C_0^0

C_1^0 C_1^1

C_2^0 C_2^1 C_2^2

C_3^0 C_3^1 C_3^2 C_3^3

C_4^0 C_4^1 C_4^2 C_4^3 C_4^4

1	1			
1	2	1		
1	3	3	1	
1	4	6	4	1
	a^3b^1			

C(n,k)=C(n,n-k)

C(1,0)	C(1,1)			
C(2,0)	C(2,1)	C(2,2)		
C(3,0)	C(3,1)	C(3,2)	C(3,3)	
C(4,0)	C(4,1)	C(4,2)	C(4,3)	C(4,4)

(a+b+c+...+d)^k=P(k1,k2,...,kt)*

(a+b)^4=(a+b)*(a+b)*(a+b)*(a+b)

a a a b = a^3b

a b a a = a^3b C(4,3)=4*3*2 / 3! = C(4,1)

C(4,0)=4!/4!*0!=1

C(n,k)=n! / (k!*(n-k)!)

C(4,2)=4! / (2!*(4-2)!)=6

(a+b+c)^5= P(2,2,1)a^2b^2c +
\+ P(3,1,1)a^3bc +
P(2,3,0)a^2*b^3+....

P(k1,k2,...,kt)=(k1+k2+...+kt)!/(k1!*k2!*...*kt!)

(a+b)^107= C(107,4)a^103b^4

(a+b)^117 = a^117 + 117*a^116 * b + C(117,2) * a^115*b^2 +....