

	A	B	C	D
rank <sub>0</sub>	0.25	0.25	0.25	0.25

now for rank<sub>1</sub>

→	A	B	C	D
A		0.2125		
B			0.2125	
C				0.2125
D		0.2125		
rank from links	0	0.425	0.2125	0.2125
rank from jump	0.0375	0.0375	0.0375	0.0375
rank <sub>1</sub>	0.0375	0.4625	0.25	0.25

e.g.  $\frac{\text{rank}_0(C)}{|\text{outlinks}(C)|} \times d$   
 $= \frac{0.25}{1} \times 0.85$

$$P(\text{jump}) = \sum_{x \text{ has no outlinks}} \text{rank}_0(x) + (1-d) \sum_{y \text{ has outlinks}} \text{rank}_0(y)$$

$$= 0 + 0.15 \times 1$$

$$= 0.15$$

$$\text{rank from jump} = \frac{P(\text{jump})}{n}$$

$$= \frac{0.15}{4} = 0.0375$$

sums to 1 ✓

now for rank<sub>2</sub>

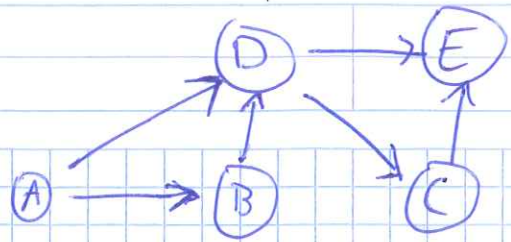
→	A	B	C	D
A		0.032		
B			0.393	
C				0.2125
D		0.2125		
rank from links	0	0.2445	0.393	0.2125
rank from jump	0.0375	0.0375	0.0375	0.0375
rank <sub>2</sub>	0.0375	0.282	0.431	0.25

will be the same since all nodes have outlinks:

$$\frac{1-d}{n}$$

sums (approx) to 1 ✓✓





	A	B	C	D	E
rank <sub>0</sub>	0.2	0.2	0.2	0.2	0.2

now for rank<sub>1</sub>

	A	B	C	D	E
A		0.085		0.085	
B				0.17	
C					0.17
D			0.085		0.085
E					
rank from links	0	0.085	0.085	0.255	0.255
rank from jump	0.064	0.064	0.064	0.064	0.064
rank <sub>1</sub>	0.064	0.149	0.149	0.319	0.319

sums to 1 ✓

now for rank<sub>2</sub>

	A	B	C	D	E
A		0.0272		0.0272	
B				0.1265	
C					0.1265
D			0.13575		0.13575
E					
rank from links	0	0.0272	0.13575	0.15385	0.26225
rank from jump	0.08423	0.08423	0.08423	0.08423	0.08423
rank <sub>2</sub>	0.08423	0.11143	0.21998	0.23808	0.34648

sums to 1 ✓

e.g.  $\frac{\text{rank}_0(D)}{\text{outlinks}(D)} \times d$   
 $= \frac{0.2}{2} \times 0.85 = 0.085$

$$P_1(\text{jump}) = \sum_{\substack{x \text{ has} \\ \text{no outlinks}}} \text{rank}_0(x) + (1-d) \sum_{\substack{y \text{ has} \\ \text{outlinks}}} \text{rank}_0(y)$$

$$= 0.2 + 0.85 \times 0.8$$

$$= 0.32$$

$$\text{rank from jump}_1 = \frac{P_1(\text{jump})}{5} = \frac{0.32}{5}$$

$$= 0.064$$

$$P(\text{jump}) = 0.319 + 0.15 \times 0.651$$

$$= 0.42115$$

$$\text{rank from jump} = \frac{0.42115}{5} = 0.08423$$

(no need for exact decimal precision 😊)