Logic and truth tables 1

## Task 1 - Truth tables for AND, OR, NOT gates
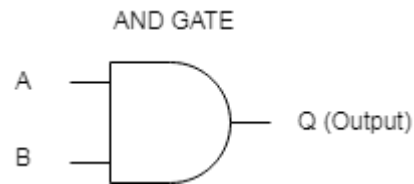
AND GATE

A	B	Q
0 (False)	0 (False)	0 (False)
1 (True)	0 (False)	0 (False)
0 (False)	1 (True)	0 (False)
1 (True)	1 (True)	1 (True)

OR GATE

A	B	Q
0 (False)	0 (False)	0 (False)
1 (True)	0 (False)	1 (True)
0 (False)	1 (True)	1 (True)
1 (True)	1 (True)	1 (True)
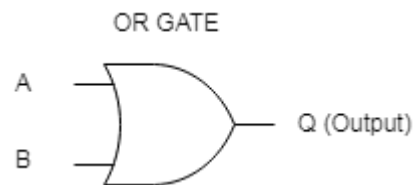
NOT GATE
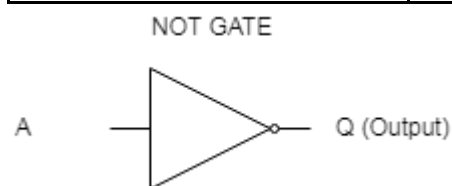
A	Q
0 (False)	1 (True)
1 (True)	0 (False)

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Task 2 - Multiple gates

1.
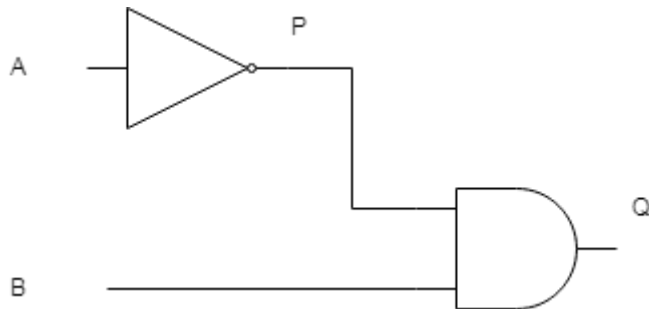
A	B	P	Q
0 (False)	0 (False)	1 (True)	0 (False)
1 (True)	0 (False)	0 (False)	0 (False)
0 (False)	1 (True)	1 (True)	1 (True)
1 (True)	1 (True)	0 (False)	0 (False)

2.
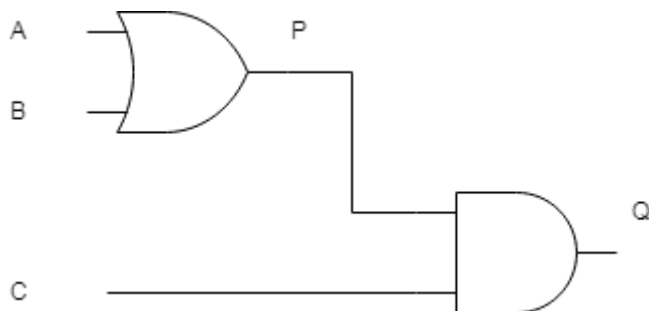
Insert your table here

A	B	C	P	Q
0	0	0	0	0

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1	0	0	1	0
0	1	0	1	0
0	0	1	0	0
1	1	0	1	0
1	0	1	1	1
0	1	1	1	1
1	1	1	1	1

3.
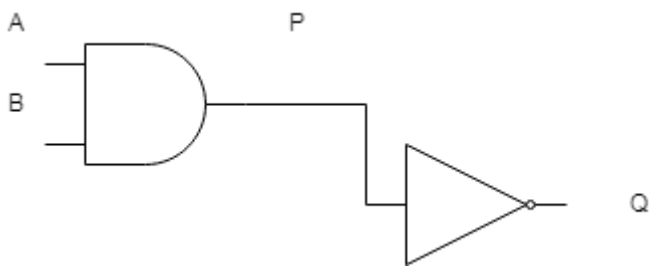
Insert your table here

A	B	P	Q
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

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4.
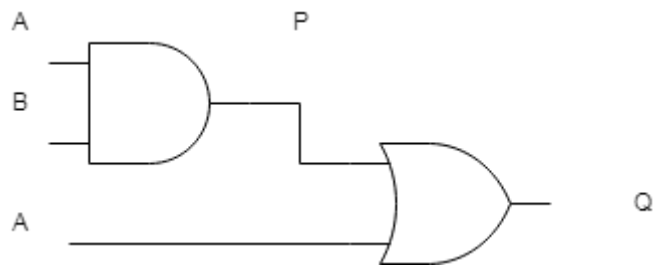
Insert your table here
Second A should be a C

A	B	C	P	Q
0	0	0	0	0
1	0	0	0	0
0	1	0	0	0
1	1	0	1	1
1	0	1	0	1
0	1	1	0	1
1	1	1	1	1

5.
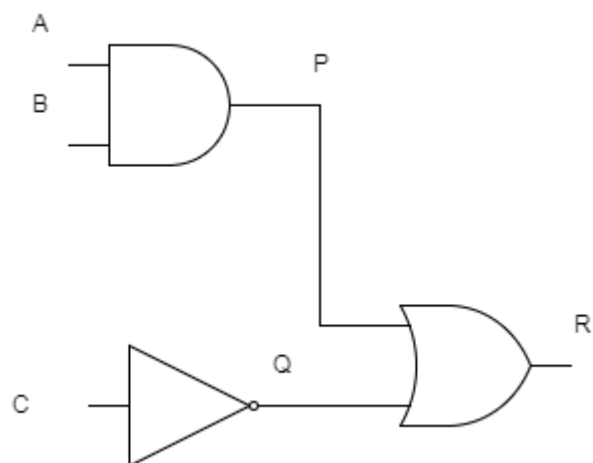
Insert your table here

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A	B	C	P	Q	R
0	0	0	0	1	1
1	0	0	0	1	1
0	1	0	0	1	1
0	0	1	0	0	0
1	1	0	1	1	1
0	1	1	0	0	0
1	0	1	0	0	0
1	1	1	1	0	1

6.
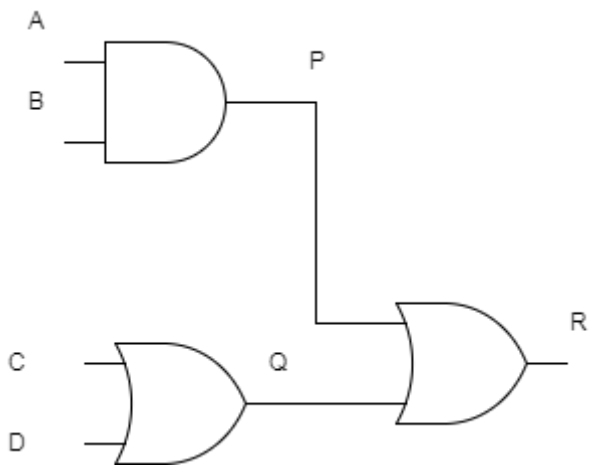
Insert your table here

A	B	C	D	P	Q	R
0	0	0	0	0	0	0
1	0	0	0	0	0	0
0	1	0	0	0	0	0
0	0	1	0	0	1	1
0	0	0	1	0	1	1
0	0	0	0	1	1	1

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1	1	0	0	1	0	1
1	0	1	0	0	1	1
1	0	0	1	0	1	1
1	1	1	0	1	1	1
1	1	0	1	1	1	1
1	1	1	1	1	1	1

7.
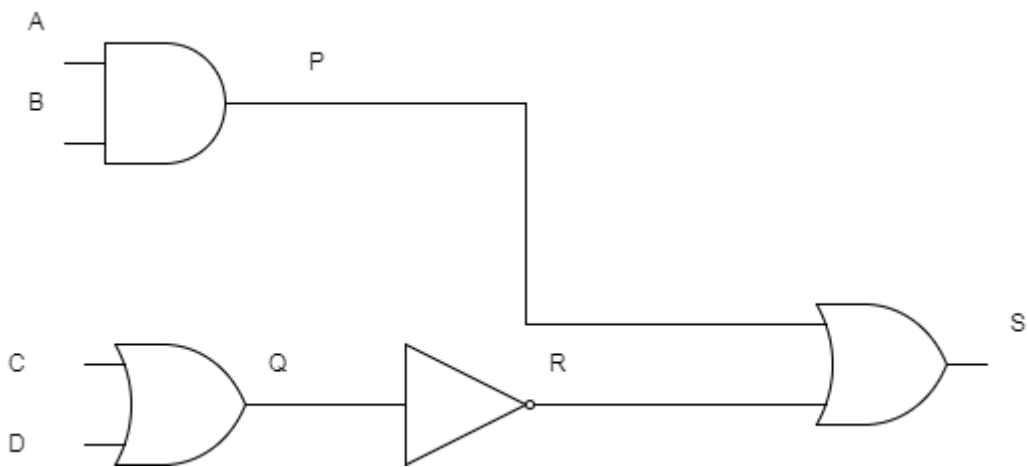
Insert your table here

A	B	C	D	P	Q	R	S
0	0	0	0	0	0	1	1
1	0	0	0	0	0	1	1
0	1	0	0	0	0	1	1
0	0	1	0	0	1	0	0
0	0	0	1	0	1	0	0
1	1	0	0	1	0	1	1
1	0	1	0	0	1	0	0
1	0	0	1	0	1	0	0
1	1	1	0	1	1	0	1

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1	1	0	1	1	1	0	1
1	0	1	1	0	1	0	0
0	1	1	1	0	1	0	1
1	1	1	1	1	1	0	1

8. [EXPANSION] Create your own 3 gate array and work out the truth table using Draw.IO

Insert your table here

9. [EXPANSION] Create your own 4 gate array and work out the truth table using Draw.IO

Insert your table here

10. [EXPANSION] Create your own 5 gate array and work out the truth table using Draw.IO

Insert your table here