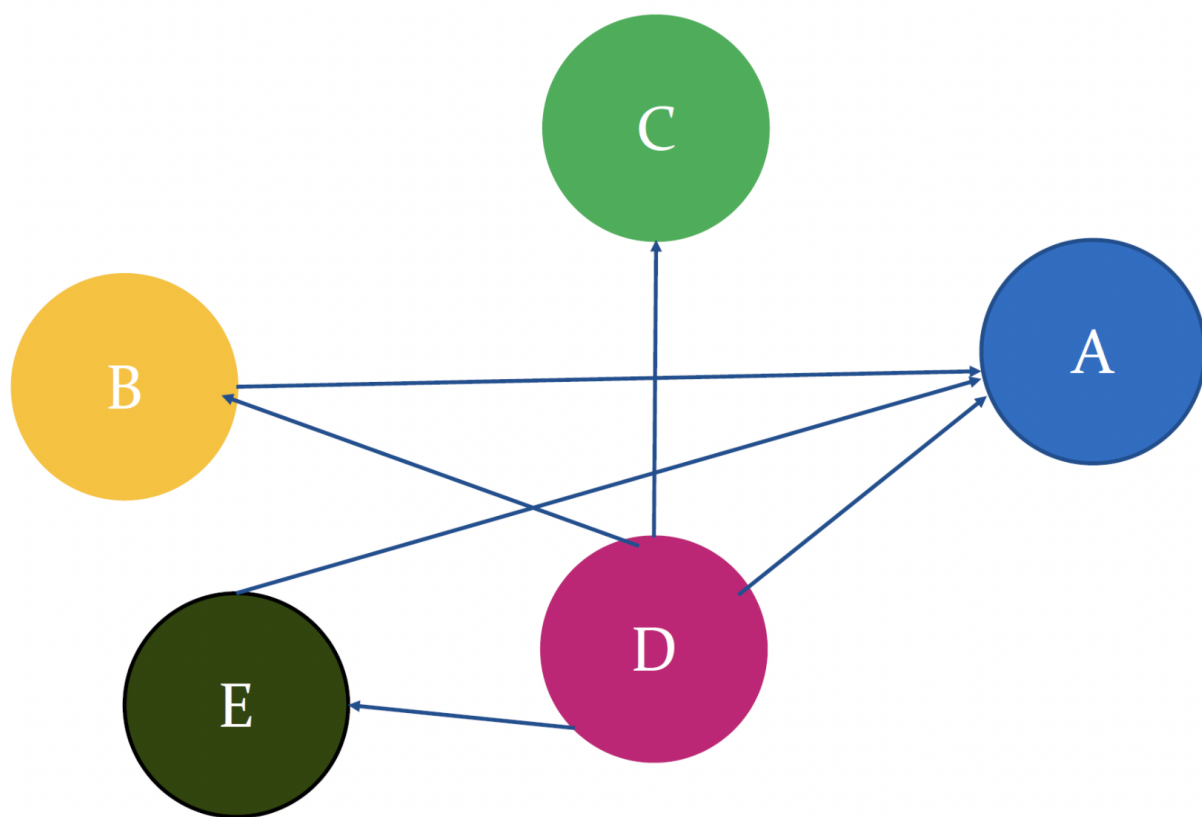


# **CMPE-256 Assignment - 7 Page Rank**

Submitted By :  
Soumyendra Shrivastava  
016670121



=> Calculating Page Rank at A

-> Iter 0

$$PR(A) = 1$$

$$PR(B) = (1-d) + d \times (1/4) = 0.15$$

$$PR(C) = (1-d) + d \times (1/1) = 0.15$$

$$PR(D) = 1$$

$$PR(E) = 1$$

-> Iter 1

$$PR(A) = (1-d) + d \times (PR(B)/L(B) + PR(C)/L(C) + PR(D)/L(D) + PR(E)/L(E))$$

\* Taking Damping Factor as 0.85

$$PR(A) = 0.15 + 0.85 \times (1/1 + 1/4 + 1/1)$$

$$= 2.063$$

$$PR(B) = (1-d) + d \times (PR(D)/L(D))$$

$$= 0.15 + 0.85 \times (1/4)$$

$$= 0.363$$

$$PR(C) = (1-d) + d \times (PR(D)/L(D))$$

$$= 0.15 + 0.85 \times (1/4)$$

$$= 0.363$$

$$PR(D) = (1-d) + d \times (0)$$

$$= 0.15 + 0$$

$$= 0.150$$

$$PR(E) = (1-d) + d \times (PR(D)/L(D))$$

$$= 0.15 + 0.85 \times (0.15/4)$$

$$= 0.182$$

→ It's 2

$$PR(A) = (1-d) + d \times (PR(B)/L(B) + PR(D)/L(D) + PR(E)/L(E))$$

$$= 0.15 + 0.85(0.363/1 + 0.15/4 + 0.183/1)$$

$$= 0.645$$

$$PR(B) = (1-d) + d \times (PR(D)/L(D))$$

$$= 0.15 + 0.85 \times (0.15/4)$$

$$= 0.182$$

$$PR(C) = (1-d) + d \times (PR(D)/L(D))$$

$$= 0.15 + 0.85 \times (0.15/4)$$

$$= 0.182$$

$$PR(D) = (1-d)$$

$$= 0.15$$



$$PR(E) = (1-d) + d \times (PR(D)/L(D))$$

$$= 0.15 + 0.85 \times (0.15/4)$$

$$= 0.182$$

→ It 3

$$PR(A) = (1-d) + d \times (PR(B)/L(B) + PR(D)/L(D)$$

$$+ PR(E)/L(E))$$

$$= 0.15 + 0.85 \times (0.182/1 + 0.15/4)$$

$$= 0.15 + 0.182/1$$

$$= 0.491$$

$$PR(B) = (1-d) + d \times (PR(D)/L(D))$$

$$= 0.15 + 0.85 \times (0.15/4)$$

$$= 0.182$$

$$PR(C) = (1-d) + d \times (PR(D)/L(D))$$

$$= 0.15 + 0.85 \times (0.75/4)$$

$$= 0.182$$

$$PR(D) = (1-d)$$

$$= 0.150$$

$$PR(E) = (1-d) + d \times (PR(D)/L(D))$$

$$= 0.15 + 0.85 \times (0.15/4)$$

$$= 0.182$$

\* Since the Page Ranks of pages B, C, D & E did not change in the 3<sup>rd</sup> Iteration, the final Page Rank of A is -

$$PR(A) = 0.491$$