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|  | **Qatar University**  **College of Engineering**  **Department of Computer Science and Engineering** |

**CMPE263 Computer Architecture and Organization I**

**Course Project Report**

**Spring 2024**

Project Title

Design of 7-bit CPU using Logisim by integrating ALU, Registers and ROM

Submitted By:

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# Part I: Introduction

<< Describe the general concept(s) & constraint(s) of the design>>

# Part II: CPU Architecture and Organization

<< This section presents and shows the design an 7-bit CPU with a fixed instruction width of 16 bits, 8 distinct instructions, 4 registers. Memory size on the CPU will be 8-bit addressable and 16-bit wide. Provide screen shots for the design with clear description>>

# Part III: Instruction Set

<< This section presents and shows the Data Transfer, Arithmetic, Logic (Parity) and Shift operations >>

# Part IV: Instruction Format

<< This section presents and shows the instruction format of each assembly statement >>

# Part V: Assembly Programs

<< This section presents and shows samples of assembly program execution. For example; the CPU should generate correct results when executing an assembly code, for example for Multiply instructions; multiply the contents of a register value by a constant and save the result in another register. Provide screen shots for the different outputs of the LogiSim >>

# Part VI: Conclusion

<< Give a brief summary of the project outcome. Comment on the difficulty that you faced during your work in the project. >>