

Exp6: ALU

Objectives:

The aim of this experiment is designing an ALU in VHDL.

Logic Design:

The arithmetic logic unit (ALU) is a digital circuit that calculates an arithmetic operation (like an addition, subtraction, etc.) and logic operations (like an Exclusive Or) between two numbers, The ALU is a fundamental building block of the central processing unit of a computer.

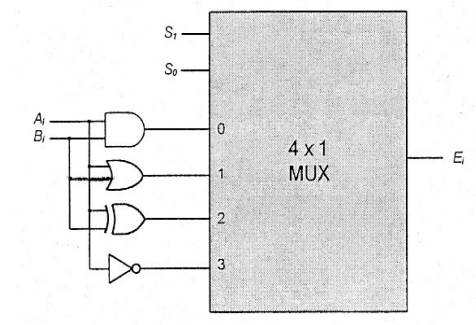


Figure (6-1): ALU.

Assigning Pins with Constraints:

Signals		Element on XSA-200 Board	XC2S200 FPGA Pin
Input	A	Sw1-1	P11
	B	Sw1-2	M10
	S	D0	E13
	S	D1	C16
Output	F	Segment B	F15