CS & IT ENGINEERING



Logic Gate

XOR GATE, X-NOR GATE

Lecture No. 3



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TOPICS TO BE COVERED 01 XOR GATE

02 X-NOR GATE

03 DISCUSSION

XOR GATE, X-NOR GATE



- ✓ Attend the class with positive attitude.
- ✓ Punctuality is necessary.
- ✓ Follow the day-wise study plan.
- ✓ Attempt DPP daily as per the schedule.
- ✓ Hold chat while attending the class. We will allow you to ask and put your questions in the comment box.



$$\frac{\overline{A \cdot B}}{\overline{A + B}} = \frac{\overline{A \cdot B}}{\overline{A \cdot B}} = \frac{\overline{A + B}}{\overline{A \cdot B}}$$

$$\frac{A}{B} = \frac{A}{B} = \frac{A}$$

	NAND	NOR
Not	1 ~	1
AND	a 7	3 /
OR	3	2
X-0R	4)	5
X-MOR	5	4
NAND	1)	4
NOR	4	1







$$=$$
 $f = \overline{A} \cdot B \cdot C$

$$h=3. K=1$$

NAND =
$$(2n-2)+k$$

= $(2x3-2)+1$
= $4+1+5$

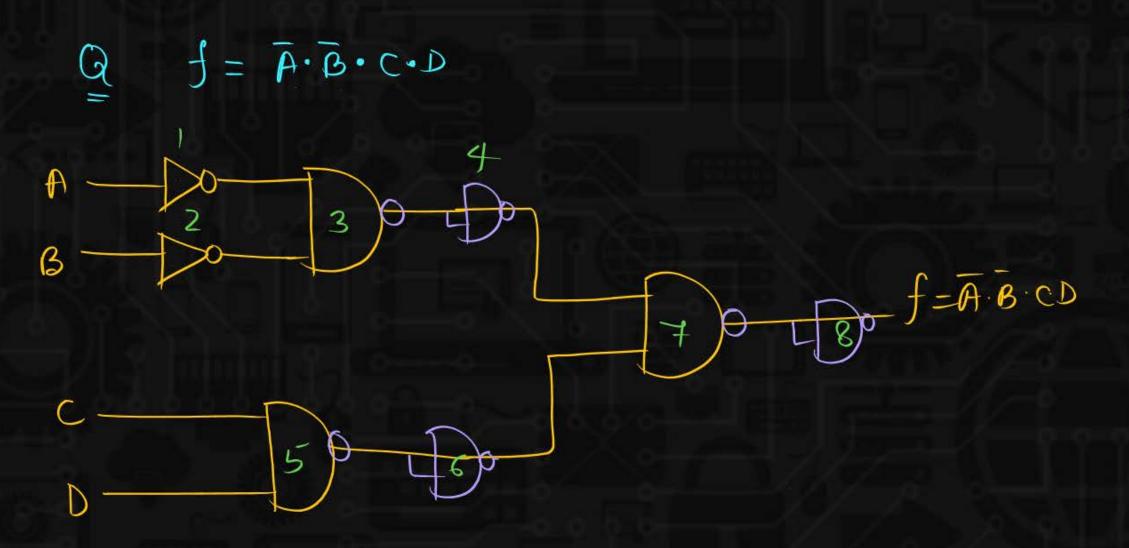
$$Q f = \overline{A}BC$$

$$100R = (3n-3)-k$$

$$= (3x3-3)-1$$

$$= 9-3-1$$





NAND = (2n-2)+K =(8x4-2)+2.

$$Q = f = \overline{A} \cdot \overline{B} \cdot C \cdot D$$

$$\int_{0}^{\infty} \int_{0}^{\infty} \int_{0$$

$$n=4$$
 $k=2$
 $NOR=(3n-3)-K$

$$= (3x4-3)-2$$

$$= (3x4-3)-2$$

$$= (7/)$$





$$G = f = \overline{A} \cdot B \cdot \overline{C} \cdot D \cdot E$$

$$= n = \overline{p} \quad K = 2$$

$$= (10)$$

$$= (10)$$

$$\overline{(ase(s))}$$

$$f = A + \overline{B} + C + \cdots$$

$$MoR = (5U-3) + K$$

$$\frac{Q}{1} = A + Q + C$$

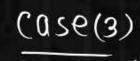
$$\frac{1}{3}, K^{2} = \frac{1}{3} + \frac{1}{3} - \frac{1}{3}$$

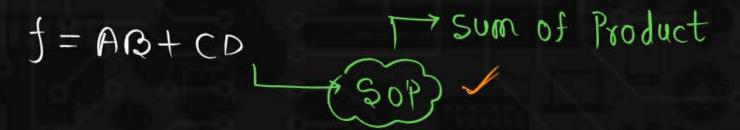
$$= \frac{1}{3} \times \frac{3}{3} - \frac{1}{3} - \frac{1}{3}$$

$$1 \times 0 = (2n-2)+x$$

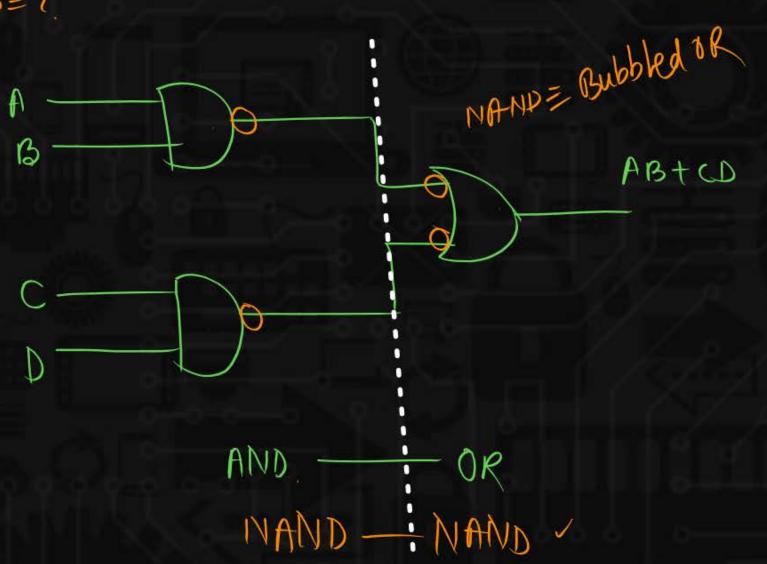
$$= (2\times 3-2)+1$$

$$= 4+1=(5)$$

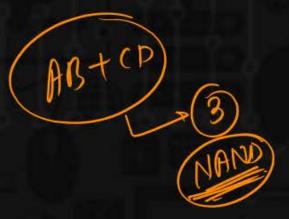




NAND=?









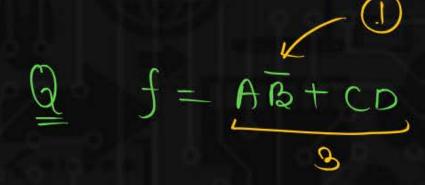


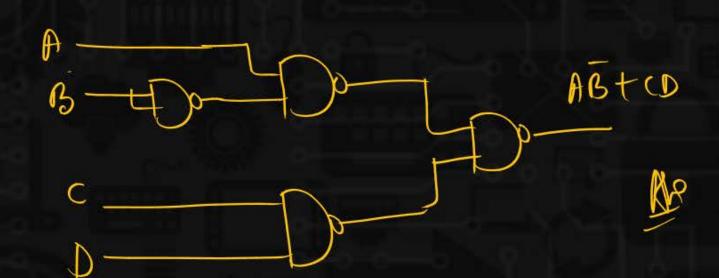
$$Q f = A + BC$$



$$\bigcirc J = A + B$$

$$f = A \cdot A + B \cdot B$$









$$Q = f = \overline{A} + \overline{B}$$

$$=\overline{A\cdot B}$$



$$\oint f = A + ABC$$

$$= A [1 + BC] = A = A$$

$$= A$$





(ase (4)

$$f = (A+B) \cdot (c+D)$$
 | Product of sum.

Pos.

NOR = ?

NOR = ?

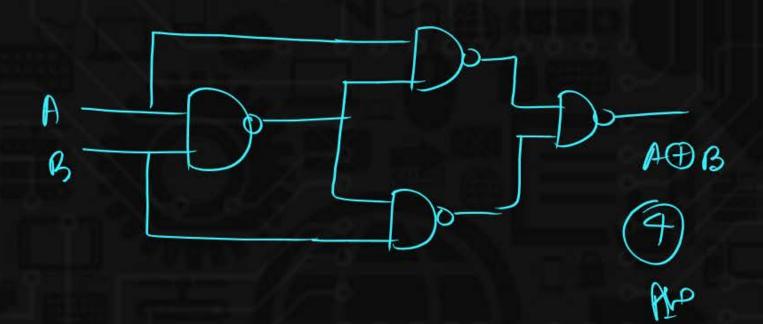
NOR = ?

NOR =
$$\frac{3}{4}$$

NOR = $\frac{3}{4}$

NOTE: >

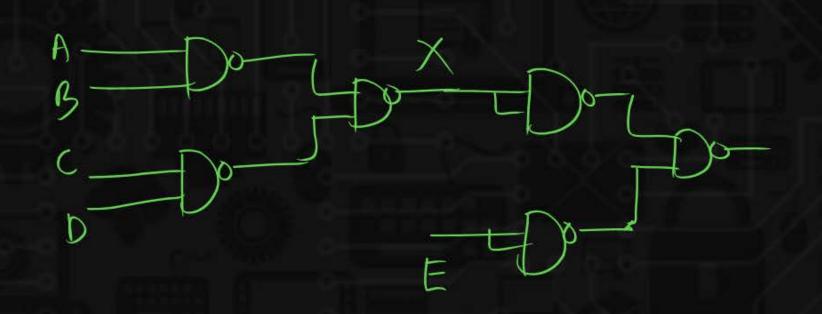




$$Q = \int = AB + CD + EF$$

$$= 3$$

$$Q = f = AB + CD + E$$
NAND = ?







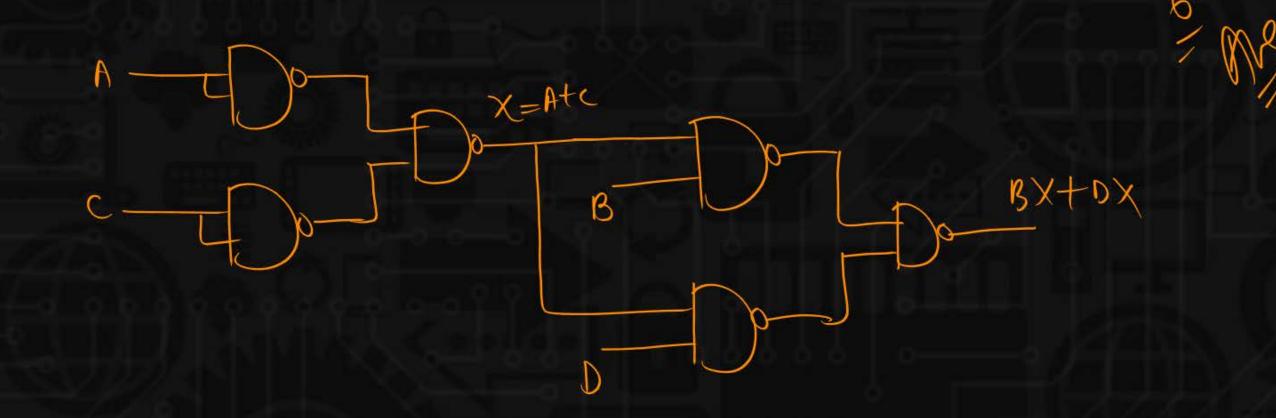
$$Q = f = AB + BC + CD + DA$$

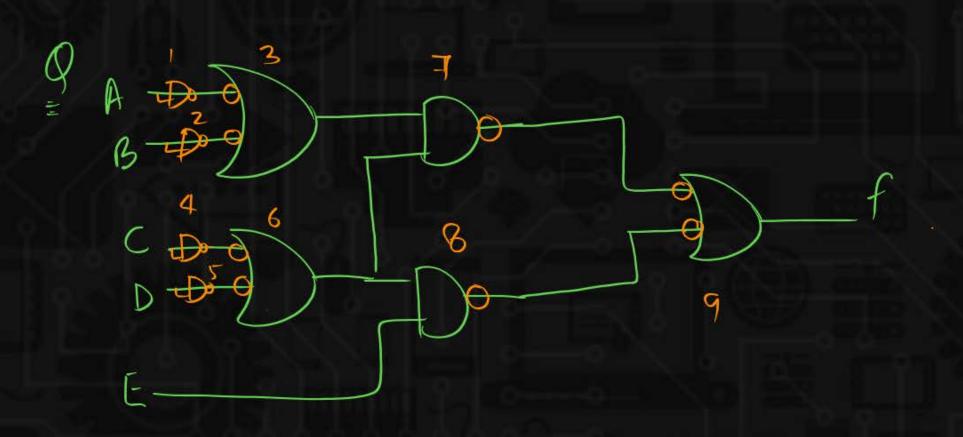
$$= B[A+C] + D[A+C]$$

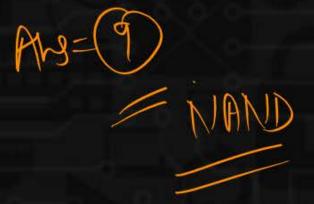
$$= B[A+C] + D[A+C]$$

$$= \beta x + D x$$

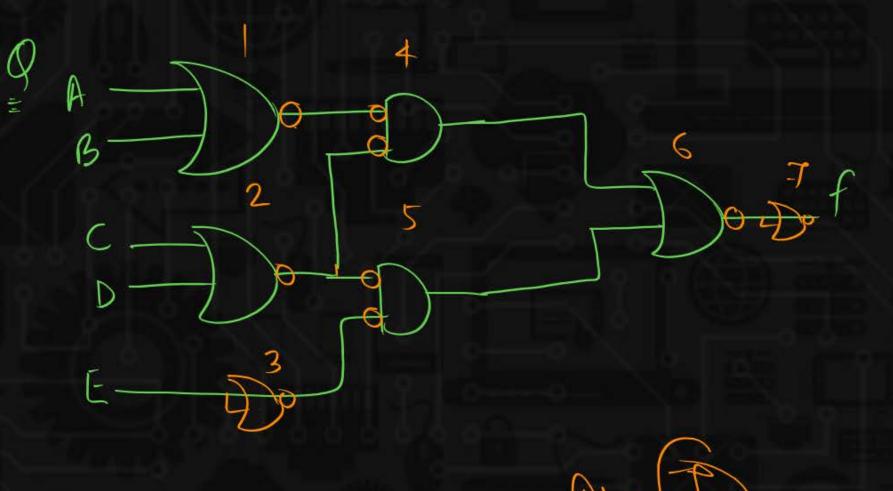
$$A+c=x$$











NOR=?



MOR NOR



