PSA ASSIGNMENT 2

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N = no. of sites (if N=100 then, sites = {0,1,2,3…99})

Steps = no. of iteration require for all the sites to be in 1 component

Various values of N (10,100,1000,10000,100000) have been taken and for each value of N 100 iterations have been performed to find the number of steps required to form single component. **Average** of 100 iterations for each value of N is calculated. This value is an experimental value. Theoretical value according to the hypothesis **(0.5*N*logN)** is also calculated. The ratio of experimental/theoretical value is found near to ~1.08

1. Conclusion on hypothesis

Average Count (N) / 0.5*N*Log N ~1.08

N	10	100	1000	10000	100000	1000000
Average Steps	17.06	269.86	3743.07	49895.71	592474.3	7190025
0.5 N log (N)	11.51	230.255	3453.85	46051	575645	6907750
average/(0.5) N logN	1.482189	1.172004951	1.083738437	1.083488	1.029236	1.040864

2. Evidence to support the hypothesis