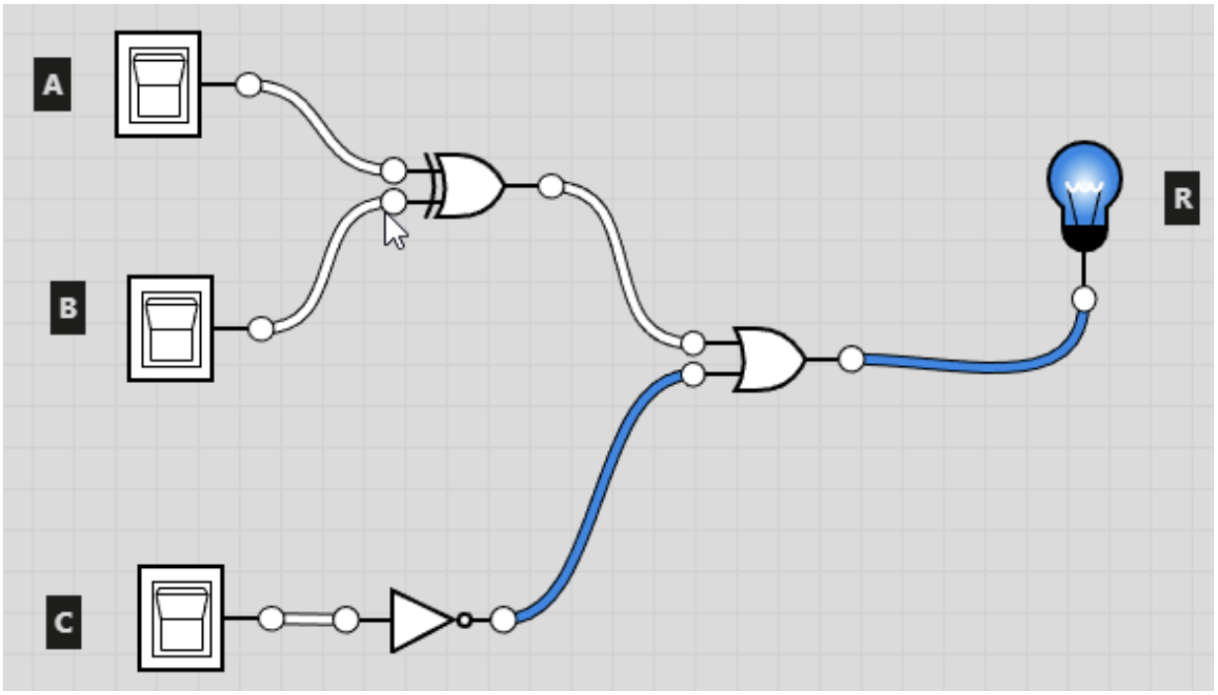
Practice | Logic Gates & Truth Tables

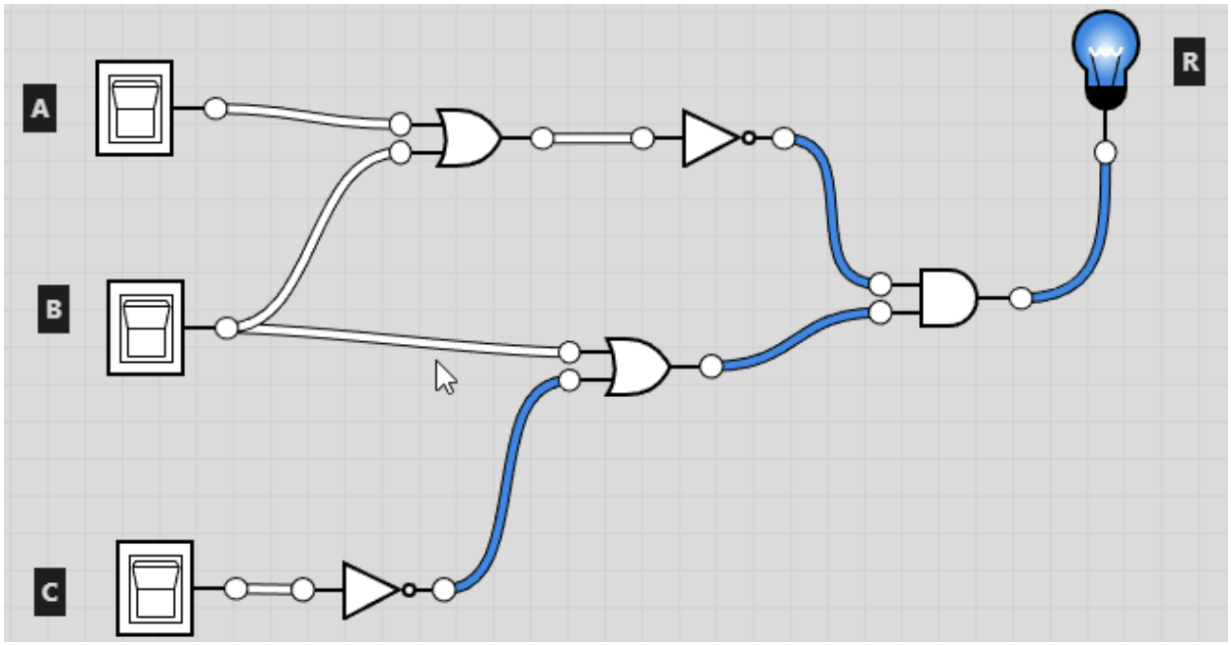
Instructions

Write the corresponding logical expression for the circuit shown.

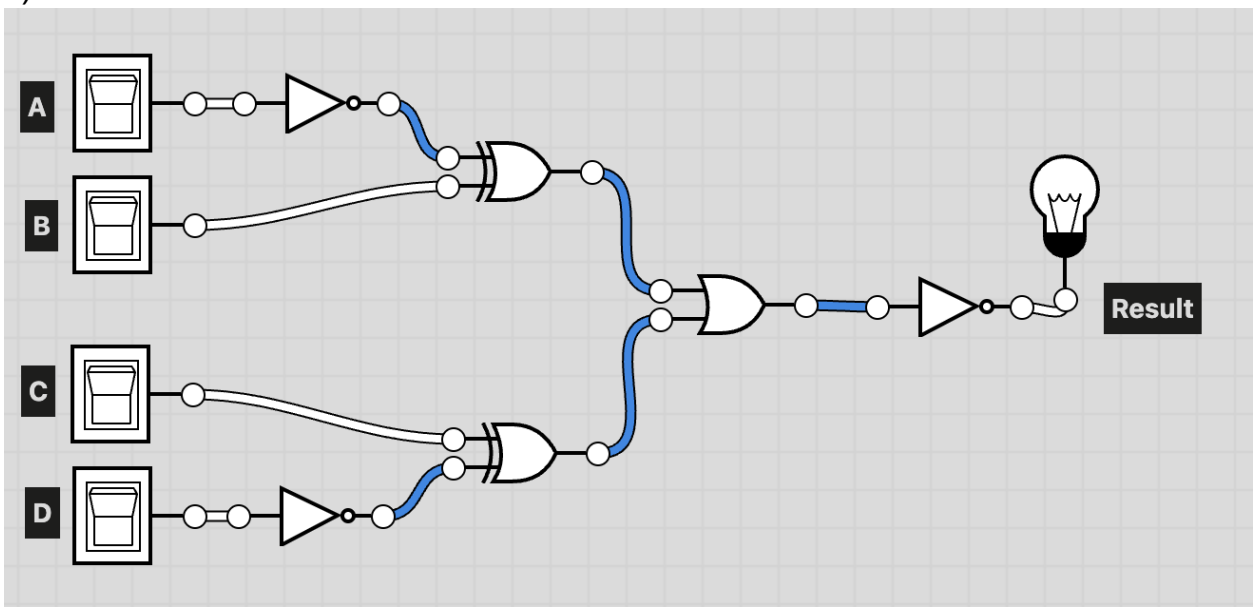
1)



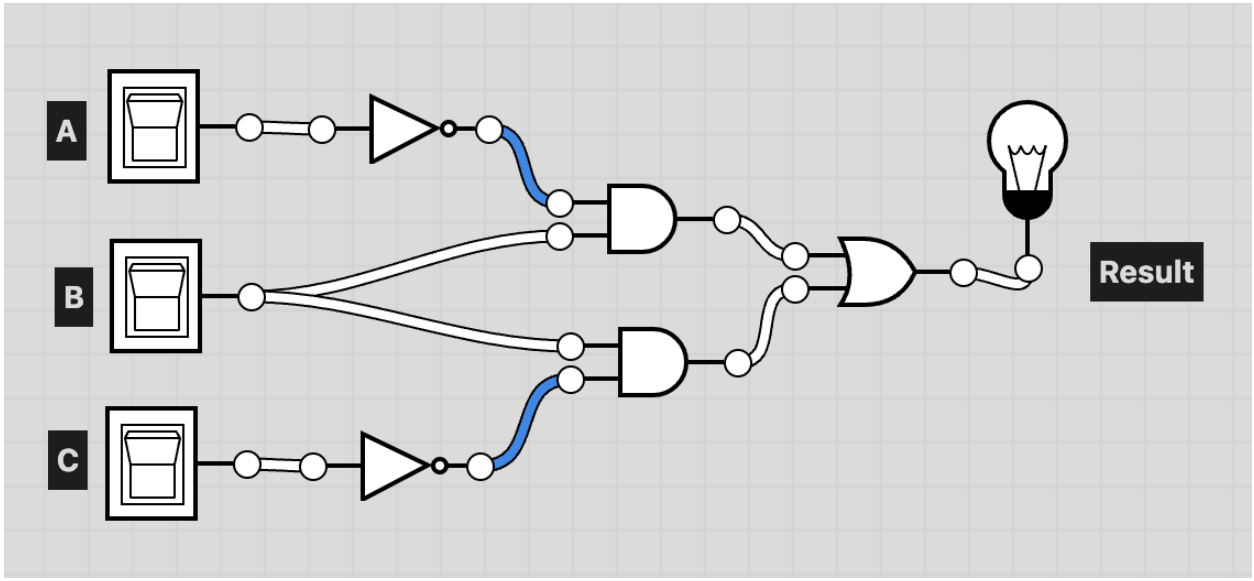
2)



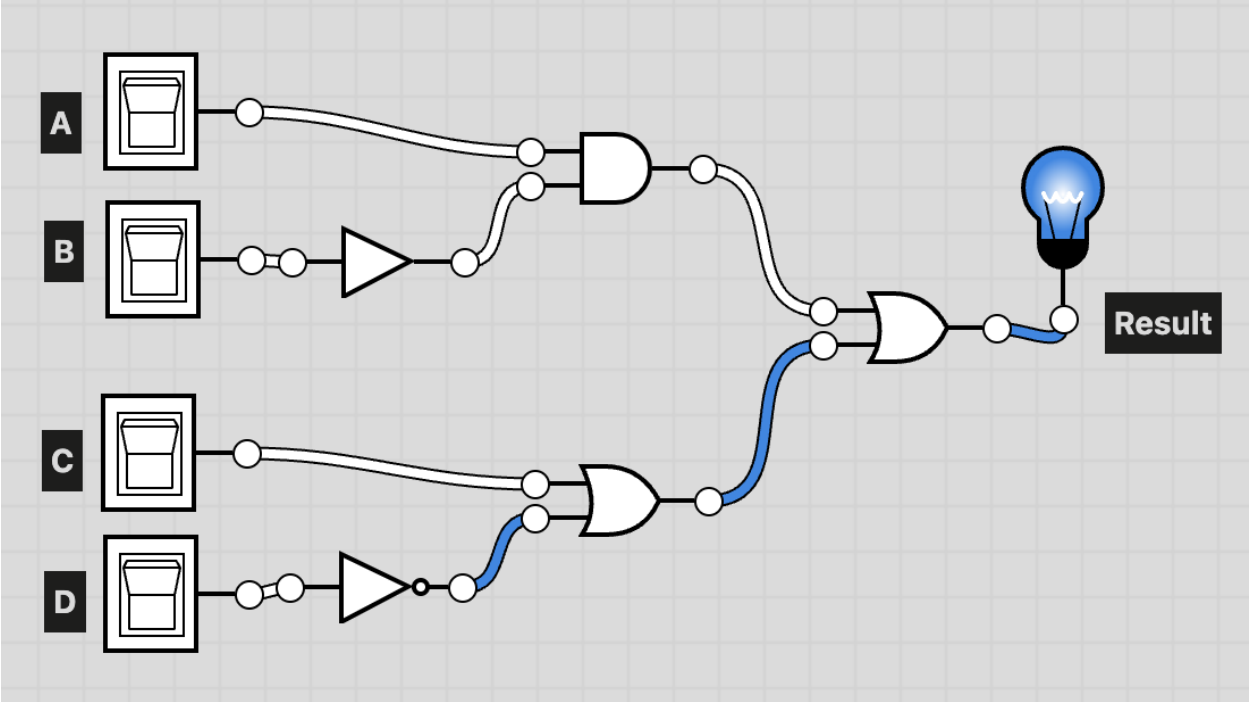
3)



4)



5)



6) Result = ~(A & B)

A	B	(A & B)	~(A & B)
F	F		
F	T		
T	F		
T	T		

7) Result = ~(A | B)

A	B	(A | B)	~(A | B)
F	F		
F	T		
T	F		
T	T		

8) Result = (A & B) | (C & D)

A	B	C	D	(A & B)	(C & D)	((A & B) | (C & D))
0	0	0	0			
0	0	0	1			
0	0	1	0			
0	0	1	1			
0	1	0	0			
0	1	0	1			
0	1	1	0			
0	1	1	1			
1	0	0	0			
1	0	0	1			
1	0	1	0			
1	0	1	1			
1	1	0	0			
1	1	0	1			
1	1	1	0			
1	1	1	1			

9) Result = (A & B) | ~(A & B)

A	B	(A & B)	~(A & B)	((A & B) | ~(A & B))
0	0			
0	1			
1	0			
1	1			

10) Result = (~A | B) & (A | ~B)

A	B	(~A | B)	(A | ~B)	((~A | B) & (A | ~B))
0	0			
0	1			
1	0			
1	1			