KLS'S GOGTE INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

CREINTORS AUTOMATION SOLUTIONS PVT.LTD.

PRESENTS

HONOR'S PROGRAM IN PLC PROGRAMMING

Syllabus of Course

1. Basics of PLC

2. PLC Programming

3. SCADA Programming

Logic Gates

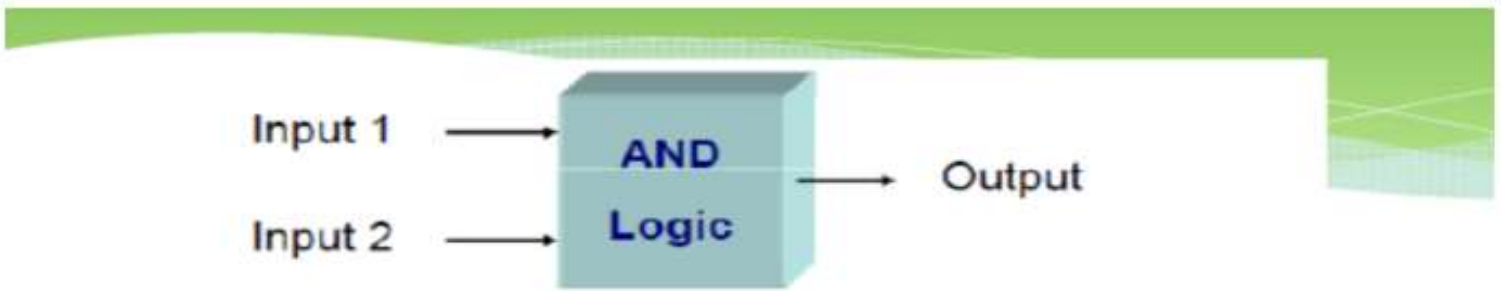
Logic gates are Electronic circuits that operates one or more input signals to produce an output signal. The output signal of a gate is simple boolean operations of its input signal and any boolean function can be represented in the form of gate.

There are seven basic logic gates: AND, OR, XOR, NOT, NAND, NOR, and XNOR. The AND gate is so named because, if 0 is called "false" and 1 is called "true," the gate acts in the same way as the logical "and" operator.

INPUTS		OUTPUTS					
A	B	AND	NAND	OR	NOR	EXOR	EXNOR
0	0	0	1	0	1	0	1
0	1	0	1	1	0	1	0
1	0	0	1	1	0	1	0
1	1	1	0	1	0	0	1

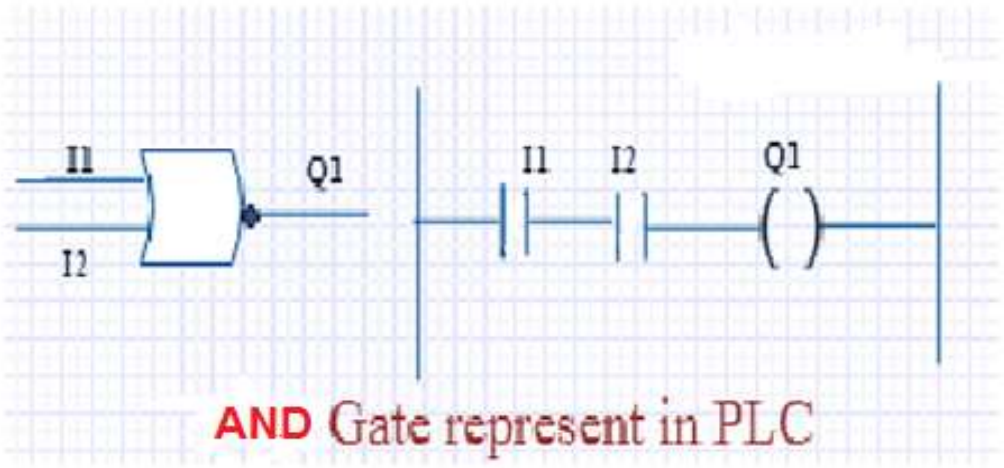
Logic Gates

AND Logic



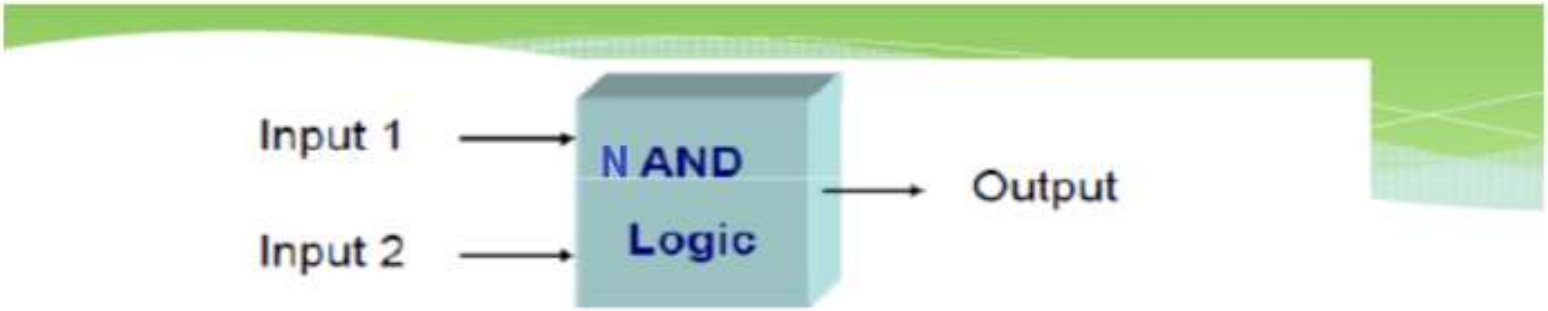
Input 1	Input 2	Output
0	0	0
0	1	0
1	0	0
1	1	1

0 → False
1 → True



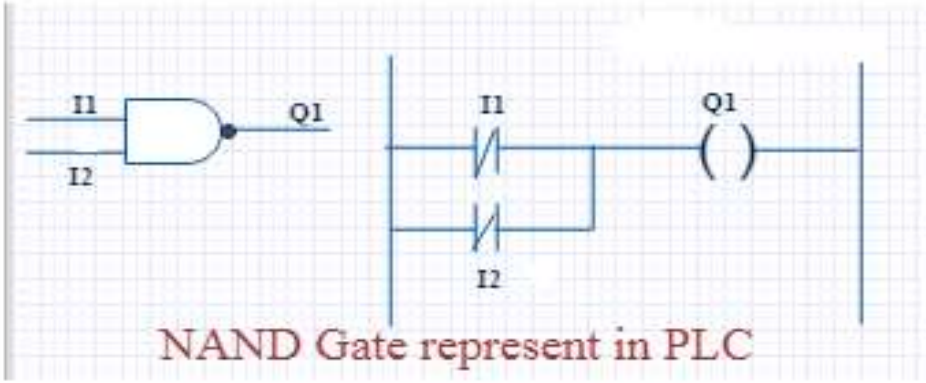
Logic Gates

NAND Logic



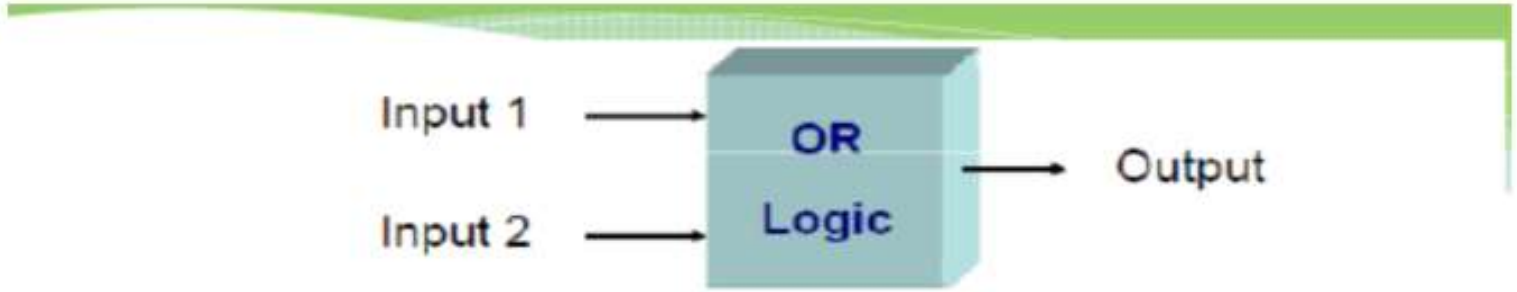
Input 1	Input 2	Output
0	0	1
0	1	1
1	0	1
1	1	0

0 → False
1 → True



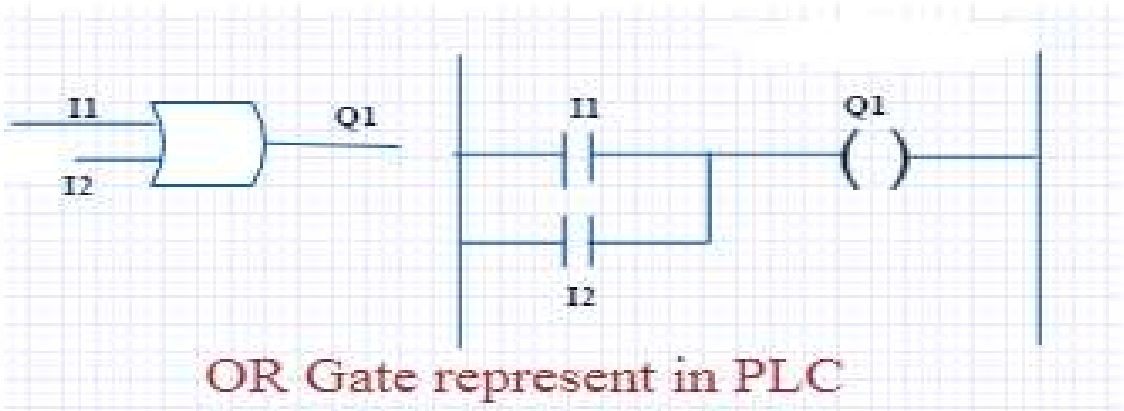
Logic Gates

OR Logic



Input 1	Input 2	Output
0	0	0
0	1	1
1	0	1
1	1	1

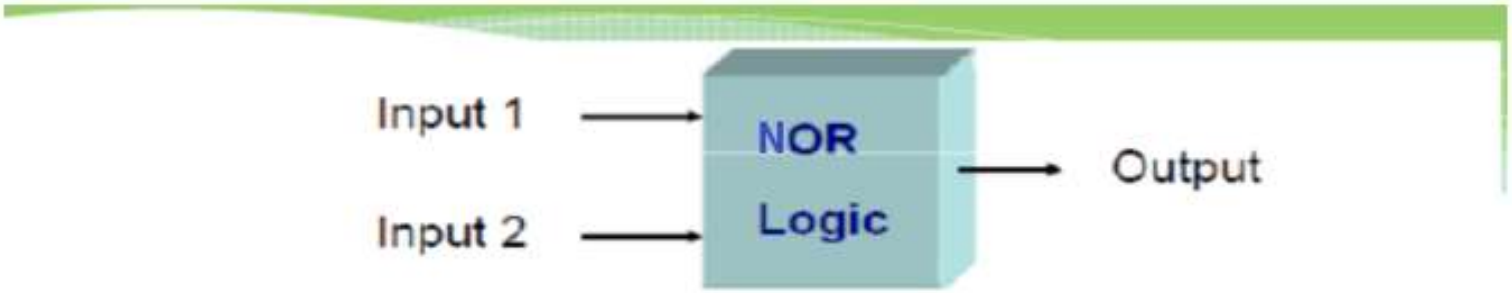
0 → False
1 → True



OR Gate represent in PLC

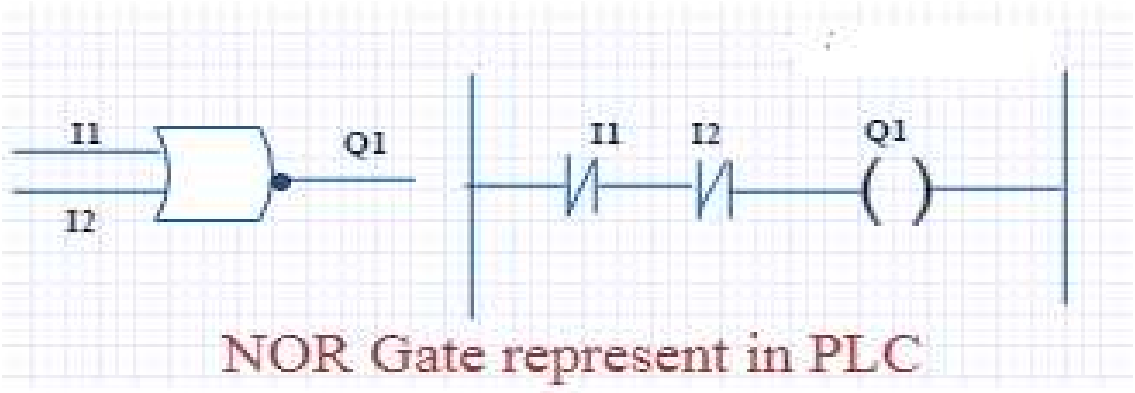
Logic Gates

NOR Logic



Input 1	Input 2	Output
0	0	1
0	1	0
1	0	0
1	1	0

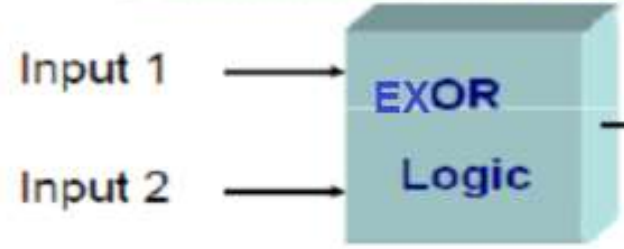
0 → False
1 → True



NOR Gate represent in PLC

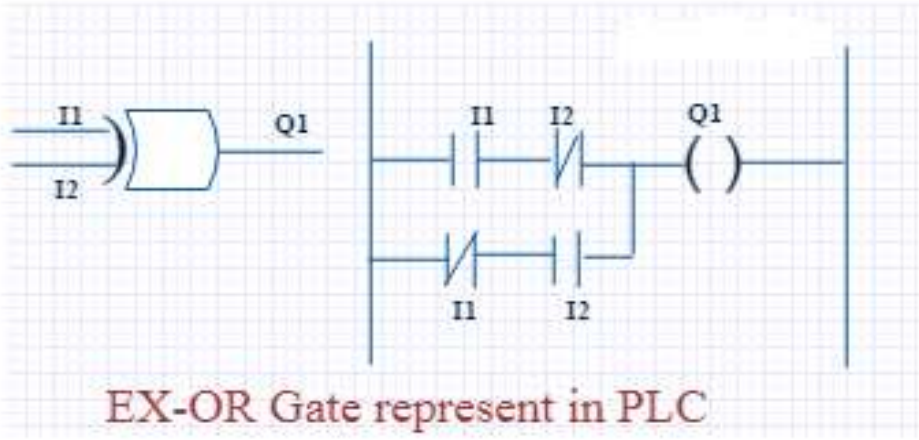
Logic Gates

EX-OR Logic



Input 1	Input 2	Output
0	0	0
0	1	1
1	0	1
1	1	0

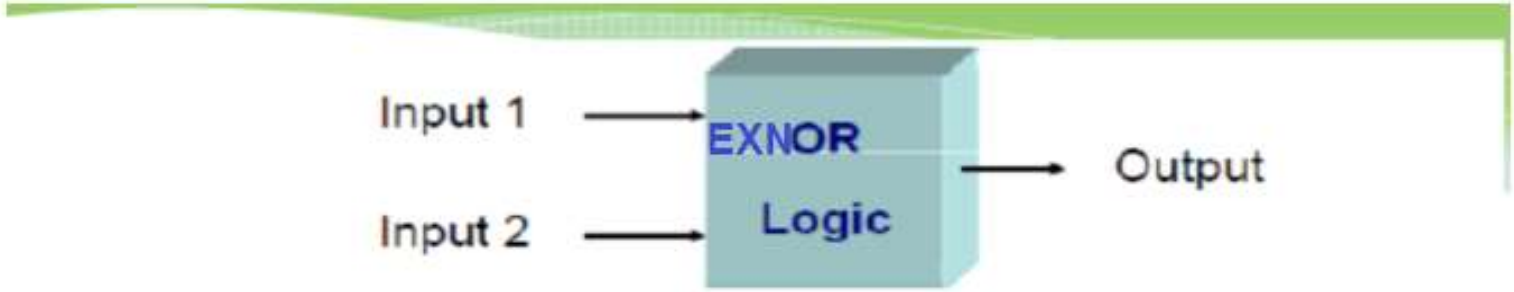
0 → False
1 → True



EX-OR Gate represent in PLC

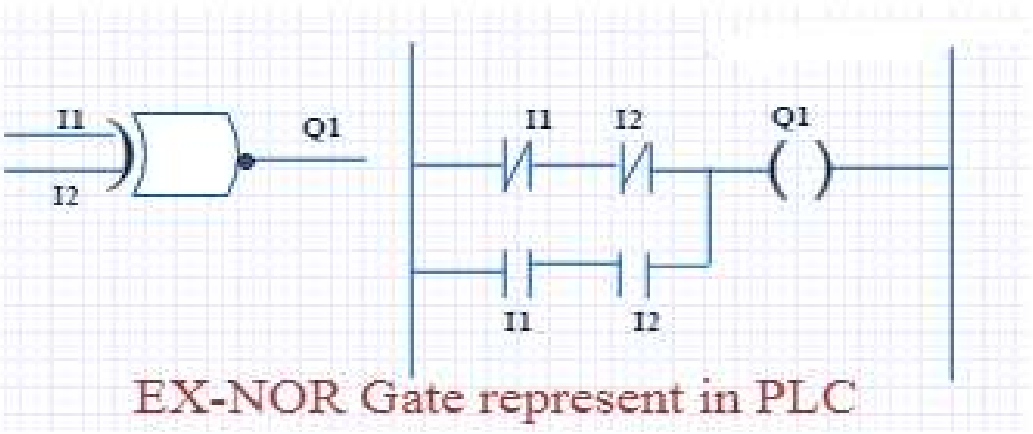
Logic Gates

EX-NOR Logic



Input 1	Input 2	Output
0	0	1
0	1	0
1	0	0
1	1	1

0 → False
1 → True



EX-NOR Gate represent in PLC

GATE Logic

NOT Gate

NOT gate is also called as Inverter or Buffer.

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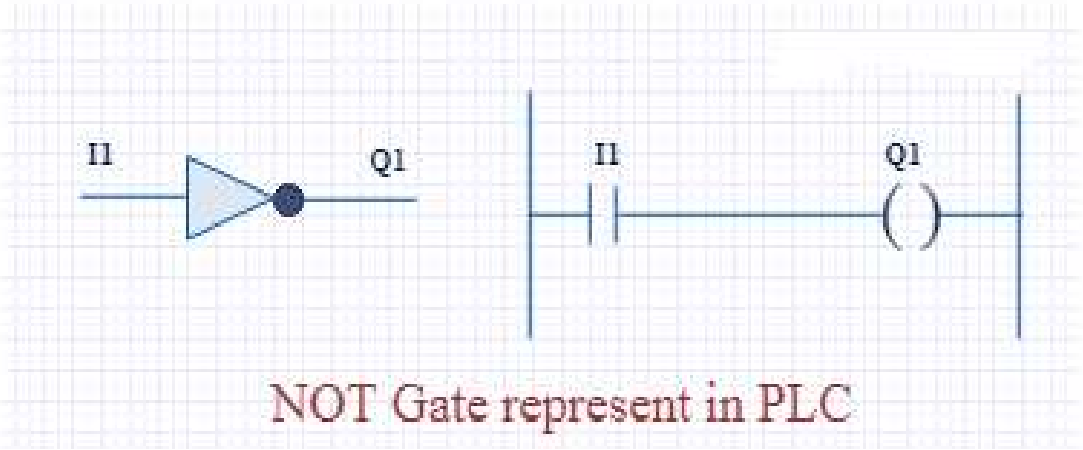
NOT Truth Table	
A	Q
0	1
1	0



NOT Gate represent in PLC


THANK YOU