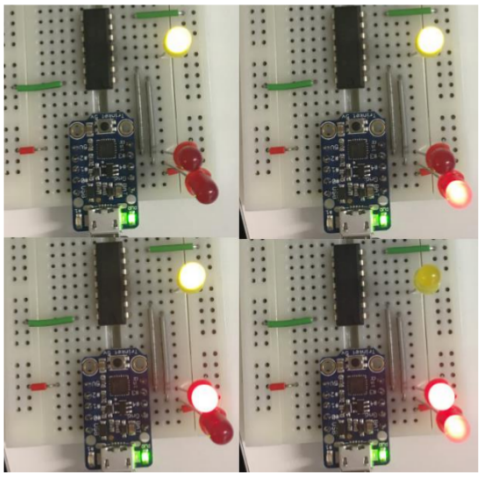
Task1:



A(#4)	B(#3)	Output (NAND)	LED
0	0	1	ON
0	1	1	ON
1	0	1	ON
1	1	0	OFF

Fig 1. NAND-gate test. Input: red LED, output: yellow LED. (High=LED on)

Task2:

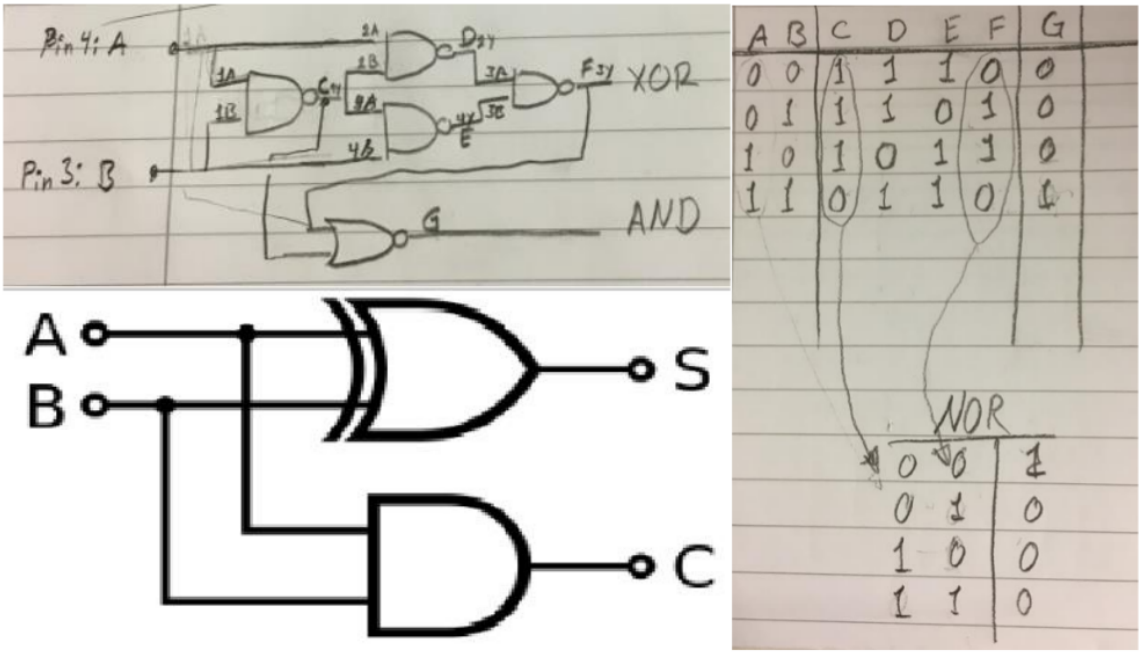


Fig 2. Half-adder schematic and logic table

A	B	Carry	Sum
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

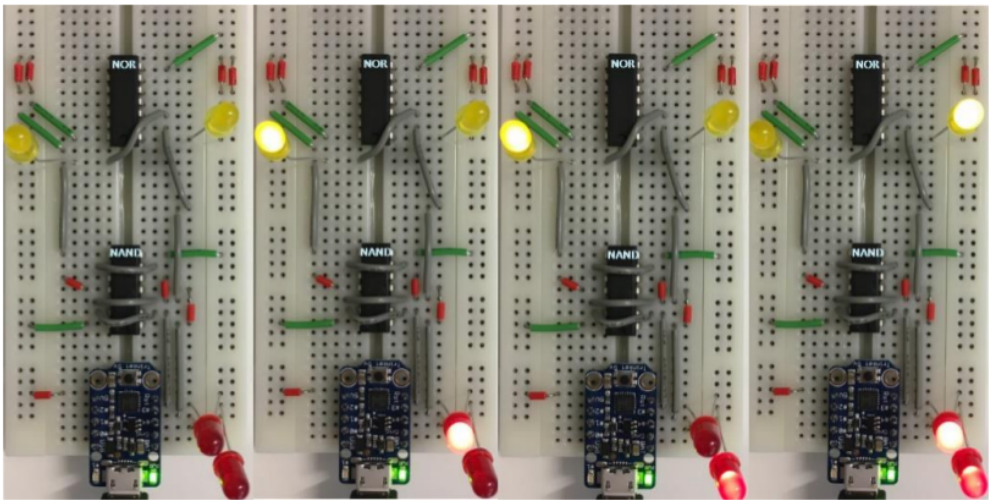


Fig 3. Half-adder circuit

Task3:

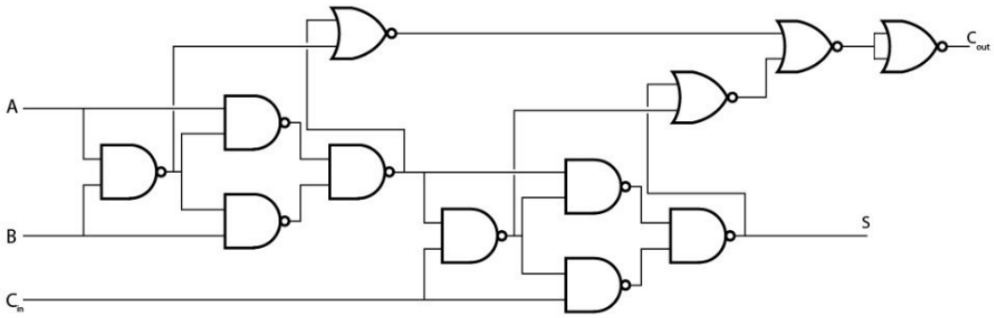
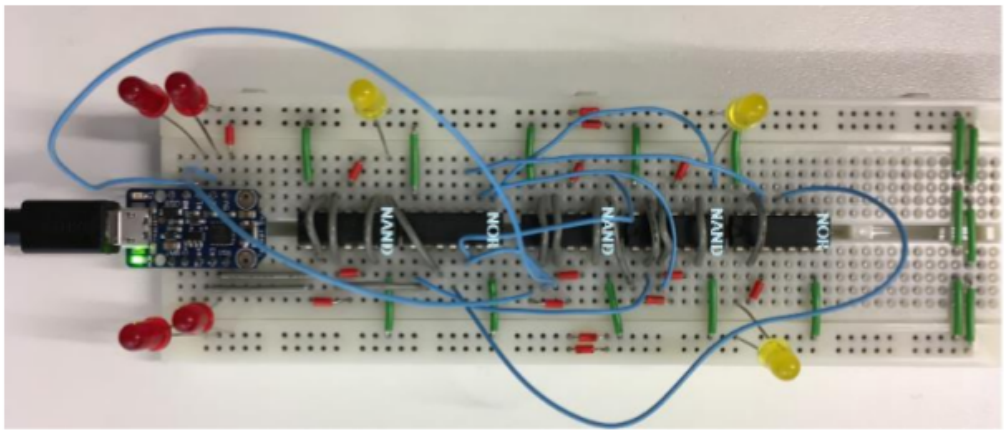


Table below shows the full-adders inputs A, B, Cin and the outputs Cout and Sum.

A	B	Cin	Cout	Sum
0	0	0	0	0
0	0	1	0	1
0	1	0	0	1
0	1	1	1	0
1	0	0	0	1
1	0	1	1	0
1	1	0	1	0
1	1	1	1	1