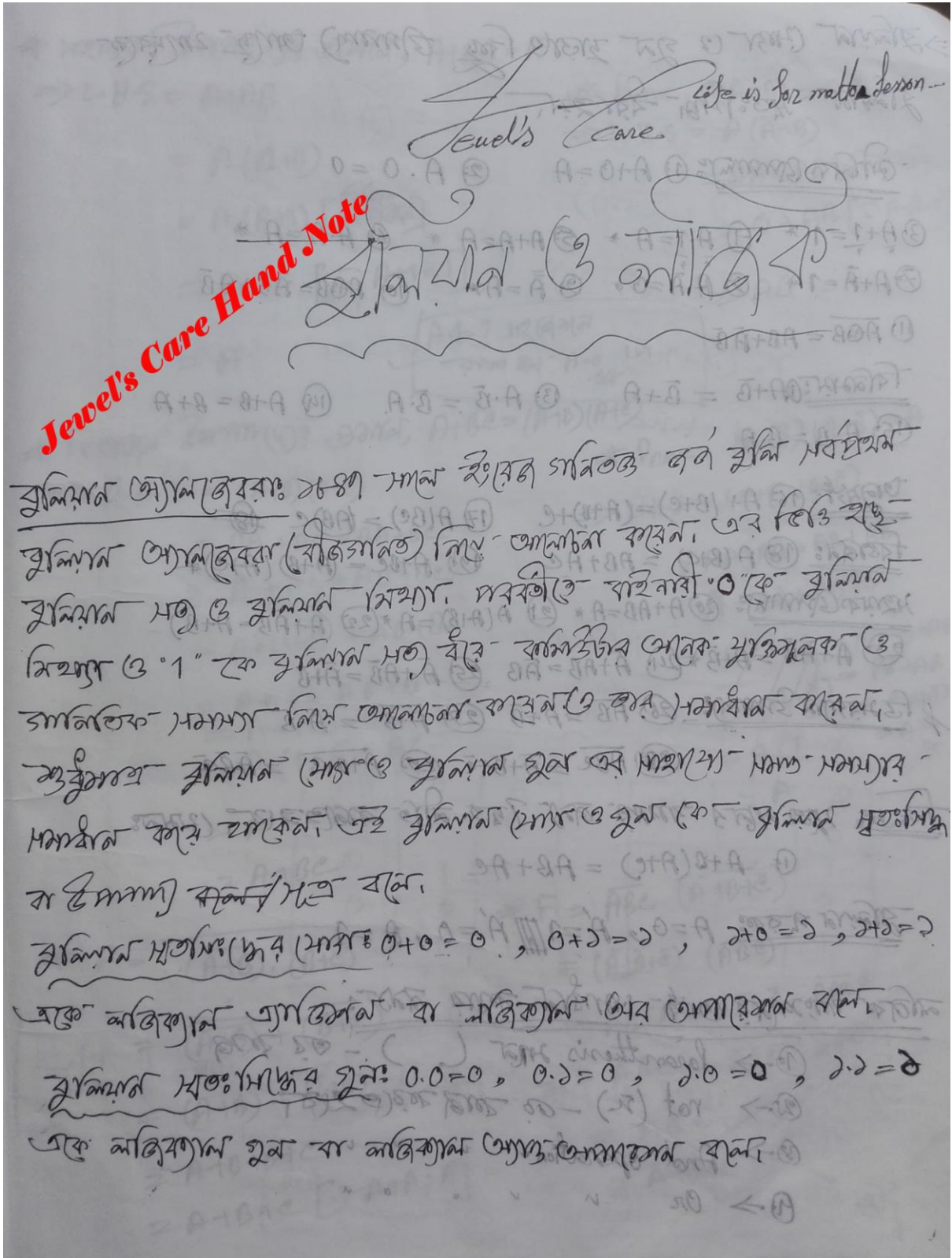


# কম্পিউটার - বুলিয়ান অ্যালজেব্রা, লজিক গেই, কারন্য ম্যাপ



⇒ ସୂଚନା (ଅକ୍ଷର 0 ରୁ 1 ଯାଏଁ ବିଭିନ୍ନ ସୂଚନା) ଉପରେ ଆଧାରିତ  
 ସୂଚନା ସଂକଳନ - ବିଶେଷତା

ଭୌତିକ ସମ୍ପର୍କ: ①  $A+0=A$     ②  $A \cdot 0=0$

③  $A+1=1$  \*    ④  $A \cdot 1=A$  \*    ⑤  $A+A=A$  \*    ⑥  $A \cdot A=A$  \*

⑦  $A+\bar{A}=1$  \*    ⑧  $A \cdot \bar{A}=0$  \*    ⑨  $\bar{\bar{A}}=A$  \*    ⑩  $A \oplus B = \bar{A}B + A\bar{B}$

⑪  $\overline{A \oplus B} = AB + \bar{A}\bar{B}$

ବିକଳାପ: ⑫  $A+\bar{B} = \bar{B}+A$     ⑬  $A \cdot \bar{B} = \bar{B} \cdot A$     ⑭  $A+B = B+A$

⑮  $A \cdot B = B \cdot A$

ଆନୁସୂଚୀ: ⑯  $A+(B+C) = (A+B)+C$     ⑰  $A(BC) = (AB)C$     ⑱ ~~A(B+C) = AB+AC~~

ବିକଳାପ: ⑲  $A(B+C) = AB+AC$     ⑳  $A+BC = (A+B)(A+C)$  \*

ଅନୁସୂଚୀ: ㉑  $A+AB=A$  \*    ㉒  $A(A+B)=A$  \*    ㉓  $A+\bar{A}B=A+B$

㉔  $A+\bar{A}\bar{B}=A+\bar{B}$  \*    ㉕  $\bar{A}+AB=\bar{A}B$     ㉖  $\bar{A}+A\bar{B}=\bar{A}+\bar{B}$

ସଂକଳନ ସମ୍ପର୍କ: ㉗  $\overline{AB} = \bar{A} + \bar{B}$     ㉘  $\overline{A+B} = \bar{A} \cdot \bar{B}$

㉙  $\overline{A \oplus B} = \bar{A} + \bar{B}$     ㉚  $\overline{A+B+C} = \bar{A} \cdot \bar{B} \cdot \bar{C}$

ବିଶେଷ ମୁଖ୍ୟ ସୂତ୍ର ସମାପ୍ତ ବନି (ଦ୍ୱିତୀୟ ଧରଣର ସୂତ୍ର) (ଅନୁସୂଚୀ)

①  $A+B(A+C) = AB+AC$

ସୂଚନା ସୂତ୍ର:  $A=0, A=1, \bar{A}=0, \bar{A}=1$

ଅନ୍ତରାଳ ସଂକଳନ ଉପରେ ଆଧାରିତ ସୂତ୍ର ସମାପ୍ତ ବନି:

① → Parenthesis  $( )$  - ପ୍ରଥମ ସୂତ୍ର

② → not  $(\bar{ })$  - ଦ୍ୱିତୀୟ ସୂତ୍ର ସମାପ୍ତ ବନି

③ → And operation  $(\cdot)$

④ → Or  $(+)$

Jewel's Care Hand Note

# Verify the commutative law,  $A+AB=A$

$$\begin{aligned} \Rightarrow L.H.S &= A+AB \\ &= A(1+B) \\ &= A(B+1) \text{ [Commutative]} \\ &= A \cdot 1 \text{ [}\because A+1=1\text{]} \\ &= A \end{aligned}$$

$A+1=1$  is correct  
 Example:  $A=0$   $0+1=1$   
 $A=1$   $1+1=1$

# Verify the distributive law,  $A+BC=(A+B)(A+C)$

$$\begin{aligned} \Rightarrow R.H.S &= (A+B)(A+C) \\ &= AA+AC+BA+BC \\ &= A+AC+AB+BC \\ &= A+(1+C)+AB+BC \\ &= A+1+AB+BC \\ &= A+AB+BC \\ &= A(1+B)+BC \\ &= A1+BC \\ &= A+BC \end{aligned}$$

# Prove,  $A(\bar{A}+B) = AB$

$$\begin{aligned} \Rightarrow L.H.S &= A(\bar{A}+B) \\ &= A\bar{A}+AB \text{ [Distributive]} \\ &= 0+AB \text{ [}\because A \cdot \bar{A}=0\text{]} \\ &= AB \end{aligned}$$

# Prove,  $(A+B)(A+\bar{B}) = A$

$$\begin{aligned} \Rightarrow L.H.S &= (A+B)(A+\bar{B}) \\ &= AA+A\bar{B}+AB+B\bar{B} \\ &= A+A\bar{B}+AB+0 \\ &= A\bar{B}+AB = A(\bar{B}+B) \\ &= A(B+\bar{B}) = A(1) \\ &= A \cdot 1 \\ &= A \end{aligned}$$

Jewel's Care Hand Note

#  $F = \overline{(A+B) \cdot (B+C)}$

$$\begin{aligned} &= \overline{(A+B)} + \overline{(B+C)} \\ &= (\bar{A}+\bar{B}) + (\bar{B}+\bar{C}) \\ &= \bar{A}+\bar{B}+\bar{B}+\bar{C} \\ &= \bar{A}+\bar{B}+\bar{C} \text{ [}\because \bar{B}+\bar{B}=\bar{B}\text{]} \end{aligned}$$

#  $F = \overline{AB\bar{C}} (A+B+C)$

$$\begin{aligned} &= (\bar{A}\bar{B}+C) (\bar{A}\bar{B}\bar{C}) \\ &= \bar{A}\bar{B}\bar{C}\bar{A} + \bar{A}\bar{B}\bar{C}\bar{B} + \bar{A}\bar{B}\bar{C}C \\ &= \bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}\bar{C} \\ &= \bar{A}\bar{B}\bar{C} \end{aligned}$$

#  $F = \overline{x+y}(z+\bar{x})$

$\Rightarrow \bar{x} \cdot \overline{y(z+\bar{x})}$

$\Rightarrow \bar{x} \cdot (\bar{y} + (z+\bar{x}))$

$\Rightarrow \bar{x} (y + (z \cdot \bar{x}))$

$\Rightarrow \bar{x} (y + \bar{x}z)$

$\Rightarrow \bar{x}y + \bar{x}\bar{x}z$

$\Rightarrow \bar{x}y + 0 \cdot \bar{z}$

$\Rightarrow \bar{x}y$

#  $F = \overline{(A+B+C)} \cdot B\bar{C}$

$\Rightarrow (\bar{A}\bar{B}\bar{C}) \cdot B\bar{C}$

$\Rightarrow \bar{A}\bar{B}\bar{C} \cdot B\bar{C}$

$\Rightarrow \bar{A} \cdot 0 \cdot 0$

$\Rightarrow 0$

*(A=0, B=0, C=0)*

De Morgan's Law

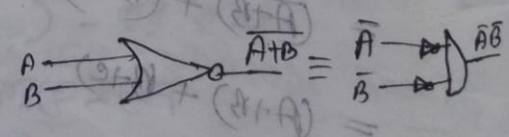
$\Rightarrow$  Truth table: (H0) 20 H20 H20

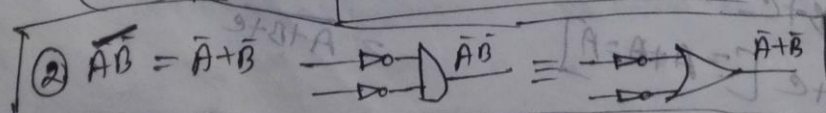
A	B	A+B
0	1	1
1	0	1
0	0	0
1	1	1

A	B	AB
0	0	0
0	1	0
1	0	0
1	1	1

$\Rightarrow$  De Morgan's Law... (H2) 20 H20

नियम नमून नमून: (H2) H2

①  $\overline{A+B} = \bar{A}\bar{B}$  

②  $\overline{AB} = \bar{A} + \bar{B}$  

Jewel's Care Hand Note

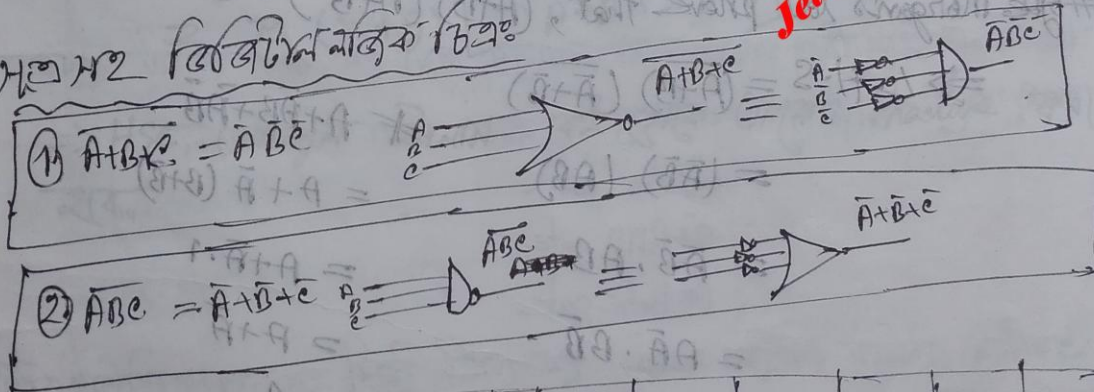
Truth Table -  $A, B$  -  $AB$  -  $A+B$  -  $A\bar{B}$  -  $\bar{A}B$  -  $\bar{A}\bar{B}$

A	B	$\bar{A}$	$\bar{B}$	$A+B$	$A\bar{B}$	$\bar{A}B$	$\bar{A}\bar{B}$
0	0	1	1	0	0	0	1
0	1	1	0	1	0	1	0
1	0	0	1	1	1	0	0
1	1	0	0	1	1	1	0

ဒါဟာ အဘယ်အရာလဲ

⇒ De Morgan's Law : (အင်္ဂလိပ်စာ)

မူဝါဒ ၁၂ လိုက်နာရမည့်အတိုင်း



A	B	C	$\bar{A}$	$\bar{B}$	$\bar{C}$	$A+B+C$	$A'B'C'$	$ABC$	$A'B\bar{C}$	$\bar{A}B\bar{C}$	$\bar{A}\bar{B}\bar{C}$
0	0	0	1	1	1	0	1	0	1	1	1
0	0	1	1	1	0	1	0	0	1	1	0
0	1	0	1	0	1	1	0	0	1	1	0
0	1	1	1	0	0	1	0	0	1	1	0
1	0	0	0	1	1	1	0	0	1	1	0
1	0	1	0	1	0	1	0	0	1	1	0
1	1	0	0	0	1	1	0	0	1	1	0
1	1	1	0	0	0	1	0	1	0	0	0

Jewel's Care Hand Note

দেওয়া যাক যেখানে একটি মস্তক (দুইটি মস্তক)  
 A, B, C - তর মস্তক সম্বন্ধে কন;  $\overline{A+B+C} = \overline{A} \overline{B} \overline{C}$   
 $\overline{A+B+C} = \overline{A} \overline{B} \overline{C}$   
 তিনটি বস্তুই একসাথে কন - বি-মস্তকগুলি মূল্য দুটি প্রমাণিত হয়।  
 বিঃদ্রঃ সুনির্দিষ্ট উদাহরণের মাধ্যমে বস্তুগুলির মস্তক মস্তক মস্তক  
 কনই মস্তক বস্তুই প্রমাণিত হয়।  
প্রমাণিত হইল যে লজিক সম্বন্ধে  
 # By De Morgan's law prove that,  $\overline{(A+B)} (\overline{A+B}) = 0$   
 $\Rightarrow$  L.H.S =  $\overline{(A+B)} (\overline{A+B})$   
 $= (\overline{A} \overline{B}) (\overline{A} \overline{B})$   
 $= \overline{A} \overline{B} \cdot \overline{A} \overline{B}$   
 $= \overline{A} \overline{A} \cdot \overline{B} \overline{B}$   
 $= 0 \cdot 0$   
 $= 0$   
 $\neq A + \overline{A} \overline{B} + \overline{A} \overline{B}$   
 $= A + \overline{A} (B + \overline{B})$   
 $= A + \overline{A} \cdot 1$   
 $= A + \overline{A}$   
 $= 1$   
 $\neq \overline{A+B} = \overline{A} \overline{B} + \overline{A} \overline{B}$  (লজিক সম্বন্ধে প্রমাণ)  
 $\Rightarrow \overline{A+B}$   
 $= \overline{A} \overline{B} + \overline{A} \overline{B}$   
 $= \overline{A} \overline{B} \cdot \overline{A} \overline{B}$   
 $= (\overline{A} + \overline{B}) \cdot (\overline{A} + \overline{B})$   
 $= (\overline{A} + \overline{B}) (\overline{A} + \overline{B})$   
 $= \overline{A} \overline{A} + \overline{A} \overline{B} + \overline{A} \overline{B} + \overline{B} \overline{B}$   
 $= 0 + \overline{A} \overline{B} + \overline{A} \overline{B} + 0$   
 $= \overline{A} \overline{B} + \overline{A} \overline{B}$

Jewel's Care Hand Note

⇒ প্রকৃত নটিক সারসংক্ষেপ বা সারসংক্ষেপ সারসংক্ষেপ সারসংক্ষেপ  
 নটিক সারসংক্ষেপ সারসংক্ষেপ (সারসংক্ষেপ সারসংক্ষেপ)

⇒  $x\bar{y}z + x\bar{y}\bar{z} + xy\bar{z}$

$= x\bar{y}z + xy\bar{z} + x\bar{y}\bar{z}$

$= xz(\bar{y} + y) + x\bar{y}\bar{z}$

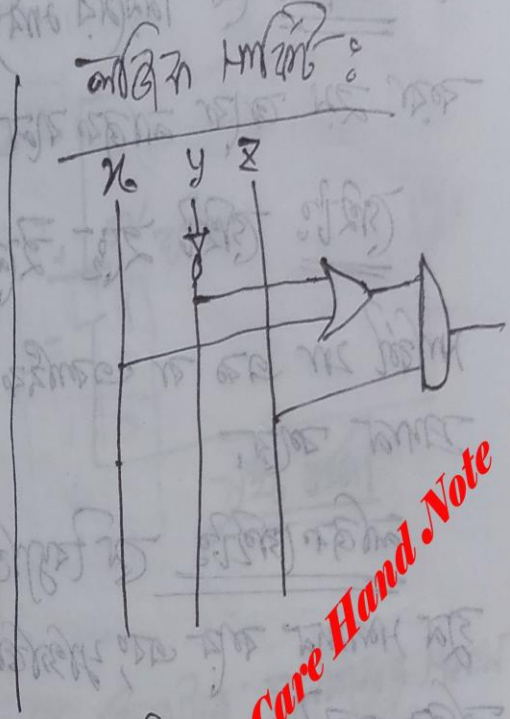
$= xz \cdot 1 + x\bar{y}\bar{z}$

$= z(x + \bar{y})$

$= z(x + \bar{y}) \left[ \because A + \bar{A}B = A + B \right]$

⇒ HSC সারসংক্ষেপ সারসংক্ষেপ সারসংক্ষেপ Practise সারসংক্ষেপ

সারসংক্ষেপ



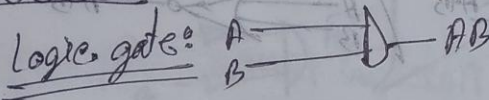
*Jewel's Care Hand Note*





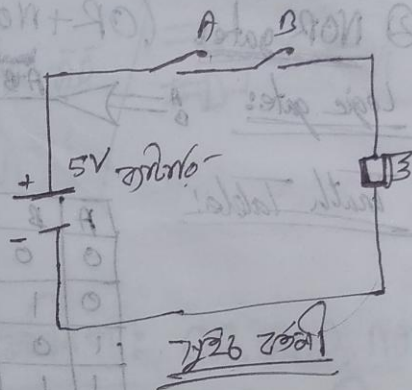
⇒ ଏ ଗୋଟିଏ ଆବଶ୍ୟକତା ସମାପନ ଥିବି ସଂକ୍ଷିପ୍ତ ଭାଷାରେ ନୋଟ୍ ୨୨  
 ଏହା OR gate ଥାଏ।

② AND gate:



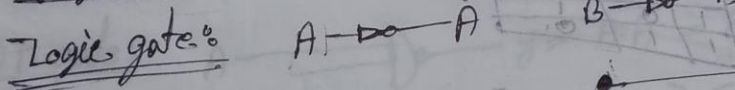
Truth Table:

A	B	AB
0	0	0
0	1	0
1	0	0
1	1	1



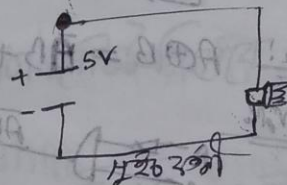
⇒ ଏ ଗୋଟିଏ ଆବଶ୍ୟକତା ସମାପନ ଥିବି ସଂକ୍ଷିପ୍ତ ଭାଷାରେ ନୋଟ୍ ୨୨  
 ଏହା AND gate ଥାଏ।

③ Not gate:



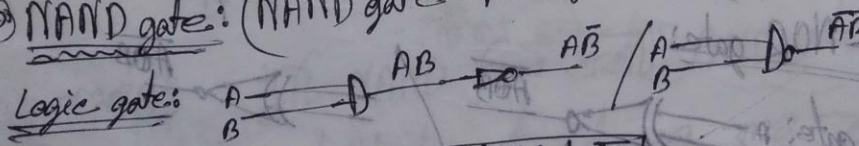
Truth Table:

A	Ā
0	1
1	0



ଆବଶ୍ୟକତା ସମାପନ:

④ NAND gate: (NAND gate = AND gate + NOT gate)



Truth Table:

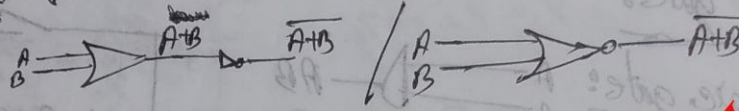
A	B	AB	AB̄
0	0	0	0
0	1	0	1
1	0	0	1
1	1	1	0

Jewel's Care Hand Note

⇒ এই জেটের মৌলিক AND gate ও মৌলিক NOT gate দিয়ে জেট  
 -এক NAND gate করা।

② NOR gate: (OR+NOT)

Logic gate:



Truth Table:

A	B	A+B	A+B
0	0	0	1
0	1	1	0
1	0	1	0
1	1	1	0

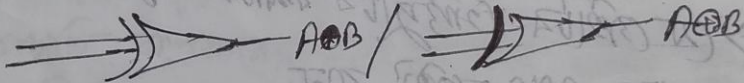
Jewel's Care Hand Note

⇒ এই জেটের মৌলিক OR জেট ও মৌলিক NOT জেট দিয়ে করা।

③ X-OR gate:

→ একই বসন Input হলে Output "0" হয়

Logic gate:



Truth Table:

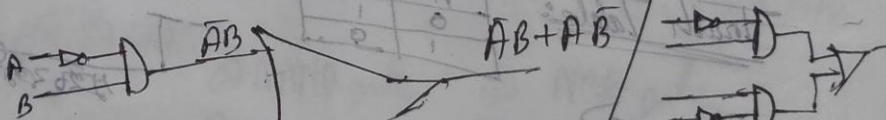
A	B	A⊕B
0	0	0
0	1	1
1	0	1
1	1	0

⊕ → একই বসন (একসাথে)

Formula:

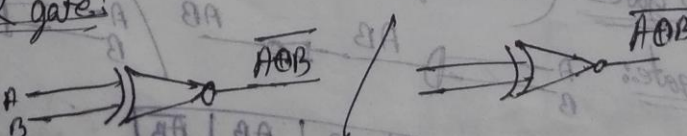
$$A \oplus B = \overline{A}B + A\overline{B}$$

বাস্তবায়ন:



④ X-NOR gate:

Logic gate:



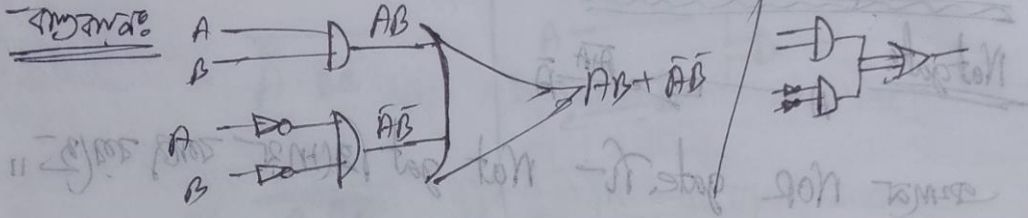
Truth Table:

A	B	A⊙B
0	0	1
0	1	0
1	0	0
1	1	1

⊙ → একই বসন (একসাথে)

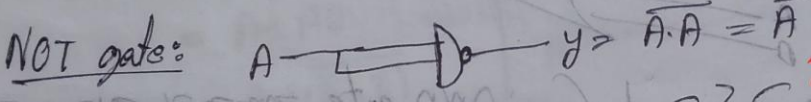
Formula:  $A \oplus B = \overline{AB} + AB = \overline{AB} \cdot \overline{AB} = (A+B) \cdot (\overline{A} + \overline{B})$

$= A\overline{A} + A\overline{B} + \overline{A}B + B\overline{B} = 0 + A\overline{B} + \overline{A}B + 0 = A\overline{B} + \overline{A}B$

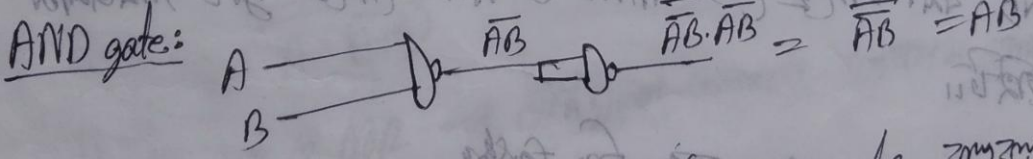


⇒ NAND gate & NOR gate এর সংজ্ঞা: OR, AND, NOT gate দিয়ে কোন কোন প্রকার gate, মডিউল ও যুক্তি বসানো হয়ে যায়, যেগুলি NAND ও NOR গেটের দ্বারাও কোন কোন প্রকার মডিউল তৈরি করা যায়, তবে NAND ও NOR গেটের সংজ্ঞা গেটের বাল.

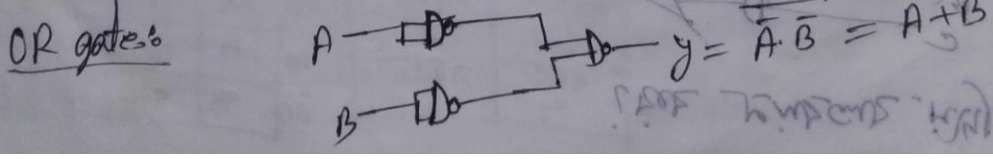
NAND গেটের সংজ্ঞা:



কোন NAND গেটের NOT গেটের স্থানান্তর করা যেতে পারে।



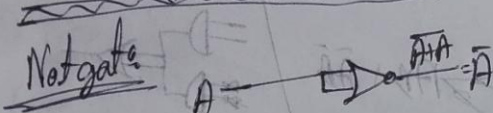
কোন NAND গেট দিয়ে একটি AND গেট বাস্তব করা যায়।  
 দুই NAND গেট just = not গেট এর মতো কাজ করে।



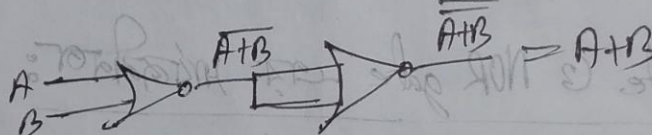
Jewel's Care Hand Note

କାର୍ଯ୍ୟ କରିବା ନିମନ୍ତେ NAND ଗେଟ୍ ନିମ୍ନ OR ଗେଟ୍ ସମତୁଲ୍ୟ ଅଟେ।

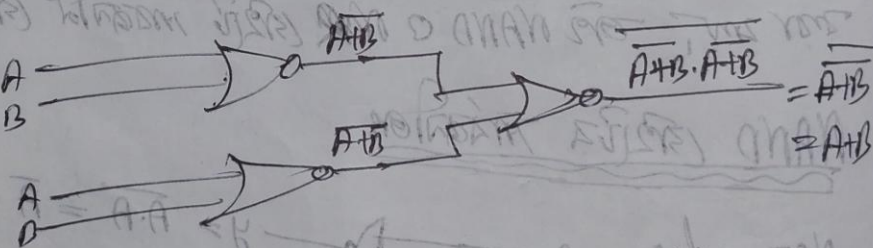
NOR ଗେଟ୍ କିମ୍ବା ମାତ୍ରାକାରୀ

Not gate: 

ଅର୍ଥାତ୍ NOR ଗେଟ୍ କି- Not ଗେଟ୍ ଦ୍ୱାରା ବାହାରି ଯାଇଛି।

OR gate: 

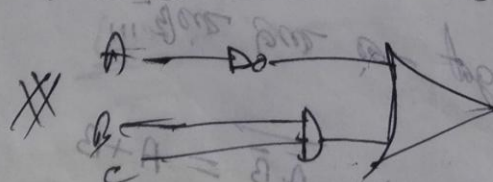
ଅର୍ଥାତ୍, ଏହି NOR ଗେଟ୍ ନିମ୍ନ OR ଗେଟ୍ ସମତୁଲ୍ୟ ଅଟେ, ତଥା ଏହି NOR ଗେଟ୍ କି- NOT ଗେଟ୍ ଦ୍ୱାରା ବାହାରି ଯାଇଛି।

AND gate: 

ଅର୍ଥାତ୍, କେବଳ NOR ଗେଟ୍ ନିମ୍ନ AND ଗେଟ୍ ସମତୁଲ୍ୟ ଅଟେ।

ହେଉଛି, ଏହା ଏକ ଏକକ (ଏକ NAND ଓ NOR ଗେଟ୍ ଦ୍ୱାରା କରାଯାଇପାରେ) ଗେଟ୍।

NAND ଓ NOR - ତା'ର କି ଗଠନ:

  $n = \overline{A \cdot B}$  (କିମ୍ବା NAND ଗେଟ୍)

ନିମ୍ନ ସମତୁଲ୍ୟ ବା?

Jewel's Care Hand Note

$\Rightarrow X = \bar{A} + BC$

$\Rightarrow \overline{\overline{\bar{A} + BC}}$

$= \overline{\bar{A} \cdot \overline{BC}}$

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

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

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

$= A \cdot B \cdot C$

**Jewel's Care Hand Note**

#  $X = A + \bar{A}B$

NOR gate

$A + \bar{A}B$

$\Rightarrow X = A + \bar{A}B$

$= A + \bar{A}B$

$= A + (\bar{A} + B)$

$= A + (A + B)$

$= A + (A + B)$

$= A + (A + B)$

$\Rightarrow$  NAND gate is NOR

comple practice

2/2

www.jewelscare.weebly.com

youtube Channel Name : Jewel's Care

ବ୍ୟାକରଣ ନ୍ୟୁନ

⇒ ବ୍ୟାକରଣ ସତ୍ୟତା, ବ୍ୟାକରଣ ଭିନ୍ନ ଭିନ୍ନ ବ୍ୟାକରଣ ସତ୍ୟତା

ଏକ ନିୟମାବଳୀର ଆବୃତ୍ତି ନିମ୍ନ ସମ୍ପର୍କରେ ଦିଆଯାଇଛି ବ୍ୟାକରଣ ନ୍ୟୁନ

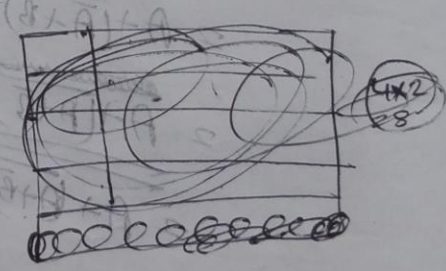
→ ବ୍ୟାକରଣ ନ୍ୟୁନ ସମ୍ପର୍କରେ ନିମ୍ନଲିଖିତ ସତ୍ୟତା

→ ଚାକର ଦୁଇଟି ସମ୍ପର୍କରେ  $2^2=4$ , ତିନିଟି ସମ୍ପର୍କରେ  $2^3=8$ , ଚାକର  $2^4=16$  ଟି ସମ୍ପର୍କରେ (ସମ୍ପର୍କ: ଦୁଇ ଚାକର AB -ର ସମ୍ପର୍କ ଦିଅନ୍ତୁ  $(AB, \bar{A}\bar{B}, \bar{A}B, A\bar{B})$  ABC -ର ସମ୍ପର୍କ  $(ABC, \bar{A}\bar{B}C, \bar{A}B\bar{C}, A\bar{B}\bar{C}, A\bar{B}C, \bar{A}\bar{B}\bar{C}, \bar{A}B\bar{C}, A\bar{B}\bar{C})$ , ABCD -ର ସମ୍ପର୍କ  $(ABCD, \bar{A}\bar{B}\bar{C}D, \bar{A}\bar{B}C\bar{D}, \bar{A}B\bar{C}D, \bar{A}B\bar{C}\bar{D}, \bar{A}B\bar{C}D, \bar{A}\bar{B}\bar{C}\bar{D}, \bar{A}\bar{B}\bar{C}D, \bar{A}\bar{B}C\bar{D}, \bar{A}\bar{B}C\bar{D}, \bar{A}\bar{B}C\bar{D}, \bar{A}\bar{B}C\bar{D}, \bar{A}\bar{B}C\bar{D}, \bar{A}\bar{B}C\bar{D}, \bar{A}\bar{B}C\bar{D})$ )

⇒ ଦୁଇ ଚାକର

	B	B
A	AB	AB
$\bar{A}$	0	1
A	$\bar{A}\bar{B}$	$\bar{A}\bar{B}$

⇒ ~~ଚାକର~~



⇒ 6 ଚାକର

	$\bar{C}$	C
$\bar{A}\bar{B}$	$\bar{A}\bar{B}\bar{C}$	$\bar{A}\bar{B}C$
$\bar{A}B$	$\bar{A}B\bar{C}$	$\bar{A}BC$
$A\bar{B}$	$A\bar{B}\bar{C}$	$A\bar{B}C$
$AB$	$AB\bar{C}$	$ABC$
$\bar{A}\bar{B}$	$\bar{A}\bar{B}C$	$\bar{A}\bar{B}C$
$A\bar{B}$	$A\bar{B}\bar{C}$	$A\bar{B}\bar{C}$
$AB$	$AB\bar{C}$	$ABC$

⇒ 8 ଚାକର

	$\bar{C}\bar{D}$	$\bar{C}D$	$C\bar{D}$	$CD$
$\bar{A}\bar{B}$	0	1	2	3
$\bar{A}B$	4	5	6	7
$A\bar{B}$	8	9	10	11
$AB$	12	13	14	15
$\bar{A}\bar{B}$	16	17	18	19
$A\bar{B}$	20	21	22	23
$AB$	24	25	26	27

Handwritten notes on Karnaugh maps for simplification. The notes include several K-maps and their corresponding simplified Boolean expressions.

**Top Section:**

- Initial K-map: 
$$\begin{matrix} & 0 & 1 & & & \\ & 0 & 0 & 1 & 0 & \\ & 1 & 1 & 0 & 0 & \\ & 0 & 0 & 0 & 0 & \\ & 0 & 0 & 0 & 0 & \end{matrix}$$
- Grouping and simplification steps are shown with arrows and intermediate K-maps.
- Final simplified expression: 
$$F = \bar{A}\bar{B} + \bar{A}B + A\bar{B} + AB$$

**Middle Section:**

- Another K-map is shown with a different grouping.
- Simplified expression: 
$$F = \bar{A}\bar{B} + \bar{A}B + A\bar{B} + AB$$

**Bottom Section:**

- A 4-variable K-map is shown with variables A, B, C, D.
- Initial K-map: 
$$\begin{matrix} \bar{A}\bar{B} & \bar{A}B & A\bar{B} & AB \\ \bar{C}\bar{D} & \bar{C}D & C\bar{D} & CD \\ \bar{C}\bar{D} & \bar{C}D & C\bar{D} & CD \\ \bar{C}\bar{D} & \bar{C}D & C\bar{D} & CD \\ \bar{C}\bar{D} & \bar{C}D & C\bar{D} & CD \end{matrix}$$
- Grouping and simplification steps are shown.
- Simplified expression: 
$$F = \bar{A}\bar{B} + \bar{A}B + A\bar{B} + AB$$

**Watermark:** Jewel's Care Hand Note

Math: ① K-map - 0 and 1 value 2 variable 4 variable 4 variable 4 variable

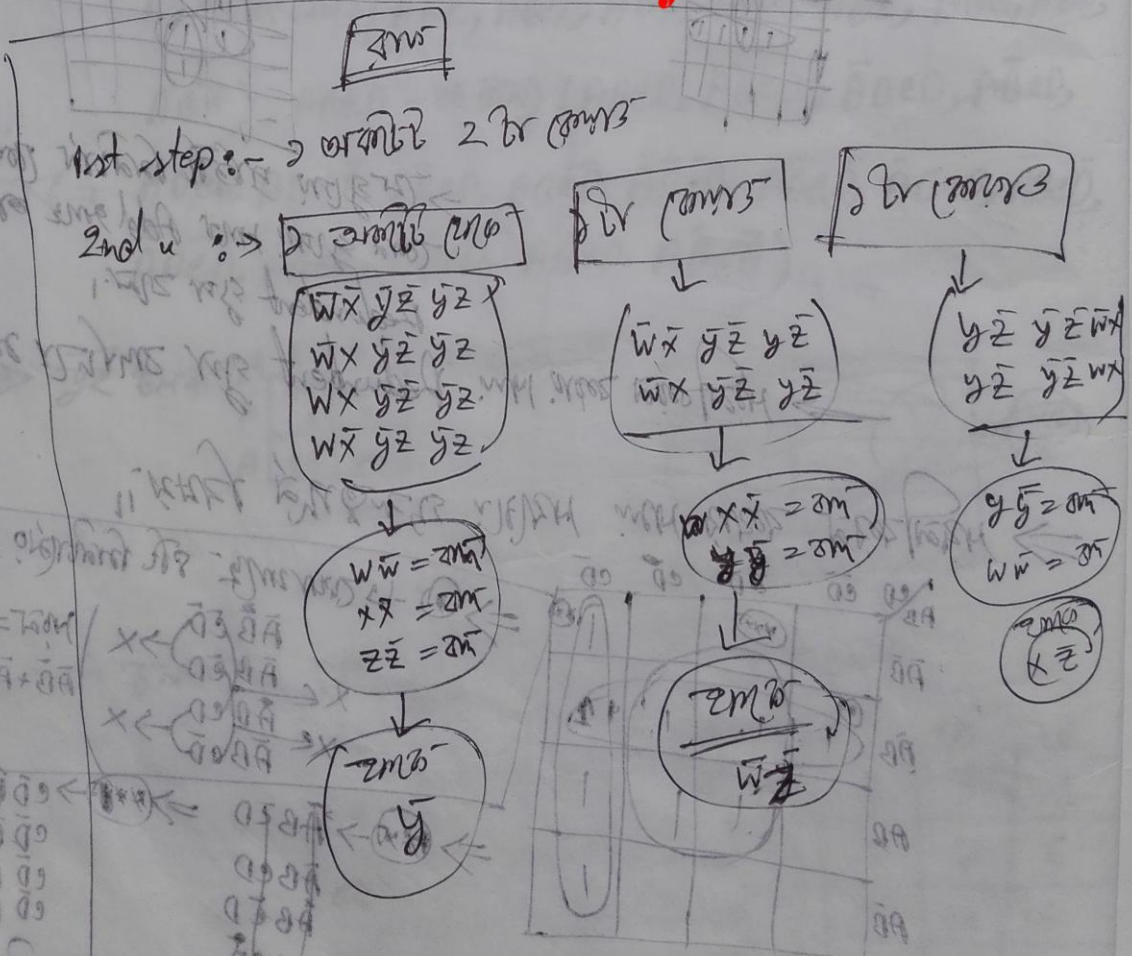
$$F(W,X,Y,Z) = \sum (0, 1, 2, 4, 5, 6, 8, 9, 12, 13, 14)$$

→ Handwritten

	$y\bar{z}$	$\bar{y}z$	$yz$	$y\bar{z}$
$w\bar{x}$	1	1	3	1
$wx$	1	5	2	6
$w\bar{x}$	1	13	15	14
$wx$	1	9	10	11

$$F(W,X,Y,Z) = \bar{y} + W\bar{Z} + X\bar{Z}$$

Jewel's Care Hand Note



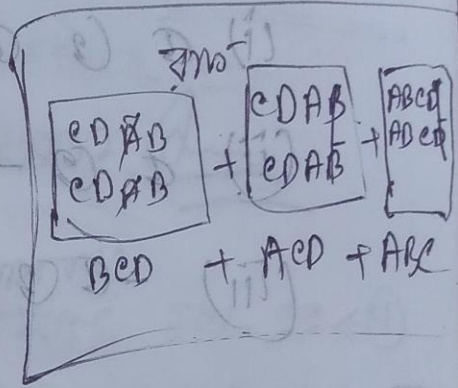


② ନିମ୍ନଲିଖିତ କାର୍ଯ୍ୟ K-Map

$$F(A, B, C, D) = \sum AB\bar{C}D + AB\bar{C}\bar{D} + AB\bar{C}D + A\bar{B}C\bar{D}$$



AB\CD	CD	CD	CD	CD
AB	0	0	0	0
AB	0	0	1	0
AB	0	0	1	1
AB	0	0	1	0



K-map - 00 ନିମ୍ନଲିଖିତ କାର୍ଯ୍ୟ =  $B\bar{C}D + A\bar{C}D + ABC$

\*\* ବିକଳାପ, ପ୍ରକାର, ବିକଳ-କାର, ବିକଳ-କାର  
 କାର୍ଯ୍ୟ କର କାର୍ଯ୍ୟ, କାର୍ଯ୍ୟ, କାର୍ଯ୍ୟ ।

**Jewel's Care Hand Note**