

`ifstream fin ("cat.txt");`

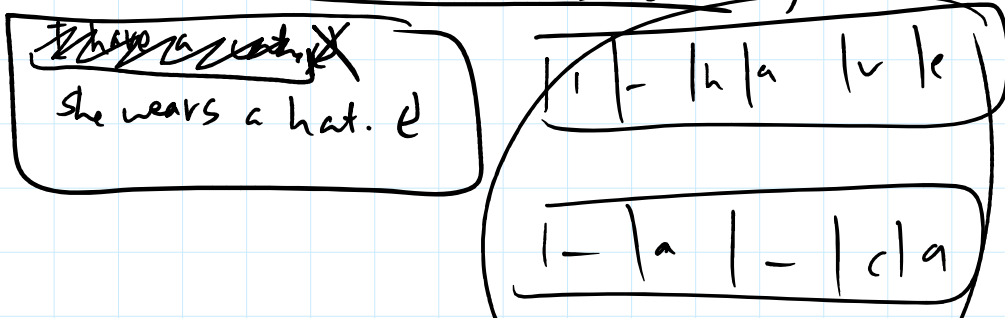
~~`fin >> a >> b;`~~

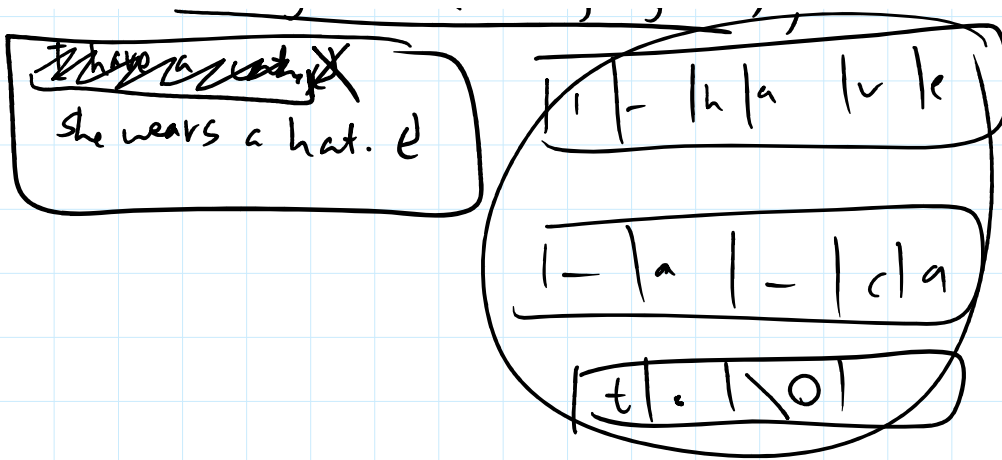
getline

Code blocks

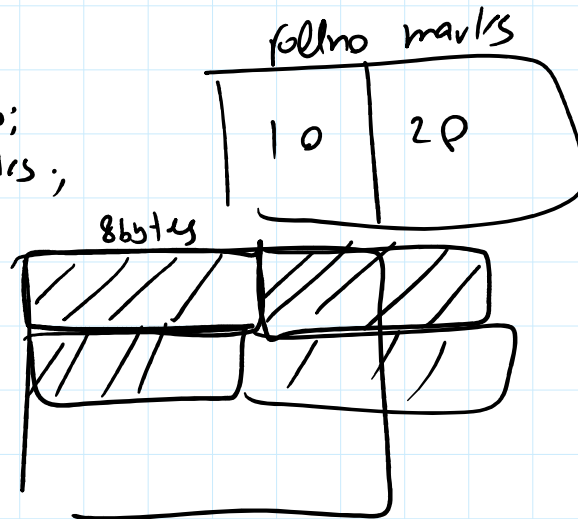
3 4 1 1 1 3 4 1  
 cat wears a hat. ↵

`cin.getline(arr, 8, '\n');`





```
data stud {
    public:
        int rollno;
        int marks;
}
```



## Boolean Algebra + \* / -

$$x \rightarrow 0, 1$$

①  $x + y = x \text{ or } y$       $x \cdot y = x \text{ and } y$

x	y	$x + y$	$x \cdot y$
0	0	0	0
0	1	1	0
1	0	1	0
1	1	1	1

$x \text{ or } y = 0$  when both are zero

$x \cdot y = 1$  when both are True

②  $x \cdot x = x$  (Idempotent law)

②  $x \cdot x = x$  (Idempotent law)

①  $x + x = x$

②  $\checkmark a \cdot (b+c) = (a \cdot b + a \cdot c)$   
 $\checkmark a + (b \cdot c) = (a + b) \cdot (a + c)$  } Dist. Law

③  $a + (b + c) = (a + b) + c$   
 // ~~commutative~~ Associative

④  $1 + X = 1$  (2) |  $0 + X = X$   
 $1 \cdot X = X$  |  $0 \cdot X = 0$  } Identity Law

⑤ De Morgan law

~~+~~  
 $a + b \cdot c =$

$\bar{a}$	$b$	$c$	$\bar{b} \cdot c$	$a + b \cdot c$	A	B	$A + B$
				$a+b$	$a+c$		
0	0	0	0	0	0	0	0
0	0	1	0	0	0	1	0
0	1	0	0	1	1	0	1
0	1	1	1	1	1	1	1
1	0	0	0	1	1	0	1
1	0	1	1	1	1	1	1
1	1	0	0	1	1	1	1
1	1	1	1	1	1	1	1

Hence verified

verified

De Morgan Law

$$X + Y = \text{Ans}$$

$$\overline{\text{Ans}} = ? \quad \overline{X + Y} = \overline{X \cdot Y}$$

$$\overline{X \cdot Y} = \overline{X} + \overline{Y}$$

Break the bar & change the sign

$$\overline{X \cdot Y} = \overline{X} + \overline{Y}$$

$$\overline{X + Y + C} = \overline{X + Y} \cdot \overline{C}$$

$$= \overline{X} \cdot \overline{Y} \cdot \overline{C}$$

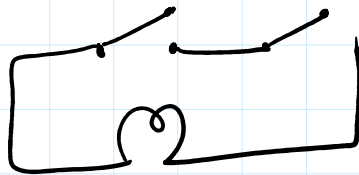
$$\overline{\overline{X + Y + C}} = \overline{(\overline{X \cdot Y}) (\overline{C})}$$

$$= \overline{X \cdot Y} + \overline{\overline{C}}$$

$$= \overline{X} + \overline{\overline{Y}}$$

$$= X + Y + C$$

$$X + Y$$

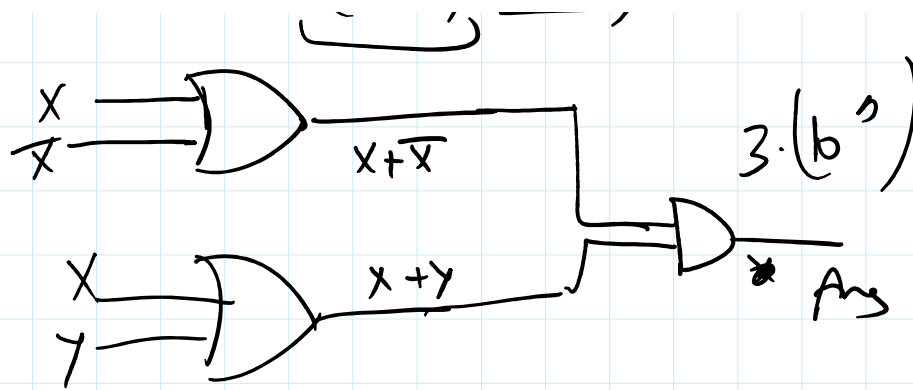


$$A \Rightarrow B$$



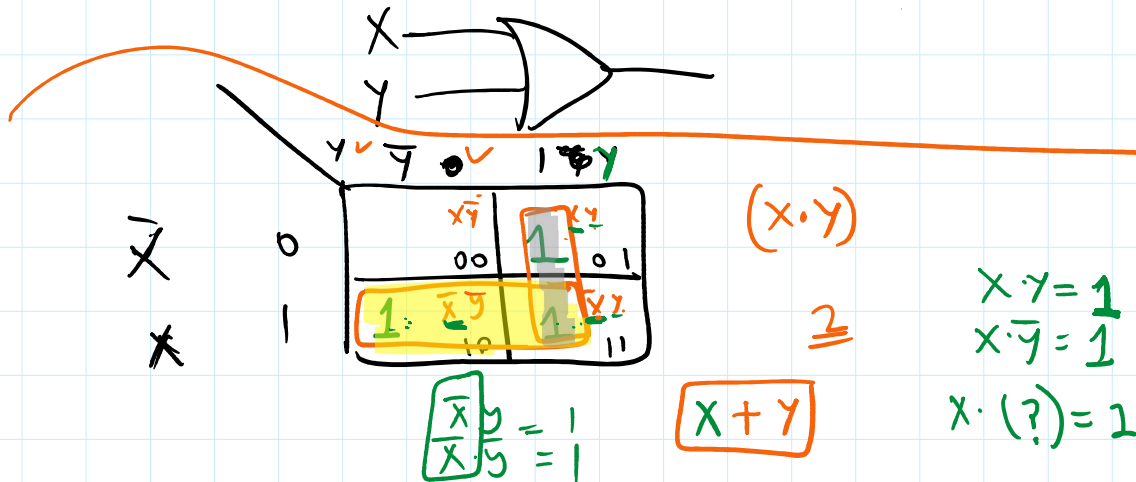
$$A + B + C$$

$$(X + \overline{X}) \cdot (X + Y) = \text{Ans}$$



Minimised

$$(X + \bar{X}) \cdot (X + Y) = \cancel{X + Y} \quad X + Y$$



$$XY + X(?) + \bar{X} \cdot Y$$

$$XY + X(Y + \bar{Y}) + \bar{X} \cdot Y$$

$$XY + X\bar{Y} + \bar{X} \cdot Y$$

$$\cancel{X \cdot X} = X \cdot 1 = X$$

Sum of Product (SOP form)

$$2 + (2 \cdot 3) = \underbrace{2 \quad 2 \quad 3}_{\text{operands}} \underbrace{*}_{\text{operator}} + \quad \text{postfix}$$

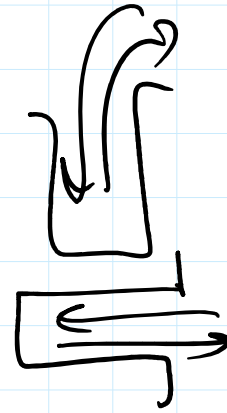
$$\underbrace{2 \quad 6}_{\text{operands}} + \quad \text{postfix}$$

$$8$$

$$X - (Y + 2) / U * V \rightarrow \text{postfix}$$

Never push  
operand into  
stack

Curchar	Exp	Res
X		X
-	-	
(	-(	
Y		XY
+	-(+	
2		XYZ
)	-	XYZ+
/	-/	XYZ+
U	-/	XYZ+U
*	-*	XYZ+U /
V	"	XYZ+U/V
	-*	XYZ+U/V*-



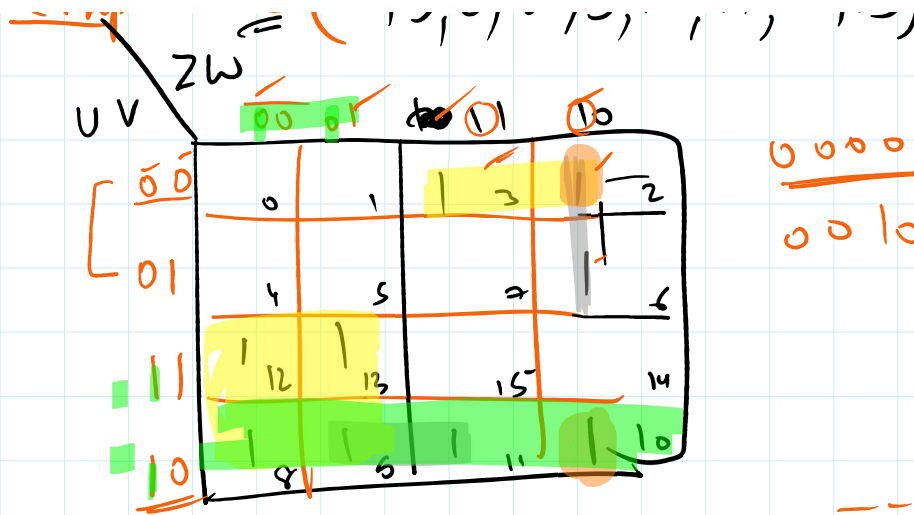
$$X \quad (Y+2)/U \quad V *$$

$$X + ((Y+2)/U) * V +$$

Cur	Stack	Res
XYZ	XYZ	
+	X(Y+2)	

Kmp  $\Sigma(2, 3, 6, 8, 9, 10, 11, 12, 13)$

zw



$$\begin{aligned} 0000 &= 0 \\ 0010 &= 2 \end{aligned}$$

$$\begin{aligned} Q1 &= U\bar{Z} & P1 &= \bar{U}\bar{V}Z \\ Q2 &= U\bar{V} & P2 &= \bar{U}Z\bar{W} \end{aligned}$$

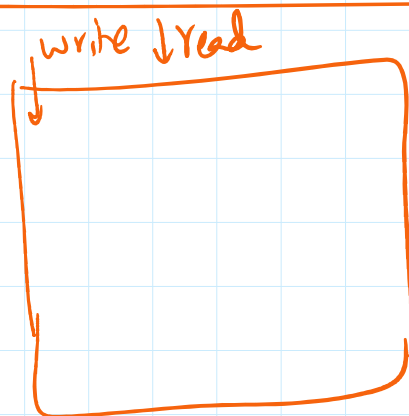
$$F(U, V, W, Z) = U\bar{Z} + U\bar{V} + \bar{U}\bar{V}Z + \bar{U}Z\bar{W}$$

```

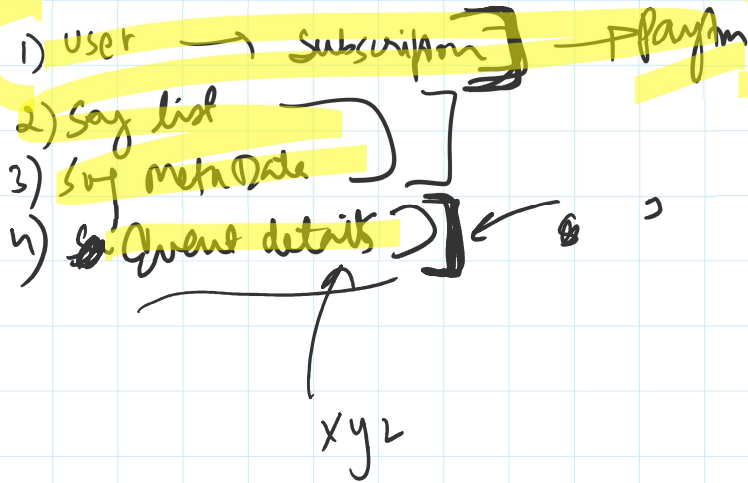
while (in) {
    read then write
    repeat
}

```

1 10  
 → end of input  
 (Ctrl+D)



9212125532  
 deepak aggarwal.me



		<u>event</u>	<u>Player</u>
- User name	<u>aws</u>	Date	→ Time
- <del>file</del>		Time	→ artwork
- primary (email)		Venue	→
- Register date			
- subscription			
- subscription mds			

import-csv file | exportTo-json | Add  
Add content xyz.json