

```
410430
410468
410637
```

Column 2

```
434769
435427
435545
436117
435086
435545
434650
435369
435817
435315
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 21446.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
410359
409688
410684
409050
410735
409033
409822
410684
410559
410547
```

Column 2

```
435086
435618
435340
434674
436203
434769
435466
435564
435512
436346
```

```
Radius: 250, Facilities opened: 10  
Epochs: 101  
Fitness: 21455.000000  
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410744  
409688  
410209  
409033  
410244  
410244  
410684  
410663  
410488  
409050
```

```
Column 2
```

```
436290  
435618  
435297  
434769  
435175  
435175  
435564  
436219  
436025  
434674
```

```
Radius: 250, Facilities opened: 10  
Epochs: 101  
Fitness: 21452.000000  
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410570  
410637
```

```
409050
410430
410502
410593
409033
410359
409688
410895
```

Column 2

```
436117
435315
434674
435369
435734
435427
434769
435086
435618
435848
```

Radius: 250, Facilities opened: 10

Epochs: 101

Fitness: 21448.000000

ans =

'Facility Coordinates'

ans =

Column 1

```
410502
410637
410593
410359
409688
410695
410735
409050
410901
409033
```

Column 2

```
435734
435315
435427
435086
435618
```

```
435964
436203
434674
435964
434769
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 21449.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410417
408897
410663
409033
409688
410359
410684
410744
409811
410559
```

```
Column 2
```

```
436035
434650
436219
434769
435618
435086
435564
436290
435545
435512
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 21452.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

410430  
410570  
408897  
410468  
410593  
410684  
409811  
409688  
409033  
410359

Column 2

435369  
436117  
434650  
435817  
435427  
435340  
435545  
435618  
434769  
435086

Average Fitness: 21451.000000 +  
Max Fitness: 21455.000000  
Standard Deviation: 2.607681  
Average Time: 30.002266  
counters =

Column 1

766087

Column 2

69266

Column 3

2

Column 4

9825

Radius: 250, Facilities opened: 10  
Epochs: 101

Fitness: 50930.000000

ans =

'Facility Coordinates'

ans =

Column 1

409482  
409638  
410651  
410646  
409875  
410123  
410294  
409609  
409208  
409026

Column 2

436380  
435143  
434905  
436100  
435755  
434968  
435141  
435201  
436263  
436332

Radius: 250, Facilities opened: 10

Epochs: 101

Fitness: 50942.000000

ans =

'Facility Coordinates'

ans =

Column 1

409823  
409830  
410646  
409026  
410430  
409208

```
410651
410113
409875
409482
```

Column 2

```
434877
435210
436100
436332
435369
436263
434905
434847
435755
436380
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 50944.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
410651
409553
409482
410430
409147
410646
409609
410064
409026
409875
```

Column 2

```
434905
435074
436380
435369
436256
436100
435201
435263
436332
```

435755

Radius: 250, Facilities opened: 10

Epochs: 101

Fitness: 50896.000000

ans =

'Facility Coordinates'

ans =

Column 1

410607

410064

410430

409026

409482

410646

409208

409553

410816

409875

Column 2

435053

435263

435251

436332

436380

436100

436263

435074

435249

435755

Radius: 250, Facilities opened: 10

Epochs: 101

Fitness: 50931.000000

ans =

'Facility Coordinates'

ans =

Column 1

409823



```
410294
410646
409830
409208
409482
410123
409875
409026
410651
```

Column 2

```
434877
435141
436100
435210
436263
436380
434968
435755
436332
434905
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 50941.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
409482
410651
409208
409026
410113
409553
410430
409609
410646
409875
```

Column 2

```
436380
434905
436263
436332
```

```
434847
435074
435369
435201
436100
435755
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 50909.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409875
409026
409482
410157
410651
409553
410042
410430
409147
410646
```

```
Column 2
```

```
435755
436332
436380
435130
434905
435074
434928
435369
436256
436100
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 50885.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409875  
410113  
410651  
409482  
409147  
409553  
410479  
410371  
410551  
409026
```

```
Column 2
```

```
435755  
434847  
434905  
436380  
436256  
435074  
435620  
435374  
436010  
436332
```

```
Radius: 250, Facilities opened: 10
```

```
Epochs: 101
```

```
Fitness: 50944.000000
```

```
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409609  
410430  
409026  
409482  
410064  
409208  
410651  
410646  
409553  
409875
```

```
Column 2
```

435201  
435369  
436332  
436380  
435263  
436263  
434905  
436100  
435074  
435755

Radius: 250, Facilities opened: 10  
Epochs: 101  
Fitness: 50942.000000  
ans =

'Facility Coordinates'

ans =

Column 1

409208  
410113  
409026  
409482  
410646  
410651  
410430  
409830  
409875  
409823

Column 2

436263  
434847  
436332  
436380  
436100  
434905  
435369  
435210  
435755  
434877

Average Fitness: 50926.400000 +  
Max Fitness: 50944.000000  
Standard Deviation: 20.722934

Average Time: 33.023232

counters =

Column 1

770052

Column 2

62462

Column 3

6

Column 4

7620

Radius: 250, Facilities opened: 10

Epochs: 104

Fitness: 35357.000000

ans =

'Facility Coordinates'

ans =

Column 1

410320

410064

409378

410042

410006

410704

410213

409355

410003

409178

Column 2

436562

435263

435463

434928

436607

436034

436728

436788

```
436738
436078
```

```
Radius: 250, Facilities opened: 10
Epochs: 125
Fitness: 35357.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410320
409378
410003
410213
409429
410006
410623
410042
409289
410479
```

```
Column 2
```

```
436562
435563
436738
436728
436834
436607
435997
434928
436065
435620
```

```
Radius: 250, Facilities opened: 10
Epochs: 177
Fitness: 35357.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409355
410006
410453
410213
410042
409378
410320
410003
410704
409275
```

Column 2

```
436788
436607
435478
436728
434928
435463
436562
436738
436034
435982
```

```
Radius: 250, Facilities opened: 10
Epochs: 121
Fitness: 35354.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
410646
410771
410006
409378
409178
410003
410042
409429
410213
410320
```

Column 2

```
436100
435700
436607
```

```
435463
436078
436738
434928
436834
436728
436562
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 35355.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410430
409429
410213
410006
410252
410003
410042
410623
409289
410320
```

```
Column 2
```

```
435251
436834
436728
436607
435543
436738
434928
435997
436065
436562
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 35356.000000
ans =
```

```
'Facility Coordinates'
```



```
ans =
```

```
Column 1
```

```
410003  
409355  
409378  
410006  
410213  
409199  
410704  
410042  
410453  
410320
```

```
Column 2
```

```
436738  
436788  
435563  
436607  
436728  
435982  
436034  
434928  
435478  
436562
```

```
Radius: 250, Facilities opened: 10
```

```
Epochs: 101
```

```
Fitness: 35355.000000
```

```
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409355  
410430  
410042  
409178  
409378  
410252  
410006  
410006  
410213  
410704
```

Column 2

436788  
435251  
434928  
436078  
435463  
435543  
436804  
436607  
436728  
436034

Radius: 250, Facilities opened: 10  
Epochs: 181  
Fitness: 35357.000000  
ans =

'Facility Coordinates'

ans =

Column 1

409275  
410453  
409378  
410042  
410213  
409355  
410320  
410006  
410003  
410623

Column 2

435982  
435478  
435563  
434928  
436728  
436788  
436562  
436607  
436738  
435997

Radius: 250, Facilities opened: 10  
Epochs: 101

Fitness: 35355.000000

ans =

'Facility Coordinates'

ans =

Column 1

410213  
409429  
409275  
410006  
410704  
410003  
409378  
410320  
410429  
410429

Column 2

436728  
436834  
435982  
436607  
436034  
436738  
435563  
436562  
435043  
435043

Radius: 250, Facilities opened: 10

Epochs: 101

Fitness: 35357.000000

ans =

'Facility Coordinates'

ans =

Column 1

409378  
410003  
409429  
410042  
410479  
409289

```
410320
410623
410213
410006
```

```
Column 2
```

```
435563
436738
436834
434928
435620
436065
436562
435997
436728
436607
```

```
Average Fitness: 35356.000000 +
Max Fitness: 35357.000000
Standard Deviation: 1.095445
Average Time: 33.535013
counters =
```

```
Column 1
```

```
918856
```

```
Column 2
```

```
88541
```

```
Column 3
```

```
0
```

```
Column 4
```

```
3369
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 59643.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409830
409255
409810
409260
410744
410570
409944
409700
410325
409026
```

Column 2

```
435210
436694
435094
435538
435073
436117
435714
434754
435510
436332
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 59631.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
409026
410651
409255
410430
409946
409962
409810
409154
410570
409969
```

Column 2

```
436332
434905
```

```
436694
435251
436015
434875
435094
435528
436117
435509
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 59666.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409026
410179
410570
410394
409944
409154
409255
410744
409962
409810
```

```
Column 2
```

```
436332
435225
436117
435496
435714
435528
436694
435073
434875
435094
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 59641.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409962  
410325  
409260  
409810  
409026  
410744  
410570  
409946  
409255  
409969
```

```
Column 2
```

```
434875  
435510  
435538  
435094  
436332  
435073  
436117  
436015  
436694  
435509
```

```
Radius: 250, Facilities opened: 10
```

```
Epochs: 101
```

```
Fitness: 59648.000000
```

```
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409026  
410744  
409154  
409962  
409255  
410325  
409638  
409810  
410570  
409944
```

Column 2

436332  
435073  
435528  
434875  
436694  
435510  
434867  
435094  
436117  
435714

Radius: 250, Facilities opened: 10  
Epochs: 101  
Fitness: 59653.000000  
ans =

'Facility Coordinates'

ans =

Column 1

409972  
409026  
409260  
409946  
410325  
409255  
410744  
409969  
409923  
410570

Column 2

435164  
436332  
435538  
436015  
435510  
436694  
435073  
435509  
434767  
436117

Radius: 250, Facilities opened: 10



```
Epochs: 101  
Fitness: 59648.000000  
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409026  
409962  
409638  
410325  
409260  
409255  
410570  
410744  
409944  
409810
```

```
Column 2
```

```
436332  
434875  
434867  
435510  
435538  
436694  
436117  
435073  
435714  
435094
```

```
Radius: 250, Facilities opened: 10  
Epochs: 101  
Fitness: 59666.000000  
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409026  
409255  
409944  
409260  
410394
```

```
409810
410570
409962
410179
410744
```

Column 2

```
436332
436694
435714
435538
435496
435094
436117
434875
435225
435073
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 59653.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
410744
410325
409255
409837
409482
409154
409944
409972
410570
409923
```

Column 2

```
435073
435510
436694
436155
436380
435528
435714
435164
```

```
436117
434767
```

```
Radius: 250, Facilities opened: 10
Epochs: 101
Fitness: 59636.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409972
410429
409923
409260
409255
409837
409944
410570
410430
409482
```

```
Column 2
```

```
435164
435043
434767
435538
436694
436155
435714
436117
435369
436380
```

```
Average Fitness: 59648.500000 +
Max Fitness: 59666.000000
Standard Deviation: 10.965856
Average Time: 32.866843
counters =
```

```
Column 1
```

```
725748
```

```
Column 2
```

105950

Column 3

21

Column 4

8391

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 74126.000000

ans =

'Facility Coordinates'

ans =

Column 1

410556

409573

409768

409812

409482

410650

409798

410252

409701

410180

409968

409823

409213

410623

409684

410359

410705

410234

410466

409255

Column 2

435600

436533

436873

434774

436380

435170

434991

```
435543
436391
436398
435327
434877
436836
435997
434946
435086
435132
436518
436253
436694
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 74178.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409823
410140
409372
410252
409968
410656
409684
409255
409255
410789
409823
410651
410593
409680
409939
410359
409858
409788
410570
410395
```

```
Column 2
```

```
434877
436494
436561
```

```
435543
435327
435029
434946
436694
436694
435850
434877
434905
435427
436697
435089
435086
436418
436708
436117
436240
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 74175.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410559
409892
410651
410650
410556
409213
409482
410466
409798
410067
409691
409701
410307
409768
410179
410623
409684
409213
409255
409819
```

```
Column 2
```

```
435512
434941
434905
435170
434848
436836
436380
436253
434991
435592
436539
436391
434939
436873
435225
435997
434946
436836
436694
434672
```

```
Radius: 250, Facilities opened: 20
```

```
Epochs: 101
```

```
Fitness: 74227.000000
```

```
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409701
409255
410252
409482
409968
409823
409573
410395
410789
410651
410307
409684
409939
409213
410556
410453
410570
409768
```

```
410721
409833
```

```
Column 2
```

```
436391
436694
435543
436380
435327
434877
436533
436240
435850
434905
434939
434946
435089
436836
434848
435478
436117
436873
435245
434956
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 74048.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410179
410067
410482
410656
410234
409213
409255
409701
409823
410348
409255
409546
409798
410789
```



```
410180
409680
409684
409833
410430
410651
```

Column 2

```
435225
435592
436373
435029
436518
436836
436694
436391
434877
436049
436694
436882
434991
435850
436398
436697
434946
434956
435369
434905
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 74193.000000

ans =

'Facility Coordinates'

ans =

Column 1

```
409823
410656
409701
409892
409546
410395
409833
410307
409286
410705
```

```
410453
410556
409680
410252
410789
409255
409684
410570
410234
409968
```

Column 2

```
434877
435029
436391
435208
436882
436240
434956
434939
436828
435132
435478
434848
436697
435543
435850
436694
434946
436117
436518
435327
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 74140.000000

ans =

'Facility Coordinates'

ans =

Column 1

```
410507
409823
410705
409684
410345
409939
```

```
410120
410439
410556
409701
409968
409255
409768
410656
410307
409482
410234
409833
409213
409573
```

Column 2

```
436128
434877
435132
434946
435646
435089
436627
436137
434848
436391
435327
436694
436873
435029
434939
436380
436518
434956
436836
436533
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 73953.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
409573
410651
```

```
409701
410140
410453
409768
409798
410637
409255
410113
410597
410735
410556
409939
409684
410067
410430
410180
410120
409213
```

Column 2

```
436533
434905
436391
436494
435478
436873
434991
435315
436694
436329
435874
436203
434848
435089
434946
435592
435251
436398
436627
436836
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 74040.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

409213  
409680  
409892  
409573  
409546  
409213  
410307  
410593  
410656  
410651  
409684  
409972  
409819  
410675  
410067  
409701  
409482  
409255  
410663  
410244

Column 2

436836  
436697  
434941  
436533  
436882  
436836  
434939  
435427  
435029  
434905  
434946  
435164  
434672  
435867  
435592  
436391  
436380  
436694  
436219  
435175

Radius: 250, Facilities opened: 20  
Epochs: 101  
Fitness: 74142.000000  
ans =

'Facility Coordinates'

ans =

Column 1

409684  
409657  
409823  
409482  
410307  
409573  
410651  
410252  
410556  
410721  
409701  
409213  
410556  
409255  
409939  
409833  
409968  
410623  
409213  
410591

Column 2

434946  
436892  
434877  
436380  
434939  
436533  
434905  
435543  
434848  
435245  
436391  
436836  
435600  
436694  
435089  
434956  
435327  
435997  
436836  
436231

Average Fitness: 74122.200000 +  
Max Fitness: 74227.000000

Standard Deviation: 79.694165

Average Time: 73.212309

counters =

Column 1

1341885

Column 2

74074

Column 3

10

Column 4

24117

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 42845.000000

ans =

'Facility Coordinates'

ans =

Column 1

410744

409968

410298

409688

409033

410637

410939

410437

410895

410663

408897

409688

409624

410430

409033

410593

410244

410894

410345

408932

Column 2

436290  
435327  
435298  
435618  
434769  
435315  
434936  
435739  
435848  
436219  
434650  
435618  
435752  
435369  
434769  
435427  
435175  
434903  
435646  
434976

Radius: 250, Facilities opened: 20  
Epochs: 101  
Fitness: 42841.000000  
ans =

'Facility Coordinates'

ans =

Column 1

410721  
408906  
410559  
410684  
410294  
409624  
410695  
410885  
409688  
409811  
409033  
410244  
409033  
410209  
410468  
408932



```
410789
410466
410466
409811
```

Column 2

```
435245
434723
435512
435340
435141
435752
435964
435668
435618
435545
434769
435175
434769
435297
435817
434976
435850
436253
436253
435545
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 42829.000000

ans =

'Facility Coordinates'

ans =

Column 1

```
409624
409811
409033
410437
408897
409688
409684
409688
408840
409090
410704
410763
```

```
410298
410637
410345
410430
410964
410593
409765
410294
```

Column 2

```
435752
435545
434769
435739
434650
435618
434946
435618
435022
434982
436034
435977
435298
435315
435646
435369
434773
435427
435617
435141
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 42825.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
410797
409624
408932
410684
410294
410735
410812
410559
```

```
408897
410939
409033
409822
409688
409090
410964
410684
410551
410320
409688
410298
```

Column 2

```
436186
435752
434976
435340
435141
435854
435963
435512
434650
434936
434769
435466
435618
434982
434773
435564
436010
436562
435618
435298
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 42827.000000

ans =

'Facility Coordinates'

ans =

Column 1

```
409688
409822
410684
410359
```

```
409624
409090
409684
408932
410744
410417
409688
410559
409050
410939
409020
409570
410663
410958
410684
409050
```

Column 2

```
435618
435466
435340
435086
435752
434982
434946
434976
436290
436035
435618
435512
434674
434936
435056
435942
436219
434862
435564
434674
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 42851.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
409050
410684
410695
410559
409688
409688
408932
410359
410735
410707
409624
410901
410826
409822
410780
410320
410958
409033
409033
410684
```

Column 2

```
434674
435564
435964
435512
435618
435618
434976
435086
436203
434687
435752
435964
434878
435466
434836
436562
434862
434769
434769
435340
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 42804.000000

ans =

'Facility Coordinates'

ans =

Column 1

410298  
409811  
409033  
410394  
408906  
408932  
410721  
409090  
410502  
409688  
409624  
410684  
410559  
409684  
410885  
410591  
410529  
410294  
409765  
410789

Column 2

435298  
435545  
434769  
435496  
434723  
434976  
435245  
434982  
435734  
435618  
435752  
435340  
435512  
434946  
435668  
436231  
436244  
435141  
435617  
435850

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 42852.000000

ans =

'Facility Coordinates'

ans =

Column 1

410939  
410964  
409050  
410744  
408932  
409822  
410663  
409539  
410437  
410416  
409688  
409050  
409090  
410359  
410637  
410593  
410430  
410895  
409624  
409688

Column 2

434936  
434773  
434674  
436290  
434976  
435466  
436219  
434954  
435739  
435631  
435618  
434674  
434982  
435086  
435315  
435427  
435369  
435848  
435752  
435618

```
Radius: 250, Facilities opened: 20  
Epochs: 101  
Fitness: 42842.000000  
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410437  
410593  
410320  
409050  
410294  
410704  
408932  
410298  
409624  
409811  
409033  
409688  
410684  
409688  
410939  
410958  
409090  
410430  
410416  
410763
```

```
Column 2
```

```
435739  
435427  
436562  
434674  
435141  
436034  
434976  
435298  
435752  
435545  
434769  
435618  
435340  
435618  
434936  
434862  
434982  
435369
```



```
435631
435977
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 42814.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409050
409624
410320
410646
410894
409822
410359
410593
409033
410430
408932
410570
409050
410885
410437
410488
409684
410684
410939
409765
```

```
Column 2
```

```
434674
435752
436562
436100
434903
435466
435086
435427
434769
435369
434976
436117
434674
435668
```

```
435739
436025
434946
435340
434936
435617
```

```
Average Fitness: 42833.000000 +
Max Fitness: 42852.000000
Standard Deviation: 15.139353
Average Time: 67.246018
counters =
```

```
Column 1
```

```
1301141
```

```
Column 2
```

```
114717
```

```
Column 3
```

```
9
```

```
Column 4
```

```
24293
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 101059.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409718
409026
409573
410224
409812
410580
410157
409792
410744
409968
```

```
410591
410556
409482
409208
409609
410042
409429
410325
409575
409875
```

Column 2

```
435043
436332
436533
436222
434774
435727
435130
435978
435073
435327
436231
434848
436380
436263
435201
434928
436834
435510
436677
435755
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 100650.000000

ans =

'Facility Coordinates'

ans =

Column 1

```
409609
410179
409638
409482
409969
410015
```

```
410113
410651
409026
409823
410429
409875
409429
410580
409147
409553
410705
409575
410113
410663
```

Column 2

```
435201
435225
435143
436380
435509
436193
436329
434905
436332
434877
435043
435755
436834
435727
436256
436813
435132
436677
434847
436219
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 100501.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
410113
409638
```

```
409344
410120
410430
410744
409823
410556
409792
409355
409875
409398
409322
410289
409638
410179
409718
410395
409482
410704
```

Column 2

```
434847
434867
436201
436189
435251
435073
434877
434848
435978
436788
435755
436213
436406
435663
435143
435225
435043
436240
436380
436034
```

```
Radius: 250, Facilities opened: 20
Epochs: 104
Fitness: 100894.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

410179  
410113  
410744  
410593  
409344  
409575  
409812  
409792  
409512  
409261  
409609  
409482  
410704  
410224  
410395  
409553  
409429  
409875  
410429  
409553

Column 2

435225  
434847  
435073  
435427  
436201  
436677  
434774  
435978  
436236  
436338  
435201  
436380  
436034  
436222  
436240  
435074  
436834  
435755  
435043  
436813

Radius: 250, Facilities opened: 20  
Epochs: 101  
Fitness: 100950.000000  
ans =

'Facility Coordinates'

```
ans =
```

```
Column 1
```

```
409429  
410252  
409638  
410298  
410580  
409968  
409875  
409573  
409575  
409026  
410120  
409539  
410042  
410744  
410556  
410591  
410047  
409792  
409482  
409147
```

```
Column 2
```

```
436834  
435543  
434867  
435298  
435727  
435327  
435755  
436533  
436677  
436332  
436189  
434954  
434928  
435073  
434848  
436231  
434778  
435978  
436380  
436256
```

```
Radius: 250, Facilities opened: 20  
Epochs: 101
```

```
Fitness: 100774.000000
```

```
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410556  
409546  
409822  
410783  
409609  
409208  
409482  
409812  
409638  
410466  
410047  
409573  
409792  
409823  
410468  
410042  
409026  
409680  
410298  
410593
```

```
Column 2
```

```
434848  
436882  
435466  
434971  
435201  
436263  
436380  
435857  
435143  
436253  
434778  
436533  
435978  
434877  
435817  
434928  
436332  
436697  
435298  
435427
```



```
Radius: 250, Facilities opened: 20  
Epochs: 101  
Fitness: 100779.000000  
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409875  
409823  
410591  
409355  
409792  
409512  
409638  
409638  
409482  
409718  
410244  
410123  
410234  
410651  
410169  
409160  
410580  
410294  
409344  
410705
```

```
Column 2
```

```
435755  
434877  
436231  
436788  
435978  
436236  
434867  
435143  
436380  
435043  
436276  
434968  
436518  
434905  
435417  
436346
```

```
435727
435141
436201
435132
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 100369.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409147
409923
410209
409539
410224
409482
409754
410597
410113
409812
409718
408849
410816
409026
409355
410252
410607
409968
409792
410466
```

```
Column 2
```

```
436256
434767
435297
434954
436222
436380
435326
435874
434847
435857
435043
436707
```

```
435249
436332
436788
435543
435053
435327
435978
436253
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 101048.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410395
409823
410556
410704
410744
410113
409792
409609
409355
409822
409638
410224
410593
409344
409812
410042
409482
409261
409512
410252
```

```
Column 2
```

```
436240
434877
434848
436034
435073
434847
435978
435201
```

```
436788
435466
435143
436222
435427
436201
435857
434928
436380
436338
436236
435543
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 101075.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410551
409823
409553
409355
410120
409512
409875
409609
409575
409792
410123
409638
409482
410169
410656
409261
410047
409344
410479
410556
```

```
Column 2
```

```
436010
434877
436813
436788
```

```
436189
436236
435755
435201
436677
435978
434968
435143
436380
435417
435029
436338
434778
436201
435620
434848
```

```
Average Fitness: 100809.900000 +
Max Fitness: 101075.000000
Standard Deviation: 230.942612
Average Time: 75.178507
counters =
```

```
Column 1
```

```
1348917
```

```
Column 2
```

```
76521
```

```
Column 3
```

```
88
```

```
Column 4
```

```
18804
```

```
Radius: 250, Facilities opened: 20
Epochs: 102
Fitness: 70660.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410492
409573
409328
409378
409178
409732
410466
410453
410320
410853
409429
410294
410006
410771
409700
410003
410591
409378
410213
410079
```

Column 2

```
434950
436533
435891
435463
436078
434890
436253
435478
436562
434804
436834
435141
436607
435700
434754
436738
436231
435563
436728
435087
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 70659.000000

ans =

'Facility Coordinates'

ans =

Column 1

410453  
410213  
410771  
410556  
409700  
409328  
409216  
409351  
410006  
410042  
410064  
410591  
409378  
409355  
410003  
409378  
409573  
410853  
410320  
410466

Column 2

435478  
436728  
435700  
434954  
434754  
435891  
435826  
435734  
436607  
434928  
435263  
436231  
435563  
436788  
436738  
435563  
436533  
434804  
436562  
436253

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 70682.000000

ans =

'Facility Coordinates'

ans =

Column 1

410430  
410006  
409700  
409378  
410430  
410003  
410320  
409573  
410325  
410780  
409378  
409355  
410213  
410646  
410618  
409328  
410047  
410771  
409962  
409199

Column 2

435369  
436607  
434754  
435463  
435251  
436738  
436562  
436533  
435510  
434836  
435463  
436788  
436728  
436100  
434776  
435891  
434778  
435700  
434875  
435982



```
Radius: 250, Facilities opened: 20  
Epochs: 101  
Fitness: 70651.000000  
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409962  
409240  
410213  
410205  
409378  
409328  
410047  
409378  
409199  
410003  
409573  
410430  
410704  
410556  
410721  
410252  
409700  
410006  
409355  
410014
```

```
Column 2
```

```
434875  
435695  
436728  
436634  
435463  
435891  
434778  
435463  
435982  
436738  
436533  
435251  
436034  
435600  
435245  
435543  
434754  
436607
```

```
436788
436903
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 70656.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409732
409378
409732
410623
409830
410003
410580
410429
410079
410853
409573
409328
410006
410320
409378
409355
410429
410213
409328
409810
```

```
Column 2
```

```
434890
435463
434890
435997
435210
436738
435727
435043
435087
434804
436533
435891
436607
436562
```

```
435463
436788
435043
436728
435891
435094
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 70644.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410556
410721
410853
409213
409700
409573
410064
410042
410006
410394
410205
409351
410213
410704
409289
409378
409277
409429
409960
410006
```

```
Column 2
```

```
435600
435245
434804
435897
434754
436533
435263
434928
436804
435496
```

```
436634
435734
436728
436034
436065
435463
435420
436834
436901
436607
```

```
Radius: 250, Facilities opened: 20
```

```
Epochs: 101
```

```
Fitness: 70647.000000
```

```
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410735
410826
409700
409199
410591
409328
410213
409355
410047
409378
410320
410064
410737
410003
410556
409378
410453
410006
410294
409962
```

```
Column 2
```

```
435854
434878
434754
435982
436231
435891
```

436728  
436788  
434778  
435463  
436562  
435263  
434792  
436738  
434954  
435463  
435478  
436607  
435141  
434875

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 70654.000000

ans =

'Facility Coordinates'

ans =

Column 1

410556  
409378  
409199  
409378  
410853  
409355  
410429  
409573  
409732  
410014  
410429  
409732  
410704  
410212  
410079  
410006  
409213  
409923  
409923  
409351

Column 2

435600  
435463

```
435982
435563
434804
436788
435043
436533
434890
436903
435043
434890
436034
436795
435087
436607
435897
436735
436735
435734
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 70614.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410780
410684
410003
409732
409328
410079
410213
410704
410737
409328
410816
409378
409429
409732
410320
409573
410006
409277
410430
410429
```

Column 2

434836  
435564  
436738  
434890  
435891  
435087  
436728  
436034  
434792  
435891  
435249  
435463  
436834  
434890  
436562  
436533  
436607  
435420  
435369  
435043

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 70658.000000

ans =

'Facility Coordinates'

ans =

Column 1

409732  
410320  
410637  
409213  
410294  
409178  
410006  
410003  
409429  
410079  
409732  
409378  
410718  
410556  
409378  
409573  
410853

409478  
410468  
410213

Column 2

434890  
436562  
435315  
435897  
435141  
436078  
436607  
436738  
436834  
435087  
434890  
435463  
436100  
434954  
435463  
436533  
434804  
435707  
435817  
436728

Average Fitness: 70652.500000 +  
Max Fitness: 70682.000000  
Standard Deviation: 16.126066  
Average Time: 75.415776  
counters =

Column 1

1310910

Column 2

103573

Column 3

2

Column 4

26999

Radius: 250, Facilities opened: 20  
Epochs: 101



```
Fitness: 117997.000000
```

```
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409408  
409026  
409638  
410604  
409683  
410570  
409944  
409275  
409255  
410325  
410894  
410197  
409378  
409810  
409240  
409962  
409429  
409946  
409482  
409442
```

```
Column 2
```

```
436075  
436332  
434867  
435208  
435349  
436117  
435714  
435982  
436694  
435510  
434903  
435045  
435563  
435094  
435695  
434875  
436834  
436015  
436380  
436668
```

```
Radius: 250, Facilities opened: 20  
Epochs: 101  
Fitness: 117889.000000  
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409900  
409920  
410721  
409442  
410556  
409969  
410325  
409213  
410570  
409972  
409946  
409136  
409482  
409286  
409683  
410244  
409026  
409174  
409378  
409539
```

```
Column 2
```

```
436600  
434854  
435245  
436668  
434848  
435509  
435510  
435897  
436117  
435164  
436015  
436838  
436380  
436828  
435349  
436276
```

```
436332
436171
435563
434954
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 117687.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409255
410604
409452
410180
408791
410209
409378
409026
409553
410646
409275
409920
409240
409482
409939
409944
410894
409837
409344
409213
```

```
Column 2
```

```
436694
435208
434831
436398
436841
435297
435463
436332
435074
436100
435982
434854
```

```
435695
436380
435089
435714
434903
436155
436201
436836
```

```
Radius: 250, Facilities opened: 20
Epochs: 102
Fitness: 117734.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409216
409026
409541
410570
409136
410120
409539
409565
409972
410721
409213
409944
410556
409923
409711
409378
410325
409240
409456
409147
```

```
Column 2
```

```
435826
436332
436090
436117
436838
436189
434954
435307
```

```
435164
435245
436836
435714
434848
434767
436281
435563
435510
435695
436520
436256
```

```
Radius: 250, Facilities opened: 20
Epochs: 134
Fitness: 118026.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409482
410430
410894
409539
409456
410113
409408
409240
409026
409174
410570
409136
409923
410429
409351
409213
409946
409969
409972
409469
```

```
Column 2
```

```
436380
435369
434903
434954
```

```
436520
436329
436075
435695
436332
436171
436117
436838
434767
435043
435734
436836
436015
435509
435164
435389
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 117907.000000
ans =
```

```
    'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
410604
410894
410244
409946
409969
409539
409972
409255
409154
410570
410307
409275
409482
409892
409515
409442
410325
409344
409026
409429
```

```
Column 2
```

```
435208
434903
436276
436015
435509
434954
435164
436694
435528
436117
434939
435982
436380
434941
435614
436668
435510
436201
436332
436834
```

```
Radius: 250, Facilities opened: 20
```

```
Epochs: 101
```

```
Fitness: 117956.000000
```

```
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409255
409969
410604
409830
410894
410325
409398
409429
409539
410570
409378
409962
409442
409482
409351
409328
410244
410197
409946
```

409147

Column 2

436694  
435509  
435208  
435210  
434903  
435510  
436213  
436834  
434954  
436117  
435463  
434875  
436668  
436380  
435734  
435891  
436276  
435045  
436015  
436256

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 117855.000000

ans =

'Facility Coordinates'

ans =

Column 1

409026  
410180  
410244  
410721  
409216  
410507  
409213  
409565  
409456  
409946  
410325  
409823  
409684  
409136  
409178



```
410556
409378
409971
409482
409944
```

Column 2

```
436332
436398
435175
435245
435826
436128
436836
435307
436520
436015
435510
434877
434946
436838
436078
434848
435463
435014
436380
435714
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 118062.000000

ans =

'Facility Coordinates'

ans =

Column 1

```
410651
409946
409378
409969
410570
409830
409213
410294
409539
409482
410394
```

```
409328
410180
410705
409892
409026
409923
409136
409456
409240
```

Column 2

```
434905
436015
435463
435509
436117
435210
436836
435141
434954
436380
435496
435891
436398
435132
434941
436332
434767
436838
436520
435695
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 117725.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
409213
410570
408946
409962
409969
409213
410041
```

409638  
409810  
410430  
410197  
409136  
410204  
409261  
409670  
410744  
409442  
409378  
409711  
409261

Column 2

436836  
436117  
436666  
434875  
435509  
435897  
435866  
434867  
435094  
435369  
435045  
436838  
436314  
436338  
435514  
435073  
435810  
435463  
436281  
436338

Average Fitness: 117883.800000 +  
Max Fitness: 118062.000000  
Standard Deviation: 125.612738  
Average Time: 77.577722  
counters =

Column 1

1337098

Column 2

122274

Column 3

62

Column 4

29536

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 90468.000000

ans =

'Facility Coordinates'

ans =

Column 1

409570

409541

410224

409609

409657

410325

410830

410705

408791

409732

409624

409788

410498

409718

409264

410157

409900

409378

408872

409213

Column 2

435942

436090

436222

435201

436892

435510

435132

435132

436841

434890

```
435752
436708
435901
435043
435295
435130
436600
435463
436787
436836
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 90548.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409732
410704
409788
409065
410783
409469
409213
409174
409565
409900
410429
409408
409570
409057
410604
410479
409768
409620
410209
409624
```

```
Column 2
```

```
434890
436034
436708
436786
434971
435389
```

```
436540
436708
435307
436600
435043
436075
435942
436848
435208
435620
436873
435615
435297
435752
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 90564.000000

ans =

'Facility Coordinates'

ans =

Column 1

```
410604
410429
409900
409136
410224
409874
408951
409136
410479
409570
409718
409732
410783
409624
409302
410209
410140
409620
410704
410140
```

Column 2

```
435208
435043
```

```
436600
436838
436222
436894
436887
436838
435620
435942
435043
434890
434971
435752
435225
435297
436494
435615
436034
436494
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 90557.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409863
410347
410224
410498
409136
409732
410511
409624
409302
409620
409136
409213
409570
410651
409795
410744
409456
408951
409575
410157
```

Column 2

436728  
435267  
436222  
435901  
436838  
434890  
435237  
435752  
435225  
435615  
436838  
436540  
435942  
434905  
436554  
435073  
436520  
436887  
436677  
435130

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 90531.000000

ans =

'Facility Coordinates'

ans =

Column 1

409255  
409136  
409302  
409718  
409570  
409624  
410157  
410597  
409863  
410744  
410169  
410651  
409795  
409408  
409213  
409732  
410430



```
409620
409442
410591
```

```
Column 2
```

```
436694
436838
435225
435043
435942
435752
435130
435874
436728
435073
435417
434905
436554
436075
436540
434890
435251
435615
436668
436231
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 90554.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409768
408951
409900
410604
410429
409408
409788
410580
410113
409624
409620
409136
409570
```

```
409136
410169
409302
410507
410783
409638
410042
```

```
Column 2
```

```
436873
436887
436600
435208
435043
436075
436708
435727
434847
435752
435615
436838
435942
436838
435417
435225
436128
434971
435143
434928
```

```
Radius: 250, Facilities opened: 20
Epochs: 149
Fitness: 90491.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

```
Column 1
```

```
409541
409822
409863
410705
410325
410157
409136
409302
409795
```

```
409718
410429
409620
409408
409255
409213
410417
410744
409442
409624
409732
```

Column 2

```
436090
435466
436728
435132
435510
435130
436838
435225
436554
435043
435043
435615
436075
436694
436540
436035
435073
436668
435752
434890
```

Radius: 250, Facilities opened: 20

Epochs: 101

Fitness: 90409.000000

ans =

'Facility Coordinates'

ans =

Column 1

```
408951
410830
410479
410429
409442
```

```
409408
410113
410651
409624
409570
410234
409302
410439
409136
409620
410120
410042
410169
409136
409863
```

Column 2

```
436887
435132
435620
435043
436668
436075
434847
434905
435752
435942
436518
435225
436137
436838
435615
436627
434928
435417
436838
436728
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 90445.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

```
409900
```

```
409408
410347
409136
409565
409874
410618
410721
410120
409469
408951
410209
409442
409620
409570
410647
410646
409624
410113
409136
```

Column 2

```
436600
436075
435267
436838
435307
436894
434776
435245
436627
435389
436887
435297
436668
435615
435942
435717
436100
435752
434847
436838
```

```
Radius: 250, Facilities opened: 20
Epochs: 101
Fitness: 90447.000000
ans =
```

```
'Facility Coordinates'
```

```
ans =
```

Column 1

410651  
410511  
409718  
410830  
409609  
409570  
409688  
409900  
409732  
409277  
409874  
409136  
410234  
408951  
409136  
410580  
410347  
410157  
409264  
410395

Column 2

434905  
435237  
435043  
435132  
435201  
435942  
435618  
436600  
434890  
435420  
436894  
436838  
436518  
436887  
436838  
435727  
435267  
435130  
435295  
436240

Average Fitness: 90501.400000 +  
Max Fitness: 90564.000000  
Standard Deviation: 53.597015  
Average Time: 75.043741  
counters =

Column 1

1402324

Column 2

79653

Column 3

43

Column 4

27068

>>