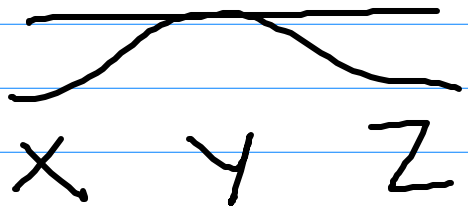
$X \leq Y \quad Y \geq Z$



$f = (X+Y)(Y+Z) = XY + XZ + Y^2 + YZ$

A[p] B[q] C[r]

Array[i] → 10^9

$x_0 \; x_1 \; \ldots \; x_{p-1}$

$y_0 \; y_1 \; \ldots \; y_{q-1}$

$z_0 \; z_1 \; \ldots \; z_{r-1}$

1 2 4

3 2

1 3

$(X+Y)(Y+Z) =$

$XY + XZ + Y^2 + YZ$

0 1 2 3 4 5

A 1 2 3 4 5 6 (a)

B 4 3 1 1 (b)

C 2 4 5 6 (c)

X	Y	Z
1	0	2
	4	5
	3	4
	1	2

crtx cnty

0 010

x y z

a	b	c
0	0	0
	x	+2
	23	01
		0

Sum = vvv

Algo: 2

235

4321

2356

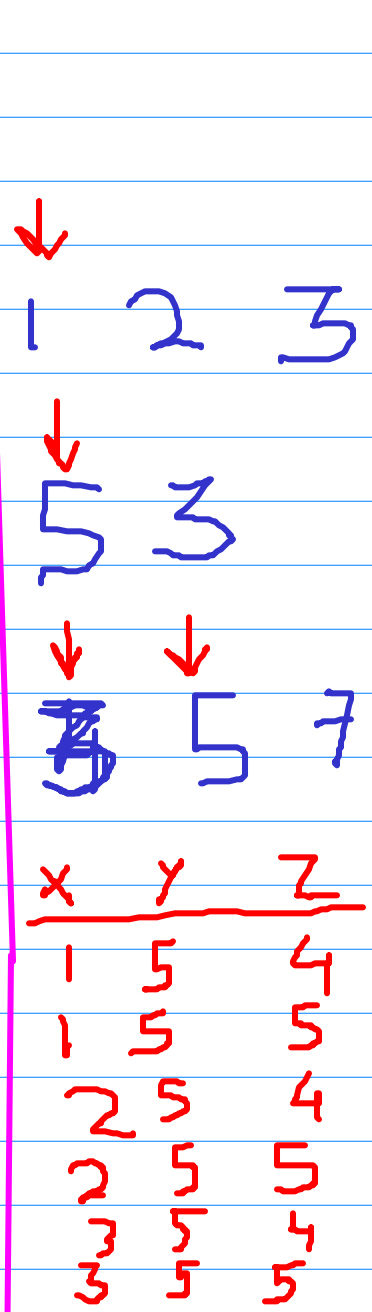
X(p) { □ □ }

Y(q) { □ □ □ □ }

Z(r) { □ }

$x < y \geq z$ $(x+y)(y+z) = xy+xz+y^2+yz$

```
a=c=0  s=0
for(b = 0 → q-1)
    c=0
    y=Y(b)
    x=X(a)
    z=Z(c)
    if(x>y)
        if(b==0) break
        x++
        b=-1
    while(y >= z)
        s = s+( ):/100
        z=Z(++c)
```



x	y	z
1	5	4
1	5	5
2	5	4
2	5	5
3	5	4
3	5	5

Algo 3

$(x+y)(y+z) = xy + y^2 + xz + yz$

$x+y+y+z = 2$

x	y	z
1	5	3
1	5	5
2	5	3
2	5	5
3	5	3
3	5	5

xy	2x
y^2	3x2
xz	
yz	3y

times

C	3	5	7
	b	ø	1
	a		
	c		

A(p){
B(q){
C(r){

A	1	2	3	6
B	5	3		
C	3	5	7	

p
q
r

y to x [ ] { 3 0 7 }

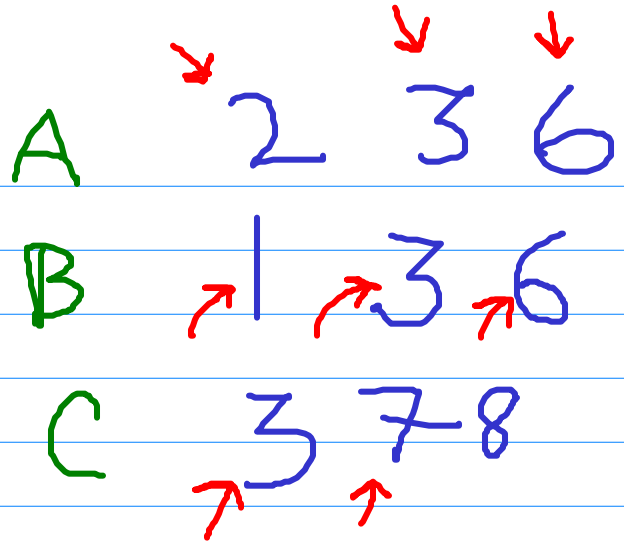
y to z [ ] { 2 0 }

Nonzero = 9

x	y	z
2	3	1
2	3	1

xy	6x1=6
y^2	9
xz	2
yz	3
	20

2
3 3
1 4
40



y to X = 0 + 2

prev = 02

y to Z = 01

prv = 01

sumX = 2 + 3

sumZ = 3

A	3	4	5	6	x	p
B	1	2	3	5	y	q
C	4	5	6	7	z	r

y to $X = 1$

y to $Z = XX3$

$Sum X = 2$

$Sum Z = 1+2+3$

$Y = X3$

$X = 2$

$Z = XX3$

a	X	2	1
b	Y	2	3
c	Z	1	2	3	1

		X Y Z
A	$a_0\ a_1\ a_2 \cdots a_{p-1}$	a_0 ~~b_0~~ c_0
B	$b_0\ b_1\ b_2 \cdots b_{q-1}$	a_1 ~~b_1~~ b_2
C	$c_0\ c_1\ c_2 \cdots c_{r-1}$	

Y to X ~~0 1 2 3~~ 4 — 4 5 6 7 1

Y to Z 0 1 2 3 4 — 1 3 5 8 9

3 4 5 7 1

X	Y	Z
2	1	1

2 4 ↓

1 2 3 4

1 4

Y to X = 1

Y to Z =

sum X =

sum Z =