

$$C_0 = 1$$

$$C_1 = C_0^2 = 1$$

$$C_2 = C_0 \cdot C_1 + C_1 \cdot C_0 = 2$$

$$C_3 = C_0 \cdot C_1 + C_2 \cdot C_2 + C_1 \cdot C_0 = 5$$

$$C_4 = C_0 \cdot C_3 + C_1 \cdot C_2 + C_2 \cdot C_1 + C_3 \cdot C_0 = 14$$

$$C_5 = C_0 \cdot C_4 + C_1 \cdot C_3 + C_1 \cdot C_2 + C_3 \cdot C_1 + C_0 \cdot C_4 = 42$$

$$C_6 = C_0 \cdot C_5 + C_1 \cdot C_4 + C_2 \cdot C_3 + C_3 \cdot C_2 + C_4 \cdot C_1 + C_5 \cdot C_0 = 130$$

計算 C_n need 算 $C_0 \sim C_{n-1}$,

$$F(x) = F_{(x-1)} \times F_{(x-2)} + F_{(x-3)}$$

$$T(x) = 5 + 4 + 3 + \dots + C_{n-1-i} \quad T(n) = 3 \times T(n-1)$$

類似 catalan 的 $\sum_{i=0}^{n-1} C_i$

$$F(x) = 1000 \cdot 800 + 600, \text{ takes almost no time } + - \times \div$$

$$T(n) = \cancel{T(n-1)} + \cancel{T(n-2)} + \cancel{T(n-3)}$$

3 $T(n-1)$ 小 小 小