

Sample output from my solution to Problem #1:
(yours should match the format: the times depend on your machine's speed).

```
find_influencers of size 100
Analysis of 5 timings
avg = 0.00138   min = 0.00135   max = 0.00149   span = 10.4%
```

```
Time Ranges
1.35e-03<>1.36e-03[ 60.0%] | *****
1.36e-03<>1.38e-03[ 20.0%] | *****
1.38e-03<>1.39e-03[  0.0%] | A
1.39e-03<>1.41e-03[  0.0%] |
1.41e-03<>1.42e-03[  0.0%] |
1.42e-03<>1.43e-03[  0.0%] |
1.43e-03<>1.45e-03[  0.0%] |
1.45e-03<>1.46e-03[  0.0%] |
1.46e-03<>1.48e-03[  0.0%] |
1.48e-03<>1.49e-03[  0.0%] |
1.49e-03<>1.51e-03[ 20.0%] | *****
```

```
find_influencers of size 200
Analysis of 5 timings
avg = 0.00507   min = 0.00471   max = 0.00558   span = 17.0%
```

```
Time Ranges
4.71e-03<>4.80e-03[ 40.0%] | *****
4.80e-03<>4.88e-03[  0.0%] |
4.88e-03<>4.97e-03[  0.0%] |
4.97e-03<>5.06e-03[  0.0%] |
5.06e-03<>5.14e-03[ 20.0%] | *****A
5.14e-03<>5.23e-03[ 20.0%] | *****
5.23e-03<>5.32e-03[  0.0%] |
5.32e-03<>5.40e-03[  0.0%] |
5.40e-03<>5.49e-03[  0.0%] |
5.49e-03<>5.58e-03[  0.0%] |
5.58e-03<>5.66e-03[ 20.0%] | *****
```

```
find_influencers of size 400
Analysis of 5 timings
avg = 0.01793   min = 0.01768   max = 0.01832   span = 3.6%
```

```
Time Ranges
1.77e-02<>1.77e-02[ 40.0%] | *****
1.77e-02<>1.78e-02[  0.0%] |
1.78e-02<>1.79e-02[  0.0%] |
1.79e-02<>1.79e-02[ 20.0%] | *****A
1.79e-02<>1.80e-02[  0.0%] |
1.80e-02<>1.81e-02[ 20.0%] | *****
1.81e-02<>1.81e-02[  0.0%] |
1.81e-02<>1.82e-02[  0.0%] |
1.82e-02<>1.83e-02[  0.0%] |
1.83e-02<>1.83e-02[  0.0%] |
1.83e-02<>1.84e-02[ 20.0%] | *****
```

```
find_influencers of size 800
Analysis of 5 timings
avg = 0.06912   min = 0.06854   max = 0.06989   span = 1.9%
```

```
Time Ranges
6.85e-02<>6.87e-02[ 40.0%] | *****
```

```

6.87e-02<>6.88e-02[ 0.0%]|
6.88e-02<>6.89e-02[ 0.0%]|
6.89e-02<>6.91e-02[ 0.0%]|
6.91e-02<>6.92e-02[ 20.0%]|*****A
6.92e-02<>6.93e-02[ 20.0%]|*****
6.93e-02<>6.95e-02[ 0.0%]|
6.95e-02<>6.96e-02[ 0.0%]|
6.96e-02<>6.98e-02[ 0.0%]|
6.98e-02<>6.99e-02[ 0.0%]|
6.99e-02<>7.00e-02[ 20.0%]|*****

```

find_influencers of size 1600

Analysis of 5 timings

avg = 0.26481 min = 0.26267 max = 0.26695 span = 1.6%

Time Ranges

```

2.63e-01<>2.63e-01[ 20.0%]|*****
2.63e-01<>2.64e-01[ 20.0%]|*****
2.64e-01<>2.64e-01[ 0.0%]|
2.64e-01<>2.64e-01[ 0.0%]|
2.64e-01<>2.65e-01[ 0.0%]|
2.65e-01<>2.65e-01[ 0.0%]|A
2.65e-01<>2.66e-01[ 20.0%]|*****
2.66e-01<>2.66e-01[ 20.0%]|*****
2.66e-01<>2.67e-01[ 0.0%]|
2.67e-01<>2.67e-01[ 0.0%]|
2.67e-01<>2.67e-01[ 20.0%]|*****

```

find_influencers of size 3200

Analysis of 5 timings

avg = 1.05203 min = 1.04669 max = 1.05624 span = 0.9%

Time Ranges

```

1.05e+00<>1.05e+00[ 20.0%]|*****
1.05e+00<>1.05e+00[ 0.0%]|
1.05e+00<>1.05e+00[ 0.0%]|
1.05e+00<>1.05e+00[ 0.0%]|
1.05e+00<>1.05e+00[ 20.0%]|*****
1.05e+00<>1.05e+00[ 20.0%]|*****A
1.05e+00<>1.05e+00[ 0.0%]|
1.05e+00<>1.05e+00[ 20.0%]|*****
1.05e+00<>1.06e+00[ 0.0%]|
1.06e+00<>1.06e+00[ 0.0%]|
1.06e+00<>1.06e+00[ 20.0%]|*****

```

find_influencers of size 6400

Analysis of 5 timings

avg = 4.27326 min = 4.23880 max = 4.34914 span = 2.6%

Time Ranges

```

4.24e+00<>4.25e+00[ 20.0%]|*****
4.25e+00<>4.26e+00[ 40.0%]|*****
4.26e+00<>4.27e+00[ 0.0%]|
4.27e+00<>4.28e+00[ 20.0%]|*****A
4.28e+00<>4.29e+00[ 0.0%]|
4.29e+00<>4.31e+00[ 0.0%]|
4.31e+00<>4.32e+00[ 0.0%]|
4.32e+00<>4.33e+00[ 0.0%]|
4.33e+00<>4.34e+00[ 0.0%]|
4.34e+00<>4.35e+00[ 0.0%]|
4.35e+00<>4.36e+00[ 20.0%]|*****

```

find_influencers of size 12800

Analysis of 5 timings

avg = 17.19122 min = 17.07160 max = 17.53053 span = 2.7%

Time Ranges

```

1.71e+01<>1.71e+01[ 60.0%] | *****
1.71e+01<>1.72e+01[ 20.0%] | *****
1.72e+01<>1.72e+01[  0.0%] | A
1.72e+01<>1.73e+01[  0.0%] |
1.73e+01<>1.73e+01[  0.0%] |
1.73e+01<>1.73e+01[  0.0%] |
1.73e+01<>1.74e+01[  0.0%] |
1.74e+01<>1.74e+01[  0.0%] |
1.74e+01<>1.75e+01[  0.0%] |
1.75e+01<>1.75e+01[  0.0%] |
1.75e+01<>1.76e+01[ 20.0%] | *****

```

Sample output from my solution to Problem #2:

(yours should match the format: the times/counts depend on your machine's speed and the random graph created).

Note that I elided (...) part of the file name: C:\Users\Pattis\workspace\33quiz8

Sat Dec 2 09:59:52 2017 test_profile

2782794 function calls (2782793 primitive calls) in 1.292 seconds

Ordered by: call count

List reduced from 110 to 20 due to restriction <20>

ncalls	totttime	percall	cumtime	percall	filename:lineno(function)
817488	0.090	0.000	0.090	0.000	...influence.py:69(<lambda>)
408744	0.298	0.000	0.388	0.000	...adjustablepriorityqueue.py:22(_trichotomy)
340464	0.023	0.000	0.023	0.000	{built-in method builtins.len}
278886	0.044	0.000	0.044	0.000	...adjustablepriorityqueue.py:44(_parent)
272021	0.082	0.000	0.101	0.000	...adjustablepriorityqueue.py:60(_in_heap)
219612	0.159	0.000	0.159	0.000	...adjustablepriorityqueue.py:64(_swap)
151162	0.026	0.000	0.026	0.000	...adjustablepriorityqueue.py:29(_left_child)
120859	0.018	0.000	0.018	0.000	...adjustablepriorityqueue.py:36(_right_child)
42478	0.056	0.000	0.495	0.000	...adjustablepriorityqueue.py:134(updated)
37036	0.265	0.000	0.724	0.000	...adjustablepriorityqueue.py:95(_percolate_down)
25442	0.132	0.000	0.359	0.000	...adjustablepriorityqueue.py:72(_percolate_up)
18435	0.006	0.000	0.011	0.000	...adjustablepriorityqueue.py:170(is_empty)
18435	0.004	0.000	0.005	0.000	...adjustablepriorityqueue.py:177(size)
10000	0.015	0.000	0.656	0.000	...adjustablepriorityqueue.py:121(remove)
10000	0.002	0.000	0.002	0.000	{built-in method math.ceil}
10000	0.002	0.000	0.002	0.000	{method 'pop' of 'list' objects}
1566	0.000	0.000	0.000	0.000	{method 'add' of 'set' objects}
12	0.000	0.000	0.000	0.000	{method 'rstrip' of 'str' objects}
7	0.000	0.000	0.000	0.000	{method 'join' of 'str' objects}
6	0.000	0.000	0.000	0.000	<frozen importlib._bootstrap>:208(_verbose_message)>

Sat Dec 2 09:59:52 2017 test_profile

2782794 function calls (2782793 primitive calls) in 1.292 seconds

Ordered by: internal time

List reduced from 110 to 20 due to restriction <20>

ncalls	totttime	percall	cumtime	percall	filename:lineno(function)
408744	0.298	0.000	0.388	0.000	...adjustablepriorityqueue.py:22(_trichotomy)
37036	0.265	0.000	0.724	0.000	...adjustablepriorityqueue.py:95(_percolate_down)
219612	0.159	0.000	0.159	0.000	...adjustablepriorityqueue.py:64(_swap)
25442	0.132	0.000	0.359	0.000	...adjustablepriorityqueue.py:72(_percolate_up)
817488	0.090	0.000	0.090	0.000	...influence.py:69(<lambda>)
272021	0.082	0.000	0.101	0.000	...adjustablepriorityqueue.py:60(_in_heap)
42478	0.056	0.000	0.495	0.000	...adjustablepriorityqueue.py:134(updated)
1	0.053	0.053	1.291	1.291	...influence.py:65(find_influencers3)
278886	0.044	0.000	0.044	0.000	...adjustablepriorityqueue.py:44(_parent)
151162	0.026	0.000	0.026	0.000	...adjustablepriorityqueue.py:29(_left_child)
340464	0.023	0.000	0.023	0.000	{built-in method builtins.len}
120859	0.018	0.000	0.018	0.000	...adjustablepriorityqueue.py:36(_right_child)
10000	0.015	0.000	0.656	0.000	...adjustablepriorityqueue.py:121(remove)
1	0.012	0.012	0.016	0.016	...influence.py:68(<dictcomp>)
18435	0.006	0.000	0.011	0.000	...adjustablepriorityqueue.py:170(is_empty)
18435	0.004	0.000	0.005	0.000	...adjustablepriorityqueue.py:177(size)
1	0.003	0.003	0.062	0.062	...adjustablepriorityqueue.py:52(_heapify)

10000	0.002	0.000	0.002	0.000 {built-in method math.ceil}
10000	0.002	0.000	0.002	0.000 {method 'pop' of 'list' objects}
1	0.001	0.001	0.002	0.002 ...influence.py:67(<setcomp>)