Lab 2:

ABC

 $Y \rightarrow 000$

 $0 \rightarrow 001$

 $\rightarrow 010$

 $K \rightarrow 011$ $E \rightarrow 100$

 $V \rightarrow 101$

 $I \rightarrow 110$

 $N \rightarrow 111$

Truth Table:

A	В	C	Seg0	Seg1	Seg2	Seg3	Seg4	Seg5	Seg6
0	0	0	0	1	1	1	0	1	1
0	0	1	1	1	1	1	1	1	0
0	1	0	0	0	0	0	0	0	0
0	1	1	0	1	1	0	1	1	1
1	0	0	1	0	0	1	1	1	1
1	0	1	0	0	1	1	1	0	0
1	1	0	0	0	0	0	1	1	0
1	1	1	0	0	1	0	1	0	1

K – Maps:

Seg0:

AB	00	01	11	10
C				
0	0	0	0	1
1	1	0	0	0

$$Seg0 = A'B'C + AB'C'$$

Seg1:

AB	00	01	11	10
C				
0	1	0	0	0
1	1	1	0	0

Seg1 = A'B' + A'C

Seg2:

AB	00	01	11	10
C				
0	1	0	0	0
1	1	1	1	1

$$Seg2 = A'B' + C$$

Seg3:

AB	00	01	11	10
C				
0	1	0	0	1
1	1	0	0	1

Seg3 = B'

Seg4:

AB	00	01	11	10
C				
0	0	0	1	1
1	1	1	1	1

Seg4 = A + C

Seg5:

AB	00	01	11	10
C				
0	1	0	1	1
1	1	1	0	0

Seg5 = A'B' + AC' + A'C

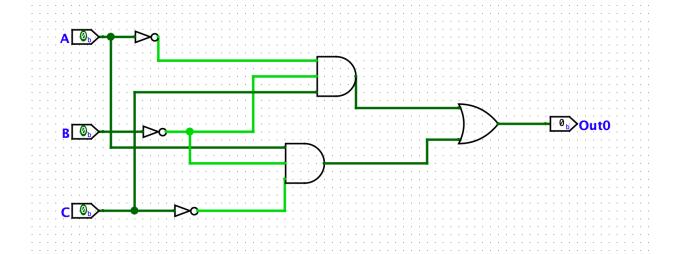
Seg6:

AB	00	01	11	10
\mathbf{C}				
0	1	0	0	1
1	0	1	1	0

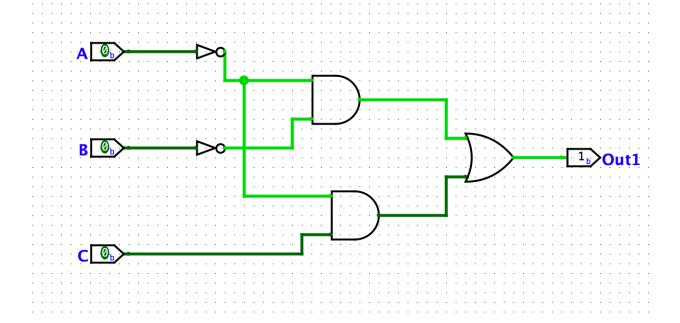
Seg6 = CB + C'B'

Circuits:

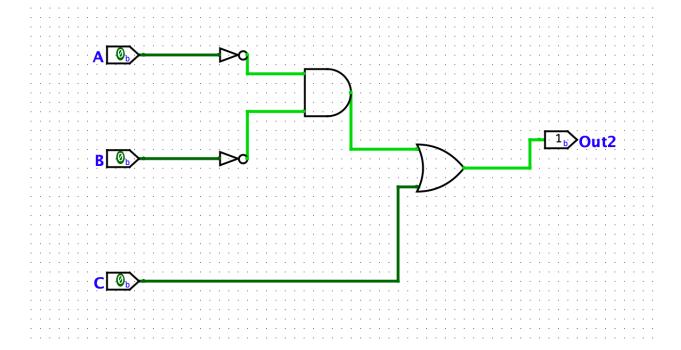
Seg0:



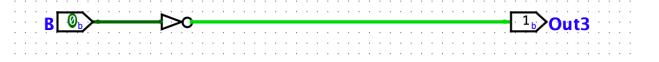
Seg1:



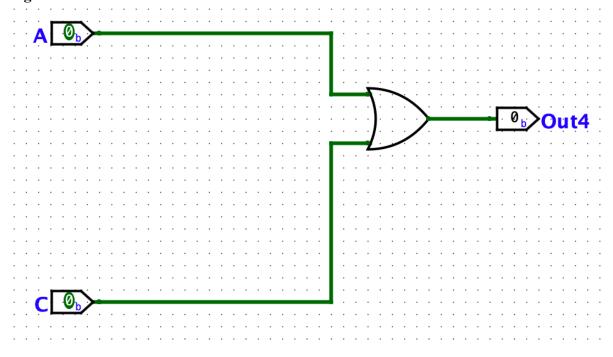
Seg2:



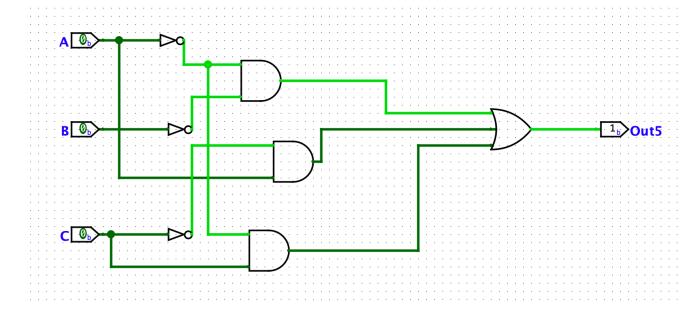
Seg3:



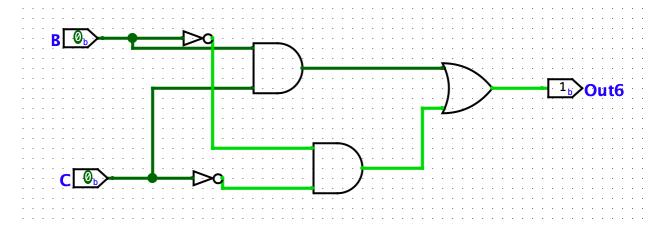
Seg4:



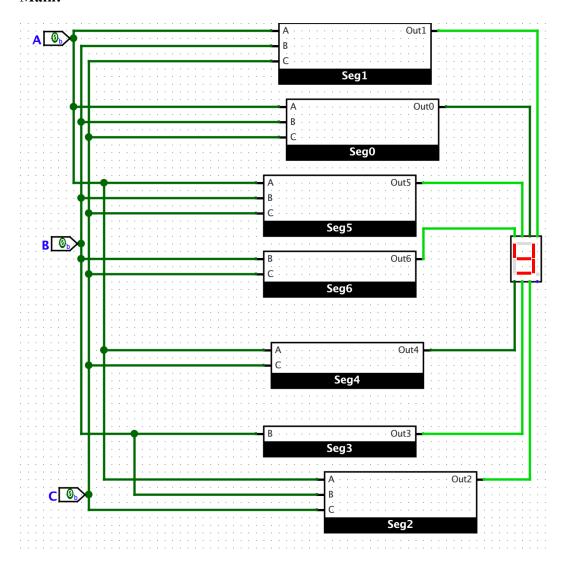
Seg5:



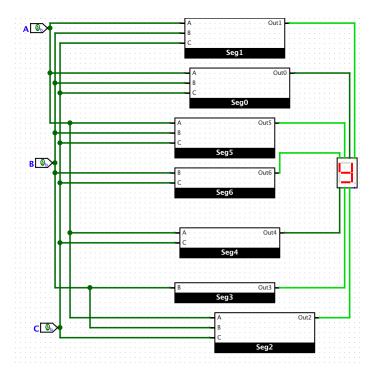
Seg6:



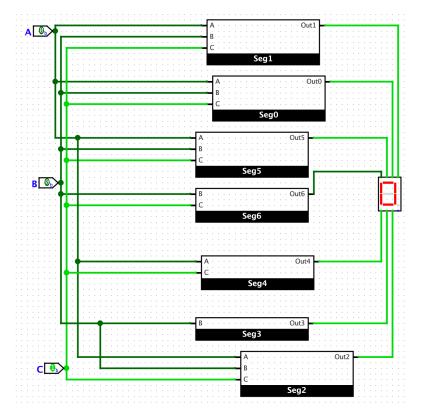
Main:



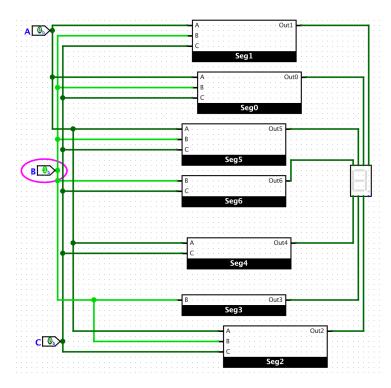
Y: 000



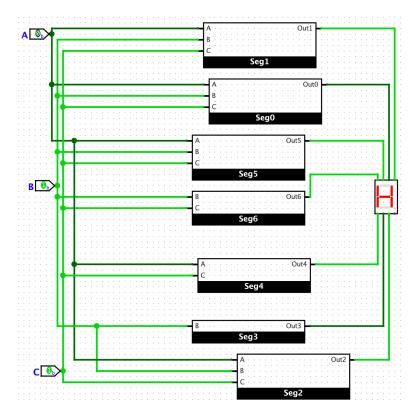
O: 001



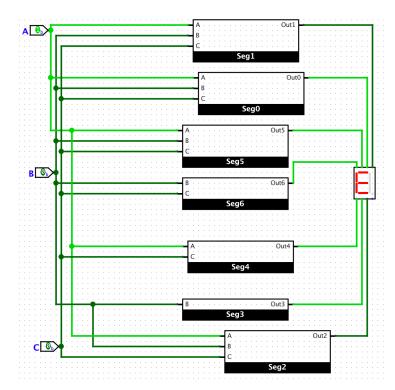
Space: 010



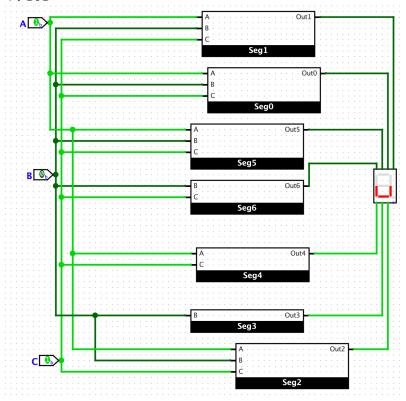
K: 011



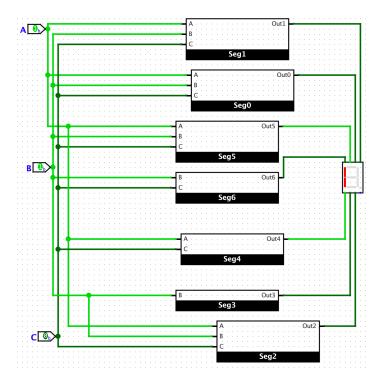
E: 100



V: 101



I: 110



N: 111

