

$$\underline{\underline{T_n(N)}} = \sum_{\substack{\text{no beam} \\ \text{ска.}}} N^{\# \text{вершин}}$$



$$\underline{\underline{=}} \sum_{g=0}^{\infty}$$

$$\underline{\underline{\varepsilon_g(n)}} N^{n+1-2g}$$

$N$ -узлов

$g=0$

$$T(N, s) = 1 + 2Ns + 2s \sum_{n=1}^{\infty} \frac{T_n(N)}{(2n-1)!!} s^n$$
$$= \left( \frac{1+s}{1-s} \right)^N$$

$$\frac{T_n(N)}{(2n-1)!!} = P(n)$$

1

$$t(N, n) = \frac{T_n(N)}{(2n-1)!!}$$

$$P(n) = 0$$

$$\frac{T_n(N)}{(2n-1)!!} = \sum_{L=1}^N C_{n,L} \frac{\widetilde{T}_n(L)}{(2n-1)!!} \quad \leftarrow$$


$$\widetilde{T}_n(L)$$

L

$$\underline{\underline{2n}}$$

$$2 = 1 - n + \text{Bop}$$

$$\underline{\underline{n+1 < L}}$$

$$\widetilde{T}_n(L) = \widetilde{T}_{n-1}(L) = \dots = \widetilde{T}_{\underline{\underline{L-2}}}(L) = 0$$


$$\frac{T_n(L)}{(2n-1)!!} = A_n \frac{1}{n} \frac{2}{(n-1)} \frac{3}{(n-2)} \frac{4}{(n-3)} \dots \frac{n}{(n-L+2)}$$

$$T_n(N) = (2n-1)!! \sum_{L=1}^N A_n \frac{(L-1)!}{n} \frac{L}{N} \frac{(L-1)!}{L=L+1}$$

$$2^n \cdot n! \cdot (2n-1)!!$$

$$A_{n+1} = \frac{2^n}{n!}$$

$$\frac{(2n)!}{n!(n+1)!} = \frac{(2n-1)!}{(n+1)!} \cdot \frac{A_{n+1}}{n!}$$

$$T_n(N) = (2n-1)!! \sum_{L=1}^N 2^{L-1} C_N^L C_{n \uparrow}^{L-1}$$

$$\left[ C_n^{L-1} = 0 \quad n < L-1 \right]$$

$$1 + 2Ns + 2s \sum_{n=1}^{\infty} \frac{T_n(N)}{(2n-1)!!} s^n =$$

$$1 + 2Ns + 2s \sum_{n=1}^{\infty} s^n \left( \sum_{L=1}^N 2^{L-1} C_N^L C_n^{L-1} \right) =$$

$$1 + \sum_{\substack{L=1 \\ L=1}}^N 2^L C_N^L \sum_{h=L-1}^{\infty} C_n^{L-1} s^{h+1} = \left( \frac{1+s}{1-s} \right)^N$$

$$\sum_{n=L-1}^{\infty} \binom{L-1}{n} S^{n+1}$$

$$S^{n-L+1} \binom{L-1}{n}$$

$$= \left( \frac{1+S}{1-S} \right)^N = \left( 1 + \frac{2S}{1-S} \right)^N$$

$$= 1 + \sum_{L=1}^N 2^L \binom{L}{N} \left( \frac{S}{1-S} \right)^L$$

$$\left( \frac{S}{1-S} \right)^L = S^L \cdot \underbrace{(1+S+S^2+\dots)}_{\text{geometric series}} \cdot \underbrace{(1+S+S^2+\dots)}_{\text{geometric series}} \cdot \underbrace{(1+S+\dots)}_{\text{geometric series}}$$



