

Profiling nbody.py:

-0.16908926275527172
-0.1690524049239141
-0.16901474404530115
-0.16902307738080738
-0.1690798593916716
-0.1690837851340391
-0.1690461237029509
-0.1690141632287673
-0.1690277860596755
-0.16908371256964286
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-0.16907120739400114
-0.16902491372614678
-0.1690054028562737
-0.1690615084418881
-0.16909732952330989
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-0.1690936981250834
-0.16905776550855287
-0.16901607122935539
-0.16901202092861942
-0.1690769590988439
-0.16909176966916228
-0.16905402040535616
-0.16901235909925366
-0.16901736033369455
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-0.16904838452880422
-0.16900663034076266
-0.16902335367423574
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-0.16908055117120765
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-0.16900274590721814
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-0.16909854774651836
-0.16907499697399825
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-0.16905344993896332
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-0.16902288517135491
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-0.16906372791458069
-0.16901758963658736
-0.16900762655227408
-0.16907413362652127
-0.1690966701276139
-0.16905715253841647
-0.16901176533650106
-0.16901316541886924
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-0.16902057135969534
-0.16908716660200046
-0.16908658831414558
-0.16904412116934314
-0.16900740673825185
-0.16902932050670785
-0.16909180276278374
-0.16908292959405574
-0.16903991544261052
-0.16900522540601676
-0.16903656773659115
-0.16909410318888132
-0.169078466211733
-0.16903274720873912
-0.16900284987920383
-0.1690462807510843
-0.1690971767866576
-0.16907293588692712
-0.16902628585294033

326007706 function calls in 48.531 seconds

Ordered by: cumulative time

ncalls	tottime	percall	cumtime	percall	filename:lineno(function)
1	0.000	0.000	48.531	48.531	{built-in method builtins.exec}
1	0.000	0.000	48.531	48.531	nbody.py:1(<module>)
1	0.256	0.256	48.531	48.531	nbody.py:125(nbody)
2000000	11.128	0.000	48.273	0.000	nbody.py:67(advance)

20000000	11.536	0.000	32.858	0.000	nbody.py:54(update_vs)
120000000	11.706	0.000	21.322	0.000	nbody.py:47(compute_b)
120000000	9.615	0.000	9.615	0.000	nbody.py:51(compute_mag)
20002000	1.338	0.000	1.338	0.000	{method 'append' of 'list' objects}
20002000	1.091	0.000	1.091	0.000	nbody.py:44(compute_deltas)
10000000	0.951	0.000	0.951	0.000	nbody.py:62(update_rs)
14001401	0.907	0.000	0.907	0.000	{method 'keys' of 'dict' objects}
200	0.001	0.000	0.002	0.000	nbody.py:88(report_energy)
100	0.001	0.000	0.001	0.000	{built-in method builtins.print}
2000	0.000	0.000	0.000	0.000	nbody.py:85(compute_energy)
1	0.000	0.000	0.000	0.000	{method 'disable' of '_lsprof.Profiler' objects}
1	0.000	0.000	0.000	0.000	nbody.py:108(offset_momentum)

Profiling nbody_1.py:

-0.16908926275527172
 -0.1690524049239141
 -0.16901474404530115
 -0.16902307738080738
 -0.1690798593916716
 -0.1690837851340391
 -0.1690461237029509
 -0.1690141632287673
 -0.1690277860596755
 -0.16908371256964286
 -0.16908078067628346
 -0.16904474158017624
 -0.16901196403207439
 -0.16903317301080864
 -0.16908783999484456
 -0.16908019793585344
 -0.16904027123722912
 -0.16900666759845165
 -0.1690385994000913
 -0.1690927820263521
 -0.16907709741618646
 -0.1690318157474469
 -0.16900365578743826
 -0.16904872400310705
 -0.16909656666618936
 -0.16907120739400114
 -0.16902491372614678
 -0.1690054028562737
 -0.1690615084418881
 -0.16909732952330989
 -0.16906445026914277
 -0.16901977601924423
 -0.1690087837330612
 -0.16906942996092264
 -0.1690936981250834
 -0.16905776550855287
 -0.16901607122935539
 -0.16901202092861942
 -0.1690769590988439

-0.16909176966916228
-0.16905402040535616
-0.16901235909925366
-0.16901736033369455
-0.1690847459685499
-0.16909035534676262
-0.16904838452880422
-0.16900663034076266
-0.16902335367423574
-0.16909124149510837
-0.16908618459859356
-0.16904015517545168
-0.16900291923555205
-0.16903287494400335
-0.16909558331070956
-0.16908055117120765
-0.16903390308620184
-0.16900274590721814
-0.16904459300211724
-0.16909854774651836
-0.16907499697399825
-0.16902883385621698
-0.16900287426063337
-0.16905344993896332
-0.16909778695827116
-0.1690688542355601
-0.16902288517135491
-0.1690034111639226
-0.16906323202819348
-0.16909793327535813
-0.16906372791458069
-0.16901758963658736
-0.16900762655227408
-0.16907413362652127
-0.1690966701276139
-0.16905715253841647
-0.16901176533650106
-0.16901316541886924
-0.16908223578125162
-0.1690918842838697
-0.1690491567289713
-0.1690084483625472
-0.16902057135969534
-0.16908716660200046
-0.16908658831414558
-0.16904412116934314
-0.16900740673825185
-0.16902932050670785
-0.16909180276278374
-0.16908292959405574
-0.16903991544261052
-0.16900522540601676
-0.16903656773659115
-0.16909410318888132
-0.169078466211733

-0.16903274720873912
-0.16900284987920383
-0.1690462807510843
-0.1690971767866576
-0.16907293588692712
-0.16902628585294033

36003706 function calls in 12.977 seconds

Ordered by: cumulative time

ncalls	tottime	percall	cumtime	percall	filename:lineno(function)
1	0.000	0.000	12.977	12.977	{built-in method builtins.exec}
1	0.000	0.000	12.977	12.977	nbody_1.py:1(<module>)
1	0.250	0.250	12.977	12.977	nbody_1.py:130(nbody)
2000000	10.733	0.000	12.725	0.000	nbody_1.py:44(advance)
20002000	1.192	0.000	1.192	0.000	{method 'append' of 'list' objects}
14001401	0.801	0.000	0.801	0.000	{method 'keys' of 'dict' objects}
200	0.001	0.000	0.001	0.000	nbody_1.py:84(report_energy)
100	0.000	0.000	0.000	0.000	{built-in method builtins.print}
1	0.000	0.000	0.000	0.000	{method 'disable' of '_lsprof.Profiler' objects}
1	0.000	0.000	0.000	0.000	nbody_1.py:113(offset_momentum)

Profiling nbody_2.py:

-0.16908926275527172
-0.1690524049239141
-0.16901474404530115
-0.16902307738080738
-0.1690798593916716
-0.1690837851340391
-0.1690461237029509
-0.1690141632287673
-0.1690277860596755
-0.16908371256964286
-0.16908078067628346
-0.16904474158017624
-0.16901196403207439
-0.16903317301080864
-0.16908783999484456
-0.16908019793585344
-0.16904027123722912
-0.16900666759845165
-0.1690385994000913
-0.1690927820263521
-0.16907709741618646
-0.1690318157474469
-0.16900365578743826
-0.16904872400310705
-0.16909656666618936
-0.16907120739400114
-0.16902491372614678
-0.1690054028562737
-0.1690615084418881
-0.16909732952330989

-0.16906445026914277
-0.16901977601924423
-0.1690087837330612
-0.16906942996092264
-0.1690936981250834
-0.16905776550855287
-0.16901607122935539
-0.16901202092861942
-0.1690769590988439
-0.16909176966916228
-0.16905402040535616
-0.16901235909925366
-0.16901736033369455
-0.1690847459685499
-0.16909035534676262
-0.16904838452880422
-0.16900663034076266
-0.16902335367423574
-0.16909124149510837
-0.16908618459859356
-0.16904015517545168
-0.16900291923555205
-0.16903287494400335
-0.16909558331070956
-0.16908055117120765
-0.16903390308620184
-0.16900274590721814
-0.16904459300211724
-0.16909854774651836
-0.16907499697399825
-0.16902883385621698
-0.16900287426063337
-0.16905344993896332
-0.16909778695827116
-0.1690688542355601
-0.16902288517135491
-0.1690034111639226
-0.16906323202819348
-0.16909793327535813
-0.16906372791458069
-0.16901758963658736
-0.16900762655227408
-0.16907413362652127
-0.1690966701276139
-0.16905715253841647
-0.16901176533650106
-0.16901316541886924
-0.16908223578125162
-0.1690918842838697
-0.1690491567289713
-0.1690084483625472
-0.16902057135969534
-0.16908716660200046
-0.16908658831414558
-0.16904412116934314

-0.16900740673825185
-0.16902932050670785
-0.16909180276278374
-0.16908292959405574
-0.16903991544261052
-0.16900522540601676
-0.16903656773659115
-0.16909410318888132
-0.169078466211733
-0.16903274720873912
-0.16900284987920383
-0.1690462807510843
-0.1690971767866576
-0.16907293588692712
-0.16902628585294033

166007706 function calls in 29.025 seconds

Ordered by: cumulative time

ncalls	tottime	percall	cumtime	percall	filename:lineno(function)
1	0.000	0.000	29.025	29.025	{built-in method builtins.exec}
1	0.000	0.000	29.025	29.025	nbody_2.py:1(<module>)
1	0.261	0.261	29.025	29.025	nbody_2.py:129(nbody)
2000000	10.531	0.000	28.761	0.000	nbody_2.py:72(advance)
20000000	6.273	0.000	13.900	0.000	nbody_2.py:55(update_vs)
40000000	4.219	0.000	7.627	0.000	nbody_2.py:48(compute_b)
40000000	3.408	0.000	3.408	0.000	nbody_2.py:52(compute_mag)
20002000	1.359	0.000	1.359	0.000	{method 'add' of 'set' objects}
20002000	1.077	0.000	1.077	0.000	nbody_2.py:45(compute_deltas)
10000000	0.965	0.000	0.965	0.000	nbody_2.py:67(update_rs)
14001401	0.930	0.000	0.930	0.000	{method 'keys' of 'dict' objects}
200	0.001	0.000	0.002	0.000	nbody_2.py:93(report_energy)
100	0.001	0.000	0.001	0.000	{built-in method builtins.print}
2000	0.000	0.000	0.000	0.000	nbody_2.py:90(compute_energy)
1	0.000	0.000	0.000	0.000	{method 'disable' of '_lsprof.Profiler' objects}
1	0.000	0.000	0.000	0.000	nbody_2.py:113(offset_momentum)

Profiling nbody_3.py:

-0.16908926275527172
-0.1690524049239141
-0.16901474404530115
-0.16902307738080738
-0.1690798593916716
-0.1690837851340391
-0.1690461237029509
-0.1690141632287673
-0.1690277860596755
-0.16908371256964286
-0.16908078067628346
-0.16904474158017624
-0.16901196403207439
-0.16903317301080864
-0.16908783999484456

-0.16908019793585344
-0.16904027123722912
-0.16900666759845165
-0.1690385994000913
-0.1690927820263521
-0.16907709741618646
-0.1690318157474469
-0.16900365578743826
-0.16904872400310705
-0.16909656666618936
-0.16907120739400114
-0.16902491372614678
-0.1690054028562737
-0.1690615084418881
-0.16909732952330989
-0.16906445026914277
-0.16901977601924423
-0.1690087837330612
-0.16906942996092264
-0.1690936981250834
-0.16905776550855287
-0.16901607122935539
-0.16901202092861942
-0.1690769590988439
-0.16909176966916228
-0.16905402040535616
-0.16901235909925366
-0.16901736033369455
-0.1690847459685499
-0.16909035534676262
-0.16904838452880422
-0.16900663034076266
-0.16902335367423574
-0.16909124149510837
-0.16908618459859356
-0.16904015517545168
-0.16900291923555205
-0.16903287494400335
-0.16909558331070956
-0.16908055117120765
-0.16903390308620184
-0.16900274590721814
-0.16904459300211724
-0.16909854774651836
-0.16907499697399825
-0.16902883385621698
-0.16900287426063337
-0.16905344993896332
-0.16909778695827116
-0.1690688542355601
-0.16902288517135491
-0.1690034111639226
-0.16906323202819348
-0.16909793327535813
-0.16906372791458069

-0.16901758963658736
 -0.16900762655227408
 -0.16907413362652127
 -0.1690966701276139
 -0.16905715253841647
 -0.16901176533650106
 -0.16901316541886924
 -0.16908223578125162
 -0.1690918842838697
 -0.1690491567289713
 -0.1690084483625472
 -0.16902057135969534
 -0.16908716660200046
 -0.16908658831414558
 -0.16904412116934314
 -0.16900740673825185
 -0.16902932050670785
 -0.16909180276278374
 -0.16908292959405574
 -0.16903991544261052
 -0.16900522540601676
 -0.16903656773659115
 -0.16909410318888132
 -0.169078466211733
 -0.16903274720873912
 -0.16900284987920383
 -0.1690462807510843
 -0.1690971767866576
 -0.16907293588692712
 -0.16902628585294033

152006306 function calls in 26.980 seconds

Ordered by: cumulative time

ncalls	tottime	percall	cumtime	percall	filename:lineno(function)
1	0.000	0.000	26.980	26.980	{built-in method builtins.exec}
1	0.000	0.000	26.980	26.980	nbody_3.py:1(<module>)
1	0.249	0.249	26.980	26.980	nbody_3.py:133(nbody)
2000000	9.869	0.000	26.729	0.000	nbody_3.py:73(advance)
20000000	6.191	0.000	13.654	0.000	nbody_3.py:57(update_vs)
40000000	4.082	0.000	7.462	0.000	nbody_3.py:50(compute_b)
40000000	3.381	0.000	3.381	0.000	nbody_3.py:54(compute_mag)
20002000	1.213	0.000	1.213	0.000	{method 'append' of 'list' objects}
20002000	1.042	0.000	1.042	0.000	nbody_3.py:47(compute_deltas)
10000000	0.951	0.000	0.951	0.000	nbody_3.py:68(update_rs)
200	0.001	0.000	0.001	0.000	nbody_3.py:94(report_energy)
100	0.001	0.000	0.001	0.000	{built-in method builtins.print}
2000	0.000	0.000	0.000	0.000	nbody_3.py:91(compute_energy)
1	0.000	0.000	0.000	0.000	{method 'disable' of '_lsprof.Profiler' objects}
1	0.000	0.000	0.000	0.000	nbody_3.py:116(offset_momentum)
1	0.000	0.000	0.000	0.000	nbody_3.py:5(create_system)

Profiling nbody_4.py:

-0.16908926275527122
-0.169052404923913
-0.16901474404529943
-0.16902307738080968
-0.1690798593916677
-0.16908378513403238
-0.16904612370294247
-0.16901416322875873
-0.1690277860596663
-0.16908371256962781
-0.16908078067626175
-0.16904474158015373
-0.16901196403205895
-0.16903317301078769
-0.1690878399948275
-0.1690801979358341
-0.16904027123721344
-0.16900666759842897
-0.16903859940007188
-0.1690927820263284
-0.16907709741615243
-0.16903181574740783
-0.16900365578740484
-0.16904872400308604
-0.16909656666615272
-0.16907120739395945
-0.16902491372610504
-0.16900540285625448
-0.16906150844188797
-0.16909732952328982
-0.16906445026911385
-0.16901977601921792
-0.1690087837330541
-0.16906942996092486
-0.16909369812505898
-0.1690577655085194
-0.1690160712293284
-0.1690120209286166
-0.16907695909885775
-0.1690917696691449
-0.16905402040532716
-0.16901235909923745
-0.16901736033371512
-0.16908474596856346
-0.16909035534675523
-0.16904838452879545
-0.16900663034076366
-0.16902335367426896
-0.16909124149513283
-0.1690861845986026
-0.16904015517546217
-0.1690029192355695
-0.16903287494403865
-0.16909558331073704
-0.169080551171224

-0.1690339030862191
-0.16900274590723538
-0.169044593002143
-0.16909854774653119
-0.16907499697400824
-0.16902883385622702
-0.16900287426065022
-0.16905344993898783
-0.1690977869583025
-0.16906885423559376
-0.16902288517138878
-0.1690034111639551
-0.16906323202821602
-0.16909793327539782
-0.1690637279146293
-0.16901758963663094
-0.16900762655230192
-0.16907413362653423
-0.16909667012764884
-0.1690571525384619
-0.16901176533654713
-0.16901316541887515
-0.16908223578125048
-0.16909188428390176
-0.1690491567290147
-0.16900844836258525
-0.16902057135968324
-0.16908716660199893
-0.16908658831419743
-0.16904412116940906
-0.16900740673829584
-0.1690293205066924
-0.16909180276278293
-0.16908292959410406
-0.16903991544266486
-0.16900522540604473
-0.1690365677365471
-0.16909410318888515
-0.16907846621179445
-0.16903274720880196
-0.1690028498792328
-0.16904628075105407
-0.16909717678668618
-0.16907293588700245
-0.1690262858530227

254008514 function calls in 38.441 seconds

Ordered by: cumulative time

ncalls	tottime	percall	cumtime	percall	filename:lineno(function)
1	0.000	0.000	38.441	38.441	{built-in method builtins.exec}
1	0.000	0.000	38.441	38.441	nbody_4.py:1(<module>)
1	0.198	0.198	38.441	38.441	nbody_4.py:133(nbody)
2000000	9.433	0.000	38.240	0.000	nbody_4.py:78(advance)
20000000	9.119	0.000	23.769	0.000	nbody_4.py:64(update_vs)

80000000	7.919	0.000	14.650	0.000	nbody_4.py:57(compute_b)
80000000	6.731	0.000	6.731	0.000	nbody_4.py:61(compute_mag)
40004001	2.936	0.000	2.936	0.000	{method 'index' of 'list' objects}
20002000	1.115	0.000	1.115	0.000	nbody_4.py:54(compute_deltas)
10000000	0.900	0.000	0.900	0.000	nbody_4.py:73(update_rs)
2000201	0.088	0.000	0.088	0.000	{built-in method builtins.len}
200	0.001	0.000	0.002	0.000	nbody_4.py:98(report_energy)
100	0.001	0.000	0.001	0.000	{built-in method builtins.print}
2000	0.000	0.000	0.000	0.000	nbody_4.py:95(compute_energy)
1	0.000	0.000	0.000	0.000	{method 'disable' of '_lsprof.Profiler' objects}
1	0.000	0.000	0.000	0.000	nbody_4.py:117(offset_momentum)
7	0.000	0.000	0.000	0.000	{method 'keys' of 'dict' objects}

Profiling nbody_opt.py:

-0.16908926275527172
 -0.1690524049239141
 -0.16901474404530115
 -0.16902307738080738
 -0.1690798593916716
 -0.1690837851340391
 -0.1690461237029509
 -0.1690141632287673
 -0.1690277860596755
 -0.16908371256964286
 -0.16908078067628346
 -0.16904474158017624
 -0.16901196403207439
 -0.16903317301080864
 -0.16908783999484456
 -0.16908019793585344
 -0.16904027123722912
 -0.16900666759845165
 -0.1690385994000913
 -0.1690927820263521
 -0.16907709741618646
 -0.1690318157474469
 -0.16900365578743826
 -0.16904872400310705
 -0.16909656666618936
 -0.16907120739400114
 -0.16902491372614678
 -0.1690054028562737
 -0.1690615084418881
 -0.16909732952330989
 -0.16906445026914277
 -0.16901977601924423
 -0.1690087837330612
 -0.16906942996092264
 -0.1690936981250834
 -0.16905776550855287
 -0.16901607122935539
 -0.16901202092861942
 -0.1690769590988439

-0.16909176966916228
-0.16905402040535616
-0.16901235909925366
-0.16901736033369455
-0.1690847459685499
-0.16909035534676262
-0.16904838452880422
-0.16900663034076266
-0.16902335367423574
-0.16909124149510837
-0.16908618459859356
-0.16904015517545168
-0.16900291923555205
-0.16903287494400335
-0.16909558331070956
-0.16908055117120765
-0.16903390308620184
-0.16900274590721814
-0.16904459300211724
-0.16909854774651836
-0.16907499697399825
-0.16902883385621698
-0.16900287426063337
-0.16905344993896332
-0.16909778695827116
-0.1690688542355601
-0.16902288517135491
-0.1690034111639226
-0.16906323202819348
-0.16909793327535813
-0.16906372791458069
-0.16901758963658736
-0.16900762655227408
-0.16907413362652127
-0.1690966701276139
-0.16905715253841647
-0.16901176533650106
-0.16901316541886924
-0.16908223578125162
-0.1690918842838697
-0.1690491567289713
-0.1690084483625472
-0.16902057135969534
-0.16908716660200046
-0.16908658831414558
-0.16904412116934314
-0.16900740673825185
-0.16902932050670785
-0.16909180276278374
-0.16908292959405574
-0.16903991544261052
-0.16900522540601676
-0.16903656773659115
-0.16909410318888132
-0.169078466211733

-0.16903274720873912
-0.16900284987920383
-0.1690462807510843
-0.1690971767866576
-0.16907293588692712
-0.16902628585294033

4000513 function calls in 6.455 seconds

Ordered by: cumulative time

ncalls	tottime	percall	cumtime	percall	filename:lineno(function)
1	0.000	0.000	6.455	6.455	{built-in method builtins.exec}
1	0.000	0.000	6.455	6.455	nbody_opt.py:1(<module>)
1	0.000	0.000	6.455	6.455	nbody_opt.py:6(main)
1	0.225	0.225	6.455	6.455	nbody_opt.py:101(nbody)
2000000	6.109	0.000	6.229	0.000	nbody_opt.py:33(advance)
2000201	0.121	0.000	0.121	0.000	{method 'values' of 'dict' objects}
200	0.000	0.000	0.000	0.000	nbody_opt.py:64(report_energy)
100	0.000	0.000	0.000	0.000	{built-in method builtins.print}
1	0.000	0.000	0.000	0.000	{method 'disable' of '_lsprof.Profiler' objects}
1	0.000	0.000	0.000	0.000	nbody_opt.py:87(offset_momentum)
6	0.000	0.000	0.000	0.000	{method 'keys' of 'dict' objects}