Mining in Large Networks

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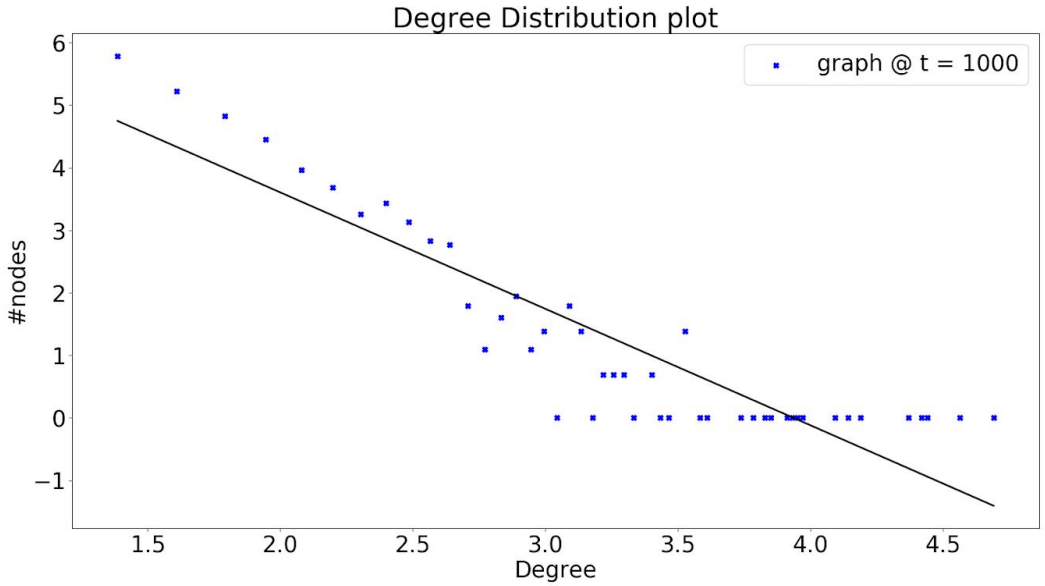
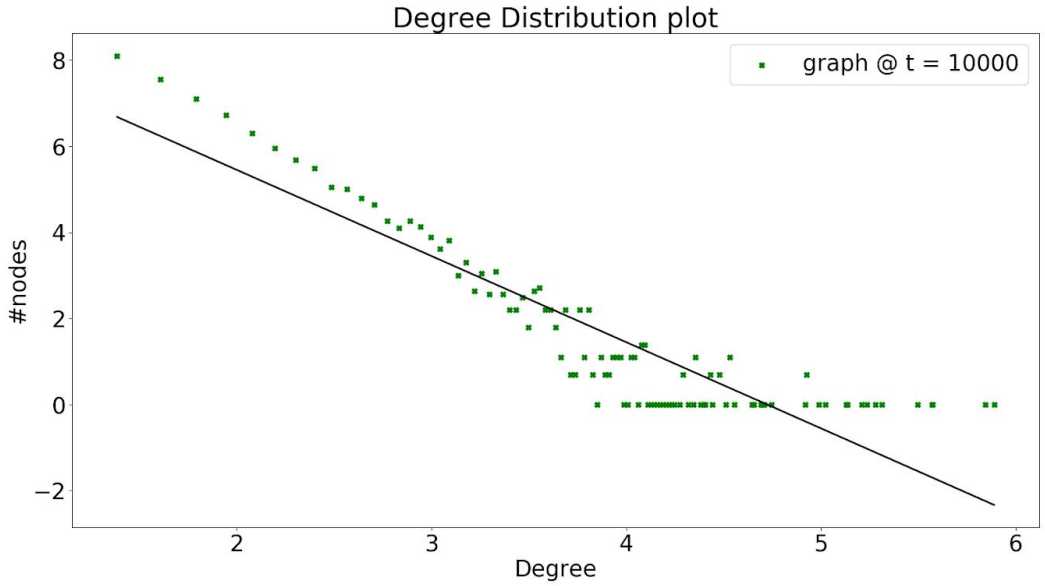
Problem 1
Generated the network

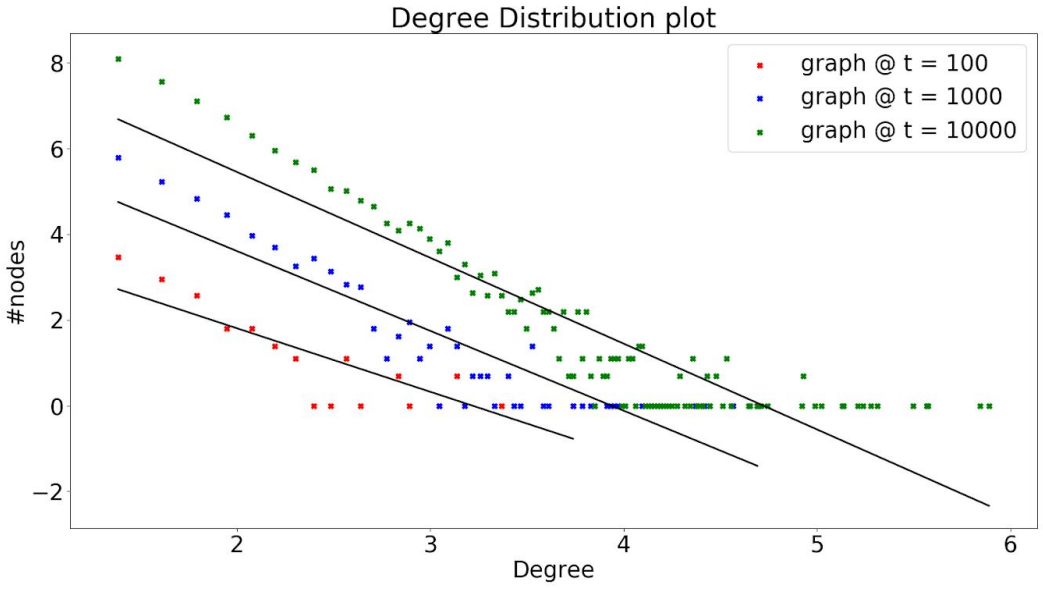


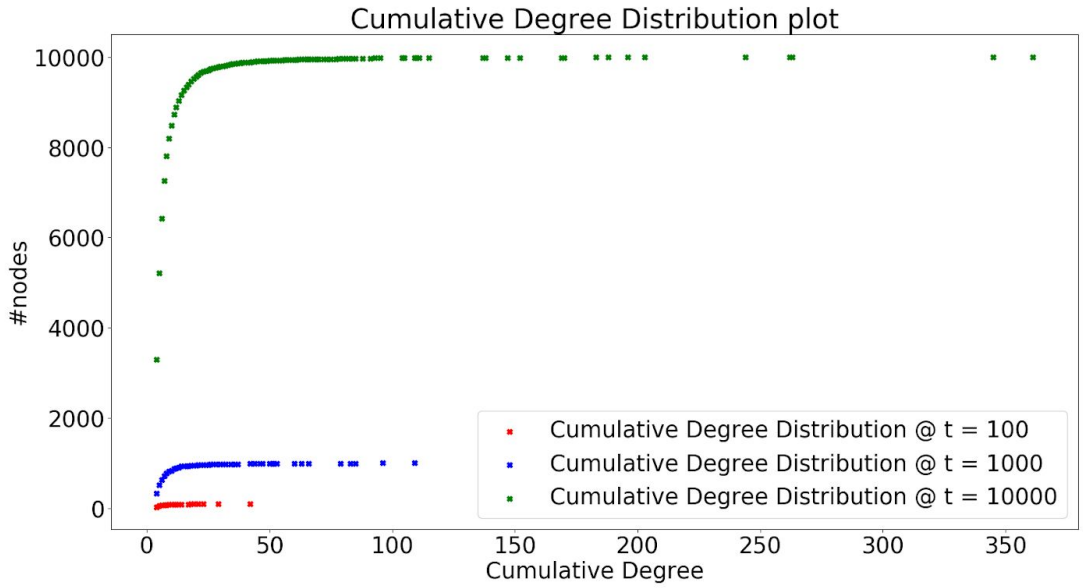


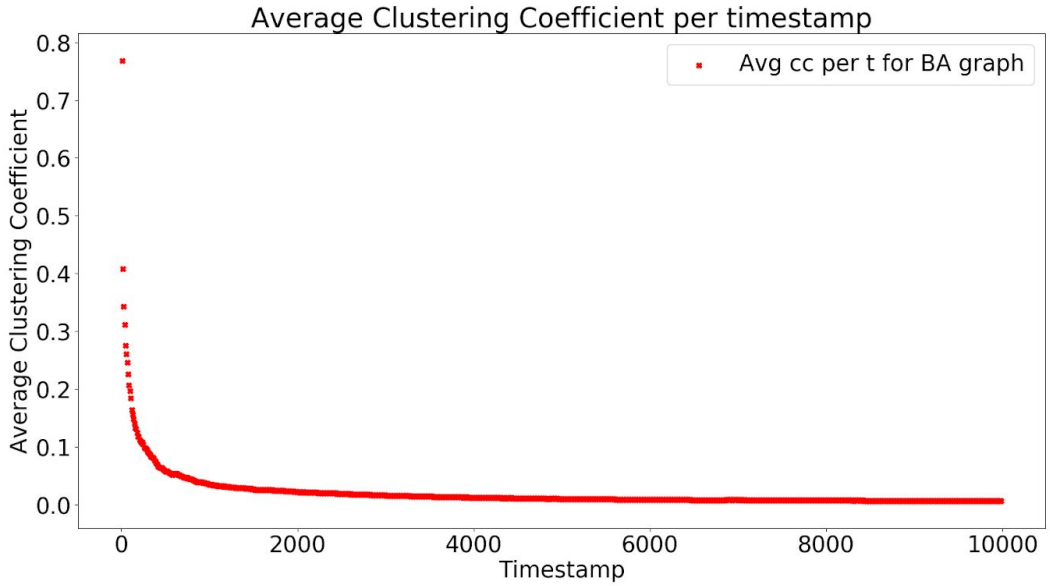
Yes, the degree distribution converges in the 2 ways

(a) The lines which predict the distribution seem to converge
(b) The #nodes in maximum degrees in all 3 distributions approach a minimum in a similar way of 1

However, we also see that the final and initial points of the distributions are different.

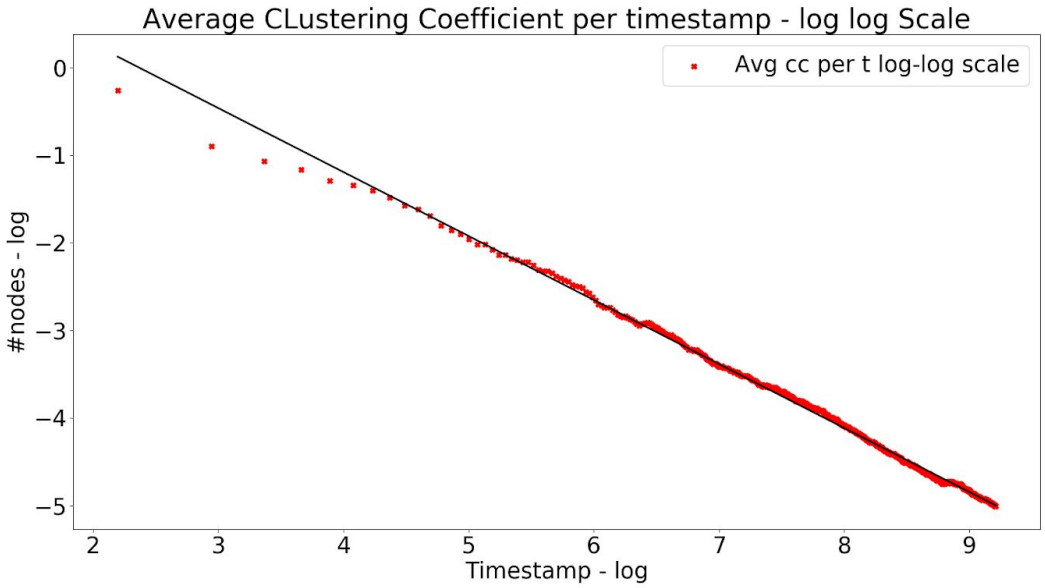






We draw the above graph in log scale and we notice that the average clustering coefficient follows the decreasing power law in relation to N. the coefficient is

approximately **- 5/9** as seen by the slope below.



Problem 2

---------- Bottom 5 Scores ----------

ID Score

85 0.003234819143382019

59 0.003444256201194502

81 0.003580432413995564

37 0.003714283971941924

89 0.0038398576156450873

---------- Top 5 Scores ----------

ID Score

53 0.037868613328747594

14 0.035866772133529436

1 0.03514138301760087

40 0.03383064398237689

27 0.03313019554724851