Alexandria University
Faculty of Engineering
Computer and Systems Engineering
Department

Computer Organization
Assigned: 18/10/2025
Due: 25/10/2025

Microcontroller Lab 4

Objectives

Application on analog input.

Voltage threshold detector

Idea:

Use the Arduino analog input to act as a simple voltmeter with an alarm to indicate that the voltage has exceeded a certain limit.

Requirements:

A 50 KΩ potentiometer is connected to the arduino 5V port and Gnd to act as a variable voltage input to an analog pin of the arduino.

A buzzer is connected to the digital output of the arduino.

By varying the value of the potentiometer, the value of the voltage on the analog pin varies.

The arduino should be able to print the current analog input voltage on the Serial Monitor.

If this voltage exceeds 3 volts, the buzzer and the built in LED (pin 13) should turn ON, and remain ON as long as the voltage remains above the threshold (3 volts).

If the voltage drops below 2.5 volts, both the buzzer and LED should turn OFF, and remain OFF as long as the voltage is below the threshold (3 volts).

Delivery Policy

- Implement the requirements using components (buzzer, potentiometer, etc.…) and code.
- You should submit (.ino files).
- Each group must submit a recorded video along with a report containing the code, work description, and schematic diagram.

Due Date: Saturday 25/10/2025 @ 23:59

Late delivery = -25% for each day of delay.

Good Luck