Homework 2

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$$P = \begin{vmatrix} 0.0 & 0.0 & 1.0 \\ 0.0 & 2.0 & 1.0 \\ 0.5 & 0.5 & 0.0 \end{vmatrix}$$

Since All rows add up to 1, $P_1 = P$

$$P_2 = 0.3 \begin{vmatrix} \frac{1}{3} & \frac{1}{3} & \frac{1}{3} \\ \frac{1}{3} & \frac{1}{3} & \frac{1}{3} \\ \frac{1}{3} & \frac{1}{3} & \frac{1}{3} \end{vmatrix} + (1 - 0.3) \begin{vmatrix} 0.0 & 0.0 & 1.0 \\ 0.0 & 0.0 & 1.0 \\ 0.5 & 0.5 & 0.0 \end{vmatrix}$$

$$P_2 = \begin{vmatrix} 0.1 & 0.1 & 0.1 \\ 0.1 & 0.1 & 0.1 \\ 0.1 & 0.1 & 0.1 \end{vmatrix} + 0.7 \begin{vmatrix} 0.0 & 0.0 & 1.0 \\ 0.0 & 0.0 & 1.0 \\ 0.5 & 0.5 & 0.0 \end{vmatrix}$$

$$P_2 = \begin{vmatrix} 0.1 & 0.1 & 0.1 \\ 0.1 & 0.1 & 0.1 \\ 0.1 & 0.1 & 0.1 \end{vmatrix} + \begin{vmatrix} 0.0 & 0.0 & 7.0 \\ 0.0 & 0.0 & 7.0 \\ 0.35 & 0.35 & 0.0 \end{vmatrix}$$

$$P_2 = \begin{vmatrix} 0.1 & 0.1 & 0.8 \\ 0.1 & 0.1 & 0.8 \\ 0.45 & 0.45 & 0.1 \end{vmatrix}$$

From all of these vector only vector c is the stationary distribution vector

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Page	Authority	Hub
A	1	1
B	1	1
C	1	1
D	1	1
E	1	1
F	1	1
G	1	1
H	1	1
I	1	1

Table 1: Starting Page

Page	Authority	Hub
A	1	1
B	1	1
C	1	1
D	2	1
E	1	1
F	2	1
G	1	1
H	3	1
I	2	1

Table 2: Authority Weights Update

Page	Authority	Hub
A	1	3
B	1	2
C	1	2
D	2	3
E	1	4
F	2	2
G	1	2
H	3	5
I	2	3

Table 3: Updating Hub Weights

Page	Authority	Hub
A	4	3
B	3	2
C	2	2
D	5	3
E	2	4
F	7	2
G	5	2
H	10	5
I	7	3

Table 4: Final Authority Weights Update