### **Tutorial-3**

### **Step 4 – Implement the Solution**

#### **4.1 Logic Circuit**

* 2 × 3-input AND gates
* 1 × 2-input OR gate
* 1 × NOT gate (to make ALARM active-LOW)

**A diagram of a circuit

Description automatically generated**

**4.2 Python Code**

# Inputs (1 or 0)

DRIV = int(input("Driver present? (1/0): "))

PASS = int(input("Passenger present? (1/0): "))

IGN = int(input("Ignition ON? (1/0): "))

BELT\_D\_bar = int(input("Driver belt unfastened? (1/0): "))

BELT\_P\_bar = int(input("Passenger belt unfastened? (1/0): "))

# Logic

if IGN == 1 and ((DRIV == 1 and BELT\_D\_bar == 1) or (PASS == 1 and BELT\_P\_bar == 1)):

ALARM = 0 # ON

else:

ALARM = 1 # OFF

print("ALARM =", ALARM)