

$$NF(a, n) \begin{cases} 1 & n == 0 \\ a * NF(a, n-1) & n > 0 \end{cases}$$

$$T(n) \begin{cases} 1 & n == 0 \\ a * T(n-1) & n > 0 \end{cases}$$

$$F(a, n) = G(a, n, 1)$$

$$\begin{aligned} k=1 & a * T(n-1) & T(n) &= a^k * T(n-k) \\ k=2 & a * a * T(n-2) & T(n) &= a^n * T(0) = a^n \\ k=3 & a * a * a * T(n-3) & G(T(n)) &= a^n \end{aligned}$$

$$G(a, n, accum) \begin{cases} accum * a & n == 0 \\ G(a, n-1, accum * a) & n > 1 \end{cases}$$

$$T(n) \begin{cases} 1 & n == 0 \\ a * T(n-1) & n > 1 \end{cases}$$

$$T(n) = a^n$$

$$G(T(n)) = a^n$$

$$I(a, n) \begin{cases}$$

$$accum = 1;$$

$$i = 1;$$

$$\text{while}(i \leq n) \{$$

$$accum = accum * a;$$

$$i = i + 1;$$

$$\}$$

$$\text{return accum};$$

$$T_{ac} + T_i + \sum_{1}^n T_{accum} + T_l + T_e$$

$$T(n) = 1 + 1 + n * (3) \approx 3n + 2 \approx n + 1$$

$$O(T(n)) = n$$