N-Bit Adder

It is possible to create a logical circuit using multiple full adders to add N-bit numbers. Each full adder inputs a Cin, which is the Cout of the previous adder.

the ripple-carry adder is relatively slow, since each full adder must wait for the carry bit to be calculated from the previous full adder. This is corrected using Carry look ahead adder.

An example 4-bit is shown below.

