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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