NOR Gate Circuit

NOR gate used as NOT gate:

When SW1="0". F1=   **1**

When SW1="1", F1=   **0**

Does the circuit act as a NOT gate? (as shown in Fig. 1.2)

   YES

NOR gate used as Buffer:

When SW0= "0", F3 = **0**

When SW0= "1", F3 = **1**

Does the circuit act as a buffer? **YES**

NOR gate used as OR gate:

SW1(B)	SW0(A)	F3
0	0	0
0	1	1
1	0	1
1	1	1

NOR gate used as AND gate:

SW1(B)	SW0(A)	F3
0	0	0
0	1	0
1	0	0
1	1	1

NAND Gate Circuit

NOT gate constructed with NAND gate:

When SW1= "0", F2=___1___
When SW1= "1", F2=___0___

Does the circuit act as a NOT gate?   YES

AND gate constructed with NAND gate:

SW1(B)	SW0(A)	F3
0	0	0
0	1	0
1	0	0
1	1	1

NAND gate used as OR gate:

SW1(B)	SW0(A)	F3
0	0	0
0	1	1
1	0	1
1	1	1

XOR Gate Circuit

XOR gate Using NAND gates:

INPUT		OUTPUT			
D	A	F1	F2	F3	F4
0	0	1	1	1	0
0	1	1	0	1	1
1	0	1	1	0	1
1	1	0	1	1	0

XOR gate Using Basic gates:

INPUT		OUTPUT		
SW2(B)	SW1(A)	F1	F2	F3
0	0	0	0	0
0	1	1	0	1
1	0	1	1	1
1	1	0	0	0