Ayush Rawat (40)   Sec - A University Roll : 21010948
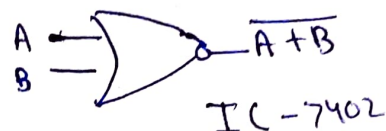Subject: Computer Organization

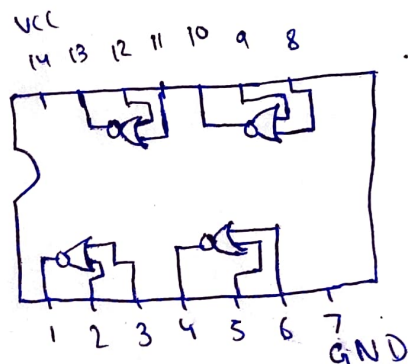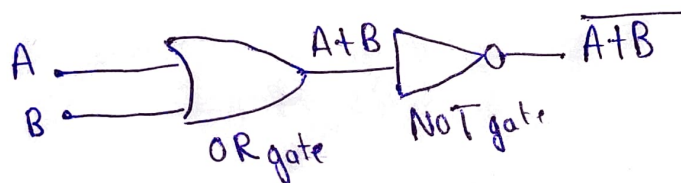# NOR Gate :-

A ⎓⎓⎓⎓ $\overline{A+B}$

IC-7402

- NOR gate is a universal gate
- NOR gate can form all the basic gate
- NOR gate is combination of NOT - OR gate
- NOR gate will be high only when all of the inputs are low
- NOR gate return the complement of the OR gate

Boolean expression

$$(A+B)' = Y$$

Circuit Diagram

A ⎓⎓ ⟩ A+B ⟩○ $\overline{A+B}$

OR gate   NOT gate

VCC
14 13 12 11 10 9 8

1 2 3 4 5 6 7
GND

⇒ NOR GATE
IC DIAGRAM

Truth Table

Input		Output	
A	B	$\overline{A+B}$	$(A+B)'$
0	0	1	
0	1	0	
0	0	0	
1	1		0

As in truth table the output of a NOR gate should be HIGH only if the both the gate inputs are LOW. In any other case the output should be LOW. So if any one or both inputs are HIGH, the output of NOR gate will be LOW.