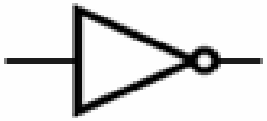
COMP348
PRINCIPLES OF PROGRAMMING LANGUAGES

PROLOG : TUTORIAL - 2

TOPIC : BOOLEAN

Logic Gates

Type	Distinctive shape	Boolean algebra between A & B	Truth table
AND		$A \cdot B$	INPUT / OUTPUT A B A AND B 0 0 0 0 1 0 1 0 0 1 1 1
OR		$A + B$	INPUT / OUTPUT A B A OR B 0 0 0 0 1 1 1 0 1 1 1 1
NOT		$\overline{A}$	INPUT / OUTPUT A NOT A 0 1 1 0

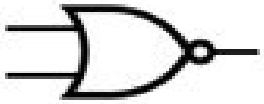
Logic Gates (Cont.)

NAND

$\overline{A \cdot B}$

INPUT		OUTPUT
A	B	A NAND B
0	0	1
0	1	1
1	0	1
1	1	0

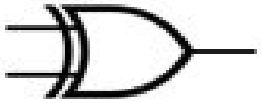
NOR



$\overline{A + B}$

INPUT		OUTPUT
A	B	A NOR B
0	0	1
0	1	0
1	0	0
1	1	0

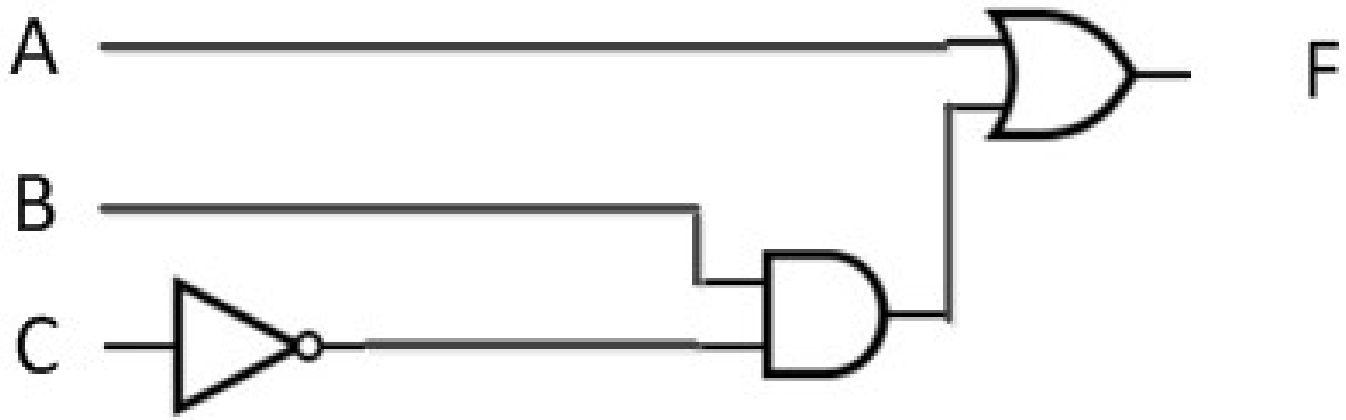
XOR



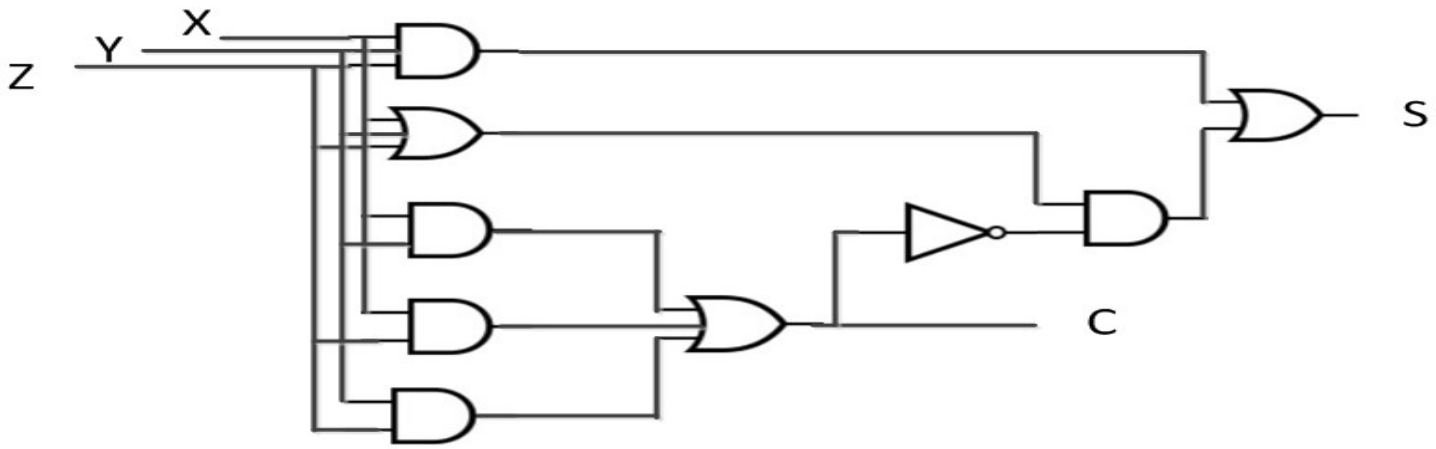
$A \oplus B$

INPUT		OUTPUT
A	B	A XOR B
0	0	0
0	1	1
1	0	1
1	1	0

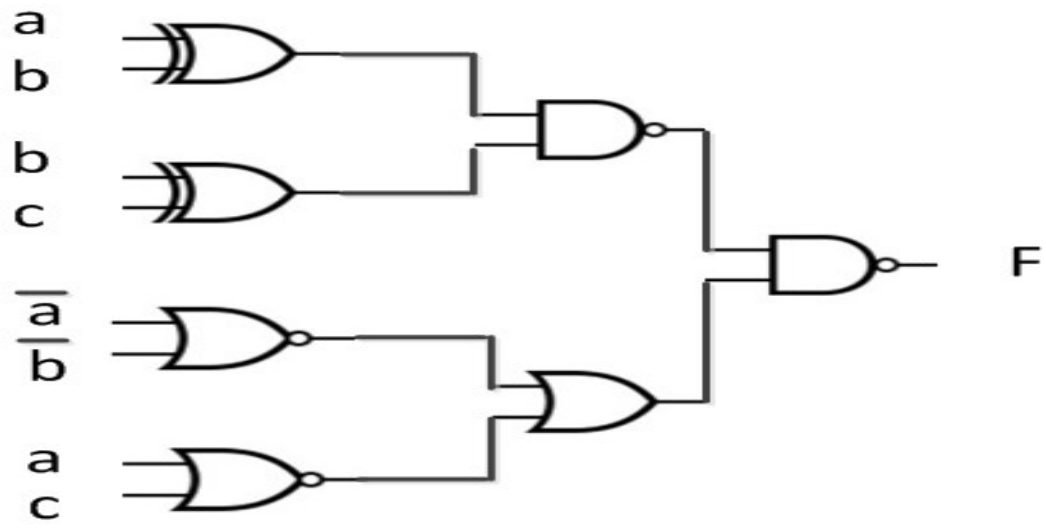
EXAMPLE #1



EXAMPLE #2



EXAMPLE #3



EXAMPLE #4