

23.10.16

(1.2老师说不做)

3. $A = A_3 A_2 A_1 A_0 = I_3 I_2 I_1 I_0$

$B = B_3 B_2 B_1 B_0 = 0(M \& N)(M \wedge N) N$

$Cin = 0$

$MN \setminus B = B_3 B_2 B_1 B_0$

当 $MN = 00$ 时: $S = A$

00 0 0 0 0

$MN = 01$ 时: $S = A + 3$

01 0 0 1 1

$MN = 10$ 时: $S = A + 2$

10 0 0 1 0

11 0 1 0 1

$MN = 11$ 时: $S = A + 5$

$S = S_4 S_3 S_2 S_1 S_0 =$ 功能
 $\quad \quad \quad B_3 B_2 B_1 B_0$
 $\quad \quad \quad + A_3 A_2 A_1 A_0$

功能: 根据输入 MN 的不同,

S 是 A 加某整数 $\{0, 3, 2, 5\}$

MN	$I_3 I_2 I_1 I_0$	$S_4 S_3 S_2 S_1 S_0$
00	————	0 0 0 0 0
01	0 0 0 0	0 0 0 1 1
	0 0 0 1	0 0 1 0 0
	0 0 1 0	0 0 1 0 1
	0 0 1 1	0 0 1 1 0
	0 1 0 0	0 0 1 1 1
	0 1 0 1	0 1 0 0 0
	0 1 1 0	0 1 0 0 1
	0 1 1 1	0 1 0 1 0
	1 0 0 0	0 1 0 1 1
	1 0 0 1	0 1 1 0 0
	1 0 1 0	0 1 1 0 1
	1 0 1 1	0 1 1 1 0
	1 1 0 0	0 1 1 1 1
	1 1 0 1	1 0 0 0 0
	1 1 1 0	1 0 0 0 1
	1 1 1 1	1 0 0 1 0

10

⋮

11

⋮

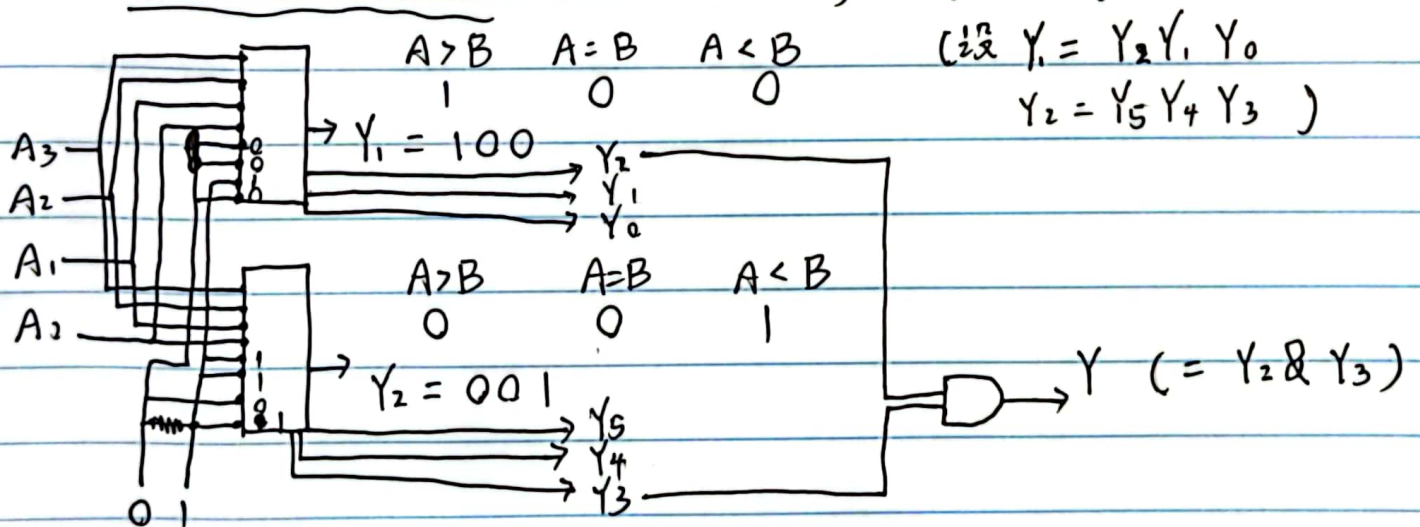
4. 4位数值比较器：

$A_3 B_3$	$A_2 B_2$	$A_1 B_1$	$A_0 B_0$	$A > B$	$A = B$	$A < B$
$A_3 > B_3$	X	X	X	1	0	0
$A_3 < B_3$	X	X	X	0	0	1
$A_3 = B_3$	$A_2 > B_2$	X	X	1	0	0
$A_3 = B_3$	$A_2 < B_2$	X	X	0	0	1
$A_3 = B_3$	$A_2 = B_2$	$A_1 > B_1$	X	1	0	0
$A_3 = B_3$	$A_2 = B_2$	$A_1 < B_1$	X	0	0	1
$A_3 = B_3$	$A_2 = B_2$	$A_1 = B_1$	$A_0 > B_0$	1	0	0
$A_3 = B_3$	$A_2 = B_2$	$A_1 = B_1$	$A_0 < B_0$	0	0	1
$A_3 = B_3$	$A_2 = B_2$	$A_1 = B_1$	$A_0 = B_0$	0	1	0

设对应 $A_3 A_2 A_1 A_0$ 输入 余三码，用两个比较器。

$B_3 B_2 B_1 B_0$ 分别设为 0010 和 1101

(余三码只从 0-9 : 0011 ~ 1100) legal range



仅当 $Y=1$ 时；输入为余三码，否则 $Y=0$ 。