Testing average cycles for attraction strength 1.0  
Number of cycles run: 867  
Number of cycles run: 3258  
Number of cycles run: 4275  
Number of cycles run: 1479  
Number of cycles run: 774  
Number of cycles run: 1765  
Number of cycles run: 3851  
Number of cycles run: 1304  
Number of cycles run: 1692  
Number of cycles run: 1122  
Number of cycles run: 50000  
Number of cycles run: 2223  
Number of cycles run: 6472  
Number of cycles run: 800  
Number of cycles run: 50000  
Number of cycles run: 1512  
Number of cycles run: 827  
Number of cycles run: 953  
Number of cycles run: 2052  
Number of cycles run: 2130  
Number of cycles run: 9412  
Number of cycles run: 1248  
Number of cycles run: 1037  
Number of cycles run: 18077  
Number of cycles run: 3542  
Number of cycles run: 891  
Number of cycles run: 3623  
Number of cycles run: 900  
Number of cycles run: 1378  
Number of cycles run: 2148  
Number of cycles run: 3101  
Number of cycles run: 1656  
Number of cycles run: 2311  
Number of cycles run: 2903  
Number of cycles run: 3239  
Number of cycles run: 1755  
Number of cycles run: 1710  
Number of cycles run: 10986  
Number of cycles run: 2005  
Number of cycles run: 3177  
Number of cycles run: 975  
Number of cycles run: 1068  
Number of cycles run: 10027  
Number of cycles run: 4918  
Number of cycles run: 1164  
Number of cycles run: 1243  
Number of cycles run: 9498  
Number of cycles run: 5148  
Number of cycles run: 2430  
Number of cycles run: 938  
Av cycles for attraction strength 1.0 is 4997  
standard diviation is 9845.831899720359  
Testing average cycles for attraction strength 1.0  
Number of cycles run: 1014  
Number of cycles run: 1537  
Number of cycles run: 876  
Number of cycles run: 2524  
Number of cycles run: 856  
Number of cycles run: 50000  
Number of cycles run: 889  
Number of cycles run: 754  
Number of cycles run: 712  
Number of cycles run: 780  
Number of cycles run: 1047  
Number of cycles run: 782  
Number of cycles run: 929  
Number of cycles run: 1976  
Number of cycles run: 1680  
Number of cycles run: 1595  
Number of cycles run: 2216  
Number of cycles run: 24666  
Number of cycles run: 2292  
Number of cycles run: 1342  
Number of cycles run: 1537  
Number of cycles run: 1626  
Number of cycles run: 1388  
Number of cycles run: 899  
Number of cycles run: 6245  
Number of cycles run: 3708  
Number of cycles run: 5266  
Number of cycles run: 821  
Number of cycles run: 15753  
Number of cycles run: 938  
Number of cycles run: 948  
Number of cycles run: 2391  
Number of cycles run: 27697  
Number of cycles run: 852  
Number of cycles run: 3463  
Number of cycles run: 1969  
Number of cycles run: 728  
Number of cycles run: 6780  
Number of cycles run: 940  
Number of cycles run: 1304  
Number of cycles run: 1786  
Number of cycles run: 1316  
Number of cycles run: 4431  
Number of cycles run: 1610  
Number of cycles run: 952  
Number of cycles run: 2174  
Number of cycles run: 803  
Number of cycles run: 984  
Number of cycles run: 2401  
Number of cycles run: 2206  
Av cycles for attraction strength 1.0 is 4047  
standard diviation is 8510.67688046453  
Testing average cycles for attraction strength 1.0  
Number of cycles run: 6336  
Number of cycles run: 6795  
Number of cycles run: 1506  
Number of cycles run: 1347  
Number of cycles run: 3509  
Number of cycles run: 1065  
Number of cycles run: 760  
Number of cycles run: 1811  
Number of cycles run: 8685  
Number of cycles run: 2968  
Number of cycles run: 1432  
Number of cycles run: 7458  
Number of cycles run: 852  
Number of cycles run: 795  
Number of cycles run: 820  
Number of cycles run: 2390  
Number of cycles run: 1877  
Number of cycles run: 7811  
Number of cycles run: 1696  
Number of cycles run: 3757  
Number of cycles run: 748  
Number of cycles run: 1441  
Number of cycles run: 831  
Number of cycles run: 1161  
Number of cycles run: 2818  
Number of cycles run: 17871  
Number of cycles run: 1774  
Number of cycles run: 1810  
Number of cycles run: 8771  
Number of cycles run: 1278  
Number of cycles run: 1973  
Number of cycles run: 886  
Number of cycles run: 50000  
Number of cycles run: 18953  
Number of cycles run: 798  
Number of cycles run: 50000  
Number of cycles run: 992  
Number of cycles run: 898  
Number of cycles run: 4500  
Number of cycles run: 10495  
Number of cycles run: 3348  
Number of cycles run: 1188  
Number of cycles run: 50000  
Number of cycles run: 2281  
Number of cycles run: 3549  
Number of cycles run: 1687  
Number of cycles run: 982  
Number of cycles run: 5473  
Number of cycles run: 1231  
Number of cycles run: 3240  
Av cycles for attraction strength 1.0 is 6292  
standard diviation is 11822.424074458102  
Testing average cycles for attraction strength 1.0  
Number of cycles run: 1838  
Number of cycles run: 4114  
Number of cycles run: 1261  
Number of cycles run: 2957  
Number of cycles run: 3273  
Number of cycles run: 3475  
Number of cycles run: 50000  
Number of cycles run: 2674  
Number of cycles run: 2665  
Number of cycles run: 1473  
Number of cycles run: 7881  
Number of cycles run: 2173  
Number of cycles run: 5688  
Number of cycles run: 769  
Number of cycles run: 4081  
Number of cycles run: 2661  
Number of cycles run: 1355  
Number of cycles run: 50000  
Number of cycles run: 2952  
Number of cycles run: 2751  
Number of cycles run: 1951  
Number of cycles run: 1021  
Number of cycles run: 2049  
Number of cycles run: 778  
Number of cycles run: 876  
Number of cycles run: 1590  
Number of cycles run: 1803  
Number of cycles run: 1318  
Number of cycles run: 851  
Number of cycles run: 2235  
Number of cycles run: 827  
Number of cycles run: 7512  
Number of cycles run: 3405  
Number of cycles run: 5180  
Number of cycles run: 18576  
Number of cycles run: 997  
Number of cycles run: 798  
Number of cycles run: 1576  
Number of cycles run: 2724  
Number of cycles run: 990  
Number of cycles run: 2002  
Number of cycles run: 2804  
Number of cycles run: 1830  
Number of cycles run: 884  
Number of cycles run: 16359  
Number of cycles run: 2127  
Number of cycles run: 2197  
Number of cycles run: 1659  
Number of cycles run: 1599  
Number of cycles run: 781  
Av cycles for attraction strength 1.0 is 4866  
standard diviation is 9900.378500288743  
Testing average cycles for attraction strength 1.0  
Number of cycles run: 50000  
Number of cycles run: 790  
Number of cycles run: 23481  
Number of cycles run: 1916  
Number of cycles run: 1412  
Number of cycles run: 1249  
Number of cycles run: 1591  
Number of cycles run: 2920  
Number of cycles run: 871  
Number of cycles run: 2870  
Number of cycles run: 16253  
Number of cycles run: 2011  
Number of cycles run: 3309  
Number of cycles run: 2415  
Number of cycles run: 2156  
Number of cycles run: 2858  
Number of cycles run: 2315  
Number of cycles run: 876  
Number of cycles run: 2238  
Number of cycles run: 1496  
Number of cycles run: 40478  
Number of cycles run: 10638  
Number of cycles run: 758  
Number of cycles run: 3651  
Number of cycles run: 1486  
Number of cycles run: 2075  
Number of cycles run: 8965  
Number of cycles run: 2510  
Number of cycles run: 4137  
Number of cycles run: 1942  
Number of cycles run: 3735  
Number of cycles run: 918  
Number of cycles run: 1153  
Number of cycles run: 20665  
Number of cycles run: 2722  
Number of cycles run: 758  
Number of cycles run: 784  
Number of cycles run: 957  
Number of cycles run: 1104  
Number of cycles run: 1308  
Number of cycles run: 5380  
Number of cycles run: 904  
Number of cycles run: 2151  
Number of cycles run: 1252  
Number of cycles run: 4862  
Number of cycles run: 850  
Number of cycles run: 1072  
Number of cycles run: 4608  
Number of cycles run: 22467  
Number of cycles run: 2171  
Av cycles for attraction strength 1.0 is 5589  
standard diviation is 9851.513578022374  
Testing average cycles for attraction strength 1.0  
Number of cycles run: 2448  
Number of cycles run: 3401  
Number of cycles run: 3324  
Number of cycles run: 1914  
Number of cycles run: 761  
Number of cycles run: 983  
Number of cycles run: 12656  
Number of cycles run: 922  
Number of cycles run: 1631  
Number of cycles run: 1731  
Number of cycles run: 1488  
Number of cycles run: 3754  
Number of cycles run: 1858  
Number of cycles run: 666  
Number of cycles run: 777  
Number of cycles run: 966  
Number of cycles run: 853  
Number of cycles run: 8963  
Number of cycles run: 1996  
Number of cycles run: 1873  
Number of cycles run: 736  
Number of cycles run: 2753  
Number of cycles run: 1362  
Number of cycles run: 2522  
Number of cycles run: 1858  
Number of cycles run: 2724  
Number of cycles run: 836  
Number of cycles run: 2058

Number of cycles run: 1281  
Number of cycles run: 50000  
Number of cycles run: 2315  
Number of cycles run: 856  
Number of cycles run: 9559  
Number of cycles run: 1691  
Number of cycles run: 1954  
Number of cycles run: 2260  
Number of cycles run: 1014  
Number of cycles run: 1782  
Number of cycles run: 2090  
Number of cycles run: 3243  
Number of cycles run: 50000  
Number of cycles run: 6710  
Number of cycles run: 784  
Number of cycles run: 2658  
Number of cycles run: 1503  
Number of cycles run: 17600  
Number of cycles run: 1830  
Number of cycles run: 1861  
Number of cycles run: 826  
Number of cycles run: 4113  
Av cycles for attraction strength 1.0 is 4674  
standard diviation is 9865.757894984501  
Testing average cycles for attraction strength 1.0  
Number of cycles run: 4261  
Number of cycles run: 831  
Number of cycles run: 3571  
Number of cycles run: 993  
Number of cycles run: 5555  
Number of cycles run: 778  
Number of cycles run: 10666  
Number of cycles run: 2573  
Number of cycles run: 2103  
Number of cycles run: 3008  
Number of cycles run: 960  
Number of cycles run: 1911  
Number of cycles run: 1451  
Number of cycles run: 4485  
Number of cycles run: 1800  
Number of cycles run: 16679  
Number of cycles run: 2198  
Number of cycles run: 24025  
Number of cycles run: 923  
Number of cycles run: 4112  
Number of cycles run: 855  
Number of cycles run: 2042  
Number of cycles run: 3955  
Number of cycles run: 1880  
Number of cycles run: 1744  
Number of cycles run: 1962  
Number of cycles run: 868  
Number of cycles run: 962  
Number of cycles run: 1096  
Number of cycles run: 2380  
Number of cycles run: 2150  
Number of cycles run: 2479  
Number of cycles run: 2910  
Number of cycles run: 1984  
Number of cycles run: 2465  
Number of cycles run: 3561  
Number of cycles run: 861  
Number of cycles run: 3685  
Number of cycles run: 1082  
Number of cycles run: 3953  
Number of cycles run: 1020  
Number of cycles run: 3610  
Number of cycles run: 5131  
Number of cycles run: 2217  
Number of cycles run: 1672  
Number of cycles run: 1799  
Number of cycles run: 830  
Number of cycles run: 3560  
Number of cycles run: 9848  
Number of cycles run: 1369  
Av cycles for attraction strength 1.0 is 3336  
standard diviation is 4104.533306688384  
Testing average cycles for attraction strength 1.0  
Number of cycles run: 2090  
Number of cycles run: 2731  
Number of cycles run: 50000  
Number of cycles run: 19321  
Number of cycles run: 4565  
Number of cycles run: 2645  
Number of cycles run: 814  
Number of cycles run: 11076  
Number of cycles run: 3509  
Number of cycles run: 1660  
Number of cycles run: 810  
Number of cycles run: 3187  
Number of cycles run: 12337  
Number of cycles run: 839  
Number of cycles run: 3042  
Number of cycles run: 2353  
Number of cycles run: 1820  
Number of cycles run: 1701  
Number of cycles run: 1834  
Number of cycles run: 9703  
Number of cycles run: 5623  
Number of cycles run: 1992  
Number of cycles run: 1510  
Number of cycles run: 3871  
Number of cycles run: 5170  
Number of cycles run: 834  
Number of cycles run: 1488  
Number of cycles run: 3914  
Number of cycles run: 3181  
Number of cycles run: 756  
Number of cycles run: 2257  
Number of cycles run: 28546  
Number of cycles run: 4338  
Number of cycles run: 844  
Number of cycles run: 939  
Number of cycles run: 1061  
Number of cycles run: 4112  
Number of cycles run: 2266  
Number of cycles run: 774  
Number of cycles run: 3404  
Number of cycles run: 1740  
Number of cycles run: 1177  
Number of cycles run: 3560  
Number of cycles run: 1641  
Number of cycles run: 5396  
Number of cycles run: 5784  
Number of cycles run: 873  
Number of cycles run: 2166  
Number of cycles run: 3654  
Number of cycles run: 822  
Av cycles for attraction strength 1.0 is 4794  
standard diviation is 8169.45008265925  
Testing average cycles for attraction strength 1.0  
Number of cycles run: 2846  
Number of cycles run: 2921  
Number of cycles run: 19973  
Number of cycles run: 1191  
Number of cycles run: 794  
Number of cycles run: 2278  
Number of cycles run: 19509  
Number of cycles run: 791  
Number of cycles run: 839  
Number of cycles run: 1961  
Number of cycles run: 1224  
Number of cycles run: 688  
Number of cycles run: 1451  
Number of cycles run: 1009  
Number of cycles run: 2806  
Number of cycles run: 4060  
Number of cycles run: 1955  
Number of cycles run: 1101  
Number of cycles run: 50000  
Number of cycles run: 20638  
Number of cycles run: 1956  
Number of cycles run: 2377  
Number of cycles run: 1621  
Number of cycles run: 3269  
Number of cycles run: 8934  
Number of cycles run: 2989  
Number of cycles run: 2275  
Number of cycles run: 2710  
Number of cycles run: 3803  
Number of cycles run: 2461  
Number of cycles run: 1768  
Number of cycles run: 886  
Number of cycles run: 1906  
Number of cycles run: 924  
Number of cycles run: 2091  
Number of cycles run: 1859  
Number of cycles run: 2122  
Number of cycles run: 1381  
Number of cycles run: 1564  
Number of cycles run: 2746  
Number of cycles run: 1378  
Number of cycles run: 4520  
Number of cycles run: 790  
Number of cycles run: 2796  
Number of cycles run: 2536  
Number of cycles run: 1336  
Number of cycles run: 982  
Number of cycles run: 1928  
Number of cycles run: 1306  
Number of cycles run: 2714  
Av cycles for attraction strength 1.0 is 4159  
standard diviation is 7997.38527885004  
Testing average cycles for attraction strength 1.0  
Number of cycles run: 2488  
Number of cycles run: 3729  
Number of cycles run: 14815  
Number of cycles run: 4231  
Number of cycles run: 6572  
Number of cycles run: 1105  
Number of cycles run: 1483  
Number of cycles run: 1982  
Number of cycles run: 11384  
Number of cycles run: 941  
Number of cycles run: 4558  
Number of cycles run: 1922  
Number of cycles run: 981  
Number of cycles run: 1627  
Number of cycles run: 1959  
Number of cycles run: 5824  
Number of cycles run: 1816  
Number of cycles run: 2502  
Number of cycles run: 845  
Number of cycles run: 5719  
Number of cycles run: 769  
Number of cycles run: 2554  
Number of cycles run: 7367  
Number of cycles run: 1872  
Number of cycles run: 4677  
Number of cycles run: 1282  
Number of cycles run: 753  
Number of cycles run: 4058  
Number of cycles run: 4123  
Number of cycles run: 2478  
Number of cycles run: 4281  
Number of cycles run: 2029  
Number of cycles run: 2186  
Number of cycles run: 1558  
Number of cycles run: 1785  
Number of cycles run: 2357  
Number of cycles run: 1818  
Number of cycles run: 1887  
Number of cycles run: 2127  
Number of cycles run: 8482  
Number of cycles run: 2885  
Number of cycles run: 1218  
Number of cycles run: 4769  
Number of cycles run: 50000  
Number of cycles run: 5741  
Number of cycles run: 2303  
Number of cycles run: 934  
Number of cycles run: 2131  
Number of cycles run: 2765  
Number of cycles run: 1965  
Av cycles for attraction strength 1.0 is 4192  
standard diviation is 7152.001109465512