Lab 1 Task 2

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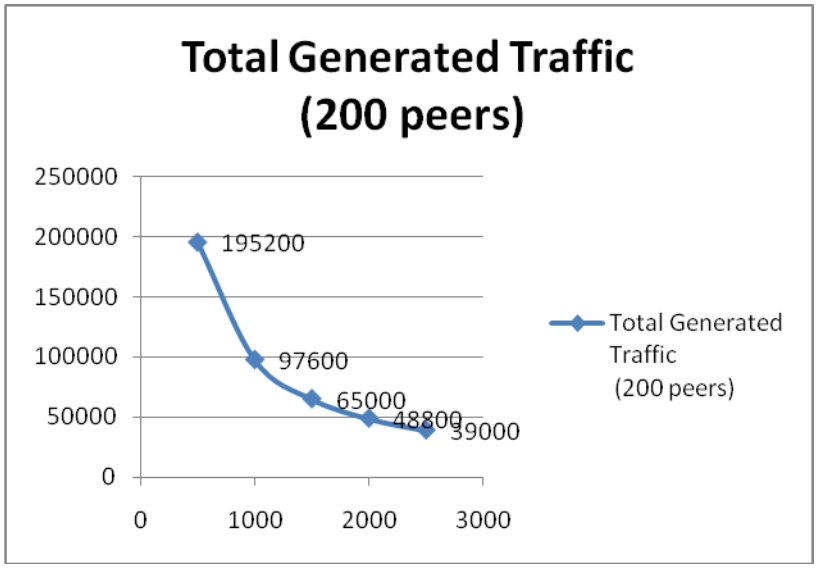
Question 1: How does the rate of stabilization influence the total generated traffic in a static network?

Stabalization Period	Avg Generated Trafic	Time	Total Generated Traffic (200 peers)
500	976	500	195200
1000	488	500	97600
1500	325	500	65000
2000	244	500	48800
2500	195	500	39000

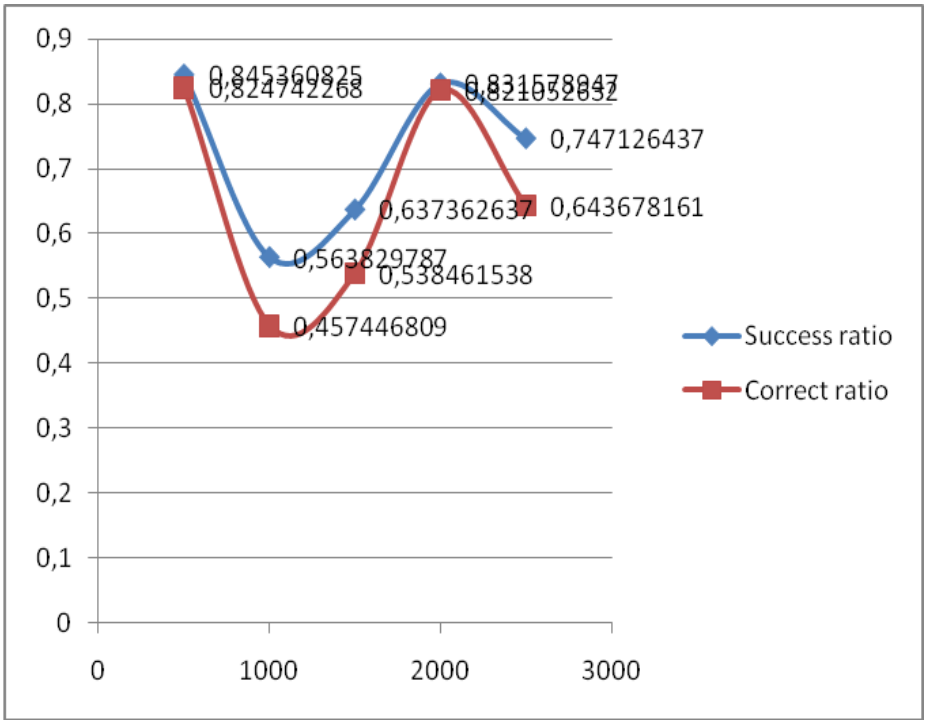


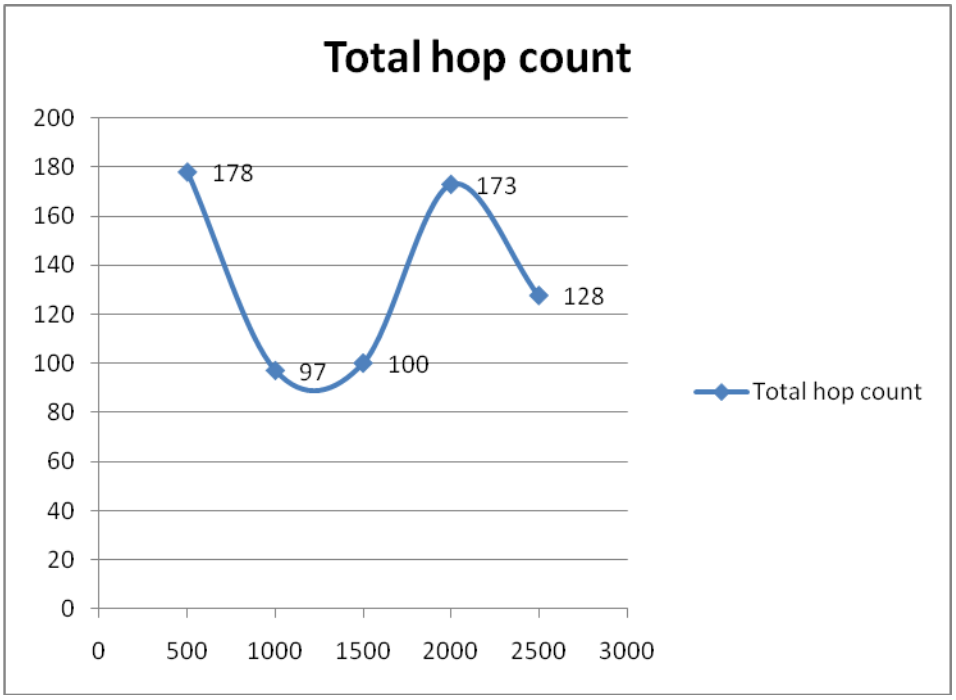
The more the rate of stabilization, the less the total generated traffic in the static network for the same time.

Question 2: How does the rate of stabilization influence the ratio of successful lookups and the ratio of correct lookups, in a dynamic network?

Question 3: How does the rate of stabilization inuence the lookup hop-count in a dynamic network?

Stabalization Period	Total Lookup	Successful Lookup	Correct Lookup	Success ratio	Correct ratio	Avg hop count	Total hop count
500	97	82	80	0,845360825	0,824742268	1,835	178
1000	94	53	43	0,563829787	0,457446809	1,032	97
1500	91	58	49	0,637362637	0,538461538	1,099	100
2000	95	79	78	0,831578947	0,821052632	1,821	173
2500	87	65	56	0,747126437	0,643678161	1,467	128

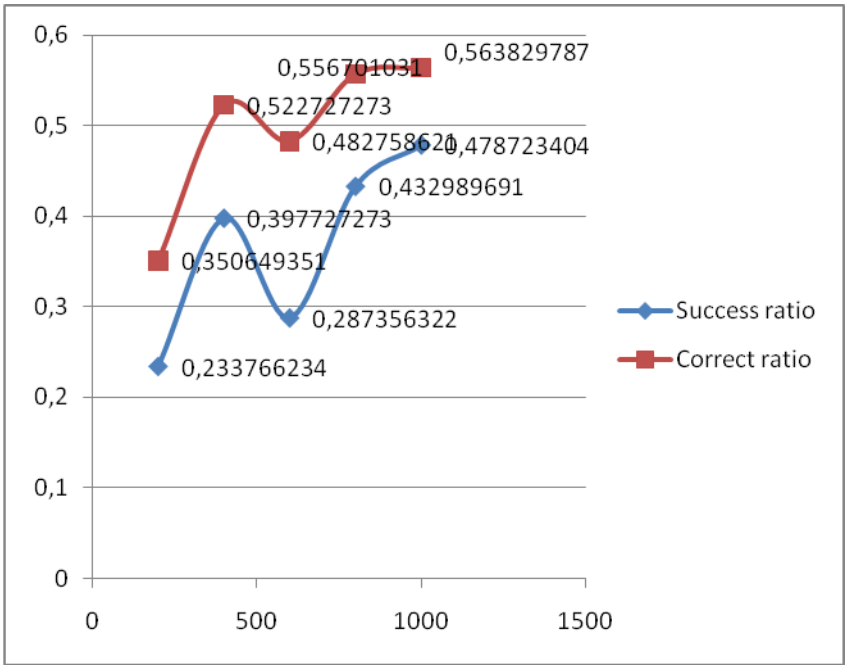


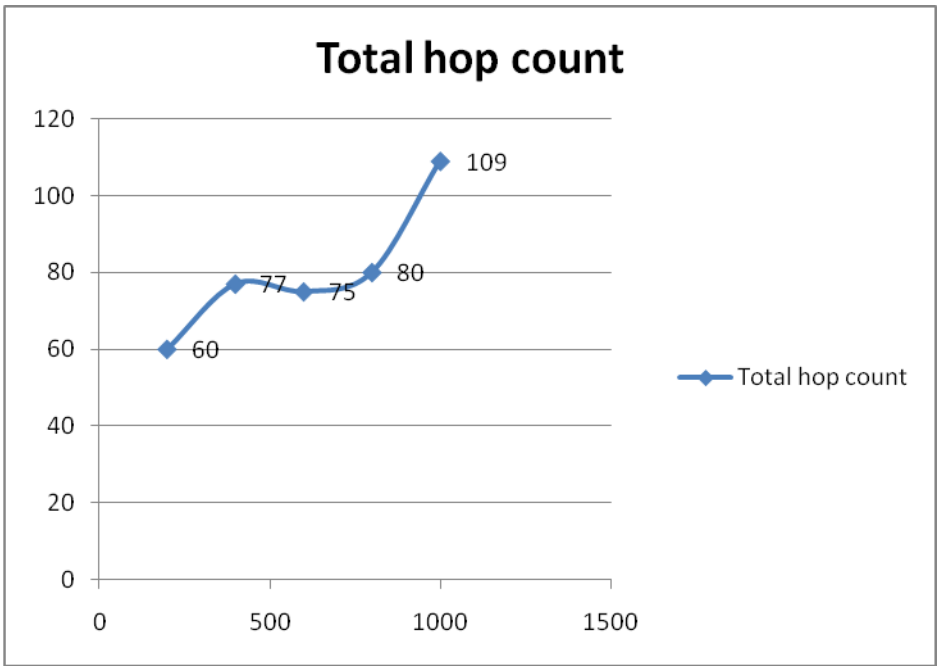


The rate of stabaliztion doesn't have much influence on the ratio of successful lookups or the ratio of correct lookups in this experiment. The more important one is whether the lookup is on a stablized node or not. The same for the total hop count.

Question 4: How does the level of dynamism influence the ratio of successful lookups and the ratio of correct lookups?
Question 5: How does the level of dynamism influence the lookup hop-count?

Interval Time	Total Lookup	Correct Lookup	Successful Lookup	Success ratio	Correct ratio	Avg hop count	Total hop count
200	77	18	27	0,233766234	0,350649351	0,779	60
400	88	35	46	0,397727273	0,522727273	0,875	77
600	87	25	42	0,287356322	0,482758621	0,862	75
800	97	42	54	0,432989691	0,556701031	0,825	80
1000	94	45	53	0,478723404	0,563829787	1,16	109

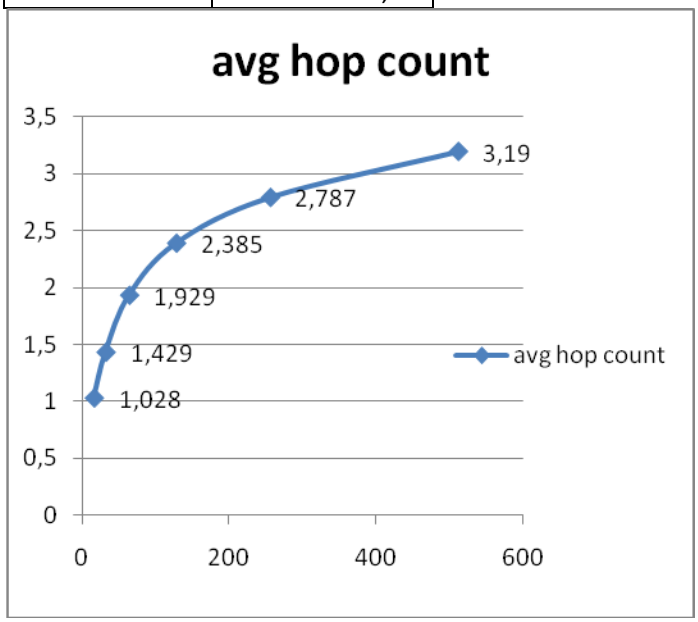




The level of dynamism doesn't have much influence on the ratio of successful lookups or the ratio of correct lookups in this experiment. The more important one is whether the lookup is on a stablized node or not. The same for the total hop count.

Question 6: How does the network size influence the lookup hop-count?

Number of Peers	avg hop count
16	1,028
32	1,429
64	1,929
128	2,385
256	2,787
512	3,19



The more the number of peers, the more the avg hop count is and the ratio is logN.