CON 101 - Assignment 6

(Page Rank)

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Initially, a 0/1 sparsematrix (pageMatrix) is randomly generated. The sparsematrix is created by using the logic that for each cell, a random number is generated between 0 to 4 and 1 is placed in the matrix only when the number is equal to 0 (Matrix being filled to about 20%) . N, the total number of webpages, is assumed to be 100.Matrix is 101*100, where the last row contains the totals number of 1's in the corresponding column. Parallely, we check for each column, whether all elements are equal to 0 (in the 101th row, the sum is 0 or not). If they are, they are changed to 1.

To calculate the rank vector, the page matrix is modified where each value a_{ij} (i:0 to 99) is converted to $a_{ij}/a_{(100)j}$ where a_{ij} are the values of the pageMatrix.

Further, $P = rP+(1-r)T$. $(r=0.85)$

Then RankVector ,v is brought with all values 1.(v of size 100)

And, $v = Pv$, is repeated till the values of v become almost constant.