Test cases

1.The system

|  |  |  |  |
| --- | --- | --- | --- |
| **No** | **Description** | **LED** | **Buzzer** |
| 1 | User places an obstacle in the range of the sensor | LED is on and green | Sound is generated |
| 2 | User places an obstacle outside the range of the sensor | LED is on and red | Sound is not generated |
| 3 | User brings the obstacle closer to the sensor (in the range of it) | LED is on and green | Sound with a higher sound pitch is generated |
| 4 | User brings the obstacle further from the sensor (in the range of it) | LED is on and green | Sound with a lower sound pitch is generated |

2. The sensor

|  |  |  |
| --- | --- | --- |
| **No** | **Description** | **Output** |
| 1 | User places an obstacle in the range of the sensor | The RGB LED is on |
| 2 | User places an obstacle outside the range of the sensor | The RGB LED is off |

3. The buzzer

|  |  |  |
| --- | --- | --- |
| **No** | **Description** | **Output** |
| 1 | The delays between turning the buzzer on and off are getting longer | The sound pitch is getting lower and it is seen on a sound wave generator |
| 2 | The delays between turning the buzzer on and off are getting shorter | The sound pitch is getting higher and it is seen on a sound wave generator |

4. Clock

|  |  |  |
| --- | --- | --- |
| **No** | **Description** | **Output** |
| 1 | 1024 iteration cycles have passed | The clock output in the debugger window is incremented |
| 2 | 0xFF\*1024 (261120) iterations have passed | The TOV0 flag is set in the debugger window |

5. The LED

|  |  |  |
| --- | --- | --- |
| **No** | **Description** | **Output** |
| 1 | The input is 255,0,0 | The LED is red |
| 2 | The input is 0,255,0 | The LED is green |

Results:

All the test cases have given the expected output.