

CO 1- Use open-source hardware prototyping platform and peripherals for building digital devices and interactive objects that can sense and control the physical world.

Instructions:

Your submission pdf to have 3 parts.

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| 1) Circuit Diagram – Online Simulator. | (3 Marks) |
| 2) Complete Code Snippet with Comments | (3 Marks) |
| 3) Simulation Demonstration Video (Google Drive Link) | (4 Marks) |

Record a short video demonstrating your simulation in action, Your **face must be visible** in the video while you explain the **circuit, code logic, and output behavior** in detail.

Upload the video to Google Drive and include the shared link in your PDF.

Question:

Design a motion detection system capable of detecting movement from **four directions: North, East, South, and West**. Write a program using if-else conditions to:

- Turn ON a **light** if motion is detected from East or West.
- Turn ON a **buzzer** if motion is detected from North or South.
- If **multiple sensors** detect motion (including overlapping zones), activate the corresponding outputs.
- If **no motion**, both outputs remain OFF.
- When light or buzzer is ON, print the following in the **Serial Monitor**:
 - Detected direction(s)
 - Status of light and buzzer
