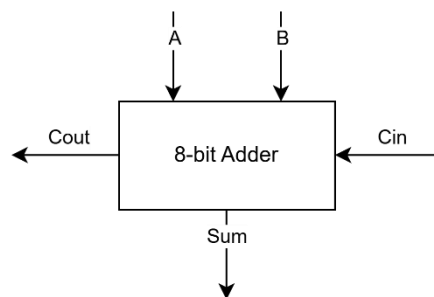**Introduction to HDL**
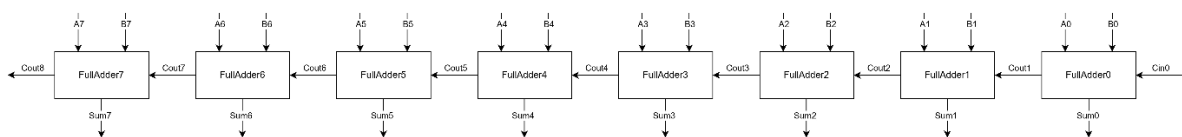
Exam questions

8 Bit Adder

Problem

Design an 8-bit adder that adds two 8-bit binary numbers 'A' and 'B', and a carry, and outputs the result as 'Sum' and 'Cout'.

Simplified Diagram

Simplified 8-bit adder diagram

Extended 8-bit adder diagram

Supplemental knowledge

Full Adder Truth Table

A	B	Cin	Sum	Cout
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