8 bit Carry Look-Ahead Adder

Carry Look-Ahead Adder is also a bitwise adder but main difference between 8 bit full adder and 8 bit carry look-ahead adder is full adder use 8 one bit full adder in which each adder block have to wait for previous block so that there in a time delay. And in Carry Look-Ahead Adder we have more complex circuit in compare to full adder but it add in one go only so it is time efficient.

In Carry Look-Ahead Adder mainly two variables are there

P – Carry propagate

G – Carry generate

$P_i = A_i + B_i$

$G_i = Ai \; . \; Bi$

$C_{i+1} = G_i + P_i \; . \; C_i$

Truth Table

A	B	C	C+1
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	1