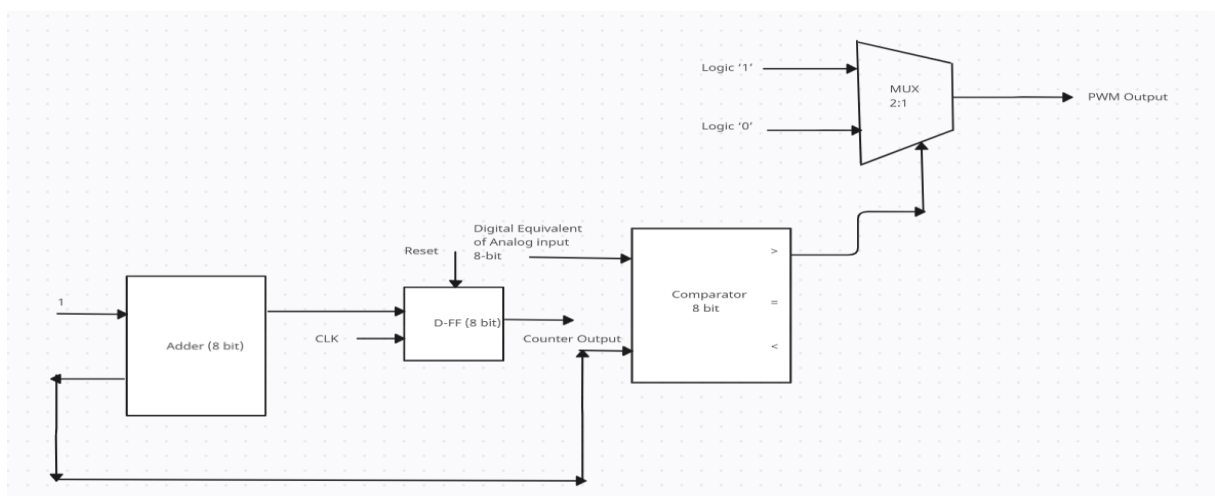


# Implementation of PWM

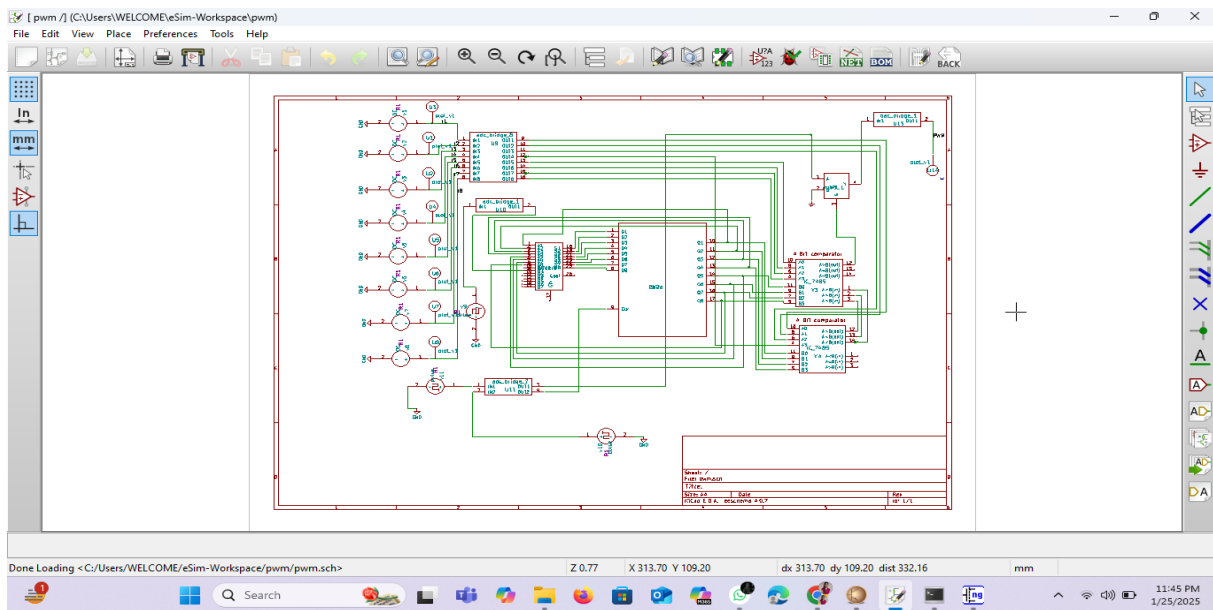
## Introduction

This project demonstrates the design and implementation of a Pulse Width Modulation (PWM) system using eSim, an open-source EDA tool. PWM is commonly used in applications like motor control and signal modulation for its ability to efficiently manage power. The design uses an 8-bit counter and a comparator to generate a PWM signal based on the duty cycle. Simulations were carried out in eSim to verify the system's accuracy and functionality. The counter increments with each clock cycle, and the comparator determines the output by comparing the counter value with the duty cycle.

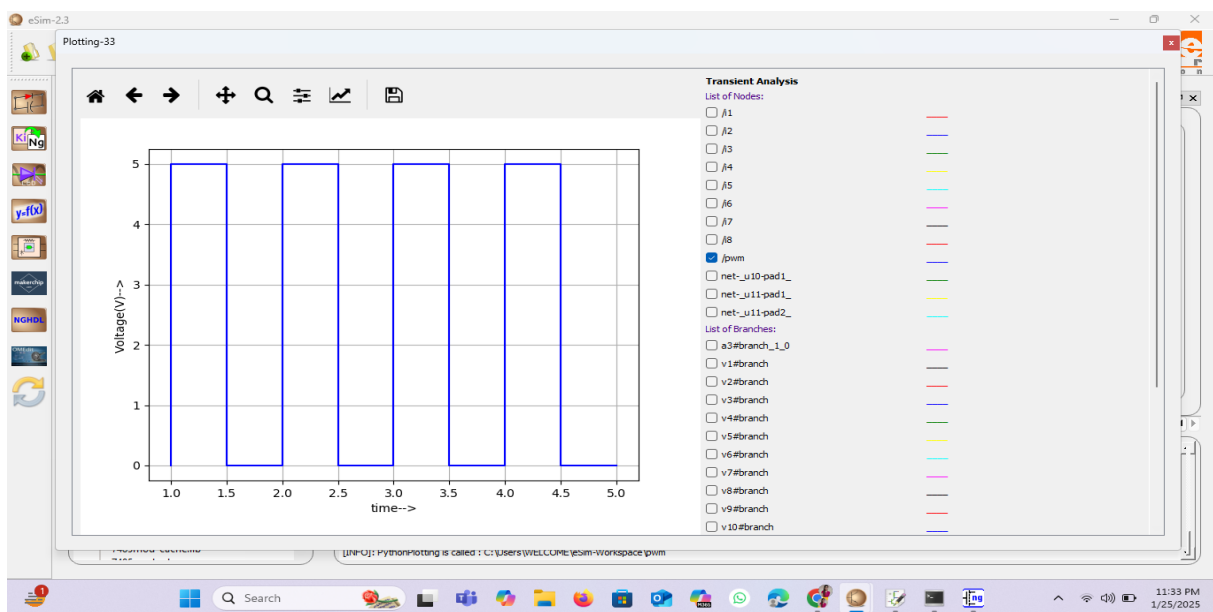
## Block Diagram

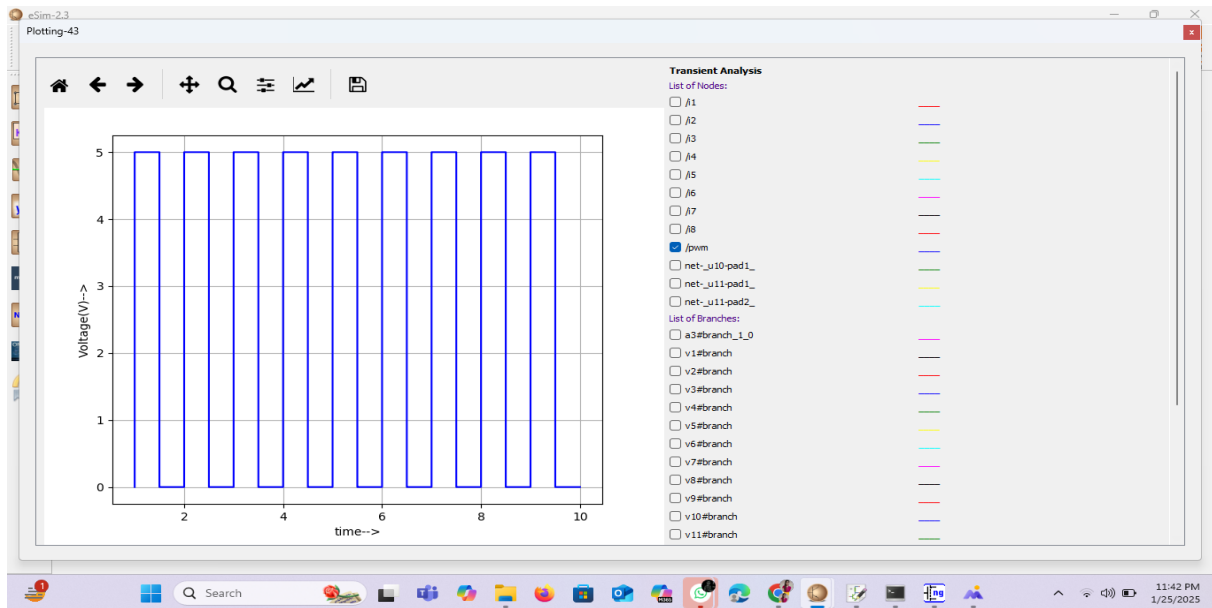


## Schematic



## Output Waveforms





## ● Reference

- <https://esim.fossee.in>
- [http://www.iaeme.com/IJARET/issues.asp? JType=IJARET&VType=12&IT](http://www.iaeme.com/IJARET/issues.asp?JType=IJARET&VType=12&IT)

## ● Conclusion

In conclusion, this project successfully designed and simulated a Pulse Width Modulation (PWM) system using eSim, demonstrating the tool's capability for digital circuit design and verification. The implementation utilized an 8-bit counter and comparator to generate precise PWM signals based on a given duty cycle. The simulation results validated the system's functionality, showcasing its accuracy and reliability.

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