RT2 Notes

$$C_h = (1-\alpha_0)C_0 + \alpha_1 C^1 = C^0 \quad (2)$$

$$C^n = (1-\alpha_n)C_n + \alpha_n C^{n+1}$$

$$C_h = (1-\alpha_0)C_0 + \alpha_0\left((1-\alpha_1)C_1 + \alpha_2 C^2\right)$$

$$= (1-\alpha_0)C_0 + \alpha_0\left((1-\alpha_1)C_1 + \alpha_1\left((1-\alpha_2)C_2 + \alpha_2 C^3\right)\right) =$$

$C_0 = 1$

$C_{(n\geq 1)} = 0$

$\Rightarrow$ also $n+1 \geq n \geq 1$

$$C^{(n\geq 1)} = \underbrace{(1-\alpha_n)\times 0}_{0} + \underbrace{C^{n+1}}_{0}\times\alpha_n$$

$$+ (1-\alpha_{n+1})\times 0 + C^{n+2}\times\alpha_{n+1}$$

$+\infty$

$$C_h = \sum_{i=0}^{N}(1-\alpha_i)C_i\left(\prod_{k=0}^{i-1}\alpha_k\right) \quad (1)$$

Induction

prove (1) for $N = 1$

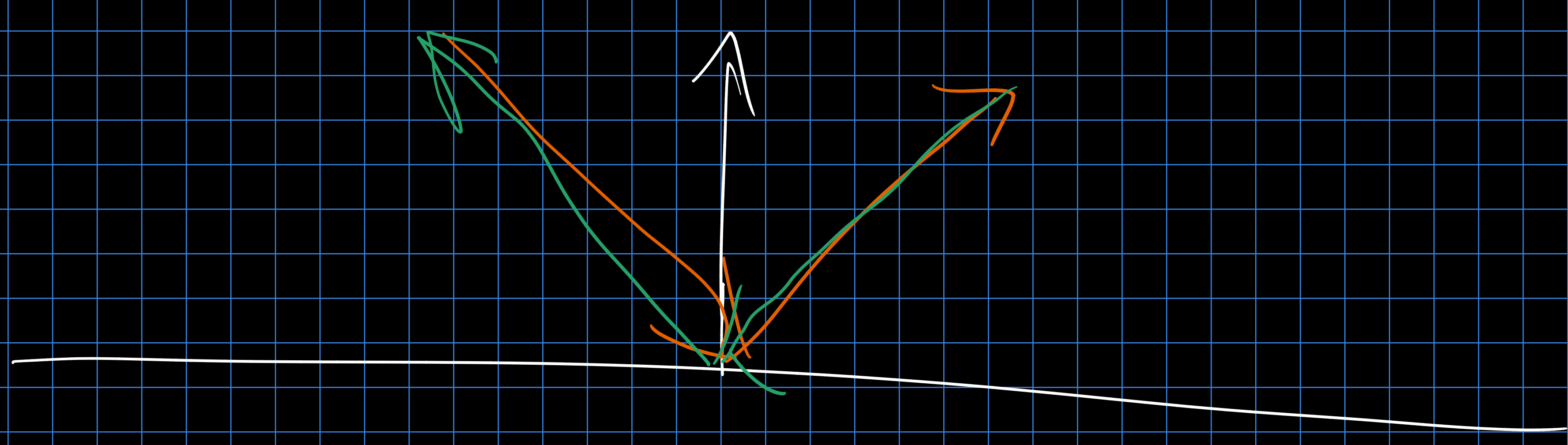
(1) =

$$c_h = C_0 = (1-\alpha_0)\, c_0 + \alpha_0 C^1$$

let $p_n = (1-\alpha_n)\, c_n$

$$\Rightarrow C_l = \sum_{i=0}^{\infty} p_n X$$

$$(1-\alpha_0) C_0 + (1-\alpha_1)\alpha_0 C_1 + (1-\alpha_2)\alpha_0\alpha_1 C_2 + \alpha_0\alpha_1\alpha_2 C^3$$



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