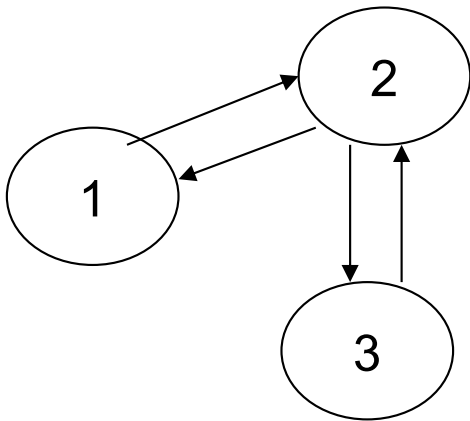# Exercise on PageRank

- Consider a Web graph with three nodes 1, 2, and 3. The links are as follows: 1->2, 3->2, 2->1, 2->3. Write down the transition probability matrices P for the surfer's walk with teleporting, with the value of teleport probability α=0.5.

A=

0	1	0
1	0	1
0	1	0

Each 1 divided by the number of ones in this row

(1- α)*

0	1	0
½	0	½
0	1	0

+

α*

1/3	1/3	1/3
1/3	1/3	1/3
1/3	1/3	1/3

=

1/6	2/3	1/6
5/12	1/6	5/12
1/6	2/3	1/6