Testing average cycles for attraction strength 0.4  
Number of cycles run: 3755  
Number of cycles run: 2058  
Number of cycles run: 3891  
Number of cycles run: 2513  
Number of cycles run: 3497  
Number of cycles run: 4571  
Number of cycles run: 1514  
Number of cycles run: 2840  
Number of cycles run: 3361  
Number of cycles run: 1280  
Number of cycles run: 7587  
Number of cycles run: 3366  
Number of cycles run: 32100  
Number of cycles run: 1755  
Number of cycles run: 4745  
Number of cycles run: 2450  
Number of cycles run: 1637  
Number of cycles run: 1738  
Number of cycles run: 1535  
Number of cycles run: 4279  
Number of cycles run: 3225  
Number of cycles run: 2217  
Number of cycles run: 50000  
Number of cycles run: 1561  
Number of cycles run: 3605  
Number of cycles run: 3331  
Number of cycles run: 1757  
Number of cycles run: 1879  
Number of cycles run: 9363  
Number of cycles run: 5468  
Number of cycles run: 2717  
Number of cycles run: 923  
Number of cycles run: 1900  
Number of cycles run: 1982  
Number of cycles run: 1694  
Number of cycles run: 3153  
Number of cycles run: 1719  
Number of cycles run: 17590  
Number of cycles run: 3719  
Number of cycles run: 50000  
Number of cycles run: 3992  
Number of cycles run: 2601  
Number of cycles run: 1628  
Number of cycles run: 2939  
Number of cycles run: 4769  
Number of cycles run: 3598  
Number of cycles run: 22100  
Number of cycles run: 26908  
Number of cycles run: 50000  
Number of cycles run: 24146  
Av cycles for attraction strength 0.4 is 8019  
standard diviation is 12716.789728768588  
Testing average cycles for attraction strength 0.4  
Number of cycles run: 1464  
Number of cycles run: 3005  
Number of cycles run: 4271  
Number of cycles run: 3861  
Number of cycles run: 1526  
Number of cycles run: 3366  
Number of cycles run: 2214  
Number of cycles run: 1536  
Number of cycles run: 10211  
Number of cycles run: 50000  
Number of cycles run: 21061  
Number of cycles run: 2484  
Number of cycles run: 4869  
Number of cycles run: 2576  
Number of cycles run: 7503  
Number of cycles run: 4366  
Number of cycles run: 1914  
Number of cycles run: 3335  
Number of cycles run: 1943  
Number of cycles run: 50000  
Number of cycles run: 1949  
Number of cycles run: 5843  
Number of cycles run: 3099  
Number of cycles run: 3616  
Number of cycles run: 2894  
Number of cycles run: 7307  
Number of cycles run: 4859  
Number of cycles run: 5589  
Number of cycles run: 2856  
Number of cycles run: 901  
Number of cycles run: 1183  
Number of cycles run: 8408  
Number of cycles run: 3028  
Number of cycles run: 2973  
Number of cycles run: 2948  
Number of cycles run: 2989  
Number of cycles run: 1573  
Number of cycles run: 3565  
Number of cycles run: 963  
Number of cycles run: 1918  
Number of cycles run: 1435  
Number of cycles run: 895  
Number of cycles run: 1203  
Number of cycles run: 885  
Number of cycles run: 3894  
Number of cycles run: 4478  
Number of cycles run: 1698  
Number of cycles run: 4174  
Number of cycles run: 5644  
Number of cycles run: 1007  
Av cycles for attraction strength 0.4 is 5505  
standard diviation is 9725.97034472811  
Testing average cycles for attraction strength 0.4  
Number of cycles run: 14868  
Number of cycles run: 2930  
Number of cycles run: 915  
Number of cycles run: 1334  
Number of cycles run: 2738  
Number of cycles run: 3541  
Number of cycles run: 1400  
Number of cycles run: 2177  
Number of cycles run: 1935  
Number of cycles run: 6189  
Number of cycles run: 3585  
Number of cycles run: 2993  
Number of cycles run: 2511  
Number of cycles run: 50000  
Number of cycles run: 3117  
Number of cycles run: 1844  
Number of cycles run: 4435  
Number of cycles run: 2734  
Number of cycles run: 2466  
Number of cycles run: 2105  
Number of cycles run: 3804  
Number of cycles run: 1252  
Number of cycles run: 4725  
Number of cycles run: 3855  
Number of cycles run: 2782  
Number of cycles run: 3399  
Number of cycles run: 1055  
Number of cycles run: 1532  
Number of cycles run: 789  
Number of cycles run: 3000  
Number of cycles run: 4272  
Number of cycles run: 4742  
Number of cycles run: 3295  
Number of cycles run: 982  
Number of cycles run: 6350  
Number of cycles run: 4353  
Number of cycles run: 914  
Number of cycles run: 2508  
Number of cycles run: 43165  
Number of cycles run: 2536  
Number of cycles run: 1773  
Number of cycles run: 1961  
Number of cycles run: 1721  
Number of cycles run: 2929  
Number of cycles run: 1363  
Number of cycles run: 1901  
Number of cycles run: 4549  
Number of cycles run: 2434  
Number of cycles run: 1119  
Number of cycles run: 3777  
Av cycles for attraction strength 0.4 is 4733  
standard diviation is 8921.61668986156  
Testing average cycles for attraction strength 0.4  
Number of cycles run: 50000  
Number of cycles run: 2436  
Number of cycles run: 1242  
Number of cycles run: 1783  
Number of cycles run: 2160  
Number of cycles run: 1935  
Number of cycles run: 1962  
Number of cycles run: 1850  
Number of cycles run: 2966  
Number of cycles run: 1907  
Number of cycles run: 7867  
Number of cycles run: 1024  
Number of cycles run: 2503  
Number of cycles run: 1841  
Number of cycles run: 43317  
Number of cycles run: 7863  
Number of cycles run: 2551  
Number of cycles run: 3707  
Number of cycles run: 2597  
Number of cycles run: 6847  
Number of cycles run: 909  
Number of cycles run: 1019  
Number of cycles run: 2051  
Number of cycles run: 1001  
Number of cycles run: 1230  
Number of cycles run: 2221  
Number of cycles run: 1777  
Number of cycles run: 3003  
Number of cycles run: 2355  
Number of cycles run: 25709  
Number of cycles run: 2231  
Number of cycles run: 5710  
Number of cycles run: 1954  
Number of cycles run: 1599  
Number of cycles run: 6803  
Number of cycles run: 16732  
Number of cycles run: 1449  
Number of cycles run: 1386  
Number of cycles run: 6397  
Number of cycles run: 50000  
Number of cycles run: 1691  
Number of cycles run: 3313  
Number of cycles run: 2088  
Number of cycles run: 1864  
Number of cycles run: 8465  
Number of cycles run: 2390  
Number of cycles run: 2405  
Number of cycles run: 1986  
Number of cycles run: 4033  
Number of cycles run: 1024  
Av cycles for attraction strength 0.4 is 6263  
standard diviation is 11424.592988614964  
Testing average cycles for attraction strength 0.4  
Number of cycles run: 1410  
Number of cycles run: 3363  
Number of cycles run: 7428  
Number of cycles run: 2354  
Number of cycles run: 4490  
Number of cycles run: 3144  
Number of cycles run: 1602  
Number of cycles run: 917  
Number of cycles run: 1581  
Number of cycles run: 2925  
Number of cycles run: 2352  
Number of cycles run: 12813  
Number of cycles run: 885  
Number of cycles run: 13910  
Number of cycles run: 1103  
Number of cycles run: 2925  
Number of cycles run: 2224  
Number of cycles run: 2292  
Number of cycles run: 5181  
Number of cycles run: 1954  
Number of cycles run: 3315  
Number of cycles run: 1092  
Number of cycles run: 823  
Number of cycles run: 942  
Number of cycles run: 1585  
Number of cycles run: 4335  
Number of cycles run: 13006  
Number of cycles run: 1553  
Number of cycles run: 1680  
Number of cycles run: 10734  
Number of cycles run: 3263  
Number of cycles run: 1276  
Number of cycles run: 2546  
Number of cycles run: 1583  
Number of cycles run: 3375  
Number of cycles run: 3908  
Number of cycles run: 2566  
Number of cycles run: 2501  
Number of cycles run: 1576  
Number of cycles run: 3966  
Number of cycles run: 1732  
Number of cycles run: 1627  
Number of cycles run: 3792  
Number of cycles run: 894  
Number of cycles run: 2025  
Number of cycles run: 4708  
Number of cycles run: 940  
Number of cycles run: 2682  
Number of cycles run: 4819  
Number of cycles run: 2677  
Av cycles for attraction strength 0.4 is 3327  
standard diviation is 3092.8488699328486  
Testing average cycles for attraction strength 0.4  
Number of cycles run: 23793  
Number of cycles run: 3203  
Number of cycles run: 2694  
Number of cycles run: 50000  
Number of cycles run: 3470  
Number of cycles run: 4057  
Number of cycles run: 1762  
Number of cycles run: 50000  
Number of cycles run: 1757  
Number of cycles run: 4053  
Number of cycles run: 2087  
Number of cycles run: 2070  
Number of cycles run: 1698  
Number of cycles run: 2454  
Number of cycles run: 4600  
Number of cycles run: 952  
Number of cycles run: 8025  
Number of cycles run: 979  
Number of cycles run: 3634  
Number of cycles run: 2110  
Number of cycles run: 2608  
Number of cycles run: 4375  
Number of cycles run: 2543  
Number of cycles run: 3044  
Number of cycles run: 5320  
Number of cycles run: 2847

Number of cycles run: 3888  
Number of cycles run: 3256  
Number of cycles run: 1006  
Number of cycles run: 4984  
Number of cycles run: 26089  
Number of cycles run: 3450  
Number of cycles run: 2813  
Number of cycles run: 1195  
Number of cycles run: 3362  
Number of cycles run: 2127  
Number of cycles run: 1300  
Number of cycles run: 3414  
Number of cycles run: 5897  
Number of cycles run: 3261  
Number of cycles run: 2261  
Number of cycles run: 5849  
Number of cycles run: 47902  
Number of cycles run: 3980  
Number of cycles run: 1011  
Number of cycles run: 7377  
Number of cycles run: 8976  
Number of cycles run: 4077  
Number of cycles run: 2575  
Number of cycles run: 15307  
Av cycles for attraction strength 0.4 is 7189  
standard diviation is 11799.453569776279  
Testing average cycles for attraction strength 0.4  
Number of cycles run: 38275  
Number of cycles run: 2588  
Number of cycles run: 2662  
Number of cycles run: 2920  
Number of cycles run: 2392  
Number of cycles run: 18718  
Number of cycles run: 1132  
Number of cycles run: 2721  
Number of cycles run: 3044  
Number of cycles run: 811  
Number of cycles run: 1480  
Number of cycles run: 5787  
Number of cycles run: 3090  
Number of cycles run: 11958  
Number of cycles run: 1828  
Number of cycles run: 2265  
Number of cycles run: 3002  
Number of cycles run: 4294  
Number of cycles run: 905  
Number of cycles run: 50000  
Number of cycles run: 1007  
Number of cycles run: 970  
Number of cycles run: 2330  
Number of cycles run: 2761  
Number of cycles run: 2867  
Number of cycles run: 3707  
Number of cycles run: 26615  
Number of cycles run: 1923  
Number of cycles run: 2843  
Number of cycles run: 2136  
Number of cycles run: 1509  
Number of cycles run: 1391  
Number of cycles run: 4699  
Number of cycles run: 50000  
Number of cycles run: 2710  
Number of cycles run: 1358  
Number of cycles run: 2885  
Number of cycles run: 2822  
Number of cycles run: 6058  
Number of cycles run: 4672  
Number of cycles run: 50000  
Number of cycles run: 5047  
Number of cycles run: 19655  
Number of cycles run: 7451  
Number of cycles run: 3354  
Number of cycles run: 3996  
Number of cycles run: 3493  
Number of cycles run: 3353  
Number of cycles run: 985  
Number of cycles run: 50000  
Av cycles for attraction strength 0.4 is 8649  
standard diviation is 14096.792696285238  
Testing average cycles for attraction strength 0.4  
Number of cycles run: 28508  
Number of cycles run: 42839  
Number of cycles run: 4199  
Number of cycles run: 5085  
Number of cycles run: 3209  
Number of cycles run: 2467  
Number of cycles run: 1382  
Number of cycles run: 1963  
Number of cycles run: 50000  
Number of cycles run: 2033  
Number of cycles run: 835  
Number of cycles run: 2594  
Number of cycles run: 4335  
Number of cycles run: 1702  
Number of cycles run: 3479  
Number of cycles run: 3752  
Number of cycles run: 2773  
Number of cycles run: 4536  
Number of cycles run: 851  
Number of cycles run: 2166  
Number of cycles run: 31426  
Number of cycles run: 1985  
Number of cycles run: 2070  
Number of cycles run: 2340  
Number of cycles run: 1024  
Number of cycles run: 2602  
Number of cycles run: 50000  
Number of cycles run: 2255  
Number of cycles run: 50000  
Number of cycles run: 7255  
Number of cycles run: 1511  
Number of cycles run: 2885  
Number of cycles run: 2701  
Number of cycles run: 2250  
Number of cycles run: 2802  
Number of cycles run: 50000  
Number of cycles run: 1437  
Number of cycles run: 2901  
Number of cycles run: 2325  
Number of cycles run: 33576  
Number of cycles run: 4026  
Number of cycles run: 2628  
Number of cycles run: 4236  
Number of cycles run: 2016  
Number of cycles run: 877  
Number of cycles run: 925  
Number of cycles run: 22981  
Number of cycles run: 5280  
Number of cycles run: 2988  
Number of cycles run: 1031  
Av cycles for attraction strength 0.4 is 9380  
standard diviation is 15159.202008627213  
Testing average cycles for attraction strength 0.4  
Number of cycles run: 2723  
Number of cycles run: 2366  
Number of cycles run: 852  
Number of cycles run: 2379  
Number of cycles run: 853  
Number of cycles run: 2763  
Number of cycles run: 1805  
Number of cycles run: 21703  
Number of cycles run: 2465  
Number of cycles run: 3436  
Number of cycles run: 36740  
Number of cycles run: 5543  
Number of cycles run: 3630  
Number of cycles run: 8400  
Number of cycles run: 2812  
Number of cycles run: 50000  
Number of cycles run: 837  
Number of cycles run: 1705  
Number of cycles run: 2077  
Number of cycles run: 991  
Number of cycles run: 2894  
Number of cycles run: 4263  
Number of cycles run: 13582  
Number of cycles run: 17434  
Number of cycles run: 841  
Number of cycles run: 15200  
Number of cycles run: 1602  
Number of cycles run: 1235  
Number of cycles run: 3859  
Number of cycles run: 5076  
Number of cycles run: 3555  
Number of cycles run: 3043  
Number of cycles run: 15952  
Number of cycles run: 47169  
Number of cycles run: 3362  
Number of cycles run: 2989  
Number of cycles run: 876  
Number of cycles run: 12085  
Number of cycles run: 9887  
Number of cycles run: 2075  
Number of cycles run: 3328  
Number of cycles run: 1572  
Number of cycles run: 4805  
Number of cycles run: 3251  
Number of cycles run: 1979  
Number of cycles run: 1013  
Number of cycles run: 2771  
Number of cycles run: 943  
Number of cycles run: 1748  
Number of cycles run: 3862  
Av cycles for attraction strength 0.4 is 6926  
standard diviation is 10825.754648512773  
Testing average cycles for attraction strength 0.4  
Number of cycles run: 1398  
Number of cycles run: 5328  
Number of cycles run: 3668  
Number of cycles run: 5445  
Number of cycles run: 1430  
Number of cycles run: 878  
Number of cycles run: 3585  
Number of cycles run: 4961  
Number of cycles run: 3337  
Number of cycles run: 1532  
Number of cycles run: 6588  
Number of cycles run: 2382  
Number of cycles run: 6712  
Number of cycles run: 1090  
Number of cycles run: 3557  
Number of cycles run: 4015  
Number of cycles run: 2409  
Number of cycles run: 4370  
Number of cycles run: 6298  
Number of cycles run: 881  
Number of cycles run: 2909  
Number of cycles run: 2416  
Number of cycles run: 2485  
Number of cycles run: 2936  
Number of cycles run: 2449  
Number of cycles run: 3256  
Number of cycles run: 2391  
Number of cycles run: 1316  
Number of cycles run: 1644  
Number of cycles run: 1010  
Number of cycles run: 1205  
Number of cycles run: 3290  
Number of cycles run: 839  
Number of cycles run: 13781  
Number of cycles run: 6427  
Number of cycles run: 2226  
Number of cycles run: 50000  
Number of cycles run: 22320  
Number of cycles run: 2492  
Number of cycles run: 4325  
Number of cycles run: 2224  
Number of cycles run: 1499  
Number of cycles run: 2313  
Number of cycles run: 1049  
Number of cycles run: 4537  
Number of cycles run: 13411  
Number of cycles run: 3557  
Number of cycles run: 1364  
Number of cycles run: 1422  
Number of cycles run: 6570  
Av cycles for attraction strength 0.4 is 4750  
standard diviation is 7547.342568434675