Testing average cycles for attraction strength 1.6  
Number of cycles run: 10573  
Number of cycles run: 50000  
Number of cycles run: 11664  
Number of cycles run: 837  
Number of cycles run: 3512  
Number of cycles run: 963  
Number of cycles run: 2171  
Number of cycles run: 50000  
Number of cycles run: 1150  
Number of cycles run: 1013  
Number of cycles run: 689  
Number of cycles run: 1222  
Number of cycles run: 785  
Number of cycles run: 4306  
Number of cycles run: 5395  
Number of cycles run: 2857  
Number of cycles run: 879  
Number of cycles run: 9390  
Number of cycles run: 1309  
Number of cycles run: 3035  
Number of cycles run: 739  
Number of cycles run: 1253  
Number of cycles run: 1254  
Number of cycles run: 3968  
Number of cycles run: 2462  
Number of cycles run: 725  
Number of cycles run: 693  
Number of cycles run: 725  
Number of cycles run: 1456  
Number of cycles run: 802  
Number of cycles run: 830  
Number of cycles run: 2235  
Number of cycles run: 834  
Number of cycles run: 946  
Number of cycles run: 953  
Number of cycles run: 861  
Number of cycles run: 1857  
Number of cycles run: 2717  
Number of cycles run: 846  
Number of cycles run: 13554  
Number of cycles run: 2198  
Number of cycles run: 2127  
Number of cycles run: 740  
Number of cycles run: 729  
Number of cycles run: 7574  
Number of cycles run: 3821  
Number of cycles run: 1313  
Number of cycles run: 1474  
Number of cycles run: 3635  
Number of cycles run: 1393  
Av cycles for attraction strength 1.6 is 4529  
standard diviation is 9832.087616553863  
Testing average cycles for attraction strength 1.6  
Number of cycles run: 1180  
Number of cycles run: 2246  
Number of cycles run: 1828  
Number of cycles run: 4969  
Number of cycles run: 1061  
Number of cycles run: 1979  
Number of cycles run: 1649  
Number of cycles run: 10260  
Number of cycles run: 967  
Number of cycles run: 1483  
Number of cycles run: 772  
Number of cycles run: 3081  
Number of cycles run: 35713  
Number of cycles run: 4135  
Number of cycles run: 713  
Number of cycles run: 1899  
Number of cycles run: 1887  
Number of cycles run: 2741  
Number of cycles run: 1700  
Number of cycles run: 1904  
Number of cycles run: 775  
Number of cycles run: 823  
Number of cycles run: 1606  
Number of cycles run: 1407  
Number of cycles run: 848  
Number of cycles run: 2502  
Number of cycles run: 1009  
Number of cycles run: 8231  
Number of cycles run: 706  
Number of cycles run: 1019  
Number of cycles run: 1712  
Number of cycles run: 1006  
Number of cycles run: 1769  
Number of cycles run: 1206  
Number of cycles run: 8012  
Number of cycles run: 13338  
Number of cycles run: 1727  
Number of cycles run: 909  
Number of cycles run: 911  
Number of cycles run: 1226  
Number of cycles run: 1315  
Number of cycles run: 1787  
Number of cycles run: 917  
Number of cycles run: 1607  
Number of cycles run: 1816  
Number of cycles run: 2660  
Number of cycles run: 784  
Number of cycles run: 2239  
Number of cycles run: 1839  
Number of cycles run: 8557  
Av cycles for attraction strength 1.6 is 3128  
standard diviation is 5395.328992635714  
Testing average cycles for attraction strength 1.6  
Number of cycles run: 1653  
Number of cycles run: 3012  
Number of cycles run: 2754  
Number of cycles run: 795  
Number of cycles run: 1003  
Number of cycles run: 2185  
Number of cycles run: 3986  
Number of cycles run: 1973  
Number of cycles run: 1278  
Number of cycles run: 857  
Number of cycles run: 1274  
Number of cycles run: 1091  
Number of cycles run: 1164  
Number of cycles run: 792  
Number of cycles run: 734  
Number of cycles run: 3576  
Number of cycles run: 840  
Number of cycles run: 837  
Number of cycles run: 2069  
Number of cycles run: 7119  
Number of cycles run: 1226  
Number of cycles run: 8527  
Number of cycles run: 3418  
Number of cycles run: 1601  
Number of cycles run: 2175  
Number of cycles run: 1305  
Number of cycles run: 1351  
Number of cycles run: 4278  
Number of cycles run: 1868  
Number of cycles run: 2959  
Number of cycles run: 830  
Number of cycles run: 1191  
Number of cycles run: 5309  
Number of cycles run: 821  
Number of cycles run: 2308  
Number of cycles run: 1165  
Number of cycles run: 835  
Number of cycles run: 817  
Number of cycles run: 825  
Number of cycles run: 1581  
Number of cycles run: 6483  
Number of cycles run: 761  
Number of cycles run: 651  
Number of cycles run: 2312  
Number of cycles run: 937  
Number of cycles run: 2130  
Number of cycles run: 802  
Number of cycles run: 834  
Number of cycles run: 671  
Number of cycles run: 12411  
Av cycles for attraction strength 1.6 is 2227  
standard diviation is 2274.2120253675844  
Testing average cycles for attraction strength 1.6  
Number of cycles run: 11022  
Number of cycles run: 1846  
Number of cycles run: 1341  
Number of cycles run: 954  
Number of cycles run: 50000  
Number of cycles run: 846  
Number of cycles run: 1452  
Number of cycles run: 2054  
Number of cycles run: 2078  
Number of cycles run: 1358  
Number of cycles run: 785  
Number of cycles run: 743  
Number of cycles run: 767  
Number of cycles run: 1418  
Number of cycles run: 1775  
Number of cycles run: 3143  
Number of cycles run: 8351  
Number of cycles run: 1433  
Number of cycles run: 1828  
Number of cycles run: 23284  
Number of cycles run: 1350  
Number of cycles run: 2189  
Number of cycles run: 3896  
Number of cycles run: 721  
Number of cycles run: 5611  
Number of cycles run: 38754  
Number of cycles run: 1755  
Number of cycles run: 2155  
Number of cycles run: 2501  
Number of cycles run: 1930  
Number of cycles run: 17588  
Number of cycles run: 2538  
Number of cycles run: 1258  
Number of cycles run: 894  
Number of cycles run: 1301  
Number of cycles run: 964  
Number of cycles run: 1113  
Number of cycles run: 1844  
Number of cycles run: 2619  
Number of cycles run: 1580  
Number of cycles run: 1463  
Number of cycles run: 679  
Number of cycles run: 736  
Number of cycles run: 2642  
Number of cycles run: 770  
Number of cycles run: 822  
Number of cycles run: 2150  
Number of cycles run: 5511  
Number of cycles run: 1869  
Number of cycles run: 784  
Av cycles for attraction strength 1.6 is 4529  
standard diviation is 9266.790229257444  
Testing average cycles for attraction strength 1.6  
Number of cycles run: 1763  
Number of cycles run: 2610  
Number of cycles run: 50000  
Number of cycles run: 992  
Number of cycles run: 3738  
Number of cycles run: 1235  
Number of cycles run: 1743  
Number of cycles run: 922  
Number of cycles run: 3295  
Number of cycles run: 913  
Number of cycles run: 788  
Number of cycles run: 1556  
Number of cycles run: 1862  
Number of cycles run: 7847  
Number of cycles run: 7327  
Number of cycles run: 2022  
Number of cycles run: 1691  
Number of cycles run: 864  
Number of cycles run: 1436  
Number of cycles run: 712  
Number of cycles run: 6834  
Number of cycles run: 970  
Number of cycles run: 3107  
Number of cycles run: 7164  
Number of cycles run: 1208  
Number of cycles run: 1634  
Number of cycles run: 12648  
Number of cycles run: 1937  
Number of cycles run: 7607  
Number of cycles run: 815  
Number of cycles run: 2167  
Number of cycles run: 1675  
Number of cycles run: 5167  
Number of cycles run: 1667  
Number of cycles run: 1415  
Number of cycles run: 1298  
Number of cycles run: 1536  
Number of cycles run: 1620  
Number of cycles run: 764  
Number of cycles run: 882  
Number of cycles run: 1879  
Number of cycles run: 1348  
Number of cycles run: 954  
Number of cycles run: 1401  
Number of cycles run: 3437  
Number of cycles run: 983  
Number of cycles run: 3625  
Number of cycles run: 50000  
Number of cycles run: 792  
Number of cycles run: 1367  
Av cycles for attraction strength 1.6 is 4424  
standard diviation is 9703.698404153723  
Testing average cycles for attraction strength 1.6  
Number of cycles run: 2221  
Number of cycles run: 1813  
Number of cycles run: 3355  
Number of cycles run: 820  
Number of cycles run: 851  
Number of cycles run: 1328  
Number of cycles run: 1909  
Number of cycles run: 805  
Number of cycles run: 14922  
Number of cycles run: 2981  
Number of cycles run: 1714  
Number of cycles run: 1726  
Number of cycles run: 1204  
Number of cycles run: 1867  
Number of cycles run: 5202  
Number of cycles run: 1351  
Number of cycles run: 1234  
Number of cycles run: 853  
Number of cycles run: 7133  
Number of cycles run: 802  
Number of cycles run: 1579  
Number of cycles run: 1584  
Number of cycles run: 1149  
Number of cycles run: 816  
Number of cycles run: 1420  
Number of cycles run: 3193  
Number of cycles run: 1486  
Number of cycles run: 808  
Number of cycles run: 2138

Number of cycles run: 1492  
Number of cycles run: 1241  
Number of cycles run: 1169  
Number of cycles run: 848  
Number of cycles run: 872  
Number of cycles run: 1312  
Number of cycles run: 2568  
Number of cycles run: 843  
Number of cycles run: 5016  
Number of cycles run: 1395  
Number of cycles run: 1825  
Number of cycles run: 892  
Number of cycles run: 2823  
Number of cycles run: 2583  
Number of cycles run: 855  
Number of cycles run: 1620  
Number of cycles run: 1839  
Number of cycles run: 15412  
Number of cycles run: 2315  
Number of cycles run: 2648  
Number of cycles run: 3072  
Av cycles for attraction strength 1.6 is 2418  
standard diviation is 2906.210014181806  
Testing average cycles for attraction strength 1.6  
Number of cycles run: 913  
Number of cycles run: 1807  
Number of cycles run: 901  
Number of cycles run: 4917  
Number of cycles run: 876  
Number of cycles run: 750  
Number of cycles run: 740  
Number of cycles run: 4713  
Number of cycles run: 4471  
Number of cycles run: 3341  
Number of cycles run: 1421  
Number of cycles run: 5494  
Number of cycles run: 1003  
Number of cycles run: 2379  
Number of cycles run: 12700  
Number of cycles run: 780  
Number of cycles run: 706  
Number of cycles run: 838  
Number of cycles run: 802  
Number of cycles run: 2927  
Number of cycles run: 1463  
Number of cycles run: 3269  
Number of cycles run: 1672  
Number of cycles run: 1307  
Number of cycles run: 1939  
Number of cycles run: 2425  
Number of cycles run: 3190  
Number of cycles run: 6971  
Number of cycles run: 4865  
Number of cycles run: 1950  
Number of cycles run: 1123  
Number of cycles run: 796  
Number of cycles run: 1893  
Number of cycles run: 8959  
Number of cycles run: 7241  
Number of cycles run: 670  
Number of cycles run: 2381  
Number of cycles run: 1506  
Number of cycles run: 3800  
Number of cycles run: 1679  
Number of cycles run: 3782  
Number of cycles run: 1197  
Number of cycles run: 907  
Number of cycles run: 3080  
Number of cycles run: 743  
Number of cycles run: 3293  
Number of cycles run: 2356  
Number of cycles run: 809  
Number of cycles run: 1340  
Number of cycles run: 4002  
Av cycles for attraction strength 1.6 is 2661  
standard diviation is 2389.4102834065525  
Testing average cycles for attraction strength 1.6  
Number of cycles run: 1484  
Number of cycles run: 2047  
Number of cycles run: 32758  
Number of cycles run: 773  
Number of cycles run: 5527  
Number of cycles run: 10855  
Number of cycles run: 1884  
Number of cycles run: 28188  
Number of cycles run: 795  
Number of cycles run: 50000  
Number of cycles run: 2402  
Number of cycles run: 1777  
Number of cycles run: 5406  
Number of cycles run: 745  
Number of cycles run: 8671  
Number of cycles run: 50000  
Number of cycles run: 841  
Number of cycles run: 1857  
Number of cycles run: 9605  
Number of cycles run: 1318  
Number of cycles run: 1370  
Number of cycles run: 1651  
Number of cycles run: 7683  
Number of cycles run: 2639  
Number of cycles run: 841  
Number of cycles run: 9229  
Number of cycles run: 1471  
Number of cycles run: 821  
Number of cycles run: 776  
Number of cycles run: 806  
Number of cycles run: 942  
Number of cycles run: 854  
Number of cycles run: 1278  
Number of cycles run: 918  
Number of cycles run: 1026  
Number of cycles run: 831  
Number of cycles run: 800  
Number of cycles run: 1174  
Number of cycles run: 1075  
Number of cycles run: 5557  
Number of cycles run: 2372  
Number of cycles run: 15488  
Number of cycles run: 997  
Number of cycles run: 3240  
Number of cycles run: 1186  
Number of cycles run: 1989  
Number of cycles run: 2507  
Number of cycles run: 1065  
Number of cycles run: 1312  
Number of cycles run: 1110  
Av cycles for attraction strength 1.6 is 5798  
standard diviation is 11094.322279638796  
Testing average cycles for attraction strength 1.6  
Number of cycles run: 748  
Number of cycles run: 1380  
Number of cycles run: 1889  
Number of cycles run: 1032  
Number of cycles run: 1529  
Number of cycles run: 1042  
Number of cycles run: 3863  
Number of cycles run: 1734  
Number of cycles run: 2188  
Number of cycles run: 684  
Number of cycles run: 1540  
Number of cycles run: 1414  
Number of cycles run: 3038  
Number of cycles run: 845  
Number of cycles run: 2266  
Number of cycles run: 1255  
Number of cycles run: 12051  
Number of cycles run: 1585  
Number of cycles run: 737  
Number of cycles run: 1225  
Number of cycles run: 871  
Number of cycles run: 4071  
Number of cycles run: 769  
Number of cycles run: 1100  
Number of cycles run: 951  
Number of cycles run: 1337  
Number of cycles run: 1872  
Number of cycles run: 28667  
Number of cycles run: 823  
Number of cycles run: 5825  
Number of cycles run: 3072  
Number of cycles run: 1325  
Number of cycles run: 759  
Number of cycles run: 4292  
Number of cycles run: 16394  
Number of cycles run: 1267  
Number of cycles run: 1150  
Number of cycles run: 1945  
Number of cycles run: 1423  
Number of cycles run: 1623  
Number of cycles run: 829  
Number of cycles run: 2360  
Number of cycles run: 50000  
Number of cycles run: 1217  
Number of cycles run: 1323  
Number of cycles run: 3479  
Number of cycles run: 770  
Number of cycles run: 821  
Number of cycles run: 879  
Number of cycles run: 1013  
Av cycles for attraction strength 1.6 is 3685  
standard diviation is 8134.21094641738  
Testing average cycles for attraction strength 1.6  
Number of cycles run: 3171  
Number of cycles run: 889  
Number of cycles run: 2782  
Number of cycles run: 795  
Number of cycles run: 757  
Number of cycles run: 902  
Number of cycles run: 973  
Number of cycles run: 746  
Number of cycles run: 6711  
Number of cycles run: 2276  
Number of cycles run: 762  
Number of cycles run: 3138  
Number of cycles run: 11719  
Number of cycles run: 971  
Number of cycles run: 1475  
Number of cycles run: 710  
Number of cycles run: 4018  
Number of cycles run: 1993  
Number of cycles run: 1835  
Number of cycles run: 1842  
Number of cycles run: 712  
Number of cycles run: 2079  
Number of cycles run: 30128  
Number of cycles run: 1711  
Number of cycles run: 749  
Number of cycles run: 2150  
Number of cycles run: 2110  
Number of cycles run: 9983  
Number of cycles run: 1856  
Number of cycles run: 50000  
Number of cycles run: 777  
Number of cycles run: 2799  
Number of cycles run: 2758  
Number of cycles run: 1809  
Number of cycles run: 788  
Number of cycles run: 1704  
Number of cycles run: 1599  
Number of cycles run: 708  
Number of cycles run: 964  
Number of cycles run: 4400  
Number of cycles run: 888  
Number of cycles run: 795  
Number of cycles run: 2363  
Number of cycles run: 3653  
Number of cycles run: 1964  
Number of cycles run: 757  
Number of cycles run: 24746  
Number of cycles run: 1554  
Number of cycles run: 1096  
Number of cycles run: 2651  
Av cycles for attraction strength 1.6 is 4174  
standard diviation is 8573.225362720847