ELE4307

Assignment 1

Control of Pick and Place Machine for SMT Assembly

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# Introduction

This report details the design of a program written in C to control a pick and place machine for assembly of Surface Mount Technology (SMT) based Printed Circuit Boards (PCBs). The machine is designed for both manual and automatic modes and is fully tested for functionality using a simulator by a POSIX compliant program.

# System Design

A Mealy state based diagram for Part A (manual) operation

A Mealy state based diagram for Part B (autonomous) operation

## Design Choices

A brief explanation of significant design choices for Part A (manual) AND Part B (autonomous) (maximum 2 pages)

### Part A

### Part B

# Testing Results

The test cases you executed for Part A (manual) AND Part B (autonomous) and the associated results. Test cases and the results are best represented in tabular form.

## Part A

## Part B

# Appendix

The commented C source code in an appendix