

1-)

A) Result = 0111

B) Result = 0011

C) Result = 1000

D) Result = 0100

Overflow = NO

Overflow = NO

Overflow = YES

Overflow = NO

2-)

-106	1001 0110
+81	0101 0001
+	+
<hr/>	
-25	0 0111 1 carry to left
	111
	= 1110 0111

No overflow

+95	0101 1111
-53	0011 0101
-	+
<hr/>	
=	0 one carry to the left
+95	0 one carry to the left
+53	1 one carry to the left
+	0 one carry to the left
<hr/>	
148	1 one carry to the left
	0 one carry to the left
	0 one carry to the left
	1
	+
<hr/>	
	1001 0100

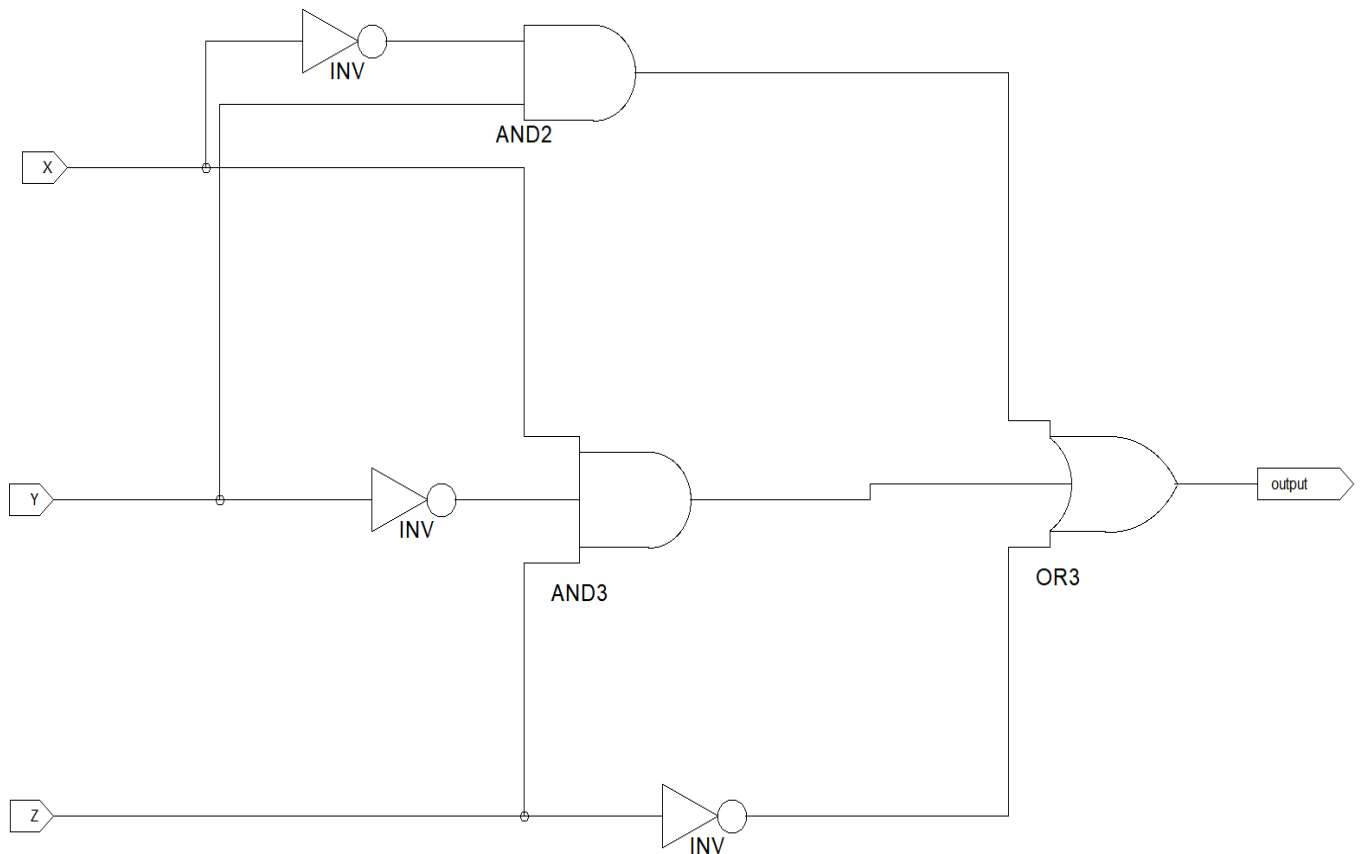
There is overflow

3-)

A)

X	Y	Z	X'	Y'	Z'	X'Y	XY'Z	Z'+X'Y+XY'Z
0	0	0	1	1	1	0	0	1
0	0	1	1	1	0	0	0	0
0	1	0	1	0	1	1	0	1
0	1	1	1	0	0	1	0	1
1	0	0	0	1	1	0	0	1
1	0	1	0	1	0	0	1	1
1	1	0	0	0	1	0	0	1
1	1	1	0	0	0	0	0	0

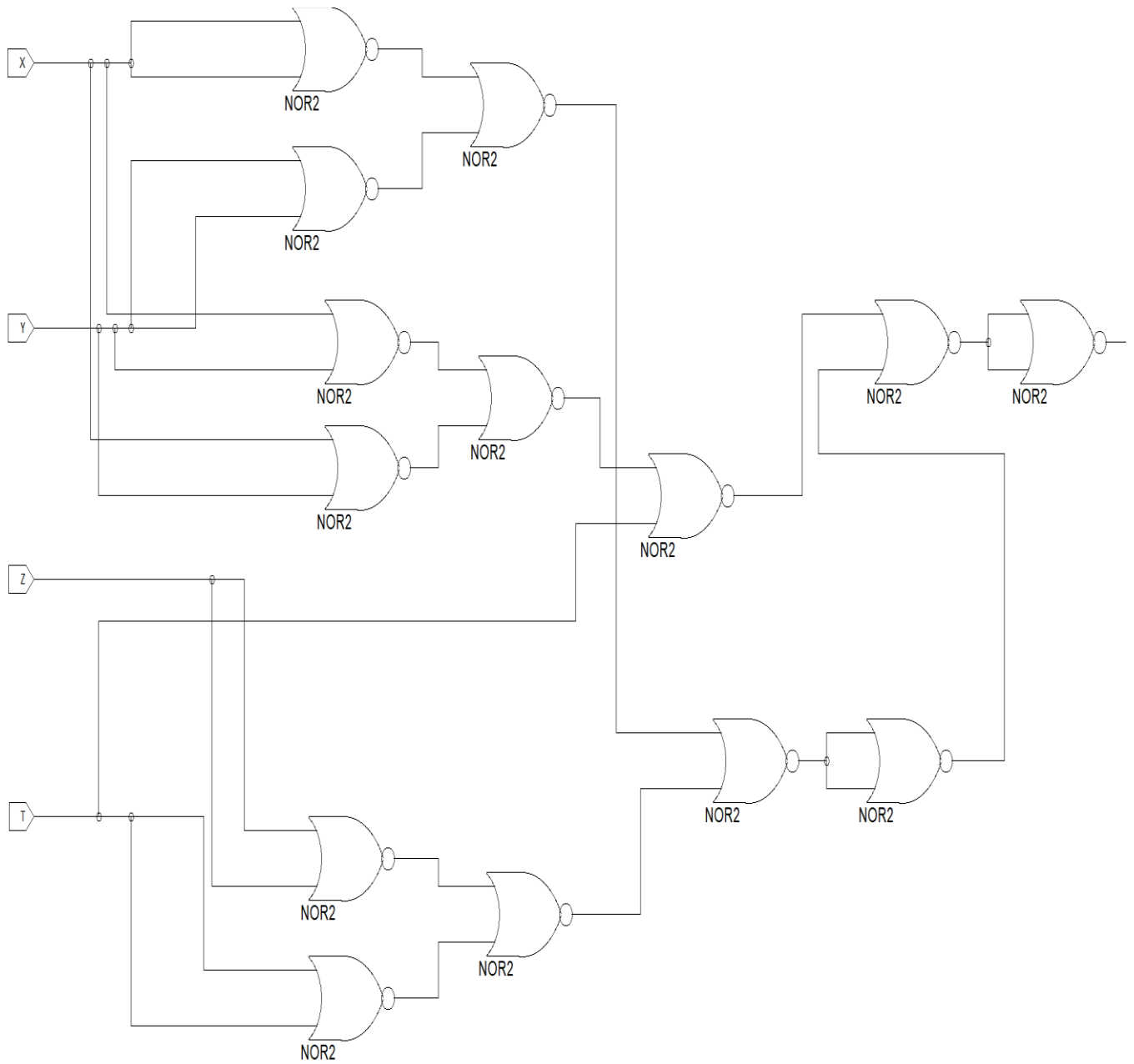
B)



4)

$$\begin{aligned}
 & ((X+YZ)' + (XY')')' \\
 &= ((X+YZ)')' \cdot ((XY')')' \\
 &= (X+YZ) \cdot XY'
 \end{aligned}$$

5-)



6-)

