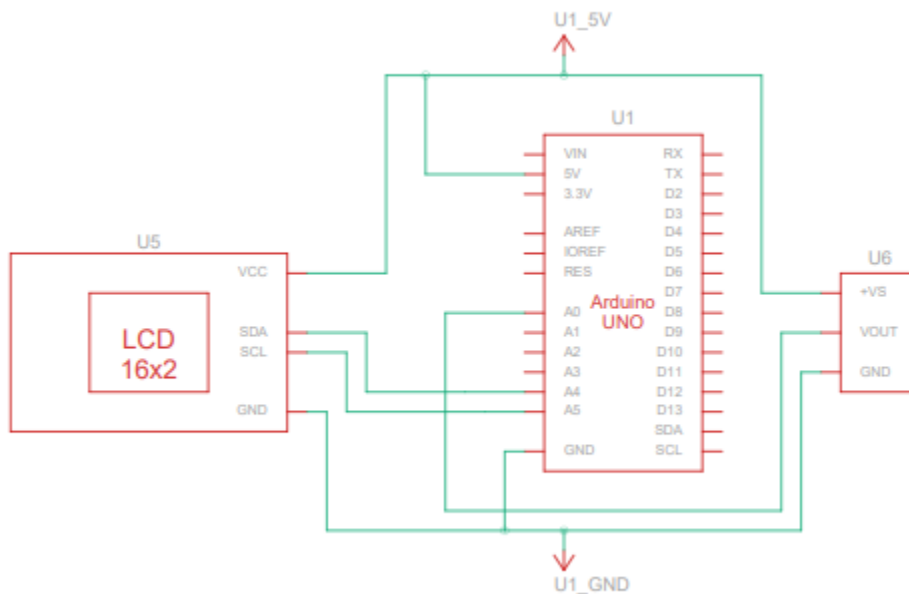
IR Sensor 1 (e.g., IR Sensor Module 1):

VCC (Power): Connect the VCC (Power) pin of IR Sensor 1 to a 5V output on your Arduino or an external power source.

GND (Ground): Connect the GND (Ground) pin of IR Sensor 1 to one of the GND (Ground) pins on your Arduino or the common ground of your power supply.

OUT (Output): Connect the OUT (Output) pin of IR Sensor 1 to digital pin 2 (irSensor1Pin) on your Arduino.

IR Sensor 2 (e.g., IR Sensor Module 2):

VCC (Power): Connect the VCC (Power) pin of IR Sensor 2 to a 5V output on your Arduino or an external power source.

GND (Ground): Connect the GND (Ground) pin of IR Sensor 2 to one of the GND (Ground) pins on your Arduino or the common ground of your power supply.

OUT (Output): Connect the OUT (Output) pin of IR Sensor 2 to digital pin 3 (irSensor2Pin) on your Arduino.

LED 1 and LED 2:

LED 1: Connect one terminal of LED 1 to a current-limiting resistor (e.g., 220-330 ohms), and connect the other end of the resistor to digital pin 4 (led1Pin) on your Arduino. Connect the remaining terminal of LED 1 to GND.

LED 2: Connect one terminal of LED 2 to a current-limiting resistor (e.g., 220-330 ohms), and connect the other end of the resistor to digital pin 5 (led2Pin) on your Arduino. Connect the remaining terminal of LED 2 to GND.

Motor 1 and Motor 2:

Motor 1: Connect one terminal of Motor 1 to the 5V output on your Arduino or an external power supply. Connect the other terminal of Motor 1 to a motor driver or an H-bridge module, and control its direction and speed using two digital pins. You'll need a motor driver for bi-directional control, and the specific connections will depend on the motor driver you are using.

Motor 2: Similar to Motor 1, connect one terminal of Motor 2 to the 5V output, and the other terminal to the motor driver. Use two digital pins for controlling Motor 2.