Assignment 6

October 23, 2023

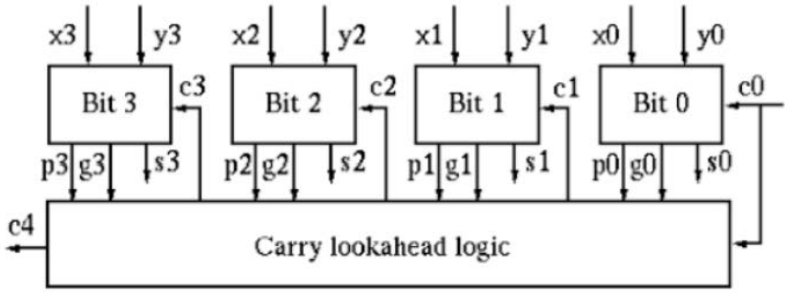
Problem 1 : 4-to-1 Multiplexer using Data Flow

- Design a 4-to-1 Multiplexer using dataflow statements.
- Write testbench and simulate your design.

NOTE : You can re-use the testbench module that you created earlier for the Structural 4-to-1 Multiplexer in Assignment 3. The simulation result should be the same.

Problem 2 : 4-bit Carry Lookahead Adder using Data Flow

- Design a 4-bit Carry LookAhead Adder using dataflow statements.
- Write testbench and simulate your design.
- Compare it with the 4-bit Ripple Carry Adder that you created in Assignment 3 (Structure, delay, speed)



Problem 3 : Answer the following questions

1. Describe the statement assign (continuous assignment).
2. Define, give examples of expressions, operands, operator in DataFlow Modeling.
3. List the types of operators used in DataFlow Modeling (arithmetic, logical, relational, equality, bitwise, reduction, shift, concatenation, and conditional), give examples.
4. Instruction: 6.1 Continuous Assignments,6.3 Expressions , Operators, and Operands, 6.4 Operator Types–Chapter 6. Dataflow Modeling–Verilog HDL Samir