$$\exists \tan x = t, \quad \sec x = \sqrt{t^2+1}$$

$$\int \frac{1}{\sin^3 x + \cos^3 x} \mathrm{d}x = \int \frac{\sec^3 x \mathrm{d}x}{\tan^3 x + 1} = \int \frac{\sec x \mathrm{d}(\tan x)}{\tan^3 x + 1} = \int \frac{\sqrt{t^2+1}\mathrm{d}t}{t^3+1}$$

$$= \int \frac{\sqrt{t^2+1}\mathrm{d}t}{(t+1)(t^2-t+1)} = \frac{\sqrt{t^2+1}\mathrm{d}t}{t+1} + \int \frac{\sqrt{t^2+1}\mathrm{d}t}{t^2-t+1}$$

PageRank

$$\exists A \quad has \quad citations \quad from \quad T_1, ..., T_n$$

$$d \approx 0.85 | d \in (0, 1)$$

$$PR(A) = (1 - d) + d \sum_{i=1}^{n} \frac{PR(T_i)}{C(T_i)}$$

$$R(u) = c \sum_{v \in B_u} \frac{R(v)}{N_v}$$

$$if |B_u| = 1, \exists v_\sigma \in B_u, \quad then \quad u \in F_{v_\sigma}, R_u = \frac{cR_{v_\sigma}}{|F_{v_\sigma}|}$$

$$A_{u,v} = \begin{cases} \frac{1}{|F_u|}, u \to v \\ 0, u \nrightarrow v \end{cases}$$

$$R_i = cA_{u,v} R_{i-1}$$

$$R^{'}(u) = c \sum_{v \in B_u} \frac{R^{'}(v)}{N_v} + c\mathrm{E}(u)$$

$$R^{'}_i = c(A + E \times 1) R^{'}_{i-1}$$

MarkovChains