

- $C_1 + C_2 + C_3 + C_4 + \dots + C_n = 2^n$
- $C_0 + C_2 + C_4 + \dots = C_1 + C_3 + C_5 + \dots = 2^{n-1}$
- $C_0 - C_1 + C_2 - C_3 + C_4 - C_5 + \dots + (-1)^n C_n = 0$
- $C_1 + 2C_2 + 3C_3 + 4C_4 + \dots + nC_n = n2^{n-1}$
- $C_1 - 2C_2 + 3C_3 - 4C_4 + \dots + (-1)^{n-1} nC_n = 0$
- $C_0^2 + C_1^2 + C_2^2 + C_3^2 + C_4^2 + \dots + C_n^2 = \frac{(2n)!}{(n!)^2}$