

Department of Computer Science and Engineering
BRAC University
CSE 260: Digital Logic Design

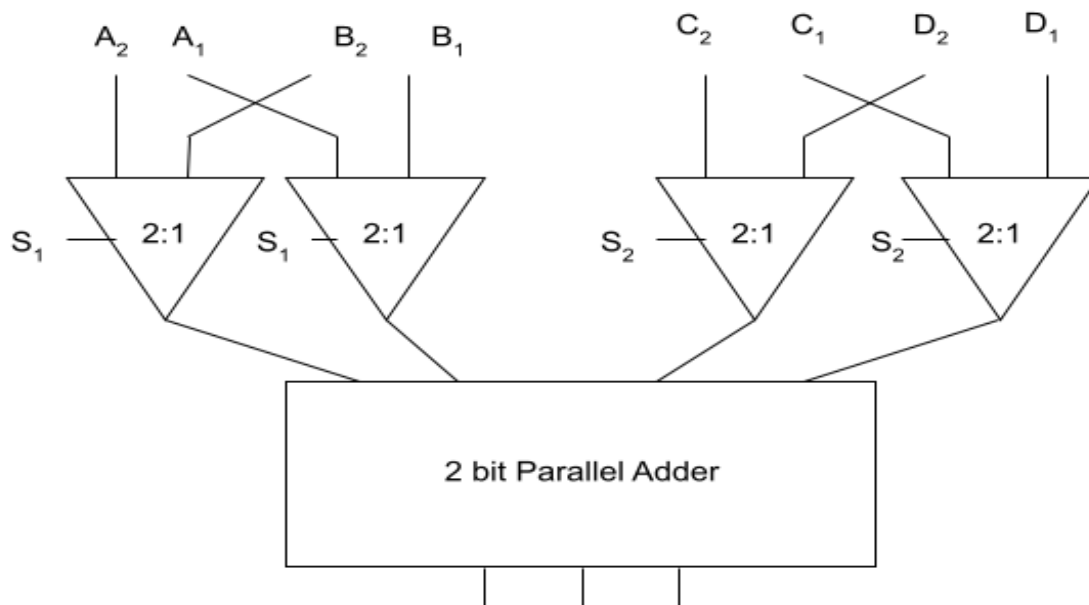
Experiment # 8

Design and Implementation of the following circuit:

Four 2 bit numbers A, B, C, D and two selection variables S_1 and S_2 are available. S_1 will select either A or B and S_2 will select either C or D. Depending on the two selection variables, the circuit will work in the following way.

S1	S2	Operation
0	0	A+C
0	1	A+D
1	0	B+C
1	1	B+D

IC: MUX (74153) Adder: 7483



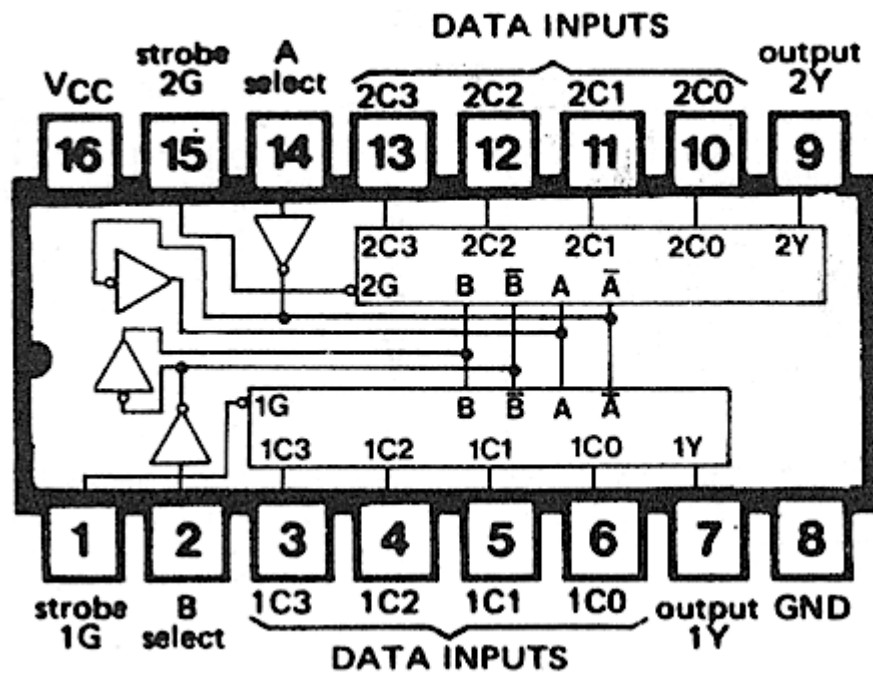
Report:

The report should cover the followings

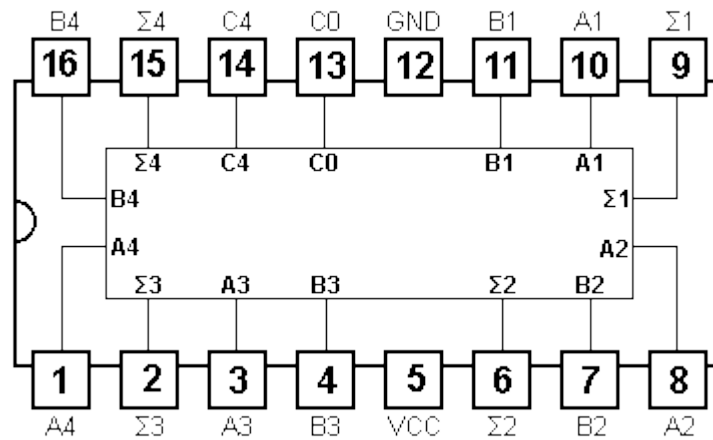
1. Name of the experiment
2. Objective
3. Required Components and Equipments
4. Experimental Setup (i.e., diagram of the circuit)
5. Results and Discussions

Build the following function using a 2x1 mux: $F(A,B,C)=\Sigma (0,2,3,5,6)$

Mux 74153



Adder 7483



Set: $C4 = C_{OUT}, C0 = 0$

Strobe = Low

MUX Connection:

Make 4:2 Mux to 2:1 Mux in the following way

Short Selector A and B

Selector	Data Input (Active)	Output (1Y)	Output (2Y)
00	1C0, 2C0	1C0	2C0
11	1C3, 2C3	1C3	2C3

Give Inputs:

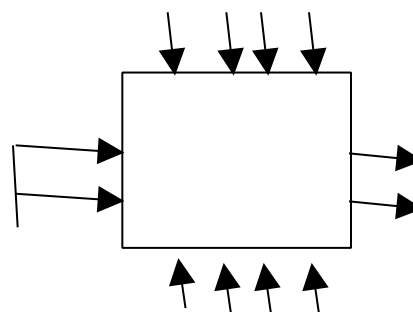
First IC Connection: A = B = S1 (Selector)

1C0 → A1

1C3 → B1

2C0 → A2

2C3 → B2



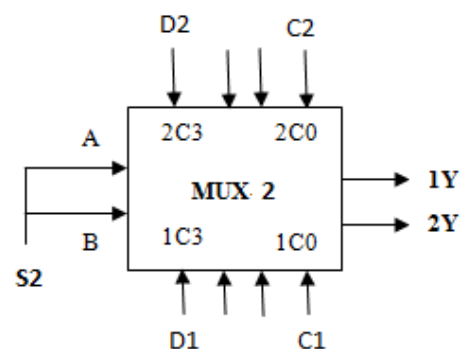
Second IC Connection: C = D = S2 (Selector)

1C0 → C1

1C3 → D1

2C0 → C2

2C3 → D2



Selector: S1 (First MUX)	OUTPUT of MUX-1		Selector: S2 (Second MUX)	OUTPUT of MUX-2	
	1Y	2Y		1Y	2Y
0	A1	A2	0	C1	C2
0	A1	A2	1	D1	D2
1	B1	B2	0	C1	C2

1	B1	B2	1	D1	D2
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