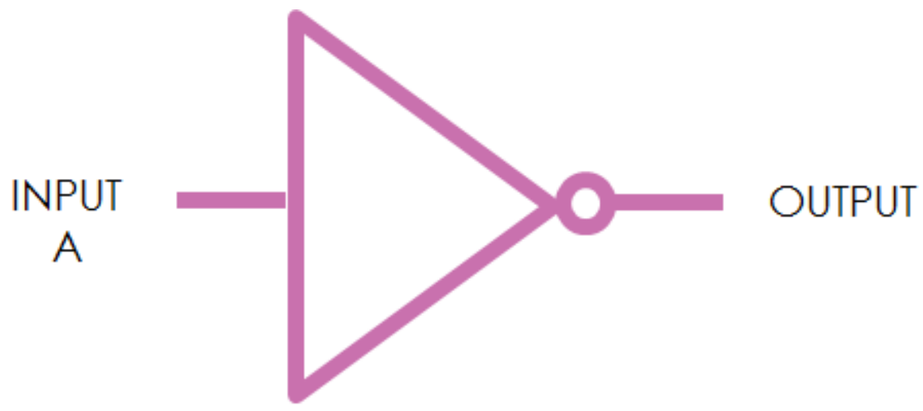
2.4 Computational Logic

Simple Logic Circuit Diagrams



Boolean Algebra: P = NOT A

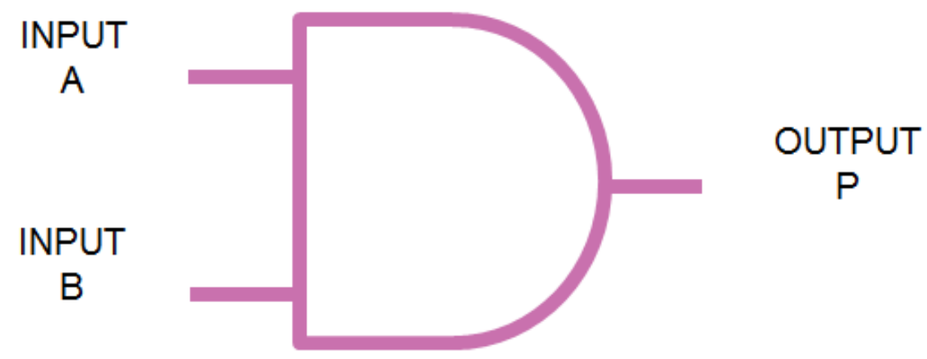
$\neg A$

NOT Truth Table:

Input	Output
0	1
1	0

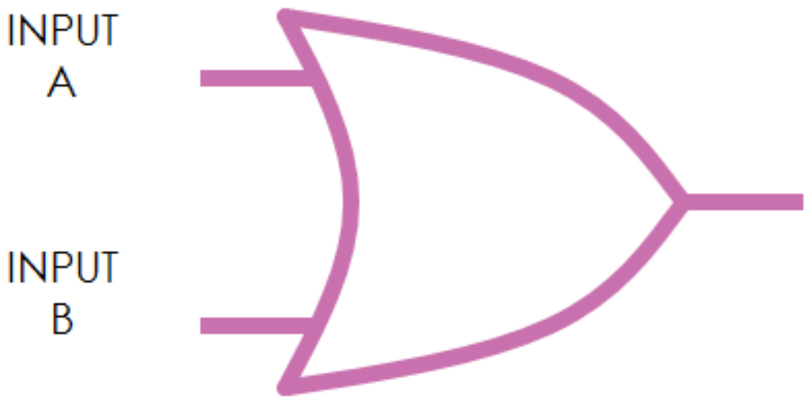
AND Truth Table:

Input A	Input B	Output
0	0	0
0	1	0
1	0	0
1	1	1



Boolean Algebra: P = A AND B

$A \wedge B$



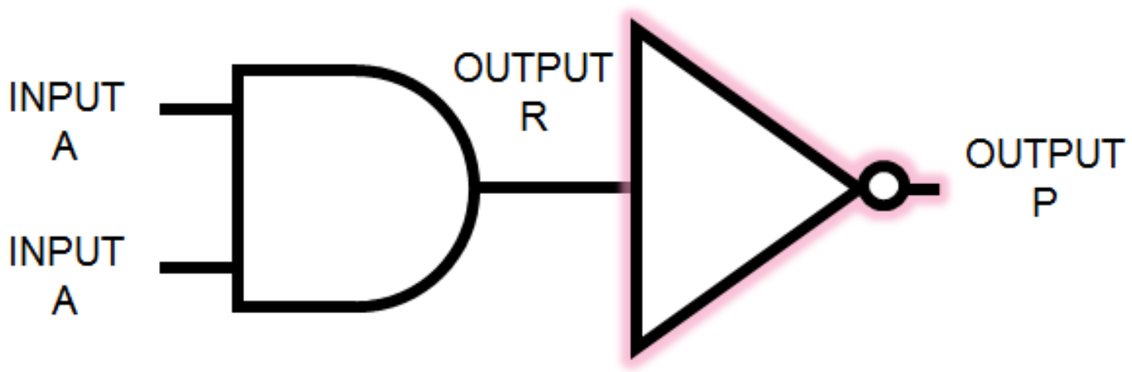
Boolean Algebra: P = A OR B

$A \vee B$

OR Truth Table:

Input A	Input B	Output
0	0	0
0	1	1
1	0	1
1	1	1

Complex Logic Circuit Diagrams



A	B	R = A AND B	P = NOT R
0	0	0	1
0	1	0	1
1	0	0	1
1	1	1	0

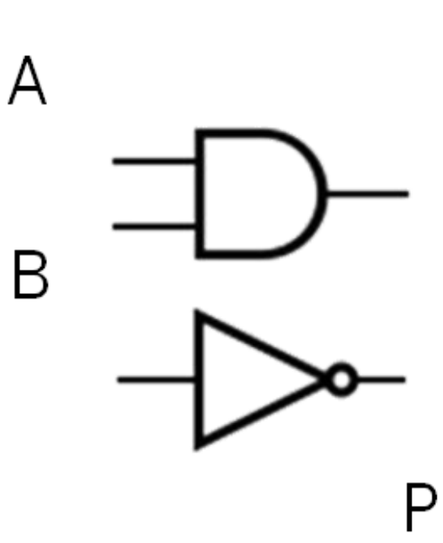
Break the logic diagram down into stages (step by step)

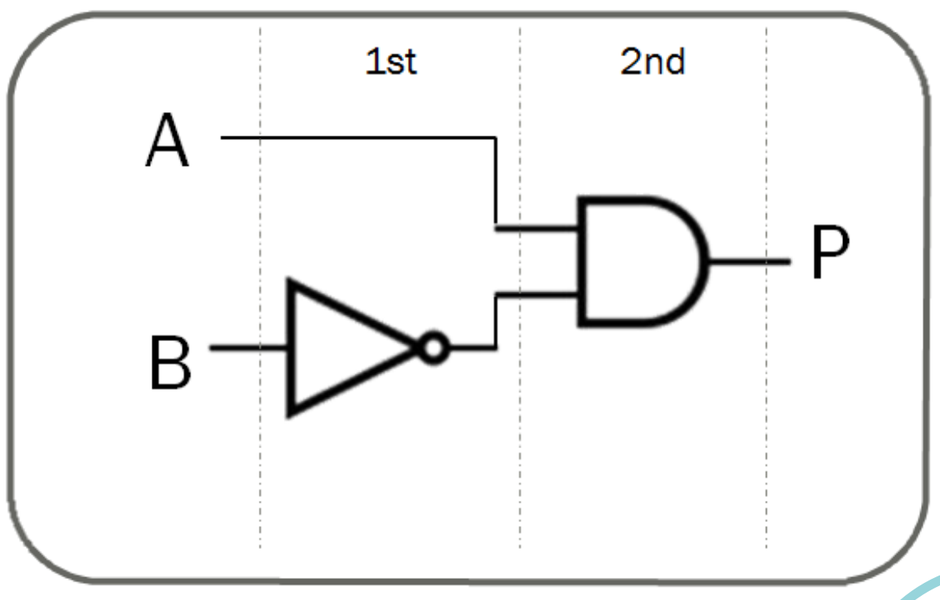
2.4 Computational Logic

Drawing Logic Circuit Diagrams

P = **A** AND (NOT **B**)

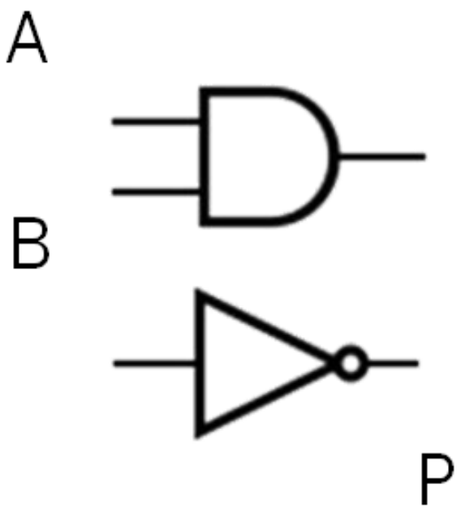
----BRACKETS FIRST!----

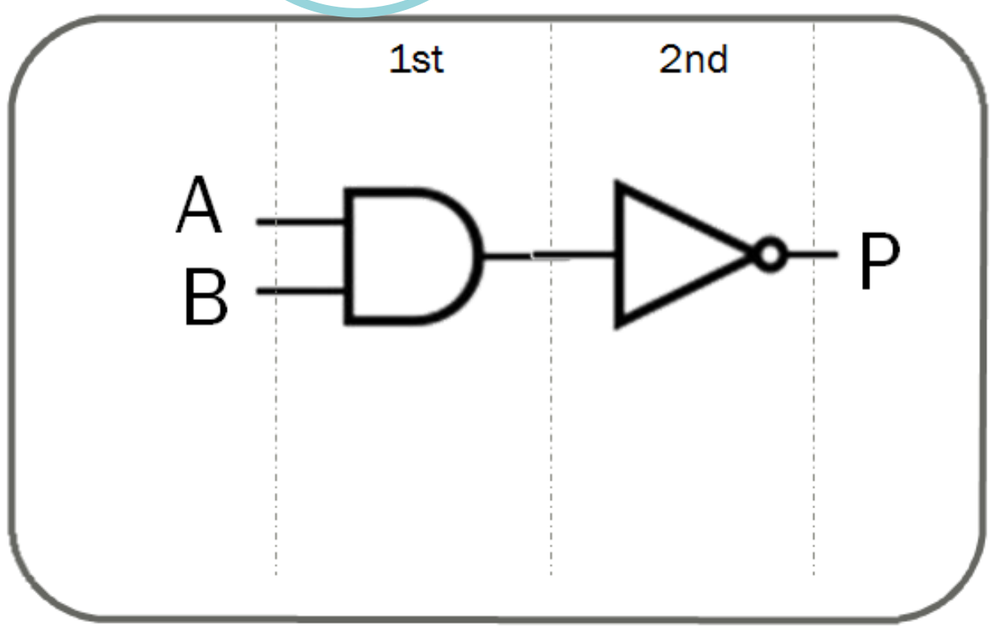




Always start with the brackets first

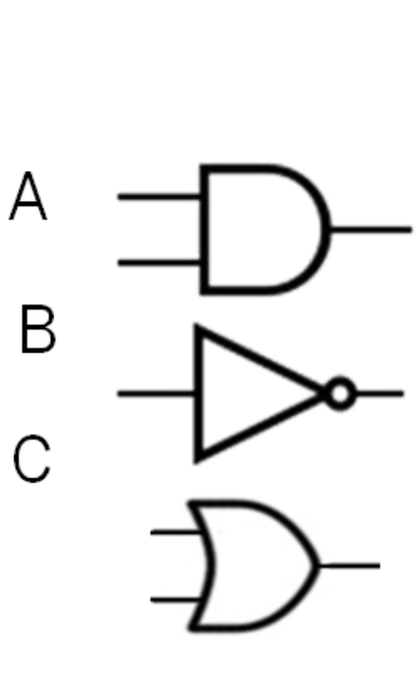
P = NOT (A AND B)

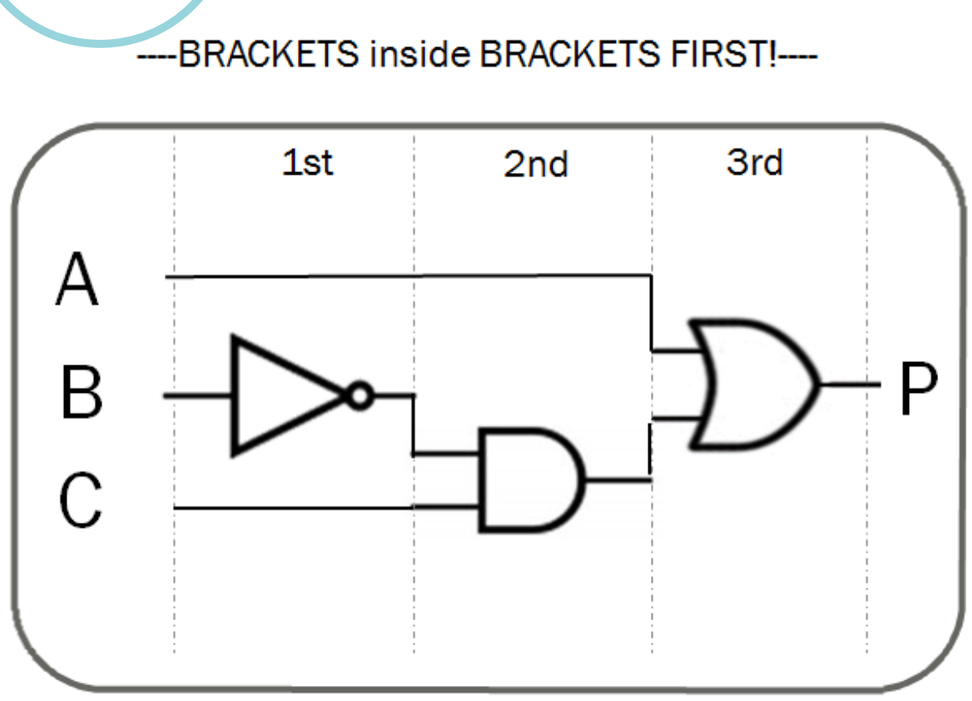




P = ((NOT **B**) AND **C**) OR **A**

----BRACKETS inside BRACKETS FIRST!----





Even Harder!

World of work links

Programmer, IT Technician, Software Engineer, Teacher, Systems Architecture, Data Engineer, Software Developer