EXPERIMENT

ULTRASONIC SENSOR INTERFACE-OBSTACLE DETECTOR AND DISTANCE MEASUREMENT

CIRCUIT DIGRAM:

THEORY:

CONCEPT USED:

- KIRCHOFF'S VOLTAGE LAW
- KIRCHOFF'S CURRENT LAW
- CONCEPT OF ULTRASONIC SENSOR AND WAVES

LEARNING & OBSERVATION:

- CONNECTIONS IN BREADBOARD AND WIRING
- TO FORM DIFFERENT PATTERNS FROM LEDS
- HOW TO CONTROL ARDUINO & ITS CODING
- SENSOR CONCEPTS WITH CONCEPTS OF REVERBERATIONS AND ECHOES

OBSERVATIONS:

- CONTROL OF SENSOR ON CHANGING THE DISTANCE
- RELATION BETWEEN SOFTWARE AND HARDWARE

PROBLEMS AND TROUBLESHOOTING:

- ✓ TO SELECT THE RIGHT PORT AND TYPE OF ARDUINO
- ✓ TO CHECK THE LOOSE CONNECTIONS
- ✓ TO CHECK THE CONTINUITY OF CIRCUIT
- ✓ TO CHECK THE FLOW OF CURRENT
- ✓ TO CHECK THE CONNECTIONS ACCORDING TO THE CODES
- ✓ TO CONNECT THE RIGHT PINS IN THEIR RESPECTIVE PINMODES ACCORDING TO THE CODES

PRECAUTIONS:

- HANDLE THE COMPONENTS CAREFULLY
- AVOID CONNECTING ARDUINO TILL THE CIRCUIT IS COMPLETE
- CONNECT THE LEDs WITH A RESISTANCE TO AVOID DAMAGE
- DON'T PLUG THE COMPONENTS INTO UNKNOWN CIRCUITS AND MODES

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