Instructions

Construction of 2-Bit Comparator and verification of its operation
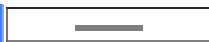

Power

Switch 1 (X_1)

Switch 2 (X_0)

Switch 3 (Y_1)

Switch 4 (Y_0)

IC 7404

IC 7411

IC 7411

IC 7408

IC 744075

IC 74266

LED 3
X=Y
$XY+\overline{X}\,\overline{Y}$

LED 1
X>Y
$X\overline{Y}$

LED 2
X<Y
$\overline{X}\,Y$
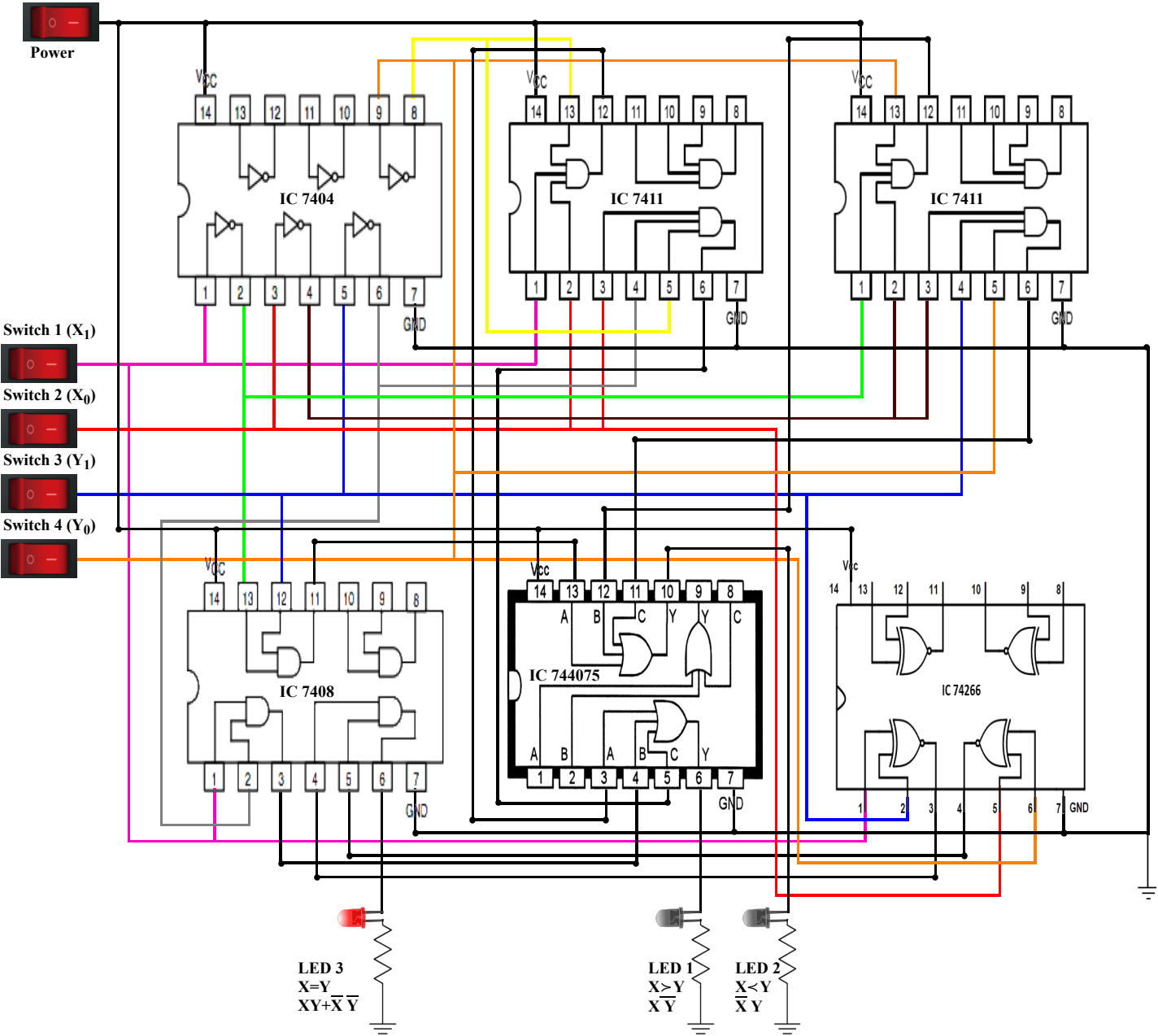
| Add | Print |

TRUTH TABLE

Serial No.	X_1	X_0	Y_1	Y_0	X>Y	X<Y	X=Y
1	0	0	0	0	0	0	1
2	0	0	0	1	0	1	0
3	0	0	1	0	0	1	0
4	0	0	1	1	0	1	0
5	0	1	0	0	1	0	0
6	0	1	0	1	0	0	1

COLOR OF INPUTS

Color	Inputs
▬	X_1
▬	$\overline{X}_1$
▬	X_0
▬	
	$\overline{X}_0$
▬	Y_1

7	0	1	1	0	0	1	0
8	0	1	1	1	0	1	0
9	1	0	0	0	1	0	0
10	1	0	0	1	1	0	0
11	1	0	1	0	0	0	1
12	1	0	1	1	0	1	0
13	1	1	0	0	1	0	0
14	1	1	0	1	1	0	0
15	1	1	1	0	1	0	0
16	1	1	1	1	0	0	1

	$\overline{Y}_1$
	Y_0