

Project 2: Designing an 8-bit ALU

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1 Introduction

The purpose of this project is to implement an 8-bit ALU in the VHDL hardware-description language. The ALU should be able to perform the following functions:

- ADD
- SUBTRACT
- LESS-THAN
- AND
- NOT
- XOR
- Bit Shift Left
- Arithmetic Bit Shift Right

2 Design

2.1 Architecture

2.2 Behavior

3 Simulation Results

4 Conclusion