PROPOSED SOLUTION

The components are powered by connecting the 5V and GND pins of a power supply or battery to the power rails of the breadboard.

The PIR sensor, two additional sensors, servo motor, LED, and buzzer are connected .

- **PIR sensor:** The output pin of the PIR sensor is connected to the control pin of the servo motor and the input pin of the LED and buzzer.
- **Sensor 1:** The output pin of sensor 1 is connected to the input pin of the LED and buzzer.
- **Sensor 2:** The output pin of sensor 2 is connected to the input pin of the LED and buzzer.
- **LED:** The input pin of the LED is connected to the output pins of the PIR sensor and sensor 1 and 2.
- **Buzzer:** The input pin of the buzzer is connected to the output pins of the PIR sensor and sensor 1 and 2.

Proposed solution for a home security door locking system using a servo motor, PIR sensor, LED, and buzzer, along with two additional sensors.

1. Assemble the breadboard as per the architecture diagram mentioned above.
2. Connect a 5V power supply to the power rails of the breadboard.
3. Write a program for an astable multivibrator circuit using two 555 timers. The output of the astable multivibrator circuit will generate a square wave with a specific frequency that will be used to drive the servo motor and the buzzer. The buzzer will produce an audible tone with a frequency equal to that of the square wave.
4. Connect the output of the astable multivibrator circuit to the control pin of the servo motor and the input pin of the buzzer.

5. Connect the output pin of the PIR sensor to the trigger pin of the first 555 timer of the astable multivibrator circuit.
6. Connect the output pins of the two additional sensors to the input pins of the second 555 timer of the astable multivibrator circuit.
7. Connect the input pin of the LED to the output pins of the PIR sensor and the two additional sensors.
8. Connect the ground pin of the PIR sensor, two additional sensors, and LED to the ground rail of the breadboard.
9. Connect the power supply voltage pin of the PIR sensor and two additional sensors to the 5V power rail of the breadboard.
10. Connect the control pin of the servo motor to the output pin of the PIR sensor.
11. When the PIR sensor detects motion, it triggers the first 555 timer, which generates a square wave with a specific frequency that is used to drive the servo motor and the buzzer.
12. The buzzer produces an audible tone with a frequency equal to that of the square wave, indicating that the door has been unlocked. At the same time, the input pin of the LED is connected to the output pins of the PIR sensor and two additional sensors, causing the LED to light up, indicating that the door has been unlocked.
13. Similarly, when any of the two additional sensors detect motion, they trigger the second 555 timer, which generates a square wave with the same frequency that is used to drive the servo motor and the buzzer.
14. The buzzer produces an audible tone with a frequency equal to that of the square wave, indicating that the door has been unlocked. At the same time, the input pin of the LED is connected to the output pins of the PIR sensor and two additional sensors, causing the LED to li
15. This solution provides a simple and cost-effective solution for a home security door locking system without the need for a microcontroller. However, it may not provide the same level of functionality and flexibility as a system that uses a microcontroller.