PWM DRAWER

AMIT GRADUATION PROJECT

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Introduction

- What is a PWM?
  Pulse Width Modulation (PWM) is technique by which the width of a pulse is varied while keeping the frequency constant.

- Why PWM?
  Most microcontrollers have a logic out of 0 or 1, which is translated to 0 or 5 volts. Instead of encoding the amplitude of a signal for communication, the pulse width is used for the transmission.

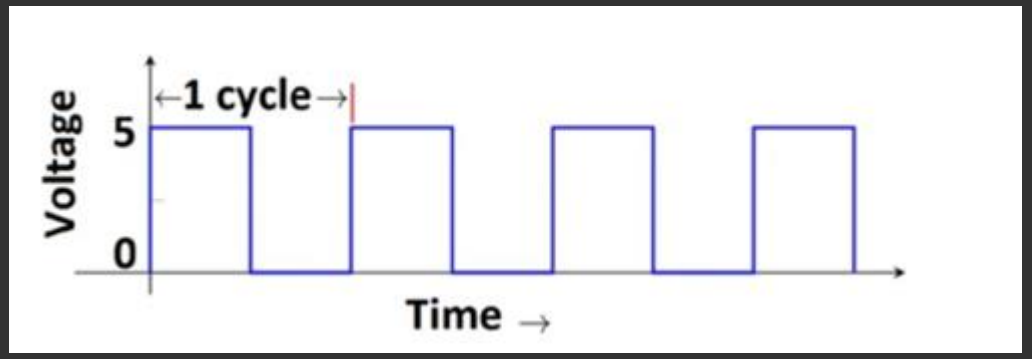
Applications

- DC Motors
- Audio Devices
- Analog Waveforms
- Dimming LEDs
- Pumps
- Hydraulics
- And this project!

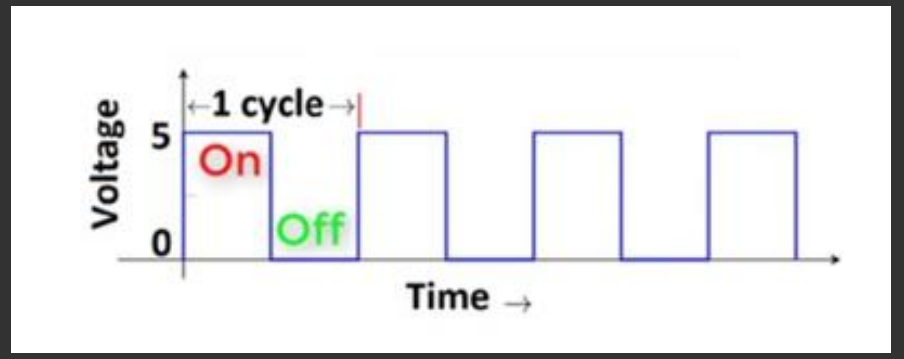
Fundamentals

- PWM signal consists of
  - Frequency
  - Duty Cycle

- Frequency is represented as the number of cycles per one second



- Duty Cycle is represented as the ratio of high and low in a period.



About Project

- The project aim is to mimic an Oscilloscope in an LCD. Visualizing how a duty cycle looks at a range of 10 on a 16x2 LCD. In this example, the duty cycle is 30% with the frequency of 490.2 Hz.

THANK YOU