

② let L denote adjacency matrix of graph

$$L_{ij} = \begin{cases} 1 & \text{if } (i, j) \in E \\ 0 & \text{otherwise} \end{cases}$$

let the authority score of the page i be $a(i)$, and the hub score of page i be $h(i)$

$$a(i) = \sum_{(j,i) \in E} h(j)$$

$$h(i) = \sum_{(i,j) \in E} a(j)$$

let k be iterator

for $k=1$

$$a^{(k)} = L^T h^{(k)}, \quad h^{(k)} = (1, 1, 1, \dots, 1)$$

$$h^{(1)} = L a^{(1)}$$

for $k=2$

$$a^{(2)} = L^T h^{(1)} = L^T L^T h^{(0)}$$

$$h^{(2)} = L a^{(2)} = L L^T L^T h^{(0)} = (L L^T)$$