

### Simulation 2 Input Pattern Creation

In order to test all possible state transition edges of the finite state machine, the following input stimuli are applied from LSB to MSB, assuming an initial carry-in (present state) of 0

	LSB							MSB
<b>A</b>	1	0	0	1	1	1	0	0
<b>B</b>	0	1	0	1	1	0	1	0
<b>Carry In</b>	0	0	0	0	1	1	1	1
<b>S</b>	1	1	0	0	1	0	0	1
<b>Carry Out</b>	0	0	0	1	1	1	1	0

This set of stimuli tests all possible edges for state 0 starting with the looping edges before moving to state 1. Once the state machine reaches state 1, the looping edges are again tested before moving to state 0.