Controlling LED with Ultrasonic sensor and Arduino

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TOPICS COVERED

1. Project Objective
2. Hardware requirements
3. Circuit Diagram
4. Step-By-Step Assembly
5. Testing and Troubleshooting
6. Demonstration
7. Conclusion

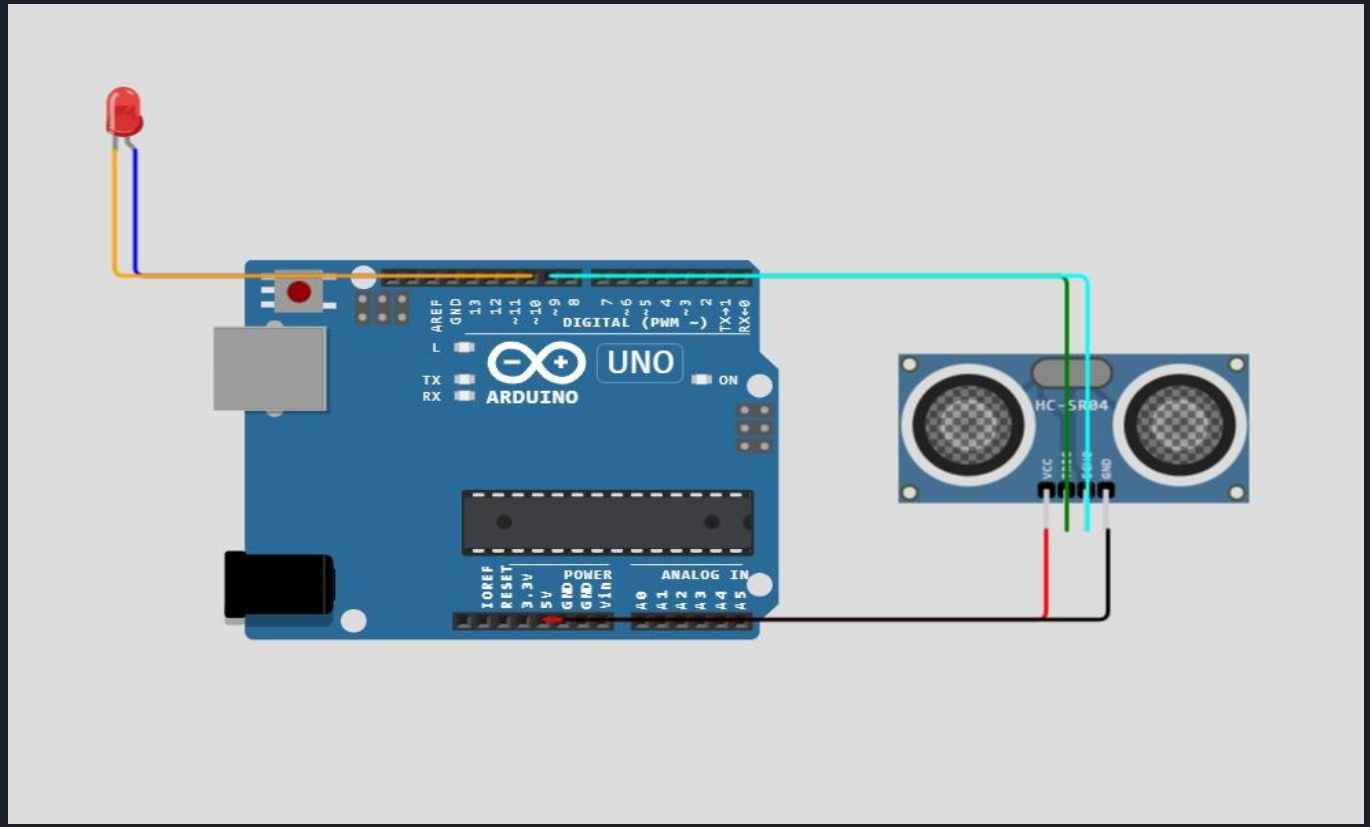
Project Objective

- Provide comprehensive learning experience about an LED control system
- Learn the basics of Arduino Programming
- Familiarise ourselves with Sensor Integration
- Understand the concepts behind the working of an ultrasonic sensor

Hardware Components:

1. Arduino Uno Microcontroller Board
2. Ultrasonic Sensor
3. LED
4. Jumper Cable
5. USB Cable for Arduino

Circuit Diagram



Step-By-Step Assembly

1. Connect the VCC pin of the sensor to the 5v port on the board
2. Connect the GND pin of the sensor to one of the GNd ports on the board
3. Connect the trig and echo pins on the sensor to two of the digital ports on the board
4. Connect the anode of the LED to one of the digital port of the board
5. Connect the cathode of the LED to one of the GND ports on the board

Testing and Troubleshooting

Common Issues:

1. Wiring
2. Power Supply
3. Calibration
4. Distance Threshold
5. Interference

DEMONSTRATION

Conclusion

1. Hands on learning about electronic components and their uses
2. Proficiency in Arduino Programming
3. Knowledge about Sensor Integration
4. Troubleshooting skills

THANK YOU