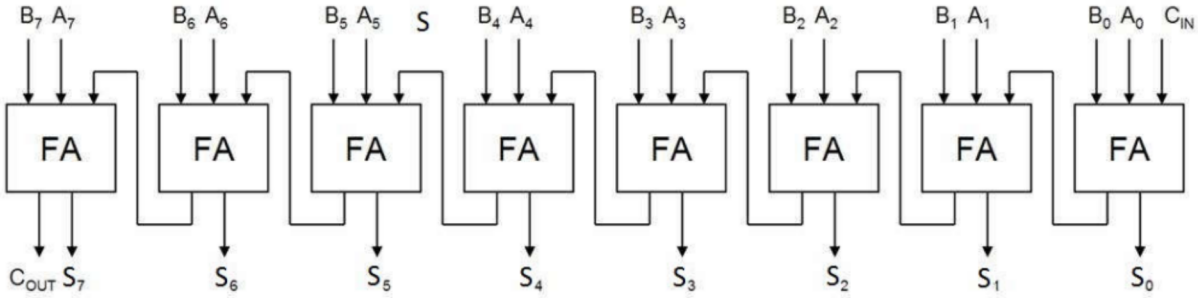
EXPT NO. : 3

To simulate the operation of an 8-bit adder using full adder as component

The 8-bit adder adds two 8-bit binary inputs and the result is produced in the output. In order to create a Full 8-bit adder, we will use eight Full 1-bit adders and connect them. This way, the least significant bit on the far right will be produced by adding the first two bits, then it will carry out (if any) a bit to the next two bits to add. This will continue seven more times until it is done. In the end, the last carry out will be output.

The block diagram of an 8-bit adder is given below:



The i/o ports needed to be declared for the formation of full adder is given below:

Port Name	Input/output	Bus
A	In	8-bit bus
B	In	8-bit bus
Cin	In	No
Sum	Out	8-bit bus
Cout	Out	No

NB: Use temporary variable where ever necessary.