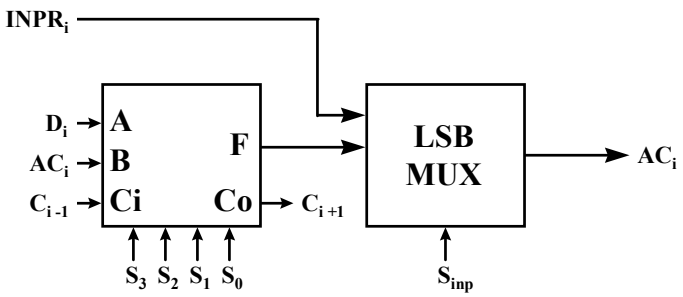
General ALU



Note: This is the ALU from last chap.

General ALU

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Operation Select						
S_3	S_2	S_1	S_0	C_{in}	*Operation*	*Function*
0	0	0	0	0	F = A	Transfer A
0	0	0	0	1	F = A +1	Increment A
0	0	0	1	0	F = A + B	Addition
0	0	0	1	1	F = A + B	Add with carry
0	0	1	0	0	F = A + B'	Sub with borrow
0	0	1	0	1	F = A + B'	Subtraction
0	0	1	1	0	F = A - 1	Decrement A
0	0	1	1	1	F = A	Transfer A
0	1	0	0	x	F = A $\uparrow$ B	AND
0	1	0	1	x	F = A $\downarrow$ B	OR
0	1	1	0	x	F = A $\oplus$ B	XOR
0	1	1	1	x	F = A'	NOT
1	0	x	x	x	F = shr A	Shift right A
1	1	x	x	x	F = shl A	Shift left A