

Example: Ripple-Carry Addition

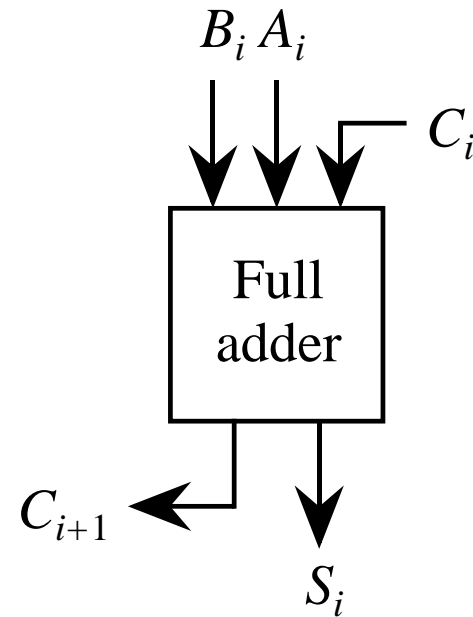
Carry In	→	0	0	0	0	1	1	1	1
Operand A	→	0	0	1	1	0	0	1	1
Operand B	→	+ 0	+ 1	+ 0	+ 1	+ 0	+ 1	+ 0	+ 1
		<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
		0 0	0 1	0 1	1 0	0 1	1 0	1 0	1 1
		↑ ↑							
Carry		Out							
		Sum							

Example:

Carry		1	0	0	0
Operand A		0	1	0	0
Operand B	+	0	1	1	0
		<hr/>	<hr/>	<hr/>	<hr/>
Sum		1	0	1	0

Full Adder

A_i	B_i	C_i	S_i	C_{i+1}
0	0	0	0	0
0	0	1	1	0
0	1	0	1	0
0	1	1	0	1
1	0	0	1	0
1	0	1	0	1
1	1	0	0	1
1	1	1	1	1



Four-Bit Ripple-Carry Adder

- Four full adders connected in a ripple-carry chain form a four-bit ripple-carry adder.

