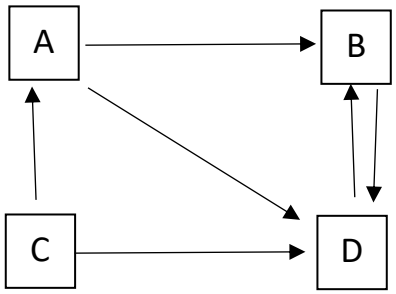
Unit 3 Algorithmics

Submit Task – Week 10

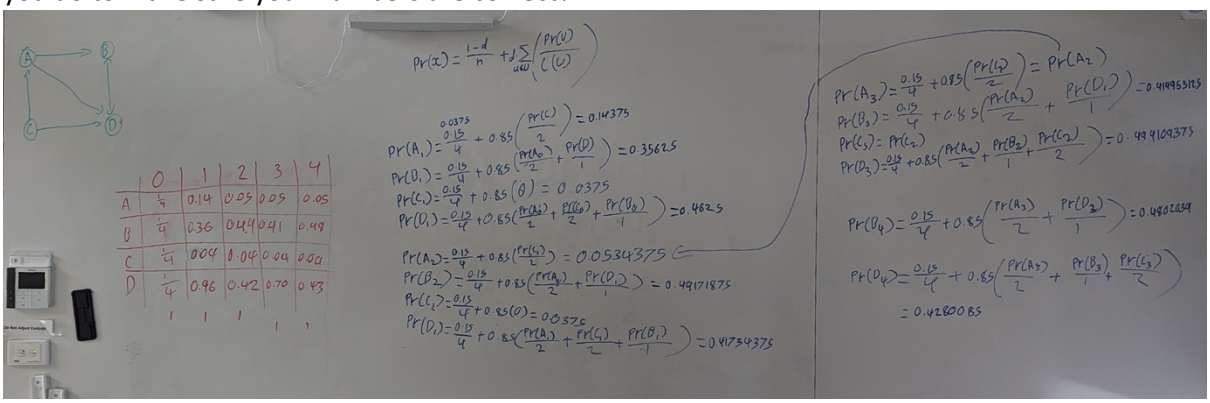


Consider the four pages above. The arrows indicate that e.g. A links to B, but B does not link to A.

1. If d = 0.85, what does this signify in the PageRank algorithm?

   The dampening factor – The likelihood that a link is travelled

2. Calculate the PageRank for these pages for the first four iterations. What simple check can you do to make sure your numbers are correct?



Check that all the values add up to 100%/1.0

3. Why does the PageRank for page ‘C’ stabilise so quickly?

   C has no incoming nodes, therefor it can only be accessed when directly travelled to, ie – 1-d/n likelihood of visiting

4. If we add another page ‘E’ which is linked from C and does not link to any other pages, explain what special procedure exists for such a node.

   As page E has no outbound links its distribution would be evenly divided among all nodes (including itself). This can be done by adding a link from E to every node with 1/n probability for the purposes of the algorithm.