Door Unlock System

**Components Used**

1. Arduino Mega Board
2. Servo Motor
3. LCD Display I2C
4. Keypad (4x4)
5. Adafruit Fingerprint Sensor
6. RFID Module (MFRC522)
7. 2 LEDs
8. Connecting Wires

**Connections**

1. Power

* Arduino Mega's 5V pin to the VCC pins of the fingerprint sensor, RFID module, keypad, LCD, and LEDs
* Arduino Mega's GND pin to the GND pins of all components

1. Fingerprint Sensor

* Fingerprint sensor's RX pin to Arduino Mega's pin 10
* Fingerprint sensor's TX pin to Arduino Mega's pin 11

1. RFID Module

* RFID module's SDA pin to Arduino Mega's pin 53 (SDA)
* RFID module's SCK pin to Arduino Mega's pin 52 (SCL)
* RFID module's MOSI pin to Arduino Mega's pin 51
* RFID module's MISO pin to Arduino Mega's pin 50
* RFID module's IRQ pin to Arduino Mega's pin 5
* RFID module's GND pin to Arduino Mega's GND
* RFID module's RST pin to Arduino Mega's pin 49

1. Keypad

* Keypad's row pins (4, 5, 6, 7) to Arduino Mega's pins 4, 5, 6, 7
* Keypad's column pins (8, 9, 10, 11) to Arduino Mega's pins 8, 9, 10, 11

1. LCD

* LCD's SDA pin to Arduino Mega's pin 20 (SDA)
* LCD's SCL pin to Arduino Mega's pin 21 (SCL)
* LCD's VCC pin to Arduino Mega's 5V
* LCD's GND pin to Arduino Mega's GND

1. LEDs

* LED 1 +ve leg to Arduino Mega’s pin 3 through resistor of 220 ohm
* LED 1 –ve leg to Arduino Mega’s GND
* LED 2 +ve leg to Arduino Mega’s pin 4 through resistor of 220 ohm
* LED 2 –ve leg to Arduino Mega’s GND

1. Servo Motor

* Servo signal pin to Arduino Mega's pin 5
* Servo power and ground pins to power source

**References**

<https://projecthub.arduino.cc/jayesh_nawani/door-lock-system-with-arduino-54d18a>

<https://robu.in/rfid-and-password-based-door-lock-system-using-arduino/>

<https://electronicsworkshops.com/2020/09/12/fingerprint-door-based-lock-system-arduino/#FINGERPRINT_SENSOR>

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