COMP 3315 Lab8: SMIPS Arithmetic Logic Unit

Number and Name:

1. **Object**: ALU Design

2. **Procedure**: We will build the ALU of SMIPS simplified MIPS (SMIPS).

a. Construct a 8-bit ALU that can perform AND, OR, Add, Sub, Slt, XOR, XNOR and NOR operations using a multiplexer and gates.
b. Provide a zero output from the ALU which is set when all output bits are zero
c. Test all operations of ALU by connecting it to the register file of Lab 7.

You are expected to implement the ALU Design. Upload .circ file for your labwork.

*Use your Prelab adder for add function on ALU. You can use default logisim components with correct bit numbers for other operations.

ALU control lines	Function
000	AND
001	OR
010	Add
011	Sub
100	Slt
101	XOR
110	XNOR
111	NOR