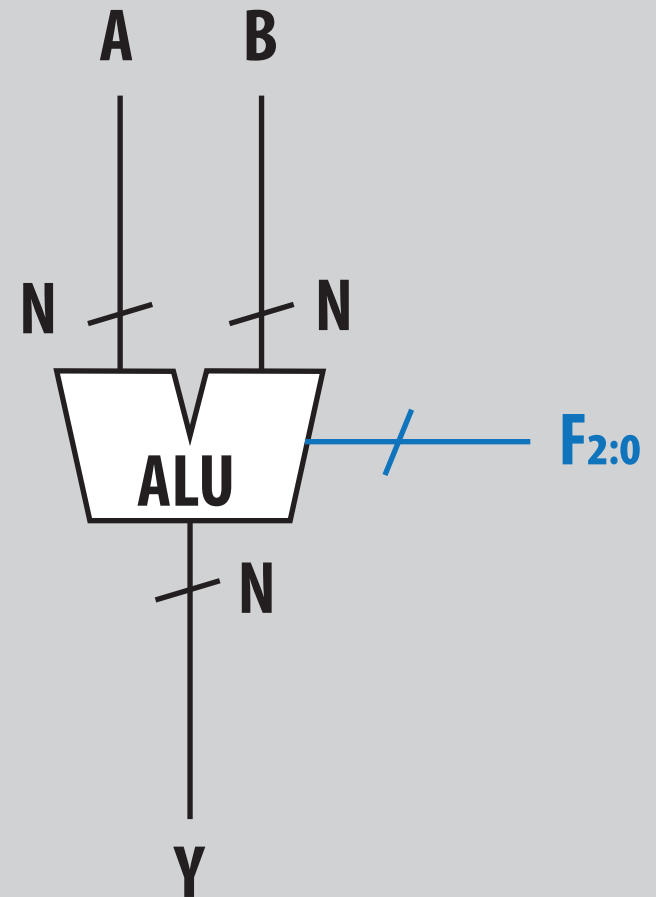
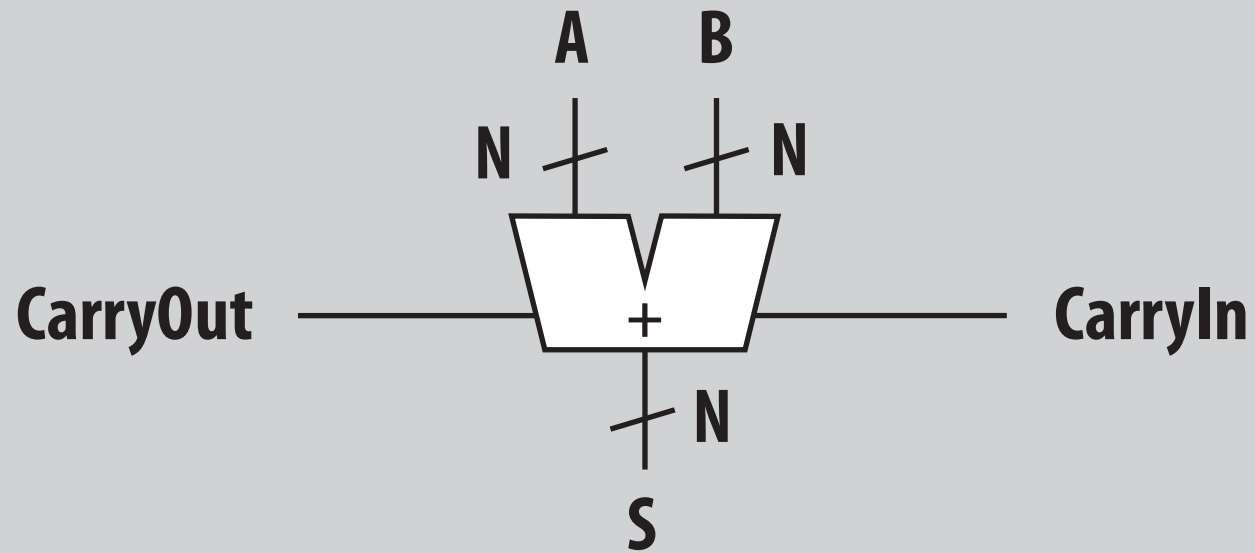


Arithmetic Logical Unit (ALU)

F_{2:0}	Function
000	A AND B
001	A OR B
010	A + B
011	not used
100	A AND \bar{B}
101	A OR \bar{B}
110	A - B
111	SLT

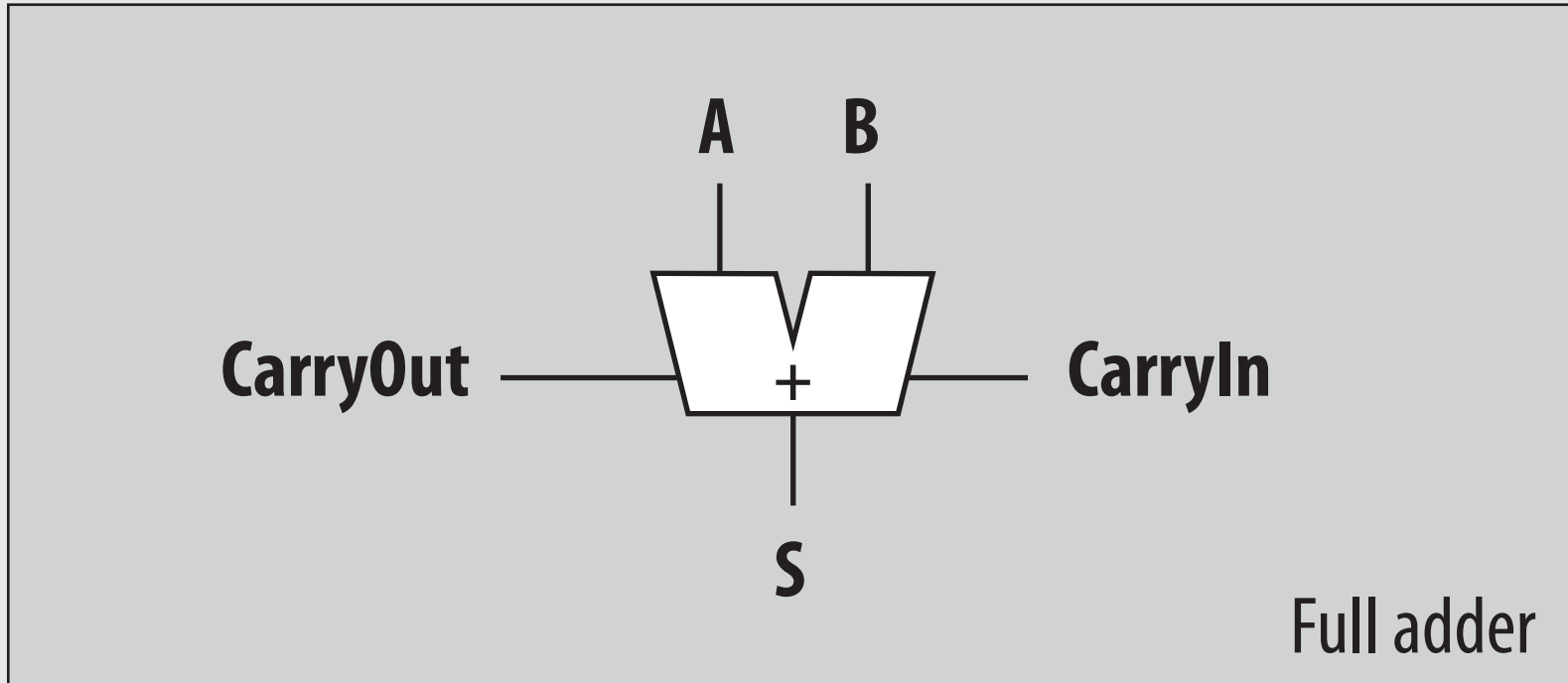


Carry Propagate Adder



Carry Propagate Adder

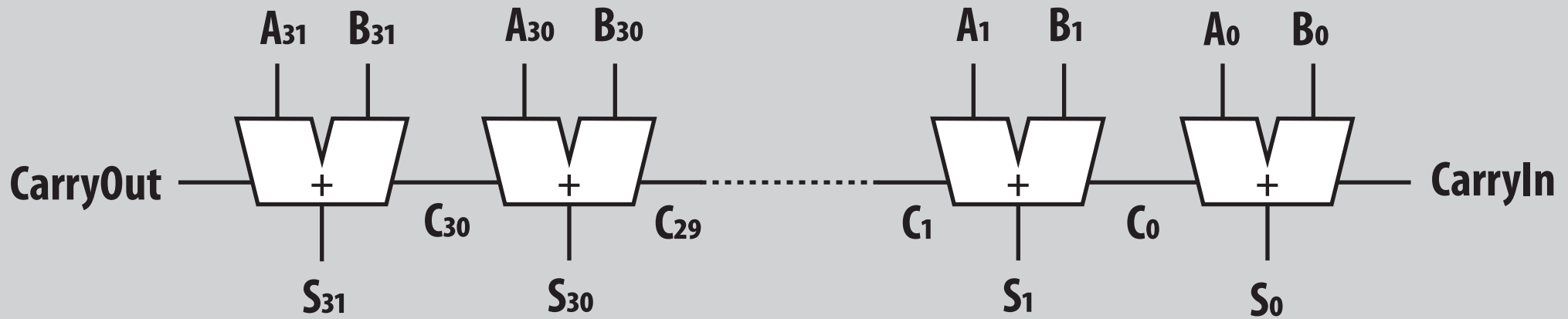
Full Adder



$$S = A \oplus B \oplus \text{CarryIn}$$

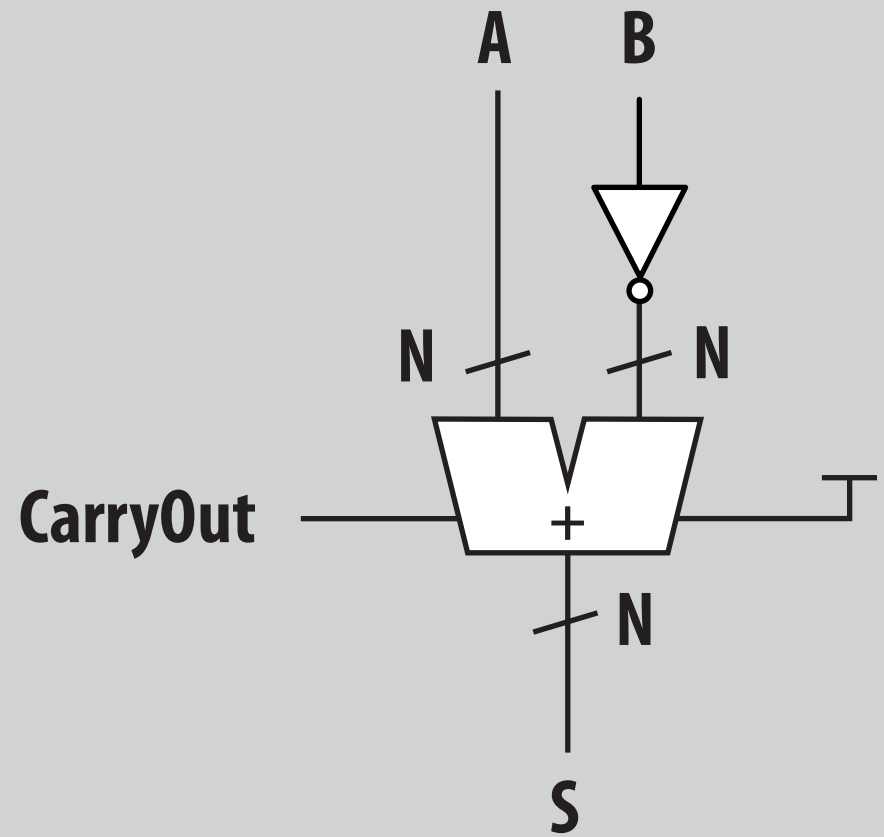
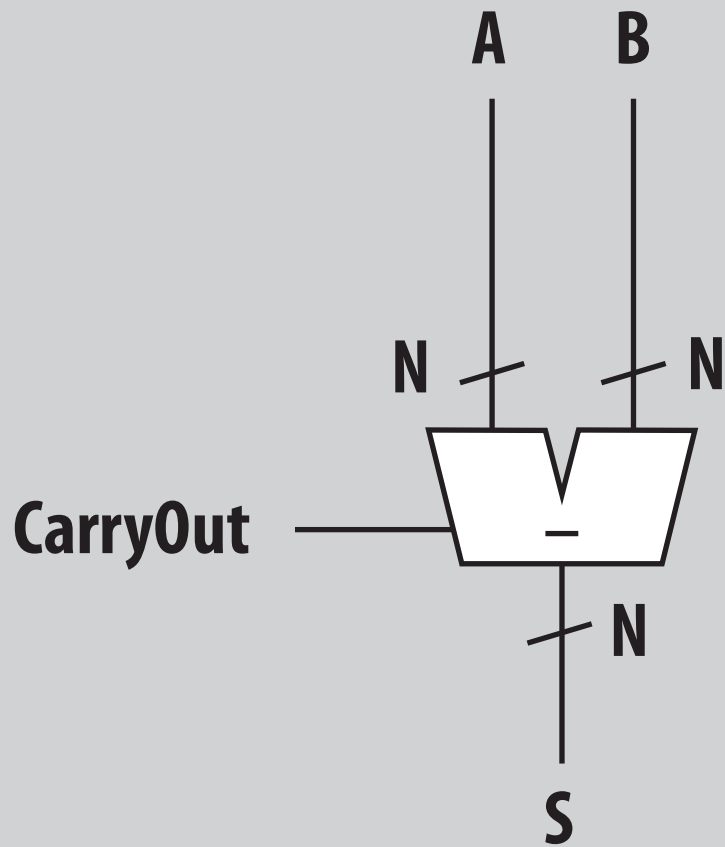
$$\text{CarryOut} = A.B + A.\text{CarryIn} + B.\text{CarryIn}$$

Ripple Carry Adder

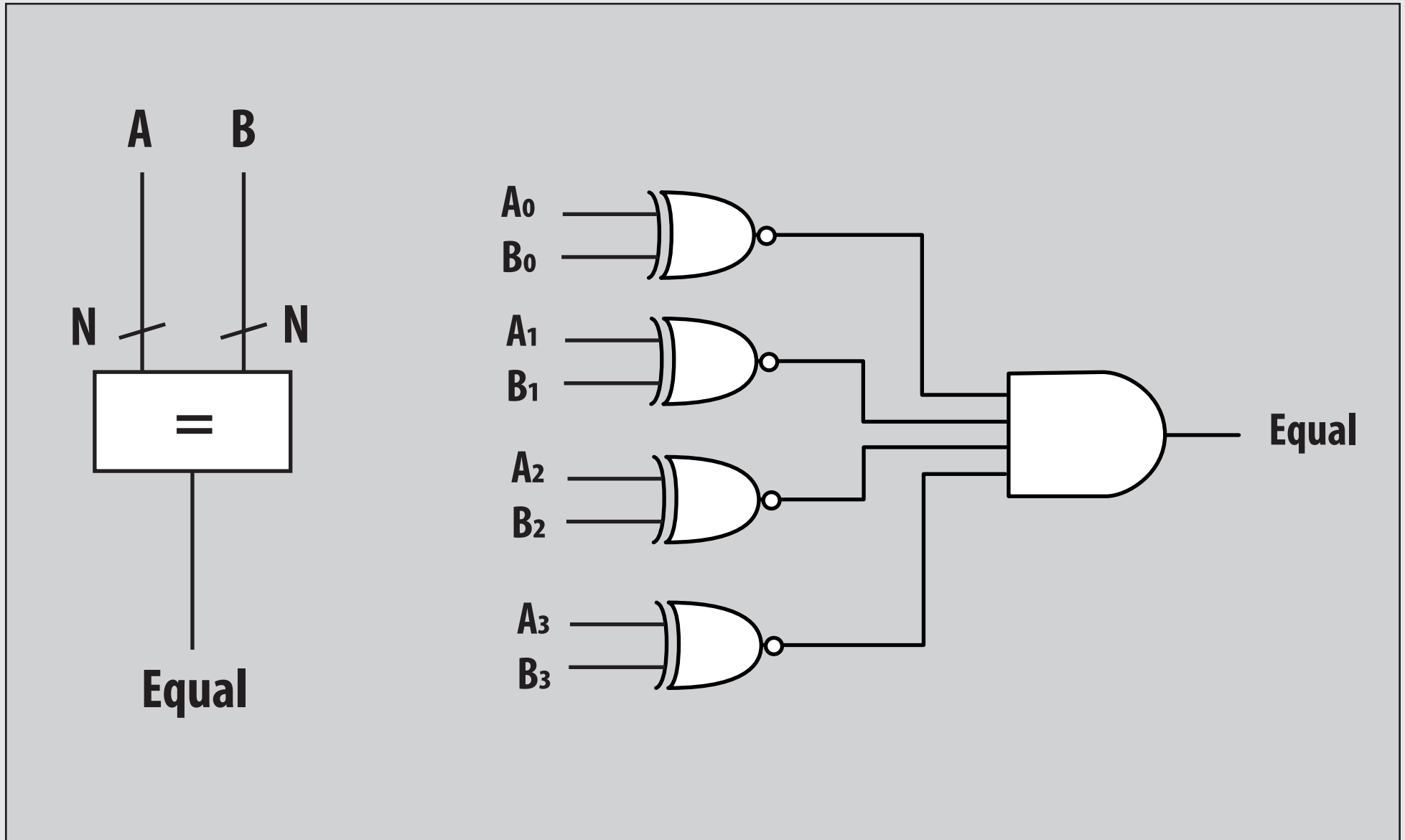


32-bit ripple carry adder

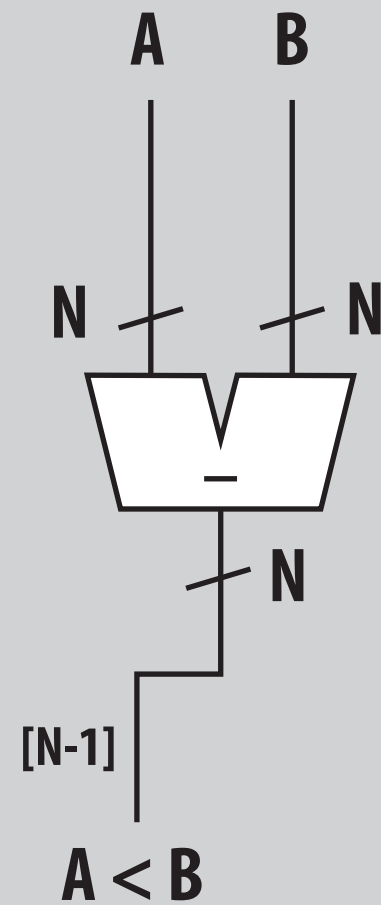
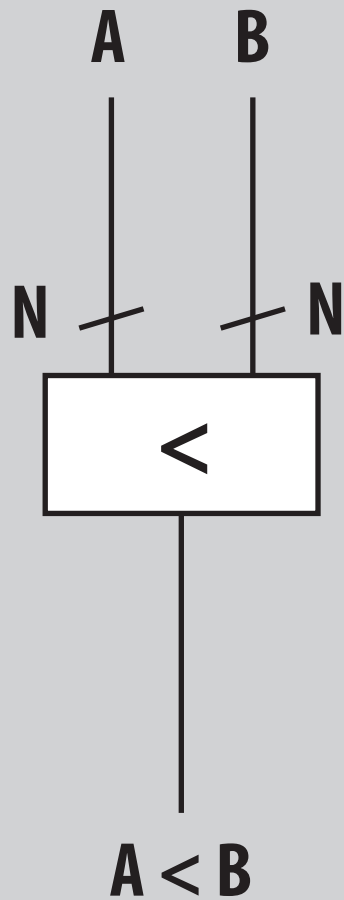
Subtraction



Equality Operator

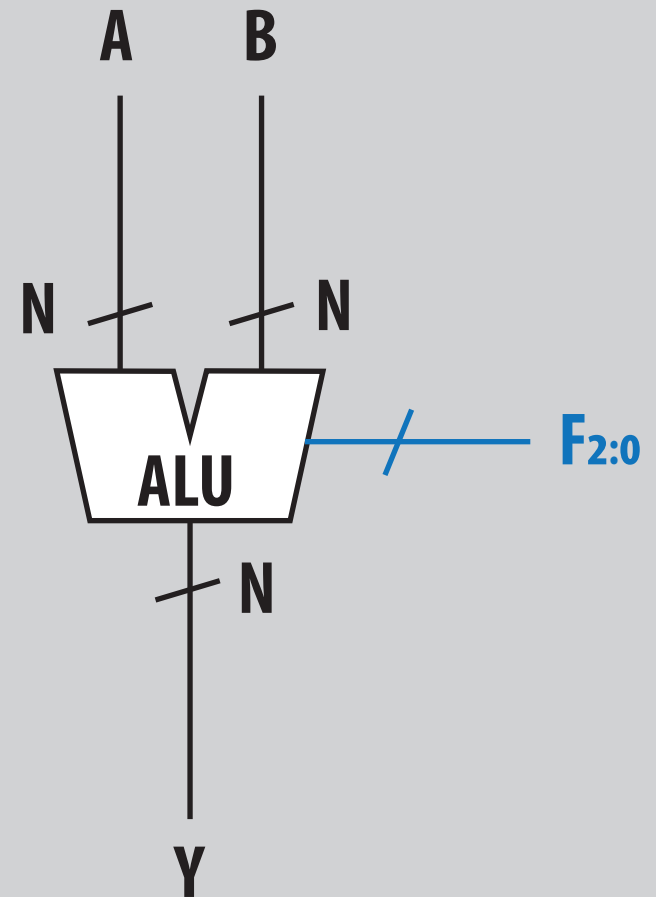


Magnitude Operator



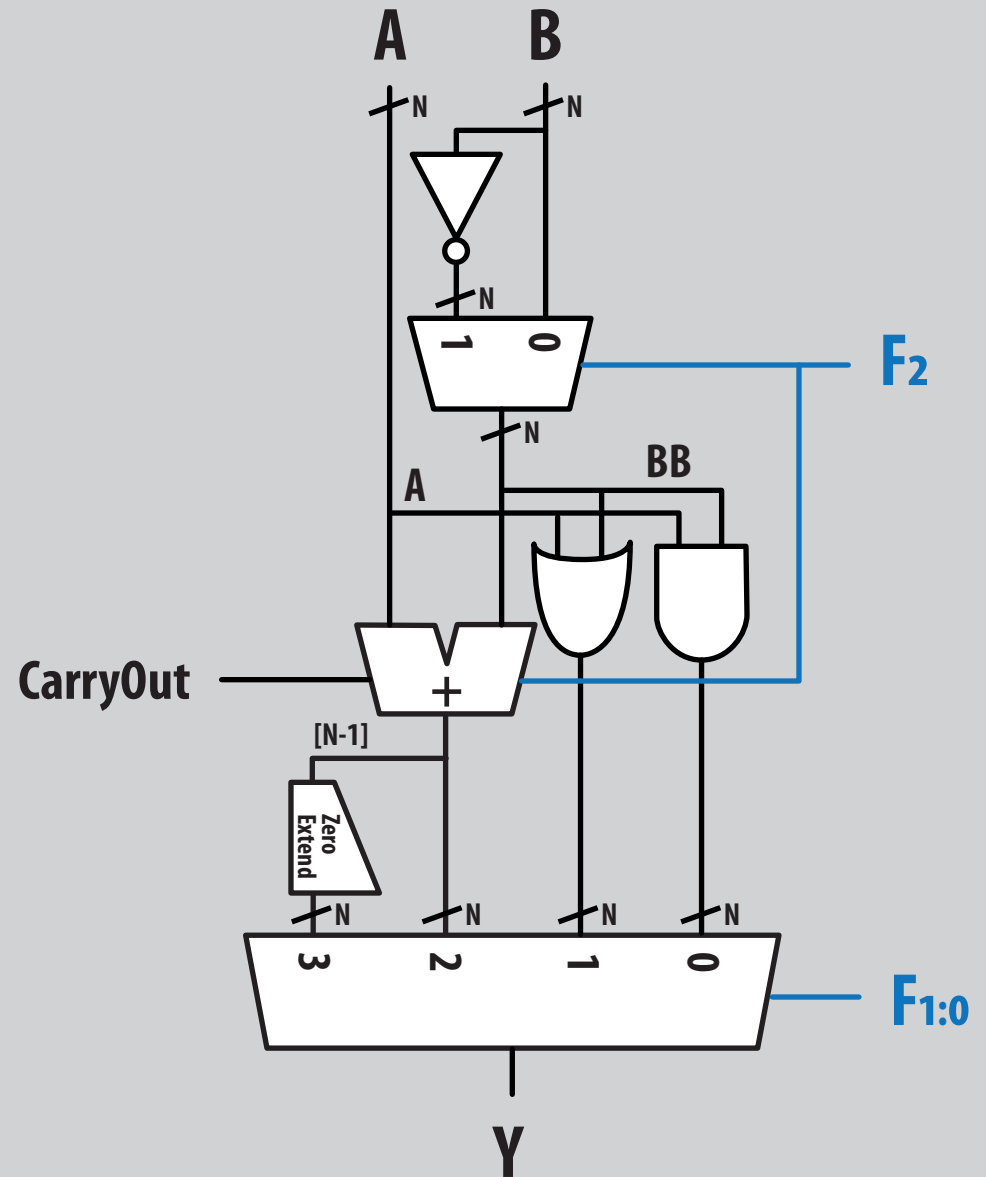
Arithmetic Logical Unit (ALU)

F_{2:0}	Function
000	A AND B
001	A OR B
010	A + B
011	not used
100	A AND \bar{B}
101	A OR \bar{B}
110	A - B
111	SLT

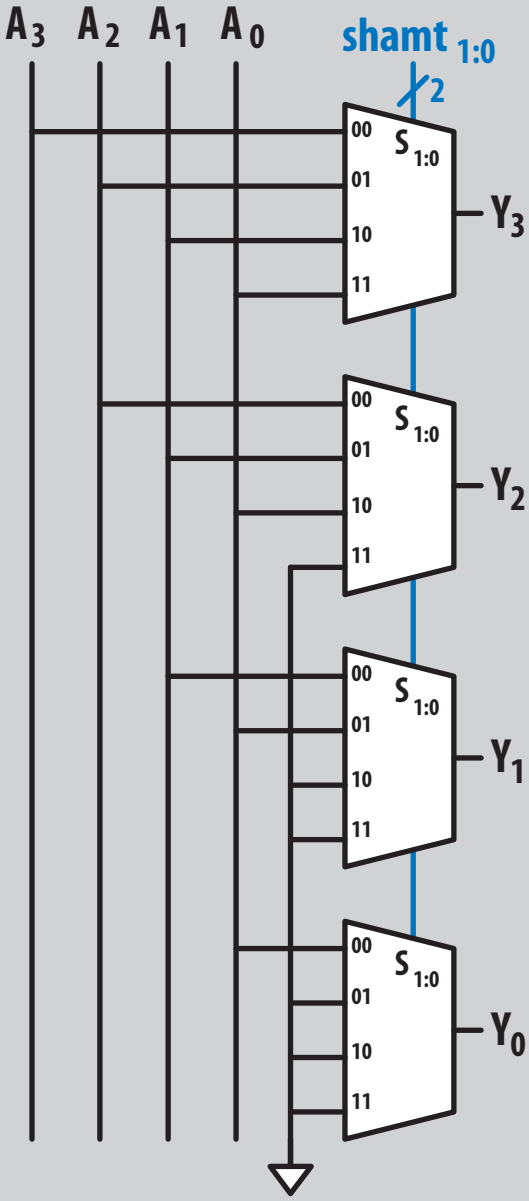
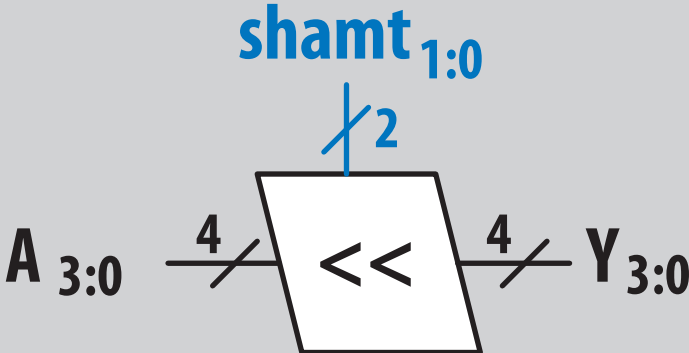


Arithmetic Logical Unit (ALU)

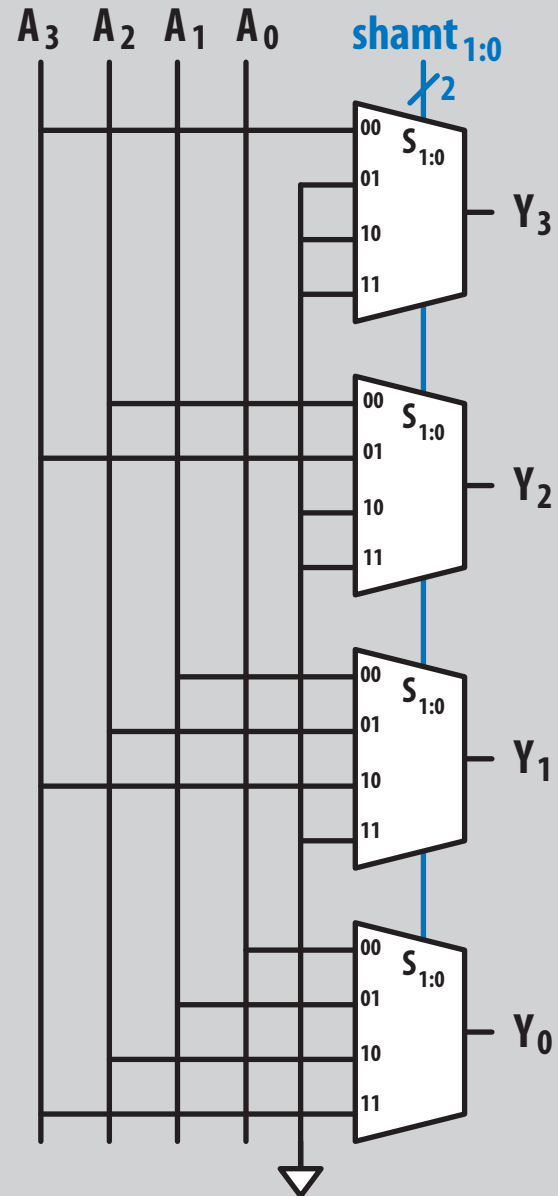
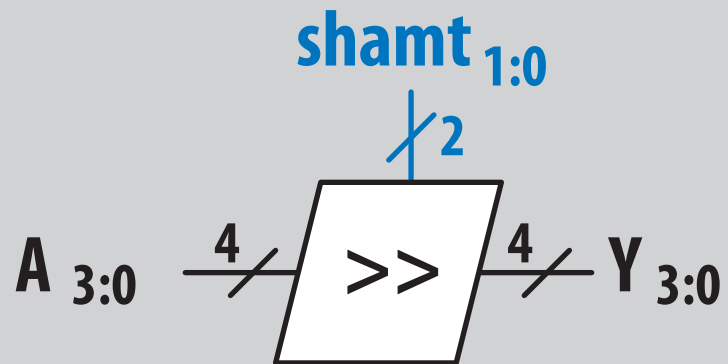
$F_{2:0}$	Function
000	A AND B
001	A OR B
010	A + B
011	not used
100	A AND \bar{B}
101	A OR \bar{B}
110	A - B
111	SLT



Shift Left



Shift Right



Arithmetic Shift Right

