Programming Assignment 1: Percolation | percolation.zip

Submission	
Submission time	Sun-24-Feb 20:43:02
Raw Score	87.00 / 100.00
Feedback	See the Assessment Guide for information on how to read this report.

Assessment Summary

```
Compilation:  PASSED
Style:        FAILED
Findbugs:     No potential bugs found.
API:          PASSED

Correctness:  16/20 tests passed
Memory:       8/8 tests passed
Timing:       9/9 tests passed

Raw score: 87.00% [Correctness: 65%, Memory: 10%, Timin
g: 25%, Style: 0%]
```

Assessment Details

```
files submitted
--------------------------------
total 12K
-rw-r--r-- 1 3.3K Feb 25 04:43 Percolation.java
-rw-r--r-- 1 2.3K Feb 25 04:43 PercolationStats.java
-rw-r--r-- 1 2.3K Feb 25 04:43 studentSubmission.zip
```

Submission

```
*********************************************************
**********************
*  compiling
*********************************************************
**********************


% javac Percolation.java
*---------------------------------------------------------
-----
=========================================================
=========

% javac PercolationStats.java
*---------------------------------------------------------
-----
=========================================================
=========



% checkstyle *.java
*---------------------------------------------------------
-----
Percolation.java:29:34: 'N' hides a field.
Percolation.java:71:5: Conditional logic can be removed
.
=========================================================
=========


% findbugs *.class
*---------------------------------------------------------
-----
=========================================================
=========


Testing the APIs of your programs.
```

Submission

```
*-----------------------------------------------------
-----
Percolation:

PercolationStats:

============================================================
=========


************************************************************
**********************
*  executing
************************************************************
**********************

Testing methods in Percolation
*-----------------------------------------------------
-----
Running 13 total tests.

Test 1: Check whether exception is called if (i, j) are
 out of bounds
  *  N = 10, (i, j) = (0, 6)
  *  N = 10, (i, j) = (12, 6)
  *  N = 10, (i, j) = (11, 6)
  *  N = 10, (i, j) = (6, 0)
  *  N = 10, (i, j) = (6, 12)
  *  N = 10, (i, j) = (6, 11)
==> passed

Tests 2 through 8 create a Percolation object using you
r code, then repeatedly
open sites using open(i, j). After each call to open, w
e check that isFull(),
isOpen(), and percolates() return the corrrect results.

Test 2: Open predetermined list of sites using files
  *  filename = input6.txt
```

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```
  *  filename = input8.txt
  *  filename = input8-no.txt
  *  filename = input10-no.txt
  *  filename = greeting57.txt
  *  filename = heart25.txt
==> passed

Test 3: Open random sites until system percolates (then
 test is terminated)
  *  N = 3
  *  N = 5
  *  N = 10
  *  N = 10
  *  N = 20
  *  N = 20
  *  N = 50
  *  N = 50
==> passed

Test 4: Opens predetermined sites, but where N = 1 and
N = 2 (corner case test)
  *  filename = input1.txt
  *  filename = input1-no.txt
  *  filename = input2.txt
  *  filename = input2-no.txt
==> passed

Test 5: Check for backwash with predetermined sites
  *  filename = input20.txt
     isFull(18, 1) returns wrong value [after 231 total
 calls to open()]
     - student   = true
     - reference = false
  *  filename = input10.txt
     isFull(9, 1) returns wrong value [after 56 total c
alls to open()]
     - student   = true
     - reference = false
  *  filename = input50.txt
```

Submission

```
     isFull(22, 28) returns wrong value [after 1412 tot
al calls to open()]
     - student   = true
     - reference = false
==> FAILED

Test 6: Check for backwash with predetermined sites tha
t havemultiple percolating paths
  *  filename = input3.txt
     isFull(3, 1) returns wrong value [after 4 total ca
lls to open()]
     - student   = true
     - reference = false
  *  filename = input4.txt
     isFull(4, 4) returns wrong value [after 7 total ca
lls to open()]
     - student   = true
     - reference = false
  *  filename = input7.txt
     isFull(6, 1) returns wrong value [after 12 total c
alls to open()]
     - student   = true
     - reference = false
==> FAILED

Test 7: Predetermined sites with very long percolating
path
  *  filename = snake13.txt
  *  filename = snake101.txt
==> passed

Test 8: Opens every site
  *  filename = input5.txt
==> passed

Test 9: Create multiple Percolation objects at the same
 time
        (to make sure you didn't store data in static v
ariables)
```

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```
==> passed

Test 10: Open predetermined list of sites using file
         but change the order in which methods are call
ed
  *  filename = input8.txt;  order =     isFull(),
isOpen(), percolates()
  *  filename = input8.txt;  order =     isFull(), perc
olates(),     isOpen()
  *  filename = input8.txt;  order =     isOpen(),
isFull(), percolates()
  *  filename = input8.txt;  order =     isOpen(), perc
olates(),     isFull()
  *  filename = input8.txt;  order = percolates(),
isOpen(),     isFull()
  *  filename = input8.txt;  order = percolates(),
isFull(),     isOpen()
==> passed

Test 11: Call all methods in random order until just be
fore system percolates
  *  N = 3
  *  N = 5
  *  N = 7
  *  N = 10
  *  N = 20
  *  N = 50
==> passed

Test 12: Call all methods in random order with inputs n
ot prone to backwash
  *  N = 3
  *  N = 5
  *  N = 7
     isFull(7, 1) returns wrong value [after 34 total c
alls to open()]
     - student   = true
     - reference = false
  *  N = 10
```

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```
  *  N = 20
     isFull(20, 1) returns wrong value [after 299 total
 calls to open()]
     - student   = true
     - reference = false
  *  N = 50
     isFull(50, 1) returns wrong value [after 1880 tota
l calls to open()]
     - student   = true
     - reference = false
==> FAILED

Test 13: Call all methods in random order until all sit
es are open
  *  N = 3
  *  N = 5
     isFull(5, 3) returns wrong value [after 16 total c
alls to open()]
     - student   = true
     - reference = false
  *  N = 7
     isFull(5, 1) returns wrong value [after 23 total c
alls to open()]
     - student   = true
     - reference = false
  *  N = 10
  *  N = 20
     isFull(17, 1) returns wrong value [after 207 total
 calls to open()]
     - student   = true
     - reference = false
  *  N = 50
     isFull(12, 43) returns wrong value [after 1483 tot
al calls to open()]
     - student   = true
     - reference = false
==> FAILED
```

Submission

```
Total: 9/13 tests passed!
================================================================
=========

Testing methods in PercolationStats
*-----------------------------------------------------------
-----
Running 7 total tests.

Test 1a-1b: Test mean and standard deviation of percola
tion threshold

Creating new PercolationStats(100, 50)
-----------------------------------------------

PercolationStats reports:
        mean():    0.593 (passed)
        stddev():  0.014 (passed)

        Overall result: passed

Creating new PercolationStats(200, 10)
-----------------------------------------------

PercolationStats reports:
        mean():    0.599 (passed)
        stddev():  0.008 (passed)

        Overall result: passed


Test 1c-d: Test confidence interval of PercolationStats

Creating new PercolationStats(100, 50)
-----------------------------------------------
PercolationStats reports:
        confidenceLo():    0.596 (passed)
        confidenceHi():  0.596 (passed)
==> passed
```

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```
Creating new PercolationStats(200, 10)
-----------------------------------------------
PercolationStats reports:
        confidenceLo():    0.597 (passed)
        confidenceHi():  0.597 (passed)
==> passed

Test 2: Check whether exception is called if N, T are o
ut of bounds
  *  N = -23, T = 42
  *  N =  23, T =  0
  *  N = -42, T =  0
==> passed

Test 3: Create multiple PercolationStats objects at the
 same time (to make sure you didn't store data in stati
c variables)
==> passed

Test 4: Call the methods of PercolationStats in either
order.
  *  order = mean(), stddev()
  *  order = stddev(), mean()
==> passed

Total: 7/7 tests passed!

================================================================
=========

*****************************************************************
**********************
*  memory usage
*****************************************************************
**********************

Computing memory of Percolation
*---------------------------------------------------
```

Submission

```
-----
Running 4 total tests.

Test 1a-1d: Measuring total memory usage as a function
of grid size (max allowed: 17 N^2 + 128 N + 1024 bytes)

                 N        bytes
-------------------------------------------
=> passed       64        39088
=> passed      256       598192
=> passed      512      2375856
=> passed     1024      9470128
==> 4/4 tests passed


Estimated student memory = 9.00 N^2 + 32.00 N + 176.00
 (R^2 = 1.000)

Total: 4/4 tests passed!

================================================================
=========



Computing memory of PercolationStats
*-----------------------------------------------------
-----
Running 4 total tests.

Test 1a-1d: Measuring total memory usage as a function
of T (max allowed: 8 T + 128 bytes)

                 T        bytes
-------------------------------------------
=> passed       16           48
=> passed       32           48
=> passed       64           48
=> passed      128           48
```

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```
==> 4/4 tests passed


Estimated student memory = 48.00  (R^2 = 1.000)

Total: 4/4 tests passed!

================================================================
=========



********************************************************
**********************
*  timing
********************************************************
**********************

Timing Percolation
*-------------------------------------------------------
-----
Running 9 total tests.

Tests 1a-1e: Measuring runtime and counting calls to co
nnected(), union() and
             find() in WeightedQuickUnionUF.


For each N, a percolation object is generated and sites
 are randomly opened
until the system percolates. If you do not pass the cor
rectness tests, these
results may be meaningless.

                                                    2 * co
nnected()
                 N   seconds       union()
 + find()        constructor
-------------------------------------------------------
```

Submission

```
-------------------------------------
=> passed        8     0.00           67
    164                  1
=> passed       32     0.00          781
   1866                  1
=> passed      128     0.03        11399
  28834                  1
=> passed      512     0.12       185772
 474148                  1
=> passed     1024     0.21       729779
1864838                  1
==> 5/5 tests passed

Running time in seconds depends on the machine on which
 the script runs,
and  varies each time that you submit. If one of the va
lues in the table
violates the performance limits, the factor by which yo
u failed the test
appears in parentheses. For example, (9.6x) in the unio
n() column
indicates that it uses 9.6x too many calls.


Tests 2a-2d: This test checks whether you use a constan
t number of calls to
union(), connected(), and find() per call to open(), is
Full(), and percolates().
The table below shows max(union(), connected(), find())
 calls made during a
single call to open(), isFull(), and percolates().

                 N     per open()      per isOpen()
per isFull()    per percolates()
-------------------------------------------------------
-------------------------------------
=> passed       32        4               0
   1               1
=> passed      128        4               0
```

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```
   1               1
=> passed      512        4               0
   1               1
=> passed     1024        4               0
   1               1
==> 4/4 tests passed

Total: 9/9 tests passed!
=========================================================
=========
```

Submission	
Submission time	Sun-24-Feb 14:40:23
Raw Score	56.00 / 100.00
Feedback	See the Assessment Guide for information on how to read this report.

Assessment Summary

```
Compilation:  PASSED
Style:        PASSED
Findbugs:     No potential bugs found.
API:          PASSED

Correctness:  8/20 tests passed
Memory:       4/8 tests passed
Timing:       9/9 tests passed

Raw score: 56.00% [Correctness: 65%, Memory: 10%, Timin
g: 25%, Style: 0%]
```

Assessment Details

Submission

```
files submitted
--------------------------------
total 12K
-rw-r--r-- 1 2.9K Feb 24 22:40 Percolation.java
-rw-r--r-- 1 2.7K Feb 24 22:40 PercolationStats.java
-rw-r--r-- 1 2.3K Feb 24 22:40 studentSubmission.zip


********************************************************
**********************
*  compiling
********************************************************
**********************


% javac Percolation.java
*-------------------------------------------------------
-----
========================================================
=========

% javac PercolationStats.java
*-------------------------------------------------------
-----
========================================================
=========



% checkstyle *.java
*-------------------------------------------------------
-----
========================================================
=========


% findbugs *.class
*-------------------------------------------------------
-----
```

Submission

```
================================================================


Testing the APIs of your programs.
*-----------------------------------------------------------
-----
Percolation:

PercolationStats:

================================================================


****************************************************************
**********************
*  executing
****************************************************************
**********************

Testing methods in Percolation
*-----------------------------------------------------------
-----
Running 13 total tests.

Test 1: Check whether exception is called if (i, j) are
 out of bounds
  *  N = 10, (i, j) = (0, 6)
  *  N = 10, (i, j) = (12, 6)
  *  N = 10, (i, j) = (11, 6)
  *  N = 10, (i, j) = (6, 0)
  *  N = 10, (i, j) = (6, 12)
  *  N = 10, (i, j) = (6, 11)
==> passed

Tests 2 through 8 create a Percolation object using you
r code, then repeatedly
open sites using open(i, j). After each call to open, w
```

Submission

```
e check that isFull(),
isOpen(), and percolates() return the corrrect results.

Test 2: Open predetermined list of sites using files
  *  filename = input6.txt
  *  filename = input8.txt
  *  filename = input8-no.txt
  *  filename = input10-no.txt
  *  filename = greeting57.txt
  *  filename = heart25.txt
==> passed

Test 3: Open random sites until system percolates (then
 test is terminated)
  *  N = 3
  *  N = 5
  *  N = 10
  *  N = 10
  *  N = 20
  *  N = 20
  *  N = 50
  *  N = 50
==> passed

Test 4: Opens predetermined sites, but where N = 1 and
N = 2 (corner case test)
  *  filename = input1.txt
     percolates() returns wrong value [after 0 total ca
lls to open()]
     - student   = true
     - reference = false
  *  filename = input1-no.txt
     percolates() returns wrong value [after 0 total ca
lls to open()]
     - student   = true
     - reference = false
  *  filename = input2.txt
  *  filename = input2-no.txt
==> FAILED
```

Submission

```
Test 5: Check for backwash with predetermined sites
  *  filename = input20.txt
     isFull(18, 1) returns wrong value [after 231 total
 calls to open()]
     - student   = true
     - reference = false
  *  filename = input10.txt
     isFull(9, 1) returns wrong value [after 56 total c
alls to open()]
     - student   = true
     - reference = false
  *  filename = input50.txt
     isFull(22, 28) returns wrong value [after 1412 tot
al calls to open()]
     - student   = true
     - reference = false
==> FAILED

Test 6: Check for backwash with predetermined sites tha
t havemultiple percolating paths
  *  filename = input3.txt
     isFull(3, 1) returns wrong value [after 4 total ca
lls to open()]
     - student   = true
     - reference = false
  *  filename = input4.txt
     isFull(4, 4) returns wrong value [after 7 total ca
lls to open()]
     - student   = true
     - reference = false
  *  filename = input7.txt
     isFull(6, 1) returns wrong value [after 12 total c
alls to open()]
     - student   = true
     - reference = false
==> FAILED

Test 7: Predetermined sites with very long percolating
```

Submission

```
path
  *  filename = snake13.txt
  *  filename = snake101.txt
==> passed

Test 8: Opens every site
  *  filename = input5.txt
==> passed

Test 9: Create multiple Percolation objects at the same
 time
        (to make sure you didn't store data in static v
ariables)
==> passed

Test 10: Open predetermined list of sites using file
         but change the order in which methods are call
ed
  *  filename = input8.txt;  order =     isFull(),
isOpen(), percolates()
  *  filename = input8.txt;  order =     isFull(), perc
olates(),     isOpen()
  *  filename = input8.txt;  order =     isOpen(),
isFull(), percolates()
  *  filename = input8.txt;  order =     isOpen(), perc
olates(),     isFull()
  *  filename = input8.txt;  order = percolates(),
isOpen(),     isFull()
  *  filename = input8.txt;  order = percolates(),
isFull(),     isOpen()
==> passed

Test 11: Call all methods in random order until just be
fore system percolates
  *  N = 3
  *  N = 5
  *  N = 7
  *  N = 10
  *  N = 20
```

Submission

```
  *  N = 50
==> passed

Test 12: Call all methods in random order with inputs n
ot prone to backwash
  *  N = 3
  *  N = 5
  *  N = 7
  *  N = 10
     isFull(10, 1) returns wrong value [after 84 total
calls to open()]
     - student   = true
     - reference = false
  *  N = 20
     isFull(20, 1) returns wrong value [after 357 total
 calls to open()]
     - student   = true
     - reference = false
  *  N = 50
     isFull(50, 1) returns wrong value [after 2322 tota
l calls to open()]
     - student   = true
     - reference = false
==> FAILED

Test 13: Call all methods in random order until all sit
es are open
  *  N = 3
     isFull(3, 3) returns wrong value [after 6 total ca
lls to open()]
     - student   = true
     - reference = false
  *  N = 5
  *  N = 7
     isFull(7, 2) returns wrong value [after 27 total c
alls to open()]
     - student   = true
     - reference = false
  *  N = 10
```

Submission

```
  *  N = 20
     isFull(14, 9) returns wrong value [after 240 total
 calls to open()]
     - student   = true
     - reference = false
  *  N = 50
     isFull(48, 1) returns wrong value [after 1566 tota
l calls to open()]
     - student   = true
     - reference = false
==> FAILED


Total: 8/13 tests passed!
================================================================
=========

Testing methods in PercolationStats
*-----------------------------------------------------------
-----
Running 7 total tests.

Test 1a-1b: Test mean and standard deviation of percola
tion threshold

Creating new PercolationStats(100, 50)
-----------------------------------------------
Experiment: 1 i: 41 j: 40
Experiment: 1 i: 57 j: 54
Experiment: 1 i: 56 j: 53
Experiment: 1 i: 59 j: 54
Experiment: 1 i: 23 j: 51
Experiment: 1 i: 27 j: 9
Experiment: 1 i: 12 j: 17
Experiment: 1 i: 37 j: 42
Experiment: 1 i: 19 j: 56
Experiment: 1 i: 39 j: 87
Experiment: 1 i: 49 j: 53
Experiment: 1 i: 90 j: 36
```

Submission

```
Experiment: 1 i: 3 j: 99
Experiment: 1 i: 36 j: 99
Experiment: 1 i: 77 j: 11
Experiment: 1 i: 35 j: 5
Experiment: 1 i: 9 j: 52
Experiment: 1 i: 86 j: 86
Experiment: 1 i: 39 j: 39
Experiment: 1 i: 22 j: 63
Experiment: 1 i: 32 j: 63
Experiment: 1 i: 27 j: 77
Experiment: 1 i: 57 j: 70
Experiment: 1 i: 45 j: 19
Experiment: 1 i: 50 j: 68
Experiment: 1 i: 46 j: 68
Experiment: 1 i: 75 j: 54
Experiment: 1 i: 74 j: 87
Experiment: 1 i: 65 j: 24
Experiment: 1 i: 10 j: 56
Experiment: 1 i: 98 j: 11
Experiment: 1 i: 85 j: 8
Experiment: 1 i: 88 j: 57
Experiment: 1 i: 61 j: 90
Experiment: 1 i: 17 j: 31
Experiment: 1 i: 50 j: 88
Experiment: 1 i: 17 j: 45
Experiment: 1 i: 75 j: 77
Experiment: 1 i: 56 j: 23
Experiment: 1 i: 50 j: 28
Experiment: 1 i: 63 j: 12
Experiment: 1 i: 77 j: 95
Experiment: 1 i: 41 j: 79
Experiment: 1 i: 55 j: 59
Experiment: 1 i: 71 j: 53
Experiment: 1 i: 36 j: 63
Experiment: 1 i: 21 j: 61
Experiment: 1 i: 23 j: 13
Experiment: 1 i: 24 j: 68
Experiment: 1 i: 90 j: 92
Experiment: 1 i: 66 j: 38
```

Submission

```
Experiment: 1 i: 11 j: 37
Experiment: 1 i: 12 j: 63
Experiment: 1 i: 25 j: 76
Experiment: 1 i: 47 j: 23
Experiment: 1 i: 9 j: 58
Experiment: 1 i: 93 j: 91
Experiment: 1 i: 33 j: 94
Experiment: 1 i: 56 j: 48
Experiment: 1 i: 48 j: 1
Experiment: 1 i: 67 j: 39
Experiment: 1 i: 20 j: 21
Experiment: 1 i: 37 j: 84
Experiment: 1 i: 44 j: 29
Experiment: 1 i: 71 j: 29
Experiment: 1 i: 17 j: 94
Experiment: 1 i: 100 j: 75
Experiment: 1 i: 57 j: 56
Experiment: 1 i: 19 j: 99
Experiment: 1 i: 51 j: 64
Experiment: 1 i: 50 j: 18
Experiment: 1 i: 98 j: 97
Experiment: 1 i: 74 j: 15
Experiment: 1 i: 44 j: 51
Experiment: 1 i: 84 j: 78
Experiment: 1 i: 71 j: 60
Experiment: 1 i: 67 j: 58
Experiment: 1 i: 93 j: 16
Experiment: 1 i: 31 j: 68
Experiment: 1 i: 81 j: 35
Experiment: 1 i: 38 j: 48
Experiment: 1 i: 90 j: 26
Experiment: 1 i: 45 j: 18
Experiment: 1 i: 99 j: 4
Experiment: 1 i: 92 j: 93
Experiment: 1 i: 100 j: 40
Experiment: 1 i: 7 j: 28
Experiment: 1 i: 20 j: 40
Experiment: 1 i: 57 j: 98
Experiment: 1 i: 4 j: 8
```

Submission

```
Experiment: 1 i: 100 j: 12
Experiment: 1 i: 17 j: 53
Experiment: 1 i: 73 j: 78
Experiment: 1 i: 46 j: 6
Experiment: 1 i: 6 j: 70
Experiment: 1 i: 14 j: 32
Experiment: 1 i: 37 j: 68
Experiment: 1 i: 17 j: 18
Experiment: 1 i: 25 j: 27
Experiment: 1 i: 57 j: 95
Experiment: 1 i: 9 j: 55
Experiment: 1 i: 60 j: 64
Experiment: 1 i: 73 j: 42
Experiment: 1 i: 44 j: 87
Experiment: 1 i: 41 j: 29
Experiment: 1 i: 84 j: 91
Experiment: 1 i: 68 j: 94
Experiment: 1 i: 10 j: 91
Experiment: 1 i: 14 j: 14
Experiment: 1 i: 26 j: 25
Experiment: 1 i: 46 j: 17
Experiment: 1 i: 82 j: 23
Experiment: 1 i: 12 j: 7
Experiment: 1 i: 83 j: 44
Experiment: 1 i: 47 j: 59
Experiment: 1 i: 69 j: 29
Experiment: 1 i: 63 j: 7
Experiment: 1 i: 19 j: 16
Experiment: 1 i: 81 j: 7
Experiment: 1 i: 42 j: 67
Experiment: 1 i: 28 j: 47
Experiment: 1 i: 24 j: 58
Experiment: 1 i: 96 j: 76
Experiment: 1 i: 29 j: 7
Experiment: 1 i: 30 j: 87
Experiment: 1 i: 30 j: 2
Experiment: 1 i: 92 j: 49
Experiment: 1 i: 74 j: 97
Experiment: 1 i: 99 j: 59
```

Submission

```
Experiment: 1 i: 46 j: 38
Experiment: 1 i: 59 j: 93
Experiment: 1 i: 45 j: 31
Experiment: 1 i: 86 j: 63
Experiment: 1 i: 57 j: 36
Experiment: 1 i: 17 j: 63
Experiment: 1 i: 78 j: 28
Experiment: 1 i: 52 j: 42
Experiment: 1 i: 16 j: 95
Experiment: 1 i: 53 j: 23
Experiment: 1 i: 71 j: 72
Experiment: 1 i: 49 j: 65
Experiment: 1 i: 3 j: 34
Experiment: 1 i: 19 j: 14
Experiment: 1 i: 46 j: 89
Experiment: 1 i: 96 j: 27
Experiment: 1 i: 70 j: 50
Experiment: 1 i: 14 j: 73
Experiment: 1 i: 34 j: 84
Experiment: 1 i: 43 j: 32
Experiment: 1 i: 71 j: 37
Experiment: 1 i: 59 j: 92
Experiment: 1 i: 24 j: 89
Experiment: 1 i: 23 j: 98
Experiment: 1 i: 12 j: 31
Experiment: 1 i: 99 j: 52
Experiment: 1 i: 58 j: 36
Experiment: 1 i: 20 j: 17
Experiment: 1 i: 57 j: 52
Experiment: 1 i: 61 j: 76
Experiment: 1 i: 44 j: 38
Experiment: 1 i: 3 j: 24
Experiment: 1 i: 51 j: 14
Experiment: 1 i: 71 j: 25
Experiment: 1 i: 75 j: 84
Experiment: 1 i: 20 j: 78
Experiment: 1 i: 73 j: 70
Experiment: 1 i: 91 j: 50
Experiment: 1 i: 81 j: 83
```

Submission

```
Experiment: 1 i: 17 j: 5
Experiment: 1 i: 15 j: 47
Experiment: 1 i: 44 j: 24
Experiment: 1 i: 93 j: 47
Experiment: 1 i: 78 j: 89
Experiment: 1 i: 76 j: 57
Experiment: 1 i: 71 j: 86
Experiment: 1 i: 54 j: 21
Experiment: 1 i: 41 j: 67
Experiment: 1 i: 5 j: 97
Experiment: 1 i: 63 j: 8
Experiment: 1 i: 14 j: 20
Experiment: 1 i: 74 j: 28
Experiment: 1 i: 33 j: 60
Experiment: 1 i: 10 j: 19
Experiment: 1 i: 19 j: 53
Experiment: 1 i: 61 j: 61
Experiment: 1 i: 47 j: 52
Experiment: 1 i: 6 j: 13
Experiment: 1 i: 78 j: 94
Experiment: 1 i: 63 j: 93
Experiment: 1 i: 94 j: 97
Experiment: 1 i: 86 j: 11
Experiment: 1 i: 16 j: 28
Experiment: 1 i: 40 j: 39
Experiment: 1 i: 67 j: 75
Experiment: 1 i: 42 j: 1
Experiment: 1 i: 56 j: 5
Experiment: 1 i: 4 j: 39
Experiment: 1 i: 21 j: 9
Experiment: 1 i: 11 j: 52
Experiment: 1 i: 50 j: 77
Experiment: 1 i: 89 j: 48
Experiment: 1 i: 74 j: 81
Experiment: 1 i: 28 j: 8
Experiment: 1 i: 26 j: 89
Experiment: 1 i: 81 j: 55
Experiment: 1 i: 84 j: 18
Experiment: 1 i: 13 j: 59
```

Submission

```
Experiment: 1 i: 1 j: 66
Experiment: 1 i: 51 j: 51
Experiment: 1 i: 11 j: 84
Experiment: 1 i: 20 j: 13
Experiment: 1 i: 61 j: 98
Experiment: 1 i: 83 j: 66
Experiment: 1 i: 39 j: 23
Experiment: 1 i: 40 j: 18
Experiment: 1 i: 61 j: 93
Experiment: 1 i: 24 j: 65
Experiment: 1 i: 20 j: 91
Experiment: 1 i: 27 j: 54
Experiment: 1 i: 21 j: 25
Experiment: 1 i: 51 j: 24
Experiment: 1 i: 31 j: 97
Experiment: 1 i: 25 j: 11
Experiment: 1 i: 88 j: 74
Experiment: 1 i: 19 j: 10
Experiment: 1 i: 83 j: 60
Experiment: 1 i: 57 j: 53
Experiment: 1 i: 53 j: 62
Experiment: 1 i: 12 j: 42
Experiment: 1 i: 3 j: 92
Experiment: 1 i: 61 j: 57
Experiment: 1 i: 84 j: 41
Experiment: 1 i: 26 j: 68
Experiment: 1 i: 60 j: 58
Experiment: 1 i: 24 j: 70
Experiment: 1 i: 28 j: 54
Experiment: 1 i: 21 j: 44
Experiment: 1 i: 97 j: 21
Experiment: 1 i: 96 j: 90
Experiment: 1 i: 9 j: 56
Experiment: 1 i: 76 j: 88
Experiment: 1 i: 81 j: 46
Experiment: 1 i: 6 j: 57
Experiment: 1 i: 29 j: 73
Experiment: 1 i: 3 j: 78
Experiment: 1 i: 12 j: 97
```

Submission

```
Experiment: 1 i: 98 j: 100
Experiment: 1 i: 24 j: 78
Experiment: 1 i: 63 j: 32
Experiment: 1 i: 47 j: 53
Experiment: 1 i: 13 j: 16
Experiment: 1 i: 66 j: 64
Experiment: 1 i: 34 j: 90
Experiment: 1 i: 67 j: 23
Experiment: 1 i: 85 j: 32
Experiment: 1 i: 32 j: 28
Experiment: 1 i: 5 j: 39
Experiment: 1 i: 75 j: 32
Experiment: 1 i: 49 j: 49
Experiment: 1 i: 60 j: 80
Experiment: 1 i: 56 j: 3
Experiment: 1 i: 8 j: 62
Experiment: 1 i: 99 j: 13
Experiment: 1 i: 64 j: 47
Experiment: 1 i: 54 j: 97
Experiment: 1 i: 82 j: 98
Experiment: 1 i: 72 j: 31
Experiment: 1 i: 40 j: 48
Experiment: 1 i: 51 j: 74
Experiment: 1 i: 33 j: 84
Experiment: 1 i: 4 j: 37
Experiment: 1 i: 10 j: 23
Experiment: 1 i: 19 j: 21
Experiment: 1 i: 58 j: 100
Experiment: 1 i: 48 j: 66
Experiment: 1 i: 71 j: 69
Experiment: 1 i: 78 j: 84
Experiment: 1 i: 33 j: 42
Experiment: 1 i: 65 j: 35
Experiment: 1 i: 89 j: 8
Experiment: 1 i: 48 j: 57
Experiment: 1 i: 91 j: 95
Experiment: 1 i: 56 j: 93
Experiment: 1 i: 24 j: 13
Experiment: 1 i: 40 j: 50
```

Submission

```
Experiment: 1 i: 83 j: 29
Experiment: 1 i: 33 j: 85
Experiment: 1 i: 31 j: 40
Experiment: 1 i: 98 j: 70
Experiment: 1 i: 38 j: 71
Experiment: 1 i: 30 j: 66
Experiment: 1 i: 37 j: 58
Experiment: 1 i: 2 j: 82
Experiment: 1 i: 53 j: 10
Experiment: 1 i: 67 j: 6
Experiment: 1 i: 94 j: 34
Experiment: 1 i: 64 j: 77
Experiment: 1 i: 27 j: 25
Experiment: 1 i: 37 j: 93
Experiment: 1 i: 17 j: 3
Experiment: 1 i: 4 j: 51
Experiment: 1 i: 9 j: 45
Experiment: 1 i: 45 j: 80
Experiment: 1 i: 41 j: 7
Experiment: 1 i: 75 j: 33
Experiment: 1 i: 99 j: 10
Experiment: 1 i: 91 j: 71
Experiment: 1 i: 28 j: 81
Experiment: 1 i: 90 j: 30
Experiment: 1 i: 11 j: 23
Experiment: 1 i: 15 j: 7
Experiment: 1 i: 78 j: 67
Experiment: 1 i: 35 j: 23
Experiment: 1 i: 72 j: 62
Experiment: 1 i: 36 j: 87
Experiment: 1 i: 63 j: 67
Experiment: 1 i: 2 j: 54
Experiment: 1 i: 67 j: 40
Experiment: 1 i: 85 j: 67
Experiment: 1 i: 29 j: 37
Experiment: 1 i: 71 j: 79
Experiment: 1 i: 48 j: 6
Experiment: 1 i: 91 j: 44
Experiment: 1 i: 97 j: 54
```

Submission

```
Experiment: 1 i: 87 j: 23
Experiment: 1 i: 97 j: 81
Experiment: 1 i: 53 j: 67
Experiment: 1 i: 36 j: 27
Experiment: 1 i: 26 j: 75
Experiment: 1 i: 20 j: 79
Experiment: 1 i: 3 j: 62
Experiment: 1 i: 37 j: 46
Experiment: 1 i: 26 j: 55
Experiment: 1 i: 6 j: 12
Experiment: 1 i: 74 j: 55
Experiment: 1 i: 52 j: 92
Experiment: 1 i: 38 j: 95
Experiment: 1 i: 64 j: 85
Experiment: 1 i: 36 j: 59
Experiment: 1 i: 63 j: 74
Experiment: 1 i: 9 j: 69
Experiment: 1 i: 16 j: 12
Experiment: 1 i: 29 j: 36
Experiment: 1 i: 76 j: 3
Experiment: 1 i: 10 j: 57
Experiment: 1 i: 50 j: 13
Experiment: 1 i: 63 j: 51
Experiment: 1 i: 50 j: 95
Experiment: 1 i: 84 j: 47
Experiment: 1 i: 72 j: 14
Experiment: 1 i: 91 j: 15
Experiment: 1 i: 83 j: 22
Experiment: 1 i: 29 j: 60
Experiment: 1 i: 76 j: 24
Experiment: 1 i: 18 j: 3
Experiment: 1 i: 98 j: 45
Experiment: 1 i: 52 j: 84
Experiment: 1 i: 74 j: 82
Experiment: 1 i: 56 j: 11
Experiment: 1 i: 76 j: 92
Experiment: 1 i: 4 j: 81
Experiment: 1 i: 96 j: 29
Experiment: 1 i: 70 j: 63
```

Submission

```
Experiment: 1 i: 48 j: 42
Experiment: 1 i: 56 j: 78
Experiment: 1 i: 9 j: 82
Experiment: 1 i: 61 j: 34
Experiment: 1 i: 100 j: 71
Experiment: 1 i: 95 j: 13
Experiment: 1 i: 67 j: 56
Experiment: 1 i: 55 j: 72
Experiment: 1 i: 66 j: 96
Experiment: 1 i: 93 j: 41
Experiment: 1 i: 58 j: 67
Experiment: 1 i: 50 j: 2
Experiment: 1 i: 31 j: 95
Experiment: 1 i: 21 j: 53
Experiment: 1 i: 84 j: 49
Experiment: 1 i: 97 j: 46
Experiment: 1 i: 22 j: 24
Experiment: 1 i: 51 j: 21
Experiment: 1 i: 43 j: 16
Experiment: 1 i: 58 j: 35
Experiment: 1 i: 55 j: 45
Experiment: 1 i: 37 j: 10
Experiment: 1 i: 68 j: 13
Experiment: 1 i: 29 j: 95
Experiment: 1 i: 9 j: 94
Experiment: 1 i: 93 j: 21
Experiment: 1 i: 71 j: 85
Experiment: 1 i: 8 j: 96
Experiment: 1 i: 91 j: 99
Experiment: 1 i: 15 j: 27
Experiment: 1 i: 6 j: 90
Experiment: 1 i: 86 j: 32
Experiment: 1 i: 50 j: 9
Experiment: 1 i: 61 j: 78
Experiment: 1 i: 58 j: 34
Experiment: 1 i: 44 j: 13
Experiment: 1 i: 71 j: 81
Experiment: 1 i: 76 j: 54
Experiment: 1 i: 94 j: 54
```

Submission

```
Experiment: 1 i: 80 j: 80
Experiment: 1 i: 9 j: 36
Experiment: 1 i: 62 j: 40
Experiment: 1 i: 8 j: 43
Experiment: 1 i: 44 j: 25
Experiment: 1 i: 38 j: 38
Experiment: 1 i: 92 j: 1
Experiment: 1 i: 24 j: 17
Experiment: 1 i: 88 j: 29
Experiment: 1 i: 4 j: 85
Experiment: 1 i: 62 j: 84
Experiment: 1 i: 75 j: 15
Experiment: 1 i: 29 j: 25
Experiment: 1 i: 69 j: 36
Experiment: 1 i: 17 j: 9
Experiment: 1 i: 75 j: 55
Experiment: 1 i: 73 j: 16
Experiment: 1 i: 67 j: 45
Experiment: 1 i: 44 j: 35
Experiment: 1 i: 54 j: 53
Experiment: 1 i: 70 j: 23
Experiment: 1 i: 42 j: 59
Experiment: 1 i: 5 j: 94
Experiment: 1 i: 53 j: 9
Experiment: 1 i: 70 j: 26
Experiment: 1 i: 47 j: 1
Experiment: 1 i: 48 j: 23
Experiment: 1 i: 53 j: 60
Experiment: 1 i: 100 j: 59
Experiment: 1 i: 2 j: 15
Experiment: 1 i: 2 j: 31
Experiment: 1 i: 4 j: 64
Experiment: 1 i: 86 j: 96
Experiment: 1 i: 41 j: 87
Experiment: 1 i: 24 j: 97
Experiment: 1 i: 87 j: 24
Experiment: 1 i: 62 j: 58
Experiment: 1 i: 52 j: 83
Experiment: 1 i: 63 j: 98
```

Submission

```
Experiment: 1 i: 92 j: 10
Experiment: 1 i: 93 j: 53
Experiment: 1 i: 18 j: 75
Experiment: 1 i: 62 j: 82
Experiment: 1 i: 48 j: 62
Experiment: 1 i: 32 j: 81
Experiment: 1 i: 93 j: 92
Experiment: 1 i: 47 j: 72
Experiment: 1 i: 23 j: 36
Experiment: 1 i: 79 j: 82
Experiment: 1 i: 74 j: 7
Experiment: 1 i: 92 j: 92
Experiment: 1 i: 32 j: 59
Experiment: 1 i: 71 j: 88
Experiment: 1 i: 17 j: 32
Experiment: 1 i: 34 j: 28
Experiment: 1 i: 15 j: 95
Experiment: 1 i: 83 j: 28
Experiment: 1 i: 25 j: 83
Experiment: 1 i: 20 j: 19
Experiment: 1 i: 89 j: 15
Experiment: 1 i: 53 j: 41
Experiment: 1 i: 71 j: 12
Experiment: 1 i: 91 j: 97
Experiment: 1 i: 72 j: 52
Experiment: 1 i: 99 j: 88
Experiment: 1 i: 68 j: 66
Experiment: 1 i: 94 j: 12
Experiment: 1 i: 7 j: 64
Experiment: 1 i: 72 j: 94
Experiment: 1 i: 79 j: 58
Experiment: 1 i: 25 j: 72
Experiment: 1 i: 78 j: 80
Experiment: 1 i: 74 j: 49
Experiment: 1 i: 71 j: 2
Experiment: 1 i: 72 j: 84
Experiment: 1 i: 88 j: 16
Experiment: 1 i: 57 j: 44
Experiment: 1 i: 50 j: 79
```

Submission

```
Experiment: 1 i: 32 j: 45
Experiment: 1 i: 38 j: 62
Experiment: 1 i: 65 j: 89
Experiment: 1 i: 58 j: 7
Experiment: 1 i: 4 j: 3
Experiment: 1 i: 39 j: 70
Experiment: 1 i: 60 j: 86
Experiment: 1 i: 84 j: 100
Experiment: 1 i: 8 j: 8
Experiment: 1 i: 2 j: 68
Experiment: 1 i: 42 j: 40
Experiment: 1 i: 80 j: 27
Experiment: 1 i: 69 j: 67
Experiment: 1 i: 92 j: 14
Experiment: 1 i: 36 j: 91
Experiment: 1 i: 23 j: 24
Experiment: 1 i: 58 j: 92
Experiment: 1 i: 47 j: 2
Experiment: 1 i: 88 j: 42
Experiment: 1 i: 15 j: 72
Experiment: 1 i: 37 j: 87
Experiment: 1 i: 20 j: 4
Experiment: 1 i: 36 j: 72
Experiment: 1 i: 84 j: 96
Experiment: 1 i: 51 j: 84
Experiment: 1 i: 87 j: 32
Experiment: 1 i: 98 j: 55
Experiment: 1 i: 94 j: 4
Experiment: 1 i: 85 j: 3
Experiment: 1 i: 84 j: 62
Experiment: 1 i: 68 j: 89
Experiment: 1 i: 44 j: 71
Experiment: 1 i: 9 j: 28
Experiment: 1 i: 8 j: 10
Experiment: 1 i: 17 j: 88
Experiment: 1 i: 20 j: 10
Experiment: 1 i: 83 j: 30
Experiment: 1 i: 82 j: 30
Experiment: 1 i: 48 j: 74
```

Submission

```
Experiment: 1 i: 94 j: 22
Experiment: 1 i: 82 j: 87
Experiment: 1 i: 6 j: 86
Experiment: 1 i: 70 j: 88
Experiment: 1 i: 76 j: 40
Experiment: 1 i: 33 j: 64
Experiment: 1 i: 11 j: 100
Experiment: 1 i: 65 j: 83
Experiment: 1 i: 18 j: 54
Experiment: 1 i: 82 j: 32
Experiment: 1 i: 83 j: 85
Experiment: 1 i: 57 j: 42
Experiment: 1 i: 42 j: 96
Experiment: 1 i: 65 j: 75
Experiment: 1 i: 27 j: 28
Experiment: 1 i: 81 j: 75
Experiment: 1 i: 65 j: 9
Experiment: 1 i: 61 j: 77
Experiment: 1 i: 54 j: 42
Experiment: 1 i: 44 j: 96
Experiment: 1 i: 65 j: 92
Experiment: 1 i: 51 j: 73
Experiment: 1 i: 2 j: 87
Experiment: 1 i: 96 j: 8
Experiment: 1 i: 6 j: 35
Experiment: 1 i: 26 j: 87
Experiment: 1 i: 23 j: 57
Experiment: 1 i: 41 j: 18
Experiment: 1 i: 34 j: 62
Experiment: 1 i: 78 j: 50
Experiment: 1 i: 88 j: 47
Experiment: 1 i: 46 j: 97
Experiment: 1 i: 59 j: 1
Experiment: 1 i: 12 j: 58
Experiment: 1 i: 87 j: 48
Experiment: 1 i: 36 j: 94
Experiment: 1 i: 89 j: 70
Experiment: 1 i: 93 j: 22
Experiment: 1 i: 79 j: 12
```

Submission

```
Experiment: 1 i: 15 j: 81
Experiment: 1 i: 93 j: 63
Experiment: 1 i: 56 j: 30
Experiment: 1 i: 53 j: 58
Experiment: 1 i: 78 j: 24
Experiment: 1 i: 79 j: 45
Experiment: 1 i: 50 j: 22
Experiment: 1 i: 4 j: 83
Experiment: 1 i: 27 j: 13
Experiment: 1 i: 29 j: 74
Experiment: 1 i: 50 j: 49
Experiment: 1 i: 3 j: 72
Experiment: 1 i: 30 j: 48
Experiment: 1 i: 55 j: 78
Experiment: 1 i: 68 j: 99
Experiment: 1 i: 5 j: 18
Experiment: 1 i: 92 j: 66
Experiment: 1 i: 3 j: 14
Experiment: 1 i: 32 j: 66
Experiment: 1 i: 22 j: 94
Experiment: 1 i: 96 j: 68
Experiment: 1 i: 97 j: 72
Experiment: 1 i: 80 j: 36
Experiment: 1 i: 14 j: 24
Experiment: 1 i: 37 j: 61
Experiment: 1 i: 71 j: 47
Experiment: 1 i: 95 j: 85
Experiment: 1 i: 98 j: 52
Experiment: 1 i: 67 j: 32
Experiment: 1 i: 40 j: 30
Experiment: 1 i: 94 j: 38
Experiment: 1 i: 34 j: 11
Experiment: 1 i: 35 j: 93
Experiment: 1 i: 84 j: 15
Experiment: 1 i: 18 j: 22
Experiment: 1 i: 31 j: 2
Experiment: 1 i: 1 j: 87
Experiment: 1 i: 7 j: 11
Experiment: 1 i: 78 j: 10
```

Submission

```
Experiment: 1 i: 18 j: 96
Experiment: 1 i: 39 j: 92
Experiment: 1 i: 45 j: 7
Experiment: 1 i: 51 j: 16
Experiment: 1 i: 53 j: 28
Experiment: 1 i: 90 j: 89
Experiment: 1 i: 68 j: 6
Experiment: 1 i: 89 j: 39
Experiment: 1 i: 74 j: 92
Experiment: 1 i: 60 j: 83
Experiment: 1 i: 71 j: 28
Experiment: 1 i: 53 j: 93
Experiment: 1 i: 88 j: 70
Experiment: 1 i: 94 j: 67
Experiment: 1 i: 43 j: 36
Experiment: 1 i: 47 j: 20
Experiment: 1 i: 11 j: 47
Experiment: 1 i: 53 j: 18
Experiment: 1 i: 70 j: 38
Experiment: 1 i: 51 j: 65
Experiment: 1 i: 29 j: 54
Experiment: 1 i: 40 j: 72
Experiment: 1 i: 6 j: 29
Experiment: 1 i: 9 j: 75
Experiment: 1 i: 77 j: 33
Experiment: 1 i: 29 j: 16
Experiment: 1 i: 7 j: 9
Experiment: 1 i: 79 j: 41
Experiment: 1 i: 70 j: 16
Experiment: 1 i: 16 j: 22
Experiment: 1 i: 86 j: 74
Experiment: 1 i: 15 j: 51
Experiment: 1 i: 86 j: 15
Experiment: 1 i: 14 j: 88
Experiment: 1 i: 98 j: 15
Experiment: 1 i: 95 j: 100
Experiment: 1 i: 75 j: 93
Experiment: 1 i: 83 j: 24
Experiment: 1 i: 94 j: 86
```

Submission

```
Experiment: 1 i: 8 j: 66
Experiment: 1 i: 2 j: 57
Experiment: 1 i: 34 j: 20
Experiment: 1 i: 27 j: 83
Experiment: 1 i: 75 j: 34
Experiment: 1 i: 32 j: 2
Experiment: 1 i: 86 j: 99
Experiment: 1 i: 69 j: 30
Experiment: 1 i: 31 j: 16
Experiment: 1 i: 35 j: 7
Experiment: 1 i: 43 j: 29
Experiment: 1 i: 97 j: 5
Experiment: 1 i: 49 j: 61
Experiment: 1 i: 10 j: 90
Experiment: 1 i: 92 j: 80
Experiment: 1 i: 21 j: 31
Experiment: 1 i: 69 j: 77
Experiment: 1 i: 69 j: 50
Experiment: 1 i: 95 j: 7
Experiment: 1 i: 38 j: 27
Experiment: 1 i: 15 j: 11
Experiment: 1 i: 66 j: 6
Experiment: 1 i: 58 j: 61
Experiment: 1 i: 75 j: 85
Experiment: 1 i: 78 j: 87
Experiment: 1 i: 44 j: 100
Experiment: 1 i: 34 j: 39
Experiment: 1 i: 53 j: 83
Experiment: 1 i: 59 j: 61
Experiment: 1 i: 2 j: 4
Experiment: 1 i: 81 j: 12
Experiment: 1 i: 86 j: 77
Experiment: 1 i: 26 j: 82
Experiment: 1 i: 62 j: 35
Experiment: 1 i: 73 j: 99
Experiment: 1 i: 92 j: 69
Experiment: 1 i: 4 j: 45
Experiment: 1 i: 26 j: 30
Experiment: 1 i: 94 j: 23
```

Submission

```
Experiment: 1 i: 25 j: 15
Experiment: 1 i: 85 j: 11
Experiment: 1 i: 44 j: 4
Experiment: 1 i: 90 j: 80
Experiment: 1 i: 42 j: 97
Experiment: 1 i: 47 j: 6
Experiment: 1 i: 73 j: 37
Experiment: 1 i: 87 j: 37
Experiment: 1 i: 72 j: 65
Experiment: 1 i: 25 j: 4
Experiment: 1 i: 84 j: 87
Experiment: 1 i: 32 j: 67
Experiment: 1 i: 7 j: 62
Experiment: 1 i: 65 j: 86
Experiment: 1 i: 46 j: 22
Experiment: 1 i: 45 j: 81
Experiment: 1 i: 5 j: 1
Experiment: 1 i: 90 j: 62
Experiment: 1 i: 77 j: 73
Experiment: 1 i: 35 j: 42
Experiment: 1 i: 93 j: 86
Experiment: 1 i: 57 j: 88
Experiment: 1 i: 54 j: 13
Experiment: 1 i: 6 j: 23
Experiment: 1 i: 58 j: 88
Experiment: 1 i: 72 j: 100
Experiment: 1 i: 34 j: 42
Experiment: 1 i: 67 j: 52
Experiment: 1 i: 84 j: 95
Experiment: 1 i: 29 j: 32
Experiment: 1 i: 13 j: 77
Experiment: 1 i: 50 j: 62
Experiment: 1 i: 50 j: 30
Experiment: 1 i: 34 j: 21
Experiment: 1 i: 8 j: 59
Experiment: 1 i: 95 j: 76
Experiment: 1 i: 67 j: 33
Experiment: 1 i: 64 j: 38
Experiment: 1 i: 91 j: 37
```

Submission

```
Experiment: 1 i: 65 j: 10
Experiment: 1 i: 87 j: 44
Experiment: 1 i: 12 j: 73
Experiment: 1 i: 100 j: 13
Experiment: 1 i: 97 j: 93
Experiment: 1 i: 7 j: 100
Experiment: 1 i: 68 j: 43
Experiment: 1 i: 58 j: 70
Experiment: 1 i: 48 j: 9
Experiment: 1 i: 19 j: 61
Experiment: 1 i: 71 j: 66
Experiment: 1 i: 33 j: 69
Experiment: 1 i: 36 j: 61
Experiment: 1 i: 96 j: 55
Experiment: 1 i: 22 j: 3
Experiment: 1 i: 34 j: 96
Experiment: 1 i: 70 j: 12
Experiment: 1 i: 25 j: 85
Experiment: 1 i: 16 j: 54
Experiment: 1 i: 99 j: 28
Experiment: 1 i: 27 j: 1
Experiment: 1 i: 99 j: 50
Experiment: 1 i: 52 j: 56
Experiment: 1 i: 61 j: 51
Experiment: 1 i: 54 j: 20
Experiment: 1 i: 42 j: 53
Experiment: 1 i: 17 j: 34
Experiment: 1 i: 16 j: 17
Experiment: 1 i: 18 j: 25
Experiment: 1 i: 78 j: 25
Experiment: 1 i: 97 j: 70
Experiment: 1 i: 39 j: 26
Experiment: 1 i: 37 j: 4
Experiment: 1 i: 51 j: 43
Experiment: 1 i: 67 j: 64
Experiment: 1 i: 18 j: 41
Experiment: 1 i: 20 j: 25
Experiment: 1 i: 30 j: 59
Experiment: 1 i: 84 j: 54
```

Submission

```
Experiment: 1 i: 36 j: 22
Experiment: 1 i: 25 j: 63
Experiment: 1 i: 74 j: 30
Experiment: 1 i: 57 j: 91
Experiment: 1 i: 60 j: 35
Experiment: 1 i: 9 j: 91
Experiment: 1 i: 89 j: 42
Experiment: 1 i: 32 j: 17
Experiment: 1 i: 53 j: 84
Experiment: 1 i: 40 j: 8
Experiment: 1 i: 69 j: 9
Experiment: 1 i: 99 j: 3
Experiment: 1 i: 43 j: 15
Experiment: 1 i: 81 j: 89
Experiment: 1 i: 97 j: 34
Experiment: 1 i: 38 j: 35
Experiment: 1 i: 81 j: 72
Experiment: 1 i: 8 j: 73
Experiment: 1 i: 79 j: 18
Experiment: 1 i: 84 j: 25
Experiment: 1 i: 99 j: 37
Experiment: 1 i: 78 j: 98
Experiment: 1 i: 85 j: 63
Experiment: 1 i: 22 j: 93
Experiment: 1 i: 83 j: 51
Experiment: 1 i: 14 j: 76
Experiment: 1 i: 1 j: 48
Experiment: 1 i: 50 j: 14
Experiment: 1 i: 82 j: 91
Experiment: 1 i: 84 j: 43
Experiment: 1 i: 71 j: 3
Experiment: 1 i: 65 j: 84
Experiment: 1 i: 57 j: 71
Experiment: 1 i: 41 j: 96
Experiment: 1 i: 34 j: 18
Experiment: 1 i: 85 j: 75
Experiment: 1 i: 77 j: 25
Experiment: 1 i: 5 j: 82
Experiment: 1 i: 5 j: 34
```

Submission

```
Experiment: 1 i: 5 j: 40
Experiment: 1 i: 4 j: 87
Experiment: 1 i: 61 j: 7
Experiment: 1 i: 63 j: 73
Experiment: 1 i: 95 j: 33
Experiment: 1 i: 78 j: 41
Experiment: 1 i: 8 j: 90
Experiment: 1 i: 79 j: 27
Experiment: 1 i: 39 j: 91
Experiment: 1 i: 93 j: 49
Experiment: 1 i: 16 j: 61
Experiment: 1 i: 92 j: 52
Experiment: 1 i: 64 j: 81
Experiment: 1 i: 53 j: 24
Experiment: 1 i: 49 j: 88
Experiment: 1 i: 34 j: 29
Experiment: 1 i: 52 j: 68
Experiment: 1 i: 93 j: 25
Experiment: 1 i: 78 j: 76
Experiment: 1 i: 52 j: 24
Experiment: 1 i: 95 j: 94
Experiment: 1 i: 52 j: 82
Experiment: 1 i: 11 j: 73
Experiment: 1 i: 1 j: 31
Experiment: 1 i: 19 j: 94
Experiment: 1 i: 30 j: 82
Experiment: 1 i: 20 j: 23
Experiment: 1 i: 28 j: 16
Experiment: 1 i: 77 j: 59
Experiment: 1 i: 19 j: 5
Experiment: 1 i: 38 j: 75
Experiment: 1 i: 29 j: 68
Experiment: 1 i: 32 j: 87
Experiment: 1 i: 100 j: 35
Experiment: 1 i: 97 j: 45
Experiment: 1 i: 51 j: 11
Experiment: 1 i: 17 j: 54
Experiment: 1 i: 5 j: 25
Experiment: 1 i: 83 j: 2
```

Submission

```
Experiment: 1 i: 37 j: 71
Experiment: 1 i: 70 j: 7
Experiment: 1 i: 94 j: 82
Experiment: 1 i: 83 j: 83
Experiment: 1 i: 59 j: 44
Experiment: 1 i: 58 j: 91
Experiment: 1 i: 4 j: 79
Experiment: 1 i: 61 j: 68
Experiment: 1 i: 52 j: 79
Experiment: 1 i: 23 j: 23
Experiment: 1 i: 54 j: 61
Experiment: 1 i: 100 j: 36
Experiment: 1 i: 60 j: 62
Experiment: 1 i: 26 j: 47
Experiment: 1 i: 90 j: 96
Experiment: 1 i: 82 j: 53
Experiment: 1 i: 43 j: 68
Experiment: 1 i: 20 j: 14
Experiment: 1 i: 59 j: 20
Experiment: 1 i: 23 j: 40
Experiment: 1 i: 4 j: 72
Experiment: 1 i: 75 j: 46
Experiment: 1 i: 64 j: 83
Experiment: 1 i: 26 j: 26
Experiment: 1 i: 7 j: 51
Experiment: 1 i: 1 j: 17
Experiment: 1 i: 77 j: 93
Experiment: 1 i: 32 j: 31
Experiment: 1 i: 36 j: 46
Experiment: 1 i: 1 j: 92
Experiment: 1 i: 19 j: 37
Experiment: 1 i: 85 j: 83
Experiment: 1 i: 26 j: 74
Experiment: 1 i: 84 j: 66
Experiment: 1 i: 54 j: 10
Experiment: 1 i: 88 j: 76
Experiment: 1 i: 86 j: 59
Experiment: 1 i: 38 j: 77
Experiment: 1 i: 53 j: 88
```

Submission

```
Experiment: 1 i: 37 j: 33
Experiment: 1 i: 55 j: 12
Experiment: 1 i: 67 j: 12
Experiment: 1 i: 70 j: 47
Experiment: 1 i: 50 j: 21
Experiment: 1 i: 60 j: 89
Experiment: 1 i: 96 j: 87
Experiment: 1 i: 40 j: 11
Experiment: 1 i: 79 j: 53
Experiment: 1 i: 78 j: 66
Experiment: 1 i: 2 j: 58
Experiment: 1 i: 5 j: 8
Experiment: 1 i: 78 j: 63
Experiment: 1 i: 31 j: 78
Experiment: 1 i: 3 j: 47
Experiment: 1 i: 85 j: 37
Experiment: 1 i: 9 j: 89
Experiment: 1 i: 86 j: 37
Experiment: 1 i: 21 j: 12
Experiment: 1 i: 35 j: 73
Experiment: 1 i: 13 j: 99
Experiment: 1 i: 5 j: 37
Experiment: 1 i: 60 j: 84
Experiment: 1 i: 18 j: 40
Experiment: 1 i: 37 j: 12
Experiment: 1 i: 18 j: 2
Experiment: 1 i: 46 j: 21
Experiment: 1 i: 44 j: 65
Experiment: 1 i: 79 j: 59
Experiment: 1 i: 38 j: 100
Experiment: 1 i: 27 j: 50
Experiment: 1 i: 72 j: 36
Experiment: 1 i: 75 j: 16
Experiment: 1 i: 34 j: 24
Experiment: 1 i: 62 j: 62
Experiment: 1 i: 26 j: 62
Experiment: 1 i: 60 j: 6
Experiment: 1 i: 8 j: 24
Experiment: 1 i: 89 j: 64
```

Submission

```
Experiment: 1 i: 27 j: 89
Experiment: 1 i: 14 j: 35
Experiment: 1 i: 72 j: 66
Experiment: 1 i: 26 j: 57
Experiment: 1 i: 82 j: 45
Experiment: 1 i: 19 j: 31
Experiment: 1 i: 22 j: 89
Experiment: 1 i: 30 j: 49
Experiment: 1 i: 18 j: 81
Experiment: 1 i: 35 j: 55
Experiment: 1 i: 51 j: 41
Experiment: 1 i: 57 j: 7
Experiment: 1 i: 48 j: 54
Experiment: 1 i: 97 j: 23
Experiment: 1 i: 98 j: 32
Experiment: 1 i: 18 j: 8
Experiment: 1 i: 87 j: 57
Experiment: 1 i: 66 j: 68
Experiment: 1 i: 22 j: 98
Experiment: 1 i: 29 j: 39
Experiment: 1 i: 52 j: 80
Experiment: 1 i: 22 j: 13
Experiment: 1 i: 8 j: 17
Experiment: 1 i: 40 j: 71
Experiment: 1 i: 85 j: 50
Experiment: 1 i: 16 j: 20
Experiment: 1 i: 60 j: 25
Experiment: 1 i: 42 j: 9
Experiment: 1 i: 29 j: 89
Experiment: 1 i: 76 j: 83
Experiment: 1 i: 83 j: 17
Experiment: 1 i: 97 j: 61
Experiment: 1 i: 76 j: 76
Experiment: 1 i: 70 j: 11
Experiment: 1 i: 59 j: 91
Experiment: 1 i: 72 j: 10
Experiment: 1 i: 17 j: 47
Experiment: 1 i: 82 j: 12
Experiment: 1 i: 97 j: 53
```

Submission

```
Experiment: 1 i: 99 j: 1
Experiment: 1 i: 63 j: 10
Experiment: 1 i: 68 j: 51
Experiment: 1 i: 22 j: 86
Experiment: 1 i: 2 j: 18
Experiment: 1 i: 59 j: 26
Experiment: 1 i: 68 j: 33
Experiment: 1 i: 48 j: 31
Experiment: 1 i: 10 j: 28
Experiment: 1 i: 9 j: 51
Experiment: 1 i: 95 j: 37
Experiment: 1 i: 26 j: 20
Experiment: 1 i: 59 j: 62
Experiment: 1 i: 71 j: 91
Experiment: 1 i: 27 j: 17
Experiment: 1 i: 24 j: 26
Experiment: 1 i: 40 j: 73
Experiment: 1 i: 89 j: 59
Experiment: 1 i: 12 j: 96
Experiment: 1 i: 45 j: 2
Experiment: 1 i: 46 j: 34
Experiment: 1 i: 100 j: 100
Experiment: 1 i: 64 j: 68
Experiment: 1 i: 59 j: 45
Experiment: 1 i: 23 j: 96
Experiment: 1 i: 33 j: 41
Experiment: 1 i: 59 j: 87
Experiment: 1 i: 81 j: 18
Experiment: 1 i: 68 j: 21
Experiment: 1 i: 82 j: 5
Experiment: 1 i: 3 j: 54
Experiment: 1 i: 64 j: 43
Experiment: 1 i: 77 j: 90
Experiment: 1 i: 19 j: 54
Experiment: 1 i: 50 j: 93
Experiment: 1 i: 79 j: 4
Experiment: 1 i: 4 j: 97
Experiment: 1 i: 66 j: 42
Experiment: 1 i: 50 j: 29
```

Submission

```
Experiment: 1 i: 77 j: 66
Experiment: 1 i: 36 j: 54
Experiment: 1 i: 35 j: 75
Experiment: 1 i: 82 j: 29
Experiment: 1 i: 67 j: 86
Experiment: 1 i: 77 j: 36
Experiment: 1 i: 18 j: 28

Total: 0/7 tests passed:Test aborted. Ran out of time
 or crashed before completion.
================================================================

********************************************************
**********************
*  memory usage
********************************************************
**********************

Computing memory of Percolation
*-------------------------------------------------------
-----
Running 4 total tests.

Test 1a-1d: Measuring total memory usage as a function
of grid size (max allowed: 17 N^2 + 128 N + 1024 bytes)

                 N        bytes
-----------------------------------------
=> passed       64        39080
=> passed      256       598184
=> passed      512      2375848
=> passed     1024      9470120
==> 4/4 tests passed


Estimated student memory = 9.00 N^2 + 32.00 N + 168.00
 (R^2 = 1.000)
```

Submission

```
Total: 4/4 tests passed!

================================================================
=========



Computing memory of PercolationStats
*-----------------------------------------------------
-----
Running 4 total tests.

Test 1a-1d: Measuring total memory usage as a function
of T (max allowed: 8 T + 128 bytes)

                 T        bytes
-----------------------------------------
Experiment: 1 i: 30 j: 53
Experiment: 1 i: 31 j: 18
Experiment: 1 i: 85 j: 38
Experiment: 1 i: 100 j: 70
Experiment: 1 i: 27 j: 30
Experiment: 1 i: 73 j: 53
Experiment: 1 i: 20 j: 94
Experiment: 1 i: 65 j: 36
Experiment: 1 i: 27 j: 77
Experiment: 1 i: 55 j: 7
Experiment: 1 i: 97 j: 7
Experiment: 1 i: 16 j: 75
Experiment: 1 i: 24 j: 14
Experiment: 1 i: 88 j: 1
Experiment: 1 i: 12 j: 89
Experiment: 1 i: 45 j: 38
Experiment: 1 i: 75 j: 63
Experiment: 1 i: 57 j: 72
Experiment: 1 i: 38 j: 27
Experiment: 1 i: 84 j: 74
Experiment: 1 i: 31 j: 82
Experiment: 1 i: 89 j: 81
```

Submission

```
Experiment: 1 i: 50 j: 89
Experiment: 1 i: 45 j: 35
Experiment: 1 i: 29 j: 6
Experiment: 1 i: 58 j: 100
Experiment: 1 i: 51 j: 46
Experiment: 1 i: 54 j: 3
Experiment: 1 i: 74 j: 41
Experiment: 1 i: 61 j: 30
Experiment: 1 i: 87 j: 78
Experiment: 1 i: 49 j: 39
Experiment: 1 i: 19 j: 13
Experiment: 1 i: 17 j: 77
Experiment: 1 i: 53 j: 62
Experiment: 1 i: 73 j: 43
Experiment: 1 i: 27 j: 64
Experiment: 1 i: 60 j: 56
Experiment: 1 i: 72 j: 92
Experiment: 1 i: 13 j: 27
Experiment: 1 i: 23 j: 81
Experiment: 1 i: 24 j: 5
Experiment: 1 i: 49 j: 94
Experiment: 1 i: 57 j: 29
Experiment: 1 i: 89 j: 55
Experiment: 1 i: 59 j: 88
Experiment: 1 i: 53 j: 72
Experiment: 1 i: 18 j: 64
Experiment: 1 i: 21 j: 2
Experiment: 1 i: 11 j: 83
Experiment: 1 i: 12 j: 100
Experiment: 1 i: 69 j: 4
Experiment: 1 i: 50 j: 31
Experiment: 1 i: 65 j: 70
Experiment: 1 i: 58 j: 82
Experiment: 1 i: 77 j: 4
Experiment: 1 i: 30 j: 46
Experiment: 1 i: 26 j: 82
Experiment: 1 i: 25 j: 90
Experiment: 1 i: 52 j: 79
Experiment: 1 i: 41 j: 47
```

Submission

```
Experiment: 1 i: 93 j: 88
Experiment: 1 i: 12 j: 87
Experiment: 1 i: 37 j: 8
Experiment: 1 i: 29 j: 68
Experiment: 1 i: 10 j: 32
Experiment: 1 i: 33 j: 63
Experiment: 1 i: 24 j: 82
Experiment: 1 i: 97 j: 82
Experiment: 1 i: 18 j: 83
Experiment: 1 i: 84 j: 40
Experiment: 1 i: 79 j: 12
Experiment: 1 i: 1 j: 9
Experiment: 1 i: 60 j: 39
Experiment: 1 i: 41 j: 43
Experiment: 1 i: 79 j: 3
Experiment: 1 i: 19 j: 19
Experiment: 1 i: 96 j: 44
Experiment: 1 i: 81 j: 68
Experiment: 1 i: 36 j: 19
Experiment: 1 i: 29 j: 97
Experiment: 1 i: 3 j: 31
Experiment: 1 i: 69 j: 38
Experiment: 1 i: 48 j: 11
Experiment: 1 i: 45 j: 100
Experiment: 1 i: 21 j: 45
Experiment: 1 i: 61 j: 53
Experiment: 1 i: 77 j: 98
Experiment: 1 i: 17 j: 81
Experiment: 1 i: 55 j: 84
Experiment: 1 i: 86 j: 97
Experiment: 1 i: 39 j: 57
Experiment: 1 i: 41 j: 50
Experiment: 1 i: 61 j: 78
Experiment: 1 i: 1 j: 27
Experiment: 1 i: 94 j: 58
Experiment: 1 i: 74 j: 96
Experiment: 1 i: 37 j: 58
Experiment: 1 i: 19 j: 69
Experiment: 1 i: 94 j: 80
```

Submission

```
Experiment: 1 i: 59 j: 28
Experiment: 1 i: 11 j: 9
Experiment: 1 i: 2 j: 80
Experiment: 1 i: 49 j: 5
Experiment: 1 i: 59 j: 94
Experiment: 1 i: 65 j: 37
Experiment: 1 i: 94 j: 2
Experiment: 1 i: 100 j: 35
Experiment: 1 i: 85 j: 80
Experiment: 1 i: 26 j: 2
Experiment: 1 i: 60 j: 42
Experiment: 1 i: 18 j: 15
Experiment: 1 i: 91 j: 63
Experiment: 1 i: 95 j: 34
Experiment: 1 i: 61 j: 45
Experiment: 1 i: 15 j: 83
Experiment: 1 i: 92 j: 26
Experiment: 1 i: 57 j: 61
Experiment: 1 i: 11 j: 40
Experiment: 1 i: 58 j: 69
Experiment: 1 i: 4 j: 8
Experiment: 1 i: 37 j: 59
Experiment: 1 i: 73 j: 10
Experiment: 1 i: 79 j: 63
Experiment: 1 i: 39 j: 20
Experiment: 1 i: 65 j: 91
Experiment: 1 i: 67 j: 13
Experiment: 1 i: 97 j: 25
Experiment: 1 i: 1 j: 36
Experiment: 1 i: 13 j: 51
Experiment: 1 i: 20 j: 70
Experiment: 1 i: 52 j: 62
Experiment: 1 i: 36 j: 8
Experiment: 1 i: 47 j: 60
Experiment: 1 i: 30 j: 54
Experiment: 1 i: 72 j: 28
Experiment: 1 i: 49 j: 2
Experiment: 1 i: 21 j: 5
Experiment: 1 i: 94 j: 61
```

Submission

```
Experiment: 1 i: 47 j: 70
Experiment: 1 i: 50 j: 81
Experiment: 1 i: 67 j: 25
Experiment: 1 i: 100 j: 27
Experiment: 1 i: 54 j: 2
Experiment: 1 i: 66 j: 36
Experiment: 1 i: 98 j: 71
Experiment: 1 i: 98 j: 91
Experiment: 1 i: 24 j: 78
Experiment: 1 i: 82 j: 98
Experiment: 1 i: 9 j: 63
Experiment: 1 i: 57 j: 90
Experiment: 1 i: 10 j: 12
Experiment: 1 i: 9 j: 40
Experiment: 1 i: 87 j: 24
Experiment: 1 i: 78 j: 98
Experiment: 1 i: 41 j: 72
Experiment: 1 i: 89 j: 60
Experiment: 1 i: 66 j: 29
Experiment: 1 i: 94 j: 21
Experiment: 1 i: 2 j: 55
Experiment: 1 i: 96 j: 86
Experiment: 1 i: 10 j: 5
Experiment: 1 i: 4 j: 83
Experiment: 1 i: 31 j: 30
Experiment: 1 i: 79 j: 21
Experiment: 1 i: 8 j: 83
Experiment: 1 i: 60 j: 23
Experiment: 1 i: 22 j: 34
Experiment: 1 i: 65 j: 7
Experiment: 1 i: 83 j: 78
Experiment: 1 i: 48 j: 89
Experiment: 1 i: 45 j: 47
Experiment: 1 i: 24 j: 22
Experiment: 1 i: 58 j: 7
Experiment: 1 i: 4 j: 43
Experiment: 1 i: 44 j: 5
Experiment: 1 i: 32 j: 74
Experiment: 1 i: 84 j: 28
```

Submission

```
Experiment: 1 i: 84 j: 77
Experiment: 1 i: 99 j: 21
Experiment: 1 i: 13 j: 79
Experiment: 1 i: 53 j: 50
Experiment: 1 i: 67 j: 79
Experiment: 1 i: 26 j: 1
Experiment: 1 i: 97 j: 30
Experiment: 1 i: 92 j: 61
Experiment: 1 i: 5 j: 85
Experiment: 1 i: 46 j: 51
Experiment: 1 i: 3 j: 97
Experiment: 1 i: 22 j: 92
Experiment: 1 i: 73 j: 52
Experiment: 1 i: 41 j: 99
Experiment: 1 i: 18 j: 13
Experiment: 1 i: 37 j: 27
Experiment: 1 i: 47 j: 96
Experiment: 1 i: 78 j: 28
Experiment: 1 i: 11 j: 11
Experiment: 1 i: 62 j: 43
Experiment: 1 i: 23 j: 57
Experiment: 1 i: 66 j: 99
Experiment: 1 i: 30 j: 62
Experiment: 1 i: 69 j: 10
Experiment: 1 i: 7 j: 64
Experiment: 1 i: 79 j: 97
Experiment: 1 i: 13 j: 89
Experiment: 1 i: 52 j: 53
Experiment: 1 i: 61 j: 33
Experiment: 1 i: 41 j: 75
Experiment: 1 i: 98 j: 55
Experiment: 1 i: 28 j: 7
Experiment: 1 i: 26 j: 23
Experiment: 1 i: 11 j: 10
Experiment: 1 i: 29 j: 52
Experiment: 1 i: 54 j: 37
Experiment: 1 i: 95 j: 21
Experiment: 1 i: 18 j: 94
Experiment: 1 i: 100 j: 86
```

Submission

```
Experiment: 1 i: 39 j: 10
Experiment: 1 i: 71 j: 41
Experiment: 1 i: 58 j: 76
Experiment: 1 i: 29 j: 10
Experiment: 1 i: 76 j: 82
Experiment: 1 i: 43 j: 73
Experiment: 1 i: 2 j: 86
Experiment: 1 i: 70 j: 43
Experiment: 1 i: 53 j: 68
Experiment: 1 i: 80 j: 68
Experiment: 1 i: 19 j: 3
Experiment: 1 i: 7 j: 3
Experiment: 1 i: 9 j: 41
Experiment: 1 i: 92 j: 11
Experiment: 1 i: 9 j: 17
Experiment: 1 i: 38 j: 15
Experiment: 1 i: 68 j: 40
Experiment: 1 i: 69 j: 6
Experiment: 1 i: 29 j: 28
Experiment: 1 i: 54 j: 17
Experiment: 1 i: 44 j: 18
Experiment: 1 i: 51 j: 22
Experiment: 1 i: 33 j: 94
Experiment: 1 i: 41 j: 93
Experiment: 1 i: 1 j: 13
Experiment: 1 i: 42 j: 86
Experiment: 1 i: 86 j: 35
Experiment: 1 i: 86 j: 66
Experiment: 1 i: 36 j: 15
Experiment: 1 i: 97 j: 87
Experiment: 1 i: 21 j: 48
Experiment: 1 i: 58 j: 56
Experiment: 1 i: 82 j: 97
Experiment: 1 i: 68 j: 30
Experiment: 1 i: 29 j: 13
Experiment: 1 i: 26 j: 57
Experiment: 1 i: 14 j: 98
Experiment: 1 i: 90 j: 58
Experiment: 1 i: 99 j: 34
```

Submission

```
Experiment: 1 i: 46 j: 35
Experiment: 1 i: 99 j: 4
Experiment: 1 i: 100 j: 50
Experiment: 1 i: 84 j: 21
Experiment: 1 i: 14 j: 58
Experiment: 1 i: 87 j: 89
Experiment: 1 i: 88 j: 95
Experiment: 1 i: 47 j: 57
Experiment: 1 i: 77 j: 29
Experiment: 1 i: 32 j: 100
Experiment: 1 i: 81 j: 88
Experiment: 1 i: 4 j: 3
Experiment: 1 i: 93 j: 58
Experiment: 1 i: 95 j: 98
Experiment: 1 i: 20 j: 85
Experiment: 1 i: 63 j: 21
Experiment: 1 i: 70 j: 50
Experiment: 1 i: 88 j: 99
Experiment: 1 i: 74 j: 43
Experiment: 1 i: 33 j: 41
Experiment: 1 i: 63 j: 86
Experiment: 1 i: 53 j: 95
Experiment: 1 i: 56 j: 88
Experiment: 1 i: 38 j: 61
Experiment: 1 i: 79 j: 95
Experiment: 1 i: 43 j: 98
Experiment: 1 i: 65 j: 41
Experiment: 1 i: 95 j: 46
Experiment: 1 i: 40 j: 20
Experiment: 1 i: 51 j: 14
Experiment: 1 i: 5 j: 97
Experiment: 1 i: 64 j: 80
Experiment: 1 i: 56 j: 6
Experiment: 1 i: 16 j: 68
Experiment: 1 i: 32 j: 22
Experiment: 1 i: 80 j: 34
Experiment: 1 i: 9 j: 74
Experiment: 1 i: 48 j: 45
Experiment: 1 i: 43 j: 77
```

Submission

```
Experiment: 1 i: 98 j: 17
Experiment: 1 i: 33 j: 72
Experiment: 1 i: 33 j: 47
Experiment: 1 i: 43 j: 64
Experiment: 1 i: 50 j: 15
Experiment: 1 i: 95 j: 29
Experiment: 1 i: 58 j: 10
Experiment: 1 i: 69 j: 97
Experiment: 1 i: 4 j: 97
Experiment: 1 i: 90 j: 15
Experiment: 1 i: 79 j: 89
Experiment: 1 i: 44 j: 14
Experiment: 1 i: 51 j: 30
Experiment: 1 i: 84 j: 93
Experiment: 1 i: 88 j: 72
Experiment: 1 i: 90 j: 45
Experiment: 1 i: 91 j: 5
Experiment: 1 i: 88 j: 25
Experiment: 1 i: 37 j: 81
Experiment: 1 i: 18 j: 74
Experiment: 1 i: 95 j: 39
Experiment: 1 i: 82 j: 61
Experiment: 1 i: 72 j: 33
Experiment: 1 i: 12 j: 42
Experiment: 1 i: 63 j: 95
Experiment: 1 i: 83 j: 10
Experiment: 1 i: 77 j: 9
Experiment: 1 i: 83 j: 68
Experiment: 1 i: 91 j: 67
Experiment: 1 i: 2 j: 29
Experiment: 1 i: 29 j: 51
Experiment: 1 i: 17 j: 87
Experiment: 1 i: 17 j: 71
Experiment: 1 i: 4 j: 12
Experiment: 1 i: 99 j: 48
Experiment: 1 i: 70 j: 45
Experiment: 1 i: 71 j: 94
Experiment: 1 i: 92 j: 50
Experiment: 1 i: 97 j: 90
```

Submission

```
Experiment: 1 i: 57 j: 11
Experiment: 1 i: 38 j: 26
Experiment: 1 i: 63 j: 54
Experiment: 1 i: 99 j: 64
Experiment: 1 i: 29 j: 79
Experiment: 1 i: 79 j: 35
Experiment: 1 i: 92 j: 1
Experiment: 1 i: 63 j: 43
Experiment: 1 i: 65 j: 88
Experiment: 1 i: 45 j: 76
Experiment: 1 i: 17 j: 8
Experiment: 1 i: 79 j: 85
Experiment: 1 i: 64 j: 86
Experiment: 1 i: 1 j: 70
Experiment: 1 i: 43 j: 49
Experiment: 1 i: 1 j: 89
Experiment: 1 i: 49 j: 89
Experiment: 1 i: 56 j: 90
Experiment: 1 i: 50 j: 72
Experiment: 1 i: 6 j: 19
Experiment: 1 i: 19 j: 1
Experiment: 1 i: 32 j: 32
Experiment: 1 i: 98 j: 41
Experiment: 1 i: 46 j: 18
Experiment: 1 i: 57 j: 12
Experiment: 1 i: 99 j: 99
Experiment: 1 i: 6 j: 2
Experiment: 1 i: 37 j: 19
Experiment: 1 i: 86 j: 44
Experiment: 1 i: 50 j: 46
Experiment: 1 i: 77 j: 35
Experiment: 1 i: 84 j: 10
Experiment: 1 i: 63 j: 60
Experiment: 1 i: 94 j: 7
Experiment: 1 i: 27 j: 37
Experiment: 1 i: 96 j: 66
Experiment: 1 i: 76 j: 11
Experiment: 1 i: 30 j: 59
Experiment: 1 i: 56 j: 45
```

Submission

```
Experiment: 1 i: 54 j: 27
Experiment: 1 i: 30 j: 6
Experiment: 1 i: 62 j: 10
Experiment: 1 i: 92 j: 48
Experiment: 1 i: 32 j: 50
Experiment: 1 i: 11 j: 33
Experiment: 1 i: 89 j: 66
Experiment: 1 i: 52 j: 43
Experiment: 1 i: 22 j: 94
Experiment: 1 i: 3 j: 91
Experiment: 1 i: 16 j: 60
Experiment: 1 i: 87 j: 66
Experiment: 1 i: 18 j: 99
Experiment: 1 i: 84 j: 12
Experiment: 1 i: 72 j: 48
Experiment: 1 i: 57 j: 22
Experiment: 1 i: 19 j: 23
Experiment: 1 i: 86 j: 87
Experiment: 1 i: 43 j: 8
Experiment: 1 i: 87 j: 56
Experiment: 1 i: 50 j: 11
Experiment: 1 i: 8 j: 46
Experiment: 1 i: 43 j: 69
Experiment: 1 i: 19 j: 85
Experiment: 1 i: 65 j: 3
Experiment: 1 i: 29 j: 27
Experiment: 1 i: 34 j: 61
Experiment: 1 i: 41 j: 60
Experiment: 1 i: 39 j: 18
Experiment: 1 i: 70 j: 7
Experiment: 1 i: 22 j: 66
Experiment: 1 i: 5 j: 21
Experiment: 1 i: 59 j: 87
Experiment: 1 i: 13 j: 68
Experiment: 1 i: 43 j: 4
Experiment: 1 i: 78 j: 50
Experiment: 1 i: 63 j: 39
Experiment: 1 i: 39 j: 84
Experiment: 1 i: 99 j: 77
```

Submission

```
Experiment: 1 i: 47 j: 34
Experiment: 1 i: 49 j: 87
Experiment: 1 i: 37 j: 7
Experiment: 1 i: 31 j: 68
Experiment: 1 i: 63 j: 89
Experiment: 1 i: 42 j: 34
Experiment: 1 i: 9 j: 80
Experiment: 1 i: 20 j: 66
Experiment: 1 i: 36 j: 46
Experiment: 1 i: 29 j: 64
Experiment: 1 i: 28 j: 14
Experiment: 1 i: 48 j: 5
Experiment: 1 i: 34 j: 59
Experiment: 1 i: 82 j: 60
Experiment: 1 i: 75 j: 31
Experiment: 1 i: 83 j: 73
Experiment: 1 i: 24 j: 45
Experiment: 1 i: 25 j: 67
Experiment: 1 i: 72 j: 62
Experiment: 1 i: 90 j: 97
Experiment: 1 i: 16 j: 96
Experiment: 1 i: 1 j: 43
Experiment: 1 i: 56 j: 40
Experiment: 1 i: 40 j: 48
Experiment: 1 i: 58 j: 3
Experiment: 1 i: 42 j: 82
Experiment: 1 i: 65 j: 5
Experiment: 1 i: 12 j: 46
Experiment: 1 i: 8 j: 95
Experiment: 1 i: 95 j: 43
Experiment: 1 i: 26 j: 20
Experiment: 1 i: 45 j: 86
Experiment: 1 i: 45 j: 10
Experiment: 1 i: 17 j: 72
Experiment: 1 i: 87 j: 67
Experiment: 1 i: 97 j: 56
Experiment: 1 i: 69 j: 27
Experiment: 1 i: 57 j: 27
Experiment: 1 i: 97 j: 85
```

Submission

```
Experiment: 1 i: 97 j: 54
Experiment: 1 i: 80 j: 38
Experiment: 1 i: 9 j: 24
Experiment: 1 i: 51 j: 34
Experiment: 1 i: 47 j: 9
Experiment: 1 i: 2 j: 6
Experiment: 1 i: 31 j: 46
Experiment: 1 i: 18 j: 50
Experiment: 1 i: 77 j: 89
Experiment: 1 i: 12 j: 79
Experiment: 1 i: 77 j: 3
Experiment: 1 i: 7 j: 63
Experiment: 1 i: 90 j: 64
Experiment: 1 i: 49 j: 98
Experiment: 1 i: 21 j: 10
Experiment: 1 i: 71 j: 85
Experiment: 1 i: 50 j: 17
Experiment: 1 i: 10 j: 100
Experiment: 1 i: 82 j: 87
Experiment: 1 i: 7 j: 33
Experiment: 1 i: 66 j: 41
Experiment: 1 i: 93 j: 33
Experiment: 1 i: 55 j: 63
Experiment: 1 i: 86 j: 29
Experiment: 1 i: 23 j: 52
Experiment: 1 i: 35 j: 66
Experiment: 1 i: 90 j: 47
Experiment: 1 i: 66 j: 97
Experiment: 1 i: 62 j: 98
Experiment: 1 i: 47 j: 66
Experiment: 1 i: 91 j: 8
Experiment: 1 i: 44 j: 22
Experiment: 1 i: 28 j: 55
Experiment: 1 i: 53 j: 49
Experiment: 1 i: 73 j: 18
Experiment: 1 i: 83 j: 80
Experiment: 1 i: 26 j: 8
Experiment: 1 i: 71 j: 74
Experiment: 1 i: 42 j: 30
```

Submission

```
Experiment: 1 i: 95 j: 80
Experiment: 1 i: 69 j: 82
Experiment: 1 i: 61 j: 89
Experiment: 1 i: 64 j: 23
Experiment: 1 i: 28 j: 53
Experiment: 1 i: 37 j: 93
Experiment: 1 i: 91 j: 56
Experiment: 1 i: 39 j: 49
Experiment: 1 i: 11 j: 41
Experiment: 1 i: 82 j: 77
Experiment: 1 i: 25 j: 21
Experiment: 1 i: 1 j: 7
Experiment: 1 i: 34 j: 35
Experiment: 1 i: 68 j: 51
Experiment: 1 i: 8 j: 25
Experiment: 1 i: 57 j: 44
Experiment: 1 i: 3 j: 79
Experiment: 1 i: 56 j: 7
Experiment: 1 i: 15 j: 40
Experiment: 1 i: 92 j: 32
Experiment: 1 i: 87 j: 5
Experiment: 1 i: 44 j: 19
Experiment: 1 i: 28 j: 36
Experiment: 1 i: 70 j: 48
Experiment: 1 i: 87 j: 2
Experiment: 1 i: 11 j: 1
Experiment: 1 i: 52 j: 38
Experiment: 1 i: 59 j: 26
Experiment: 1 i: 1 j: 31
Experiment: 1 i: 53 j: 22
Experiment: 1 i: 16 j: 61
Experiment: 1 i: 61 j: 20
Experiment: 1 i: 86 j: 4
Experiment: 1 i: 73 j: 63
Experiment: 1 i: 49 j: 23
Experiment: 1 i: 100 j: 29
Experiment: 1 i: 11 j: 20
Experiment: 1 i: 37 j: 53
Experiment: 1 i: 71 j: 18
```

Submission

```
Experiment: 1 i: 59 j: 99
Experiment: 1 i: 50 j: 42
Experiment: 1 i: 40 j: 100
Experiment: 1 i: 52 j: 84
Experiment: 1 i: 82 j: 95
Experiment: 1 i: 96 j: 3
Experiment: 1 i: 21 j: 75
Experiment: 1 i: 9 j: 68
Experiment: 1 i: 33 j: 24
Experiment: 1 i: 98 j: 72
Experiment: 1 i: 37 j: 56
Experiment: 1 i: 87 j: 50
Experiment: 1 i: 70 j: 57
Experiment: 1 i: 48 j: 76
Experiment: 1 i: 91 j: 44
Experiment: 1 i: 8 j: 79
Experiment: 1 i: 74 j: 78
Experiment: 1 i: 24 j: 48
Experiment: 1 i: 51 j: 43
Experiment: 1 i: 78 j: 71
Experiment: 1 i: 65 j: 34
Experiment: 1 i: 89 j: 99
Experiment: 1 i: 75 j: 75
Experiment: 1 i: 75 j: 55
Experiment: 1 i: 91 j: 95
Experiment: 1 i: 4 j: 18
Experiment: 1 i: 58 j: 13
Experiment: 1 i: 67 j: 46
Experiment: 1 i: 100 j: 99
Experiment: 1 i: 76 j: 78
Experiment: 1 i: 51 j: 67
Experiment: 1 i: 22 j: 6
Experiment: 1 i: 7 j: 45
Experiment: 1 i: 5 j: 82
Experiment: 1 i: 51 j: 85
Experiment: 1 i: 47 j: 98
Experiment: 1 i: 97 j: 33
Experiment: 1 i: 53 j: 44
Experiment: 1 i: 9 j: 30
```

Submission

```
Experiment: 1 i: 38 j: 82
Experiment: 1 i: 14 j: 72
Experiment: 1 i: 97 j: 65
Experiment: 1 i: 53 j: 39
Experiment: 1 i: 72 j: 100
Experiment: 1 i: 60 j: 96
Experiment: 1 i: 23 j: 66
Experiment: 1 i: 92 j: 9
Experiment: 1 i: 64 j: 72
Experiment: 1 i: 52 j: 86
Experiment: 1 i: 89 j: 80
Experiment: 1 i: 97 j: 29
Experiment: 1 i: 41 j: 29
Experiment: 1 i: 82 j: 17
Experiment: 1 i: 68 j: 93
Experiment: 1 i: 45 j: 55
Experiment: 1 i: 89 j: 52
Experiment: 1 i: 1 j: 18
Experiment: 1 i: 10 j: 35
Experiment: 1 i: 55 j: 29
Experiment: 1 i: 38 j: 74
Experiment: 1 i: 72 j: 87
Experiment: 1 i: 88 j: 90
Experiment: 1 i: 57 j: 39
Experiment: 1 i: 9 j: 59
Experiment: 1 i: 30 j: 70
Experiment: 1 i: 72 j: 6
Experiment: 1 i: 5 j: 79
Experiment: 1 i: 17 j: 59
Experiment: 1 i: 26 j: 49
Experiment: 1 i: 63 j: 7
Experiment: 1 i: 8 j: 92
Experiment: 1 i: 16 j: 85
Experiment: 1 i: 87 j: 13
Experiment: 1 i: 3 j: 67
Experiment: 1 i: 98 j: 24
Experiment: 1 i: 58 j: 4
Experiment: 1 i: 81 j: 9
Experiment: 1 i: 90 j: 28
```

Submission

```
Experiment: 1 i: 59 j: 83
Experiment: 1 i: 73 j: 38
Experiment: 1 i: 81 j: 72
Experiment: 1 i: 75 j: 43
Experiment: 1 i: 17 j: 35
Experiment: 1 i: 44 j: 74
Experiment: 1 i: 62 j: 11
Experiment: 1 i: 74 j: 80
Experiment: 1 i: 83 j: 90
Experiment: 1 i: 65 j: 61
Experiment: 1 i: 88 j: 51
Experiment: 1 i: 87 j: 55
Experiment: 1 i: 6 j: 10
Experiment: 1 i: 62 j: 52
Experiment: 1 i: 12 j: 50
Experiment: 1 i: 90 j: 30
Experiment: 1 i: 60 j: 74
Experiment: 1 i: 54 j: 73
Experiment: 1 i: 75 j: 38
Experiment: 1 i: 29 j: 48
Experiment: 1 i: 16 j: 99
Experiment: 1 i: 42 j: 91
Experiment: 1 i: 6 j: 58
Experiment: 1 i: 29 j: 82
Experiment: 1 i: 92 j: 28
Experiment: 1 i: 82 j: 14
Experiment: 1 i: 68 j: 38
Experiment: 1 i: 51 j: 26
Experiment: 1 i: 79 j: 58
Experiment: 1 i: 61 j: 66
Experiment: 1 i: 62 j: 37
Experiment: 1 i: 36 j: 97
Experiment: 1 i: 79 j: 33
Experiment: 1 i: 87 j: 54
Experiment: 1 i: 41 j: 38
Experiment: 1 i: 8 j: 99
Experiment: 1 i: 25 j: 84
Experiment: 1 i: 70 j: 13
Experiment: 1 i: 61 j: 14
```

Submission

```
Experiment: 1 i: 13 j: 59
Experiment: 1 i: 63 j: 98
Experiment: 1 i: 59 j: 1
Experiment: 1 i: 87 j: 58
Experiment: 1 i: 72 j: 24
Experiment: 1 i: 26 j: 53
Experiment: 1 i: 9 j: 73
Experiment: 1 i: 59 j: 98
Experiment: 1 i: 67 j: 28
Experiment: 1 i: 67 j: 58
Experiment: 1 i: 10 j: 68
Experiment: 1 i: 54 j: 26
Experiment: 1 i: 57 j: 70
Experiment: 1 i: 26 j: 50
Experiment: 1 i: 32 j: 94
Experiment: 1 i: 20 j: 97
Experiment: 1 i: 57 j: 1
Experiment: 1 i: 74 j: 81
Experiment: 1 i: 49 j: 88
Experiment: 1 i: 46 j: 82
Experiment: 1 i: 6 j: 25
Experiment: 1 i: 58 j: 23
Experiment: 1 i: 49 j: 20
Experiment: 1 i: 75 j: 59
Experiment: 1 i: 27 j: 44
Experiment: 1 i: 43 j: 25
Experiment: 1 i: 9 j: 84
Experiment: 1 i: 24 j: 69
Experiment: 1 i: 7 j: 93
Experiment: 1 i: 93 j: 31
Experiment: 1 i: 51 j: 31
Experiment: 1 i: 43 j: 1
Experiment: 1 i: 26 j: 58
Experiment: 1 i: 91 j: 74
Experiment: 1 i: 64 j: 97
Experiment: 1 i: 32 j: 24
Experiment: 1 i: 6 j: 76
Experiment: 1 i: 69 j: 25
Experiment: 1 i: 29 j: 70
```

Submission

```
Experiment: 1 i: 42 j: 68
Experiment: 1 i: 20 j: 88
Experiment: 1 i: 50 j: 26
Experiment: 1 i: 43 j: 37
Experiment: 1 i: 25 j: 62
Experiment: 1 i: 18 j: 5
Experiment: 1 i: 21 j: 35
Experiment: 1 i: 71 j: 46
Experiment: 1 i: 99 j: 39
Experiment: 1 i: 9 j: 67
Experiment: 1 i: 10 j: 23
Experiment: 1 i: 83 j: 51
Experiment: 1 i: 31 j: 90
Experiment: 1 i: 60 j: 29
Experiment: 1 i: 12 j: 71
Experiment: 1 i: 25 j: 20
Experiment: 1 i: 82 j: 45
Experiment: 1 i: 38 j: 19
Experiment: 1 i: 50 j: 30
Experiment: 1 i: 83 j: 69
Experiment: 1 i: 77 j: 70
Experiment: 1 i: 98 j: 34
Experiment: 1 i: 100 j: 95
Experiment: 1 i: 88 j: 14
Experiment: 1 i: 51 j: 88
Experiment: 1 i: 93 j: 36
Experiment: 1 i: 44 j: 65
Experiment: 1 i: 32 j: 41
Experiment: 1 i: 16 j: 9
Experiment: 1 i: 18 j: 43
Experiment: 1 i: 92 j: 100
Experiment: 1 i: 77 j: 99
Experiment: 1 i: 88 j: 19
Experiment: 1 i: 36 j: 95
Experiment: 1 i: 22 j: 7
Experiment: 1 i: 14 j: 82
Experiment: 1 i: 4 j: 2
Experiment: 1 i: 19 j: 34
Experiment: 1 i: 28 j: 11
```

Submission

```
Experiment: 1 i: 59 j: 4
Experiment: 1 i: 58 j: 31
Experiment: 1 i: 43 j: 63
Experiment: 1 i: 62 j: 78
Experiment: 1 i: 9 j: 99
Experiment: 1 i: 64 j: 30
Experiment: 1 i: 58 j: 14
Experiment: 1 i: 92 j: 55
Experiment: 1 i: 12 j: 6
Experiment: 1 i: 24 j: 76
Experiment: 1 i: 55 j: 11
Experiment: 1 i: 46 j: 66
Experiment: 1 i: 56 j: 67
Experiment: 1 i: 73 j: 94
Experiment: 1 i: 40 j: 28
Experiment: 1 i: 95 j: 45
Experiment: 1 i: 11 j: 12
Experiment: 1 i: 47 j: 17
Experiment: 1 i: 72 j: 57
Experiment: 1 i: 88 j: 55
Experiment: 1 i: 1 j: 68
Experiment: 1 i: 10 j: 94
Experiment: 1 i: 37 j: 24
Experiment: 1 i: 83 j: 98
Experiment: 1 i: 6 j: 5
Experiment: 1 i: 79 j: 92
Experiment: 1 i: 46 j: 43
Experiment: 1 i: 73 j: 70
Experiment: 1 i: 54 j: 45
Experiment: 1 i: 74 j: 50
Experiment: 1 i: 78 j: 46
Experiment: 1 i: 8 j: 20
Experiment: 1 i: 57 j: 20
Experiment: 1 i: 7 j: 99
Experiment: 1 i: 88 j: 81
Experiment: 1 i: 46 j: 47
Experiment: 1 i: 75 j: 88
Experiment: 1 i: 56 j: 97
Experiment: 1 i: 88 j: 2
```

Submission

```
Experiment: 1 i: 97 j: 76
Experiment: 1 i: 46 j: 34
Experiment: 1 i: 99 j: 88
Experiment: 1 i: 10 j: 26
Experiment: 1 i: 73 j: 87
Experiment: 1 i: 53 j: 45
Experiment: 1 i: 30 j: 82
Experiment: 1 i: 59 j: 30
Experiment: 1 i: 75 j: 69
Experiment: 1 i: 80 j: 51
Experiment: 1 i: 70 j: 16
Experiment: 1 i: 5 j: 62
Experiment: 1 i: 75 j: 47
Experiment: 1 i: 72 j: 35
Experiment: 1 i: 4 j: 14
Experiment: 1 i: 29 j: 3
Experiment: 1 i: 41 j: 98
Experiment: 1 i: 57 j: 64
Experiment: 1 i: 73 j: 91
Experiment: 1 i: 42 j: 53
Experiment: 1 i: 93 j: 39
Experiment: 1 i: 5 j: 88
Experiment: 1 i: 18 j: 20
Experiment: 1 i: 20 j: 11
Experiment: 1 i: 71 j: 54
Experiment: 1 i: 54 j: 65
Experiment: 1 i: 44 j: 59
Experiment: 1 i: 98 j: 49
Experiment: 1 i: 60 j: 64
Experiment: 1 i: 49 j: 31
Experiment: 1 i: 10 j: 85
Experiment: 1 i: 16 j: 100
Experiment: 1 i: 24 j: 9
Experiment: 1 i: 54 j: 93
Experiment: 1 i: 2 j: 81
Experiment: 1 i: 24 j: 16
Experiment: 1 i: 62 j: 92
Experiment: 1 i: 42 j: 61
Experiment: 1 i: 22 j: 31
```

Submission

```
Experiment: 1 i: 27 j: 17
Experiment: 1 i: 39 j: 32
Experiment: 1 i: 76 j: 96
Experiment: 1 i: 98 j: 20
Experiment: 1 i: 23 j: 37
Experiment: 1 i: 15 j: 79
Experiment: 1 i: 87 j: 52
Experiment: 1 i: 74 j: 13
Experiment: 1 i: 40 j: 95
Experiment: 1 i: 11 j: 24
Experiment: 1 i: 87 j: 1
Experiment: 1 i: 87 j: 64
Experiment: 1 i: 64 j: 77
Experiment: 1 i: 94 j: 56
Experiment: 1 i: 14 j: 39
Experiment: 1 i: 51 j: 65
Experiment: 1 i: 50 j: 16
Experiment: 1 i: 33 j: 21
Experiment: 1 i: 43 j: 59
Experiment: 1 i: 90 j: 96
Experiment: 1 i: 63 j: 25
Experiment: 1 i: 11 j: 79
Experiment: 1 i: 85 j: 100
Experiment: 1 i: 44 j: 96
Experiment: 1 i: 34 j: 82
Experiment: 1 i: 78 j: 89
Experiment: 1 i: 67 j: 78
Experiment: 1 i: 50 j: 76
Experiment: 1 i: 29 j: 2
Experiment: 1 i: 19 j: 2
Experiment: 1 i: 48 j: 34
Experiment: 1 i: 22 j: 84
Experiment: 1 i: 98 j: 5
Experiment: 1 i: 44 j: 54
Experiment: 1 i: 54 j: 57
Experiment: 1 i: 94 j: 92
Experiment: 1 i: 18 j: 47
Experiment: 1 i: 64 j: 26
Experiment: 1 i: 74 j: 18
```

Submission

```
Experiment: 1 i: 41 j: 27
Experiment: 1 i: 78 j: 25
Experiment: 1 i: 60 j: 55
Experiment: 1 i: 1 j: 33
Experiment: 1 i: 40 j: 84
Experiment: 1 i: 46 j: 37
Experiment: 1 i: 92 j: 12
Experiment: 1 i: 80 j: 67
Experiment: 1 i: 94 j: 48
Experiment: 1 i: 66 j: 37
Experiment: 1 i: 5 j: 39
Experiment: 1 i: 1 j: 74
Experiment: 1 i: 54 j: 74
Experiment: 1 i: 10 j: 62
Experiment: 1 i: 68 j: 26
Experiment: 1 i: 100 j: 60
Experiment: 1 i: 52 j: 63
Experiment: 1 i: 38 j: 38
Experiment: 1 i: 1 j: 37
Experiment: 1 i: 19 j: 68
Experiment: 1 i: 99 j: 86
Experiment: 1 i: 100 j: 19
Experiment: 1 i: 52 j: 72
Experiment: 1 i: 57 j: 5
Experiment: 1 i: 79 j: 69
Experiment: 1 i: 35 j: 26
Experiment: 1 i: 74 j: 100
Experiment: 1 i: 65 j: 57
Experiment: 1 i: 35 j: 52
Experiment: 1 i: 39 j: 96
Experiment: 1 i: 46 j: 93
Experiment: 1 i: 30 j: 1
Experiment: 1 i: 71 j: 37
Experiment: 1 i: 31 j: 12
Experiment: 1 i: 70 j: 75
Experiment: 1 i: 23 j: 84
Experiment: 1 i: 3 j: 72
Experiment: 1 i: 50 j: 27
Experiment: 1 i: 43 j: 76
```

Submission

```
Experiment: 1 i: 79 j: 54
Experiment: 1 i: 97 j: 37
Experiment: 1 i: 70 j: 44
Experiment: 1 i: 49 j: 59
Experiment: 1 i: 59 j: 63
Experiment: 1 i: 51 j: 60
Experiment: 1 i: 68 j: 19
Experiment: 1 i: 89 j: 43
Experiment: 1 i: 53 j: 41
Experiment: 1 i: 87 j: 10
Experiment: 1 i: 3 j: 99
Experiment: 1 i: 39 j: 70
Experiment: 1 i: 96 j: 100
Experiment: 1 i: 26 j: 80
Experiment: 1 i: 56 j: 74
Experiment: 1 i: 64 j: 16
Experiment: 1 i: 71 j: 58
Experiment: 1 i: 32 j: 12
Experiment: 1 i: 60 j: 21
Experiment: 1 i: 51 j: 80
Experiment: 1 i: 31 j: 42
Experiment: 1 i: 10 j: 25
Experiment: 1 i: 13 j: 49
Experiment: 1 i: 84 j: 1
Experiment: 1 i: 31 j: 62
Experiment: 1 i: 93 j: 17
Experiment: 1 i: 54 j: 72
Experiment: 1 i: 56 j: 3
Experiment: 1 i: 60 j: 1
Experiment: 1 i: 59 j: 15
Experiment: 1 i: 60 j: 82
Experiment: 1 i: 4 j: 86
Experiment: 1 i: 100 j: 47
Experiment: 1 i: 42 j: 19
Experiment: 1 i: 44 j: 90
Experiment: 1 i: 58 j: 38
Experiment: 1 i: 40 j: 6
Experiment: 1 i: 16 j: 86
Experiment: 1 i: 34 j: 76
```

Submission

```
Experiment: 1 i: 18 j: 55
Experiment: 1 i: 34 j: 89
Experiment: 1 i: 27 j: 57
Experiment: 1 i: 51 j: 58
Experiment: 1 i: 18 j: 9
Experiment: 1 i: 59 j: 49
Experiment: 1 i: 10 j: 61
Experiment: 1 i: 12 j: 57
Experiment: 1 i: 15 j: 18
Experiment: 1 i: 72 j: 99
Experiment: 1 i: 33 j: 40
Experiment: 1 i: 94 j: 9
Experiment: 1 i: 68 j: 71
Experiment: 1 i: 41 j: 95
Experiment: 1 i: 77 j: 95
Experiment: 1 i: 26 j: 78
Experiment: 1 i: 74 j: 21
Experiment: 1 i: 26 j: 5
Experiment: 1 i: 63 j: 49
Experiment: 1 i: 95 j: 84
Experiment: 1 i: 37 j: 78
Experiment: 1 i: 71 j: 5
Experiment: 1 i: 29 j: 71
Experiment: 1 i: 79 j: 74
Experiment: 1 i: 78 j: 64
Experiment: 1 i: 98 j: 23
Experiment: 1 i: 43 j: 91
Experiment: 1 i: 88 j: 91
Experiment: 1 i: 75 j: 28
Experiment: 1 i: 58 j: 89
Experiment: 1 i: 7 j: 18
Experiment: 1 i: 74 j: 9
Experiment: 1 i: 15 j: 61
Experiment: 1 i: 66 j: 6
Experiment: 1 i: 91 j: 37
Experiment: 1 i: 81 j: 33
Experiment: 1 i: 12 j: 85
Experiment: 1 i: 59 j: 23
Experiment: 1 i: 14 j: 17
```

Submission

```
Experiment: 1 i: 28 j: 77
Experiment: 1 i: 96 j: 13
Experiment: 1 i: 80 j: 11
Experiment: 1 i: 63 j: 61
Experiment: 1 i: 26 j: 37
Experiment: 1 i: 42 j: 13
Experiment: 1 i: 68 j: 4
Experiment: 1 i: 48 j: 17
Experiment: 1 i: 30 j: 34
Experiment: 1 i: 95 j: 7
Experiment: 1 i: 71 j: 98
Experiment: 1 i: 71 j: 59
Experiment: 1 i: 14 j: 4
Experiment: 1 i: 47 j: 45
Experiment: 1 i: 63 j: 88
Experiment: 1 i: 5 j: 84
Experiment: 1 i: 87 j: 97
Experiment: 1 i: 26 j: 36
Experiment: 1 i: 8 j: 45
Experiment: 1 i: 59 j: 16
Experiment: 1 i: 40 j: 52
Experiment: 1 i: 89 j: 57
Experiment: 1 i: 73 j: 4
Experiment: 1 i: 38 j: 23
Experiment: 1 i: 74 j: 87
Experiment: 1 i: 10 j: 28
Experiment: 1 i: 23 j: 69
Experiment: 1 i: 11 j: 84
Experiment: 1 i: 70 j: 90
Experiment: 1 i: 86 j: 10
Experiment: 1 i: 23 j: 41
Experiment: 1 i: 31 j: 29
Experiment: 1 i: 68 j: 81
Experiment: 1 i: 55 j: 71
Experiment: 1 i: 2 j: 18
Experiment: 1 i: 80 j: 27

Total: 0/4 tests passed:Test aborted. Ran out of time
 or crashed before completion.
```

Submission

```
================================================================


****************************************************************
**********
*  timing
****************************************************************
**********

Timing Percolation
*-----------------------------------------------------------
-----
Running 9 total tests.

Tests 1a-1e: Measuring runtime and counting calls to co
nnected(), union() and
             find() in WeightedQuickUnionUF.


For each N, a percolation object is generated and sites
 are randomly opened
until the system percolates. If you do not pass the cor
rectness tests, these
results may be meaningless.

                                                      2 * co
nnected()
                 N   seconds       union()
 + find()        constructor
-----------------------------------------------------------
-------------------------------------
=> passed        8     0.00           67
    164                  1
=> passed       32     0.00          781
   1866                  1
=> passed      128     0.03        11399
  28834                  1
```

Submission

```
=> passed      512     0.13       185772
 474148                   1
=> passed     1024     0.28       729779
1864838                   1
==> 5/5 tests passed

Running time in seconds depends on the machine on which
 the script runs,
and  varies each time that you submit. If one of the va
lues in the table
violates the performance limits, the factor by which yo
u failed the test
appears in parentheses. For example, (9.6x) in the unio
n() column
indicates that it uses 9.6x too many calls.


Tests 2a-2d: This test checks whether you use a constan
t number of calls to
union(), connected(), and find() per call to open(), is
Full(), and percolates().
The table below shows max(union(), connected(), find())
 calls made during a
single call to open(), isFull(), and percolates().

                 N     per open()      per isOpen()
per isFull()    per percolates()
-----------------------------------------------------
-------------------------------------
=> passed       32        4               0
   1               1
=> passed      128        4               0
   1               1
=> passed      512        4               0
   1               1
=> passed     1024        4               0
   1               1
==> 4/4 tests passed
```

Submission

```
Total: 9/9 tests passed!
================================================================
=========
```