MOST IMPORTANT

Page Rank Algorithm

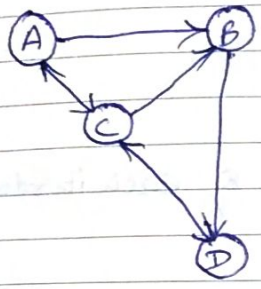
Saturday 1

Week 31 (Day 213-152)

The iterative formula =

$$PR_{t+1}(P_i) = \sum_{P_j} \frac{PR_t(P_j)}{C(P_j)}$$

($PR_t(P_j)$ = Previous Iteration value; $C(P_j)$ = Total no. of outgoing links)



	Iteration 0	Iteration 1	Iteration 2	Page Rank Iteration 3
A	1/4	1/12	1.5/12	1
B	1/4	2.5/12	2/12	2
C	1/4	4.5/12	4.5/12	4
D	1/4	4/12	4/12	3
Total	1	1	1	

↔ - indicates that there is a link between each other

Here in the directed graph A points to B, B points to D similarly so on.

To find the page rank -

Sunday 2

Step 1 - Since there are totally 4 nodes, the initial iteration 0 has 1/4 as the page rank based on the formula

Note - Initial page rank are not valid page rank it's just an assumption

Step 2 - For iteration 1 -

Node A - (No. of. nodes pointing towards A)

$PR(A) = \frac{1}{4}$ (Previous iteration value)

$= \frac{1}{12}$

$\frac{}{3}$ (Remaining no. of. Outgoing from C nodes)

Node B - (No. of. Nodes pointing towards B)

$PR(B) = \frac{1/4}{2} + \frac{1/4}{3}$ (Previous iteration value).

(Outgoing link from A) (Outgoing link from C)

Node C -

$PR(C) = \frac{1/4}{2} + \frac{1/4}{1}$

Node D -

$PR(D) = \frac{1/4}{3} + \frac{1/4}{1}$

3 Monday

(Day 215-150) Week 32

MOST IMPORTANT

Step3- Iteration 2

$PR(A) = \frac{4.5/12}{3}$ (Previous Iteration Value / Total outgoing links from A)

$P(B) = \frac{1/12}{2} + \frac{4.5/12}{3}$

$P(C) = \frac{1/12}{2} + \frac{4/12}{1}$

$P(D) = \frac{2.5/12}{1} + \frac{4.5/12}{3}$

Step4 - Sum of Page Rank should be 1

[For that just check by adding the total of each iteration]

Step 5 - ID Find PageRank -

Higher the number better the pageRank.

Why D is having a page Rank of 3?

This is because If we have a node of no outgoing link but another node is pointing towards that node it means D will have a higher page Rank.