nn_hw.R

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```r
library(nnet)
library(caret)
```

```
## Warning: package 'caret' was built under R version 3.4.4
```

```
## Loading required package: lattice
```

```
## Loading required package: ggplot2
```

```
## Warning in as.POSIXlt.POSIXct(Sys.time()): unknown timezone 'zone/tz/2018c.
## 1.0/zoneinfo/America/Chicago'
```

```r
train <- read.csv(file='tit-train.csv', stringsAsFactors = FALSE)
test <- read.csv(file='tit-test.csv', stringsAsFactors = FALSE)

#Keep track of train and test after combined..
train$type <- "train"
test$type <- "test"
test$Survived <- "NULL"
data <- rbind(train,test)

#Fill missing values
data[data$Embarked == "",]$Embarked <- names(which(table(data$Embarked) == max(table(dat
a$Embarked))))
data$Age <- as.numeric(data$Age)
data[is.na(data$Age),]$Age <- round(mean(data$Age, na.rm = T))
data[data$Cabin == "",]$Cabin <- "NULL"

## Clean Data ##

#remove passengerID as this is a unique identifier
data$PassengerId <- NULL

### get last name ###
library(stringr)
#grab everything up until the first comma.. should be last name.
data$LastName  <- str_extract(data$Name, "^[^,]+")

#Grab everything after the first comma up until the next space..
tmp <- str_extract(data$Name, ", [^ ]+")
data$Title <- str_extract(tmp, "[^ ]+$")
rm(tmp)

#Global list to keep track of all unique instances of value in the title column
g_title <- list()

convert_title_to_num <- function(dp) {
  i <- length(g_title) + 1
  if (dp %in% g_title) {
    return(which(g_title == dp))
  }
  g_title[i] <<- dp
  return(i)
}
data$Title <- sapply(data$Title, convert_title_to_num)


g_ln <- list()
convert_ln_to_num <- function(dp) {
  i <- length(g_ln) + 1
  if (dp %in% g_ln) {
    return(which(g_ln == dp))
  }
  g_ln[i] <<- dp
  return(i)
```

```
}
data$LastName <- sapply(data$LastName, convert_ln_to_num)


#We can remove the full name feature now.
data$Name <- NULL


#Expand the Sex col and remove.
data$male <- ifelse(data$Sex == 'male', 1, 0)
data$female <- ifelse(data$Sex == 'female', 1, 0)
data$Sex <- NULL


#Expand the Embarked Column and remove.
data$Embarked_C <- ifelse(data$Embarked == 'C', 1, 0)
data$Embarked_Q <- ifelse(data$Embarked == 'Q', 1, 0)
data$Embarked_S <- ifelse(data$Embarked == 'S', 1, 0)
data$Embarked <- NULL


#extract first part out of ticket
data$ticket_title <- str_extract(data$Ticket, "^[^ ]+")
data$ticket_title <- ifelse(grepl("^[0-9]+$", data$ticket_title), "all_nums", data$ticke
t_title)


g_tt <- list()
convert_tt_to_num <- function(dp) {
  i <- length(g_tt) + 1
  if (dp %in% g_tt) {
    return(which(g_tt == dp))
  }
  g_tt[i] <<- dp
  return(i)
}
#Get all unique instances from ticket_title col and remove ticket.
data$ticket_title <- sapply(data$ticket_title, convert_tt_to_num)
data$Ticket <- NULL


#Get all unique instances from Cabin.
g_c <- list()
convert_c_to_num <- function(dp) {
  i <- length(g_c) + 1
  if (dp %in% g_c) {
    return(which(g_c == dp))
  }
  g_c[i] <<- dp
  return(i)
}
data$Cabin <- sapply(data$Cabin, convert_c_to_num)


#Scale numeric columns
data[,c("Age","Fare")] <- scale(data[,c("Age","Fare")], center=TRUE, scale=TRUE)


#Get train/test data back after preprocessing..
train <- data[data$type == 'train',]
train$type <- NULL #remove type col that we created to keep track of train/test original
```

```r
test <- data[data$type == 'test',]
test$type <- NULL #remove type col that we created to keep track of train/test original

#Convert target var to factor
train$Survived <- as.factor(train$Survived)
test$Survived <- as.factor(test$Survived)

n <- dim(train)[1]

t1 <- sample(1:n, n*.8)
t2 <- setdiff(1:n, t1)

train_train <- train[t1, ]
train_train <- as.data.frame(train_train)
#train_train$Survived <- as.factor(train_train$Survived)
train_test <- subset(train[t2,], select=- Survived)

grid <- expand.grid(size=c(6,7,8,9,10,11,12,13,14,15), decay=c(0,0.01,0.1,1))
nfit <- train(Survived ~ ., data=train_train,
              method="nnet",
              tuneGrid=grid,
              skip=FALSE,
              linout=FALSE,
              na.action=na.exclude,
              MaxNWts = 20000)
```

```
## # weights:  97
## initial  value 473.933005
## iter  10 value 442.958219
## iter  20 value 372.355838
## iter  30 value 320.314473
## iter  40 value 313.904546
## iter  50 value 308.788528
## iter  60 value 297.963093
## iter  70 value 291.471457
## iter  80 value 287.066363
## iter  90 value 277.992102
## iter 100 value 271.871172
## final  value 271.871172
## stopped after 100 iterations
## # weights:  113
## initial  value 492.560114
## iter  10 value 441.936841
## iter  20 value 416.970258
## iter  30 value 351.108030
## iter  40 value 324.140078
## iter  50 value 312.394622
## iter  60 value 291.454457
## iter  70 value 278.197120
## iter  80 value 276.345563
## iter  90 value 267.811900
## iter 100 value 265.327866
## final  value 265.327866
## stopped after 100 iterations
## # weights:  129
## initial  value 472.315699
## iter  10 value 429.385464
## iter  20 value 358.978063
## iter  30 value 316.232160
## iter  40 value 299.151414
## iter  50 value 297.245436
## iter  60 value 293.350416
## iter  70 value 290.943438
## iter  80 value 272.493307
## iter  90 value 257.204704
## iter 100 value 253.321276
## final  value 253.321276
## stopped after 100 iterations
## # weights:  145
## initial  value 752.028645
## iter  10 value 428.973735
## iter  20 value 343.765947
## iter  30 value 333.627378
## iter  40 value 328.393412
## iter  50 value 325.646852
## iter  60 value 323.514692
## iter  70 value 314.357213
## iter  80 value 306.255182
## iter  90 value 305.524197
```

```
## iter 100 value 304.448439
## final   value 304.448439
## stopped after 100 iterations
## # weights:  161
## initial  value 636.651992
## iter  10 value 472.157838
## iter  20 value 426.060661
## iter  30 value 331.982654
## iter  40 value 321.367882
## iter  50 value 312.484394
## iter  60 value 302.287148
## iter  70 value 298.422949
## iter  80 value 289.277580
## iter  90 value 263.656597
## iter 100 value 244.896562
## final   value 244.896562
## stopped after 100 iterations
## # weights:  177
## initial  value 490.829992
## iter  10 value 439.270758
## iter  20 value 418.545495
## iter  30 value 332.825872
## iter  40 value 305.133083
## iter  50 value 287.792877
## iter  60 value 272.045680
## iter  70 value 261.333896
## iter  80 value 255.544654
## iter  90 value 248.704922
## iter 100 value 246.394414
## final   value 246.394414
## stopped after 100 iterations
## # weights:  193
## initial  value 516.818583
## iter  10 value 436.378714
## iter  20 value 422.559890
## iter  30 value 374.209353
## iter  40 value 332.807625
## iter  50 value 318.013616
## iter  60 value 309.286313
## iter  70 value 301.466041
## iter  80 value 289.084536
## iter  90 value 273.471311
## iter 100 value 260.404075
## final   value 260.404075
## stopped after 100 iterations
## # weights:  209
## initial  value 530.477793
## iter  10 value 436.458453
## iter  20 value 379.756694
## iter  30 value 328.294317
## iter  40 value 299.348220
## iter  50 value 267.803694
## iter  60 value 235.224627
## iter  70 value 215.319660
```

```
## iter  80 value 206.700963
## iter  90 value 203.594180
## iter 100 value 197.972985
## final   value 197.972985
## stopped after 100 iterations
## # weights:  225
## initial   value 508.798089
## iter  10 value 458.660684
## iter  20 value 401.860052
## iter  30 value 349.782223
## iter  40 value 313.285678
## iter  50 value 287.866244
## iter  60 value 274.322028
## iter  70 value 255.715962
## iter  80 value 235.511406
## iter  90 value 226.514726
## iter 100 value 225.441572
## final   value 225.441572
## stopped after 100 iterations
## # weights:  241
## initial   value 471.995394
## iter  10 value 441.522867
## iter  20 value 340.319730
## iter  30 value 326.283689
## iter  40 value 321.062583
## iter  50 value 304.331280
## iter  60 value 288.214150
## iter  70 value 276.371731
## iter  80 value 266.838592
## iter  90 value 257.930065
## iter 100 value 245.707107
## final   value 245.707107
## stopped after 100 iterations
## # weights:  97
## initial   value 555.924073
## iter  10 value 410.392252
## iter  20 value 333.206960
## iter  30 value 288.115202
## iter  40 value 275.308323
## iter  50 value 269.260580
## iter  60 value 268.004459
## iter  70 value 265.092964
## iter  80 value 262.512064
## iter  90 value 245.959355
## iter 100 value 242.825983
## final   value 242.825983
## stopped after 100 iterations
## # weights:  113
## initial   value 500.094145
## iter  10 value 439.356108
## iter  20 value 423.447423
## iter  30 value 368.016871
## iter  40 value 300.260223
## iter  50 value 289.569761
```

```
## iter  60 value 284.944720
## iter  70 value 266.592341
## iter  80 value 254.101145
## iter  90 value 248.976037
## iter 100 value 247.014362
## final   value 247.014362
## stopped after 100 iterations
## # weights:  129
## initial  value 532.174448
## iter  10 value 470.684744
## iter  20 value 427.246584
## iter  30 value 333.619773
## iter  40 value 307.467664
## iter  50 value 291.784082
## iter  60 value 270.143170
## iter  70 value 260.504192
## iter  80 value 258.124609
## iter  90 value 257.658651
## iter 100 value 257.021989
## final   value 257.021989
## stopped after 100 iterations
## # weights:  145
## initial  value 556.938436
## iter  10 value 459.777655
## iter  20 value 376.390084
## iter  30 value 354.322901
## iter  40 value 345.363071
## iter  50 value 286.221901
## iter  60 value 273.097361
## iter  70 value 261.951469
## iter  80 value 258.865359
## iter  90 value 251.600244
## iter 100 value 246.574447
## final   value 246.574447
## stopped after 100 iterations
## # weights:  161
## initial  value 813.591625
## iter  10 value 455.595072
## iter  20 value 434.397192
## iter  30 value 391.395276
## iter  40 value 317.481807
## iter  50 value 292.711132
## iter  60 value 280.251086
## iter  70 value 273.829184
## iter  80 value 272.490166
## iter  90 value 262.672511
## iter 100 value 233.506392
## final   value 233.506392
## stopped after 100 iterations
## # weights:  177
## initial  value 467.013079
## iter  10 value 439.805494
## iter  20 value 400.399539
## iter  30 value 318.294419
```

```
## iter  40 value 298.011732
## iter  50 value 274.888823
## iter  60 value 264.467742
## iter  70 value 255.912111
## iter  80 value 251.474464
## iter  90 value 249.032184
## iter 100 value 243.001990
## final   value 243.001990
## stopped after 100 iterations
## # weights:  193
## initial   value 593.516159
## iter  10 value 440.979682
## iter  20 value 425.782870
## iter  30 value 375.913601
## iter  40 value 330.732931
## iter  50 value 287.683606
## iter  60 value 273.149778
## iter  70 value 266.373940
## iter  80 value 263.463909
## iter  90 value 258.835457
## iter 100 value 249.853885
## final   value 249.853885
## stopped after 100 iterations
## # weights:  209
## initial   value 528.437198
## iter  10 value 440.491211
## iter  20 value 403.302332
## iter  30 value 388.413196
## iter  40 value 345.133935
## iter  50 value 315.885031
## iter  60 value 292.049244
## iter  70 value 281.678708
## iter  80 value 274.630439
## iter  90 value 266.563213
## iter 100 value 256.030149
## final   value 256.030149
## stopped after 100 iterations
## # weights:  225
## initial   value 734.121709
## iter  10 value 440.498869
## iter  20 value 418.605598
## iter  30 value 365.361331
## iter  40 value 329.526816
## iter  50 value 292.938502
## iter  60 value 266.340223
## iter  70 value 250.104876
## iter  80 value 241.190466
## iter  90 value 237.509510
## iter 100 value 236.678340
## final   value 236.678340
## stopped after 100 iterations
## # weights:  241
## initial   value 475.435439
## iter  10 value 442.634999
```

```
## iter  20 value 427.832892
## iter  30 value 349.551224
## iter  40 value 332.348126
## iter  50 value 318.745750
## iter  60 value 305.965317
## iter  70 value 288.739628
## iter  80 value 266.948577
## iter  90 value 252.138115
## iter 100 value 248.829661
## final   value 248.829661
## stopped after 100 iterations
## # weights:  97
## initial   value 561.331339
## iter  10 value 464.103017
## iter  20 value 359.214652
## iter  30 value 316.415251
## iter  40 value 299.952578
## iter  50 value 291.972930
## iter  60 value 283.637671
## iter  70 value 278.536998
## iter  80 value 260.825590
## iter  90 value 251.705750
## iter 100 value 246.909798
## final   value 246.909798
## stopped after 100 iterations
## # weights:  113
## initial   value 484.183657
## iter  10 value 441.071285
## iter  20 value 414.911309
## iter  30 value 344.982941
## iter  40 value 324.787966
## iter  50 value 291.036741
## iter  60 value 279.772135
## iter  70 value 268.430800
## iter  80 value 265.281406
## iter  90 value 260.605534
## iter 100 value 247.135359
## final   value 247.135359
## stopped after 100 iterations
## # weights:  129
## initial   value 600.165753
## iter  10 value 468.025722
## iter  20 value 417.659609
## iter  30 value 364.288502
## iter  40 value 333.569537
## iter  50 value 308.319120
## iter  60 value 276.207617
## iter  70 value 263.984703
## iter  80 value 251.262853
## iter  90 value 242.054752
## iter 100 value 239.162132
## final   value 239.162132
## stopped after 100 iterations
## # weights:  145
```

```
## initial  value 579.479897
## iter  10 value 457.224485
## iter  20 value 439.460422
## iter  30 value 386.292145
## iter  40 value 346.436099
## iter  50 value 338.160348
## iter  60 value 329.982332
## iter  70 value 293.249164
## iter  80 value 268.882438
## iter  90 value 253.348213
## iter 100 value 238.904970
## final  value 238.904970
## stopped after 100 iterations
## # weights:  161
## initial  value 679.620585
## iter  10 value 455.602259
## iter  20 value 370.552796
## iter  30 value 337.404760
## iter  40 value 329.665834
## iter  50 value 327.135446
## iter  60 value 316.954997
## iter  70 value 299.806381
## iter  80 value 287.494533
## iter  90 value 275.337728
## iter 100 value 267.676995
## final  value 267.676995
## stopped after 100 iterations
## # weights:  177
## initial  value 797.336725
## iter  10 value 454.371028
## iter  20 value 347.322452
## iter  30 value 306.495058
## iter  40 value 293.682649
## iter  50 value 286.650956
## iter  60 value 283.706510
## iter  70 value 280.011366
## iter  80 value 269.142881
## iter  90 value 253.352287
## iter 100 value 235.099007
## final  value 235.099007
## stopped after 100 iterations
## # weights:  193
## initial  value 698.758474
## iter  10 value 401.822196
## iter  20 value 344.423036
## iter  30 value 329.801951
## iter  40 value 314.749833
## iter  50 value 306.706675
## iter  60 value 301.839456
## iter  70 value 296.941485
## iter  80 value 286.457500
## iter  90 value 280.488183
## iter 100 value 257.302305
## final  value 257.302305
```

```
## stopped after 100 iterations
## # weights:  209
## initial  value 514.549591
## iter  10 value 457.087375
## iter  20 value 435.406127
## iter  30 value 404.196440
## iter  40 value 366.350034
## iter  50 value 333.318921
## iter  60 value 319.772049
## iter  70 value 305.098791
## iter  80 value 291.376521
## iter  90 value 283.673017
## iter 100 value 280.982504
## final   value 280.982504
## stopped after 100 iterations
## # weights:  225
## initial  value 487.938256
## iter  10 value 448.221223
## iter  20 value 436.261161
## iter  30 value 369.253570
## iter  40 value 349.247807
## iter  50 value 336.613056
## iter  60 value 320.061298
## iter  70 value 299.089679
## iter  80 value 289.452066
## iter  90 value 285.391064
## iter 100 value 267.240475
## final   value 267.240475
## stopped after 100 iterations
## # weights:  241
## initial  value 468.583652
## iter  10 value 442.598470
## iter  20 value 412.158653
## iter  30 value 344.281163
## iter  40 value 304.916229
## iter  50 value 292.031587
## iter  60 value 283.954418
## iter  70 value 263.897312
## iter  80 value 260.375738
## iter  90 value 254.178446
## iter 100 value 234.762560
## final   value 234.762560
## stopped after 100 iterations
## # weights:  97
## initial  value 490.300891
## iter  10 value 452.386012
## iter  20 value 448.258965
## iter  30 value 435.659687
## iter  40 value 376.274032
## iter  50 value 354.349487
## iter  60 value 343.145568
## iter  70 value 327.330788
## iter  80 value 315.298902
## iter  90 value 311.002775
```

```
## iter 100 value 308.269124
## final   value 308.269124
## stopped after 100 iterations
## # weights:  113
## initial   value 539.520851
## iter  10 value 451.198450
## iter  20 value 404.837085
## iter  30 value 385.852828
## iter  40 value 351.790364
## iter  50 value 333.228958
## iter  60 value 321.139771
## iter  70 value 314.337537
## iter  80 value 310.127602
## iter  90 value 308.587260
## iter 100 value 307.804388
## final   value 307.804388
## stopped after 100 iterations
## # weights:  129
## initial   value 497.904023
## iter  10 value 434.148246
## iter  20 value 356.038929
## iter  30 value 339.725585
## iter  40 value 332.577631
## iter  50 value 329.170348
## iter  60 value 326.044479
## iter  70 value 320.379265
## iter  80 value 317.645082
## iter  90 value 314.030848
## iter 100 value 310.681638
## final   value 310.681638
## stopped after 100 iterations
## # weights:  145
## initial   value 509.125398
## iter  10 value 437.427685
## iter  20 value 407.827908
## iter  30 value 357.154786
## iter  40 value 345.884890
## iter  50 value 338.745845
## iter  60 value 324.669113
## iter  70 value 319.806600
## iter  80 value 311.671382
## iter  90 value 307.106563
## iter 100 value 304.216394
## final   value 304.216394
## stopped after 100 iterations
## # weights:  161
## initial   value 673.432648
## iter  10 value 475.517230
## iter  20 value 437.042210
## iter  30 value 390.214694
## iter  40 value 362.679655
## iter  50 value 357.531009
## iter  60 value 350.281887
## iter  70 value 340.799022
```

```
## iter  80 value 319.670986
## iter  90 value 311.729534
## iter 100 value 307.343465
## final   value 307.343465
## stopped after 100 iterations
## # weights:  177
## initial   value 529.603721
## iter  10 value 465.621028
## iter  20 value 383.857015
## iter  30 value 362.045241
## iter  40 value 358.270490
## iter  50 value 354.153869
## iter  60 value 343.320432
## iter  70 value 333.886849
## iter  80 value 326.414098
## iter  90 value 318.610348
## iter 100 value 312.557829
## final   value 312.557829
## stopped after 100 iterations
## # weights:  193
## initial   value 595.169126
## iter  10 value 474.448480
## iter  20 value 427.047954
## iter  30 value 379.488560
## iter  40 value 361.231503
## iter  50 value 340.327328
## iter  60 value 333.336962
## iter  70 value 327.981885
## iter  80 value 324.515386
## iter  90 value 319.128435
## iter 100 value 313.847635
## final   value 313.847635
## stopped after 100 iterations
## # weights:  209
## initial   value 699.975745
## iter  10 value 442.898843
## iter  20 value 399.834316
## iter  30 value 378.335213
## iter  40 value 340.947034
## iter  50 value 335.462736
## iter  60 value 329.420531
## iter  70 value 321.436801
## iter  80 value 315.701901
## iter  90 value 310.410730
## iter 100 value 306.720665
## final   value 306.720665
## stopped after 100 iterations
## # weights:  225
## initial   value 553.498871
## iter  10 value 464.623414
## iter  20 value 429.889712
## iter  30 value 373.880302
## iter  40 value 343.873419
## iter  50 value 337.287445
```

```
## iter  60 value 331.603263
## iter  70 value 323.787367
## iter  80 value 317.751429
## iter  90 value 315.316348
## iter 100 value 312.601716
## final   value 312.601716
## stopped after 100 iterations
## # weights:  241
## initial   value 555.178540
## iter  10 value 465.236453
## iter  20 value 452.013400
## iter  30 value 440.497200
## iter  40 value 393.051493
## iter  50 value 356.519805
## iter  60 value 333.444880
## iter  70 value 327.135200
## iter  80 value 325.194587
## iter  90 value 321.970761
## iter 100 value 318.914892
## final   value 318.914892
## stopped after 100 iterations
## # weights:  97
## initial   value 466.842130
## iter  10 value 462.474617
## iter  20 value 461.634434
## iter  30 value 448.558521
## iter  40 value 361.750418
## iter  50 value 358.912692
## iter  60 value 351.870552
## iter  70 value 345.935069
## iter  80 value 314.695877
## iter  90 value 307.730264
## iter 100 value 306.396311
## final   value 306.396311
## stopped after 100 iterations
## # weights:  113
## initial   value 575.824301
## iter  10 value 424.812545
## iter  20 value 353.142299
## iter  30 value 335.576696
## iter  40 value 314.669275
## iter  50 value 306.406896
## iter  60 value 303.267902
## iter  70 value 300.103440
## iter  80 value 298.955578
## iter  90 value 298.232988
## iter 100 value 295.593125
## final   value 295.593125
## stopped after 100 iterations
## # weights:  129
## initial   value 724.466242
## iter  10 value 444.626788
## iter  20 value 398.539703
## iter  30 value 342.376928
```

```
## iter  40 value 294.909423
## iter  50 value 275.744635
## iter  60 value 263.937934
## iter  70 value 262.552405
## iter  80 value 262.032963
## iter  90 value 259.776365
## iter 100 value 259.281820
## final   value 259.281820
## stopped after 100 iterations
## # weights:  145
## initial  value 529.626861
## iter  10 value 368.921890
## iter  20 value 335.928364
## iter  30 value 322.675914
## iter  40 value 302.335353
## iter  50 value 293.964168
## iter  60 value 288.160147
## iter  70 value 284.548582
## iter  80 value 268.118360
## iter  90 value 250.825645
## iter 100 value 241.698221
## final   value 241.698221
## stopped after 100 iterations
## # weights:  161
## initial  value 600.734035
## iter  10 value 438.338518
## iter  20 value 411.499907
## iter  30 value 389.616918
## iter  40 value 371.478809
## iter  50 value 305.803838
## iter  60 value 256.422331
## iter  70 value 239.846161
## iter  80 value 223.839035
## iter  90 value 217.536681
## iter 100 value 216.450813
## final   value 216.450813
## stopped after 100 iterations
## # weights:  177
## initial  value 466.489846
## iter  10 value 410.685565
## iter  20 value 336.059671
## iter  30 value 314.206719
## iter  40 value 286.508758
## iter  50 value 272.818285
## iter  60 value 271.018908
## iter  70 value 266.679065
## iter  80 value 261.931659
## iter  90 value 254.274084
## iter 100 value 243.149837
## final   value 243.149837
## stopped after 100 iterations
## # weights:  193
## initial  value 465.855809
## iter  10 value 431.293459
```

```
## iter  20 value 387.299040
## iter  30 value 337.305287
## iter  40 value 308.417408
## iter  50 value 289.307118
## iter  60 value 268.993256
## iter  70 value 247.366918
## iter  80 value 232.185025
## iter  90 value 220.728995
## iter 100 value 210.095724
## final   value 210.095724
## stopped after 100 iterations
## # weights:  209
## initial   value 459.203174
## iter  10 value 440.323216
## iter  20 value 417.113463
## iter  30 value 346.212197
## iter  40 value 317.856707
## iter  50 value 291.211495
## iter  60 value 246.541532
## iter  70 value 232.394759
## iter  80 value 228.973501
## iter  90 value 227.318148
## iter 100 value 221.914592
## final   value 221.914592
## stopped after 100 iterations
## # weights:  225
## initial   value 629.161369
## iter  10 value 448.312878
## iter  20 value 364.480748
## iter  30 value 328.011433
## iter  40 value 303.851403
## iter  50 value 300.670243
## iter  60 value 298.812260
## iter  70 value 295.506181
## iter  80 value 289.575970
## iter  90 value 287.608428
## iter 100 value 283.421634
## final   value 283.421634
## stopped after 100 iterations
## # weights:  241
## initial   value 559.225790
## iter  10 value 447.224600
## iter  20 value 427.498724
## iter  30 value 332.942481
## iter  40 value 301.727432
## iter  50 value 287.063307
## iter  60 value 273.881796
## iter  70 value 269.526535
## iter  80 value 269.039196
## final   value 269.033616
## converged
## # weights:  97
## initial   value 469.216261
## iter  10 value 443.564176
```

```
## iter  20 value 410.387278
## iter  30 value 348.326798
## iter  40 value 311.945298
## iter  50 value 305.831167
## iter  60 value 304.368442
## iter  70 value 298.744762
## iter  80 value 292.543424
## iter  90 value 288.752102
## iter 100 value 287.936286
## final  value 287.936286
## stopped after 100 iterations
## # weights:  113
## initial  value 515.525289
## iter  10 value 398.819024
## iter  20 value 333.173194
## iter  30 value 303.413344
## iter  40 value 297.384893
## iter  50 value 290.508444
## iter  60 value 288.810194
## iter  70 value 284.205571
## iter  80 value 280.584797
## iter  90 value 268.258754
## iter 100 value 263.630307
## final  value 263.630307
## stopped after 100 iterations
## # weights:  129
## initial  value 513.533433
## iter  10 value 355.609828
## iter  20 value 334.121409
## iter  30 value 313.546299
## iter  40 value 299.823489
## iter  50 value 289.567353
## iter  60 value 276.314992
## iter  70 value 250.502470
## iter  80 value 244.095122
## iter  90 value 232.151051
## iter 100 value 230.804683
## final  value 230.804683
## stopped after 100 iterations
## # weights:  145
## initial  value 520.228946
## iter  10 value 453.311162
## iter  20 value 358.126005
## iter  30 value 330.117473
## iter  40 value 311.504676
## iter  50 value 304.377356
## iter  60 value 294.704319
## iter  70 value 284.466067
## iter  80 value 266.120044
## iter  90 value 263.476160
## iter 100 value 252.920044
## final  value 252.920044
## stopped after 100 iterations
## # weights:  161
```

```
## initial  value 490.848356
## iter  10 value 421.007659
## iter  20 value 344.434789
## iter  30 value 325.511632
## iter  40 value 320.903392
## iter  50 value 289.309722
## iter  60 value 269.692769
## iter  70 value 262.628512
## iter  80 value 249.361247
## iter  90 value 243.429514
## iter 100 value 241.987472
## final  value 241.987472
## stopped after 100 iterations
## # weights:  177
## initial  value 691.731334
## iter  10 value 452.006950
## iter  20 value 368.502258
## iter  30 value 329.247003
## iter  40 value 313.346525
## iter  50 value 297.540085
## iter  60 value 283.597052
## iter  70 value 273.405910
## iter  80 value 266.625454
## iter  90 value 262.400561
## iter 100 value 258.540294
## final  value 258.540294
## stopped after 100 iterations
## # weights:  193
## initial  value 477.258542
## iter  10 value 452.362852
## iter  20 value 414.089428
## iter  30 value 339.962638
## iter  40 value 306.309052
## iter  50 value 284.234455
## iter  60 value 278.518954
## iter  70 value 275.903282
## iter  80 value 272.307274
## iter  90 value 248.948612
## iter 100 value 236.439510
## final  value 236.439510
## stopped after 100 iterations
## # weights:  209
## initial  value 465.412274
## iter  10 value 401.170330
## iter  20 value 349.434902
## iter  30 value 327.094716
## iter  40 value 288.662475
## iter  50 value 263.950337
## iter  60 value 258.268278
## iter  70 value 253.359797
## iter  80 value 240.912991
## iter  90 value 227.247171
## iter 100 value 218.335919
## final  value 218.335919
```

```
## stopped after 100 iterations
## # weights:  225
## initial  value 721.669785
## iter  10 value 432.896038
## iter  20 value 350.206668
## iter  30 value 336.967484
## iter  40 value 318.758109
## iter  50 value 285.170608
## iter  60 value 276.446430
## iter  70 value 258.073542
## iter  80 value 242.780726
## iter  90 value 237.841024
## iter 100 value 236.323061
## final   value 236.323061
## stopped after 100 iterations
## # weights:  241
## initial  value 986.259000
## iter  10 value 463.856700
## iter  20 value 449.699192
## iter  30 value 381.148009
## iter  40 value 335.538775
## iter  50 value 316.686904
## iter  60 value 301.335439
## iter  70 value 294.577075
## iter  80 value 290.312985
## iter  90 value 284.034692
## iter 100 value 280.492174
## final   value 280.492174
## stopped after 100 iterations
## # weights:  97
## initial  value 700.836473
## iter  10 value 439.871061
## iter  20 value 404.228043
## iter  30 value 354.210627
## iter  40 value 341.460550
## iter  50 value 333.574706
## iter  60 value 311.510225
## iter  70 value 297.979629
## iter  80 value 285.811209
## iter  90 value 280.034464
## iter 100 value 270.354379
## final   value 270.354379
## stopped after 100 iterations
## # weights:  113
## initial  value 489.727767
## iter  10 value 442.207757
## iter  20 value 374.460835
## iter  30 value 360.989223
## iter  40 value 343.939087
## iter  50 value 311.170299
## iter  60 value 308.500656
## iter  70 value 298.864185
## iter  80 value 292.230474
## iter  90 value 277.705674
```

```
## iter 100 value 269.420919
## final   value 269.420919
## stopped after 100 iterations
## # weights:  129
## initial  value 746.243908
## iter  10 value 426.404637
## iter  20 value 362.961694
## iter  30 value 330.682750
## iter  40 value 310.979350
## iter  50 value 299.456159
## iter  60 value 295.553938
## iter  70 value 286.986652
## iter  80 value 284.727184
## iter  90 value 279.568842
## iter 100 value 274.476357
## final   value 274.476357
## stopped after 100 iterations
## # weights:  145
## initial  value 599.538964
## iter  10 value 446.906074
## iter  20 value 365.202303
## iter  30 value 343.681809
## iter  40 value 322.014656
## iter  50 value 316.223116
## iter  60 value 303.850075
## iter  70 value 296.497659
## iter  80 value 288.273365
## iter  90 value 284.551677
## iter 100 value 274.532876
## final   value 274.532876
## stopped after 100 iterations
## # weights:  161
## initial  value 477.344046
## iter  10 value 443.779123
## iter  20 value 386.690893
## iter  30 value 329.453201
## iter  40 value 320.204428
## iter  50 value 307.591079
## iter  60 value 284.660114
## iter  70 value 279.801422
## iter  80 value 277.142357
## iter  90 value 269.379854
## iter 100 value 249.593248
## final   value 249.593248
## stopped after 100 iterations
## # weights:  177
## initial  value 841.202371
## iter  10 value 457.384192
## iter  20 value 427.972322
## iter  30 value 415.601440
## iter  40 value 333.898608
## iter  50 value 303.641956
## iter  60 value 295.384814
## iter  70 value 284.858820
```

```
## iter  80 value 272.363180
## iter  90 value 265.239626
## iter 100 value 255.719170
## final   value 255.719170
## stopped after 100 iterations
## # weights:  193
## initial   value 678.737097
## iter  10 value 453.610845
## iter  20 value 385.851722
## iter  30 value 324.176022
## iter  40 value 310.760648
## iter  50 value 304.380798
## iter  60 value 302.369928
## iter  70 value 295.883314
## iter  80 value 290.741687
## iter  90 value 286.596786
## iter 100 value 275.374631
## final   value 275.374631
## stopped after 100 iterations
## # weights:  209
## initial   value 524.926791
## iter  10 value 448.658348
## iter  20 value 428.310975
## iter  30 value 335.772198
## iter  40 value 305.314003
## iter  50 value 290.018615
## iter  60 value 278.443942
## iter  70 value 276.612845
## iter  80 value 267.689130
## iter  90 value 256.983754
## iter 100 value 252.029068
## final   value 252.029068
## stopped after 100 iterations
## # weights:  225
## initial   value 1025.265814
## iter  10 value 463.198476
## iter  20 value 426.518566
## iter  30 value 355.544575
## iter  40 value 329.104251
## iter  50 value 305.401167
## iter  60 value 290.514368
## iter  70 value 278.351841
## iter  80 value 275.618061
## iter  90 value 270.102802
## iter 100 value 263.433919
## final   value 263.433919
## stopped after 100 iterations
## # weights:  241
## initial   value 644.850704
## iter  10 value 436.072889
## iter  20 value 395.065419
## iter  30 value 323.469143
## iter  40 value 309.066751
## iter  50 value 304.066342
```

```
## iter  60 value 298.358608
## iter  70 value 290.979515
## iter  80 value 285.032835
## iter  90 value 280.467744
## iter 100 value 275.612170
## final   value 275.612170
## stopped after 100 iterations
## # weights:   97
## initial   value 532.923315
## iter  10 value 451.471301
## iter  20 value 435.363756
## iter  30 value 396.094979
## iter  40 value 352.044537
## iter  50 value 335.714778
## iter  60 value 326.426650
## iter  70 value 320.270451
## iter  80 value 316.742640
## iter  90 value 315.099104
## iter 100 value 314.194012
## final   value 314.194012
## stopped after 100 iterations
## # weights:   113
## initial   value 489.743376
## iter  10 value 456.712615
## iter  20 value 412.429084
## iter  30 value 348.962542
## iter  40 value 339.715649
## iter  50 value 335.940855
## iter  60 value 332.945968
## iter  70 value 328.436910
## iter  80 value 321.755215
## iter  90 value 318.609454
## iter 100 value 311.321700
## final   value 311.321700
## stopped after 100 iterations
## # weights:   129
## initial   value 578.335152
## iter  10 value 444.054839
## iter  20 value 384.650280
## iter  30 value 356.728532
## iter  40 value 335.090350
## iter  50 value 325.020966
## iter  60 value 317.419769
## iter  70 value 314.923857
## iter  80 value 311.871622
## iter  90 value 308.657167
## iter 100 value 305.450114
## final   value 305.450114
## stopped after 100 iterations
## # weights:   145
## initial   value 486.359572
## iter  10 value 451.205495
## iter  20 value 396.135765
## iter  30 value 355.325384
```

```
## iter  40 value 335.695554
## iter  50 value 326.365253
## iter  60 value 323.635071
## iter  70 value 319.775035
## iter  80 value 312.994447
## iter  90 value 312.058978
## iter 100 value 311.330948
## final   value 311.330948
## stopped after 100 iterations
## # weights:   161
## initial   value 890.085020
## iter  10 value 521.836659
## iter  20 value 453.005436
## iter  30 value 376.818850
## iter  40 value 351.129901
## iter  50 value 335.002894
## iter  60 value 326.047680
## iter  70 value 323.012074
## iter  80 value 319.582343
## iter  90 value 315.801894
## iter 100 value 313.413893
## final   value 313.413893
## stopped after 100 iterations
## # weights:   177
## initial   value 738.415821
## iter  10 value 464.155681
## iter  20 value 403.699272
## iter  30 value 383.201186
## iter  40 value 359.470767
## iter  50 value 335.814137
## iter  60 value 324.883129
## iter  70 value 315.599075
## iter  80 value 312.870250
## iter  90 value 309.206526
## iter 100 value 306.789841
## final   value 306.789841
## stopped after 100 iterations
## # weights:   193
## initial   value 504.668203
## iter  10 value 467.694215
## iter  20 value 390.530524
## iter  30 value 352.781869
## iter  40 value 337.916806
## iter  50 value 334.992157
## iter  60 value 331.529642
## iter  70 value 327.939802
## iter  80 value 324.712945
## iter  90 value 320.284644
## iter 100 value 315.150984
## final   value 315.150984
## stopped after 100 iterations
## # weights:   209
## initial   value 721.959884
## iter  10 value 475.510138
```

```
## iter  20 value 426.246250
## iter  30 value 410.216328
## iter  40 value 382.056303
## iter  50 value 345.466502
## iter  60 value 331.605424
## iter  70 value 328.894813
## iter  80 value 325.662708
## iter  90 value 321.257529
## iter 100 value 317.309415
## final   value 317.309415
## stopped after 100 iterations
## # weights:  225
## initial   value 769.358259
## iter  10 value 478.394231
## iter  20 value 413.954383
## iter  30 value 394.819932
## iter  40 value 369.005242
## iter  50 value 356.857832
## iter  60 value 347.058116
## iter  70 value 336.634420
## iter  80 value 326.268414
## iter  90 value 321.480272
## iter 100 value 315.669713
## final   value 315.669713
## stopped after 100 iterations
## # weights:  241
## initial   value 611.400887
## iter  10 value 494.718544
## iter  20 value 453.090806
## iter  30 value 405.029817
## iter  40 value 378.083588
## iter  50 value 357.825506
## iter  60 value 348.380071
## iter  70 value 334.963134
## iter  80 value 320.671713
## iter  90 value 316.638664
## iter 100 value 313.094649
## final   value 313.094649
## stopped after 100 iterations
## # weights:  97
## initial   value 761.777316
## iter  10 value 439.864108
## iter  20 value 400.237273
## iter  30 value 334.762968
## iter  40 value 299.807758
## iter  50 value 277.782101
## iter  60 value 275.563981
## iter  70 value 266.916891
## iter  80 value 245.744929
## iter  90 value 237.175054
## iter 100 value 230.193131
## final   value 230.193131
## stopped after 100 iterations
## # weights:  113
```

```
## initial  value 965.642407
## iter  10 value 439.658693
## iter  20 value 401.593016
## iter  30 value 354.333952
## iter  40 value 311.581219
## iter  50 value 293.190975
## iter  60 value 280.724970
## iter  70 value 274.451851
## iter  80 value 273.900003
## final   value 273.897981
## converged
## # weights:  129
## initial  value 529.809305
## iter  10 value 414.668237
## iter  20 value 349.221822
## iter  30 value 307.808323
## iter  40 value 292.926312
## iter  50 value 290.878559
## iter  60 value 277.093284
## iter  70 value 266.054946
## iter  80 value 255.444674
## iter  90 value 247.437699
## iter 100 value 246.195858
## final   value 246.195858
## stopped after 100 iterations
## # weights:  145
## initial  value 537.109201
## iter  10 value 368.080946
## iter  20 value 342.440376
## iter  30 value 306.629526
## iter  40 value 277.785645
## iter  50 value 271.703581
## iter  60 value 258.476475
## iter  70 value 240.499064
## iter  80 value 231.207295
## iter  90 value 230.977964
## iter 100 value 230.974174
## final   value 230.974174
## stopped after 100 iterations
## # weights:  161
## initial  value 513.335383
## iter  10 value 403.504517
## iter  20 value 344.544329
## iter  30 value 327.977968
## iter  40 value 323.488134
## iter  50 value 318.783820
## iter  60 value 281.649739
## iter  70 value 278.520271
## iter  80 value 272.265729
## iter  90 value 262.518441
## iter 100 value 238.983758
## final   value 238.983758
## stopped after 100 iterations
## # weights:  177
```

```
## initial  value 494.339099
## iter  10 value 434.843114
## iter  20 value 379.591301
## iter  30 value 339.382028
## iter  40 value 301.031488
## iter  50 value 284.223058
## iter  60 value 280.133325
## iter  70 value 268.616168
## iter  80 value 244.578928
## iter  90 value 238.488178
## iter 100 value 237.846474
## final  value 237.846474
## stopped after 100 iterations
## # weights:  193
## initial  value 511.600119
## iter  10 value 440.846265
## iter  20 value 397.784783
## iter  30 value 314.967614
## iter  40 value 290.899342
## iter  50 value 269.686540
## iter  60 value 219.778157
## iter  70 value 190.899684
## iter  80 value 184.936550
## iter  90 value 175.222265
## iter 100 value 163.760688
## final  value 163.760688
## stopped after 100 iterations
## # weights:  209
## initial  value 474.720550
## iter  10 value 438.214799
## iter  20 value 416.159102
## iter  30 value 373.931517
## iter  40 value 352.793978
## iter  50 value 297.657806
## iter  60 value 273.332500
## iter  70 value 268.783264
## iter  80 value 257.742914
## iter  90 value 250.959140
## iter 100 value 248.325671
## final  value 248.325671
## stopped after 100 iterations
## # weights:  225
## initial  value 464.750720
## iter  10 value 433.433294
## iter  20 value 411.024760
## iter  30 value 344.396945
## iter  40 value 323.190496
## iter  50 value 319.655211
## iter  60 value 305.525185
## iter  70 value 272.108245
## iter  80 value 248.477804
## iter  90 value 236.161894
## iter 100 value 233.926003
## final  value 233.926003
```

```
## stopped after 100 iterations
## # weights:  241
## initial  value 605.037659
## iter  10 value 417.790938
## iter  20 value 356.079952
## iter  30 value 331.897738
## iter  40 value 316.198179
## iter  50 value 306.340548
## iter  60 value 300.905356
## iter  70 value 288.540587
## iter  80 value 279.678963
## iter  90 value 245.669691
## iter 100 value 234.001507
## final   value 234.001507
## stopped after 100 iterations
## # weights:  97
## initial  value 593.773405
## iter  10 value 450.800072
## iter  20 value 371.228978
## iter  30 value 340.215327
## iter  40 value 333.491581
## iter  50 value 327.762066
## iter  60 value 313.658722
## iter  70 value 306.626597
## iter  80 value 303.103625
## iter  90 value 302.790662
## iter 100 value 301.920181
## final   value 301.920181
## stopped after 100 iterations
## # weights:  113
## initial  value 545.442672
## iter  10 value 424.300215
## iter  20 value 402.736347
## iter  30 value 343.055155
## iter  40 value 289.567285
## iter  50 value 280.378264
## iter  60 value 271.947872
## iter  70 value 262.503398
## iter  80 value 259.314494
## iter  90 value 258.924482
## iter 100 value 255.903534
## final   value 255.903534
## stopped after 100 iterations
## # weights:  129
## initial  value 554.453251
## iter  10 value 425.607939
## iter  20 value 346.775967
## iter  30 value 303.771911
## iter  40 value 292.725960
## iter  50 value 279.117125
## iter  60 value 275.078558
## iter  70 value 258.388743
## iter  80 value 227.790437
## iter  90 value 211.046730
```

```
## iter 100 value 206.095520
## final  value 206.095520
## stopped after 100 iterations
## # weights:  145
## initial  value 491.602061
## iter  10 value 430.136447
## iter  20 value 413.896986
## iter  30 value 389.514690
## iter  40 value 345.348063
## iter  50 value 329.140187
## iter  60 value 313.171829
## iter  70 value 294.267231
## iter  80 value 292.417107
## iter  90 value 283.591427
## iter 100 value 263.230697
## final  value 263.230697
## stopped after 100 iterations
## # weights:  161
## initial  value 682.352214
## iter  10 value 420.939243
## iter  20 value 339.435385
## iter  30 value 322.695626
## iter  40 value 298.302076
## iter  50 value 278.451744
## iter  60 value 277.112766
## iter  70 value 276.246439
## iter  80 value 270.964625
## iter  90 value 264.785163
## iter 100 value 260.279993
## final  value 260.279993
## stopped after 100 iterations
## # weights:  177
## initial  value 928.305404
## iter  10 value 449.884735
## iter  20 value 392.912458
## iter  30 value 318.289336
## iter  40 value 296.184941
## iter  50 value 288.739730
## iter  60 value 279.555886
## iter  70 value 278.611357
## iter  80 value 276.088136
## iter  90 value 274.113812
## iter 100 value 273.205086
## final  value 273.205086
## stopped after 100 iterations
## # weights:  193
## initial  value 534.822572
## iter  10 value 434.790047
## iter  20 value 419.294781
## iter  30 value 374.808464
## iter  40 value 328.527328
## iter  50 value 290.497091
## iter  60 value 279.245376
## iter  70 value 278.433907
```

```
## iter  80 value 275.254060
## iter  90 value 262.308982
## iter 100 value 260.685102
## final   value 260.685102
## stopped after 100 iterations
## # weights:  209
## initial   value 509.092317
## iter  10 value 414.486256
## iter  20 value 349.409249
## iter  30 value 318.827101
## iter  40 value 295.605208
## iter  50 value 288.070979
## iter  60 value 283.823165
## iter  70 value 280.676013
## iter  80 value 279.534484
## iter  90 value 278.900088
## iter 100 value 276.166277
## final   value 276.166277
## stopped after 100 iterations
## # weights:  225
## initial   value 553.840322
## iter  10 value 433.211835
## iter  20 value 350.257848
## iter  30 value 309.874705
## iter  40 value 296.650797
## iter  50 value 288.051262
## iter  60 value 272.975192
## iter  70 value 257.570930
## iter  80 value 247.956065
## iter  90 value 246.717598
## iter 100 value 245.953808
## final   value 245.953808
## stopped after 100 iterations
## # weights:  241
## initial   value 500.632580
## iter  10 value 431.806406
## iter  20 value 376.100398
## iter  30 value 323.638360
## iter  40 value 301.694023
## iter  50 value 297.712667
## iter  60 value 291.888953
## iter  70 value 278.373870
## iter  80 value 269.375989
## iter  90 value 263.040506
## iter 100 value 260.772586
## final   value 260.772586
## stopped after 100 iterations
## # weights:  97
## initial   value 653.255064
## iter  10 value 440.216066
## iter  20 value 413.225830
## iter  30 value 390.193764
## iter  40 value 355.136769
## iter  50 value 322.268369
```

```
## iter  60 value 293.321875
## iter  70 value 277.155939
## iter  80 value 268.914407
## iter  90 value 256.354458
## iter 100 value 243.945247
## final   value 243.945247
## stopped after 100 iterations
## # weights:  113
## initial   value 671.110882
## iter  10 value 441.833474
## iter  20 value 411.054459
## iter  30 value 374.011435
## iter  40 value 315.389511
## iter  50 value 296.838440
## iter  60 value 293.327804
## iter  70 value 279.768466
## iter  80 value 271.909870
## iter  90 value 268.619706
## iter 100 value 261.758880
## final   value 261.758880
## stopped after 100 iterations
## # weights:  129
## initial   value 456.924567
## iter  10 value 440.540101
## iter  20 value 384.080425
## iter  30 value 334.479335
## iter  40 value 321.518503
## iter  50 value 309.353382
## iter  60 value 287.843753
## iter  70 value 274.323960
## iter  80 value 265.052684
## iter  90 value 258.338334
## iter 100 value 256.973914
## final   value 256.973914
## stopped after 100 iterations
## # weights:  145
## initial   value 493.755385
## iter  10 value 434.417973
## iter  20 value 393.800512
## iter  30 value 331.016522
## iter  40 value 314.637875
## iter  50 value 291.326452
## iter  60 value 285.451447
## iter  70 value 272.324401
## iter  80 value 262.513215
## iter  90 value 260.501517
## iter 100 value 257.248306
## final   value 257.248306
## stopped after 100 iterations
## # weights:  161
## initial   value 474.862679
## iter  10 value 439.074010
## iter  20 value 421.653527
## iter  30 value 350.530105
```

```
## iter  40 value 305.421872
## iter  50 value 297.348429
## iter  60 value 291.008487
## iter  70 value 280.035449
## iter  80 value 278.859712
## iter  90 value 272.616808
## iter 100 value 265.031404
## final  value 265.031404
## stopped after 100 iterations
## # weights:  177
## initial  value 598.528797
## iter  10 value 429.372673
## iter  20 value 406.046497
## iter  30 value 324.178800
## iter  40 value 301.989084
## iter  50 value 296.077208
## iter  60 value 291.840375
## iter  70 value 290.420767
## iter  80 value 286.793361
## iter  90 value 269.075398
## iter 100 value 258.742650
## final  value 258.742650
## stopped after 100 iterations
## # weights:  193
## initial  value 577.226757
## iter  10 value 443.362713
## iter  20 value 411.704630
## iter  30 value 376.814911
## iter  40 value 325.709724
## iter  50 value 312.253014
## iter  60 value 302.925227
## iter  70 value 286.303248
## iter  80 value 273.018721
## iter  90 value 269.420633
## iter 100 value 260.867725
## final  value 260.867725
## stopped after 100 iterations
## # weights:  209
## initial  value 916.637511
## iter  10 value 449.418230
## iter  20 value 418.635464
## iter  30 value 381.595384
## iter  40 value 327.736156
## iter  50 value 297.130789
## iter  60 value 265.795985
## iter  70 value 251.321131
## iter  80 value 243.748589
## iter  90 value 234.124680
## iter 100 value 226.406389
## final  value 226.406389
## stopped after 100 iterations
## # weights:  225
## initial  value 666.299825
## iter  10 value 442.211841
```

```
## iter  20 value 423.950226
## iter  30 value 411.111158
## iter  40 value 386.238849
## iter  50 value 343.678325
## iter  60 value 315.156448
## iter  70 value 305.176810
## iter  80 value 293.686743
## iter  90 value 267.496278
## iter 100 value 263.116310
## final   value 263.116310
## stopped after 100 iterations
## # weights:  241
## initial   value 534.871723
## iter  10 value 460.073464
## iter  20 value 414.129788
## iter  30 value 351.239093
## iter  40 value 319.748859
## iter  50 value 287.676310
## iter  60 value 276.500615
## iter  70 value 275.160159
## iter  80 value 273.305190
## iter  90 value 267.673728
## iter 100 value 248.947032
## final   value 248.947032
## stopped after 100 iterations
## # weights:  97
## initial   value 594.371660
## iter  10 value 440.975197
## iter  20 value 411.063954
## iter  30 value 370.533696
## iter  40 value 346.029021
## iter  50 value 330.339688
## iter  60 value 326.790676
## iter  70 value 323.145121
## iter  80 value 321.365928
## iter  90 value 317.110283
## iter 100 value 311.237613
## final   value 311.237613
## stopped after 100 iterations
## # weights:  113
## initial   value 993.826945
## iter  10 value 421.879446
## iter  20 value 372.513713
## iter  30 value 336.711005
## iter  40 value 329.441352
## iter  50 value 325.621973
## iter  60 value 323.342037
## iter  70 value 320.063764
## iter  80 value 318.692763
## iter  90 value 317.310629
## iter 100 value 313.385749
## final   value 313.385749
## stopped after 100 iterations
## # weights:  129
```

```
## initial  value 496.615870
## iter  10 value 443.634943
## iter  20 value 393.894636
## iter  30 value 354.630777
## iter  40 value 328.888067
## iter  50 value 320.553601
## iter  60 value 318.007288
## iter  70 value 315.955951
## iter  80 value 312.994676
## iter  90 value 311.294570
## iter 100 value 308.904548
## final  value 308.904548
## stopped after 100 iterations
## # weights:  145
## initial  value 528.132929
## iter  10 value 449.015445
## iter  20 value 376.213856
## iter  30 value 345.686727
## iter  40 value 336.969926
## iter  50 value 330.965369
## iter  60 value 322.641076
## iter  70 value 317.671260
## iter  80 value 316.080348
## iter  90 value 315.516036
## iter 100 value 313.303135
## final  value 313.303135
## stopped after 100 iterations
## # weights:  161
## initial  value 522.030234
## iter  10 value 448.609886
## iter  20 value 444.213683
## iter  30 value 390.888083
## iter  40 value 361.298319
## iter  50 value 345.383339
## iter  60 value 327.258607
## iter  70 value 322.627697
## iter  80 value 315.981369
## iter  90 value 313.376428
## iter 100 value 310.267744
## final  value 310.267744
## stopped after 100 iterations
## # weights:  177
## initial  value 499.778092
## iter  10 value 434.558308
## iter  20 value 392.492396
## iter  30 value 346.213009
## iter  40 value 334.411417
## iter  50 value 328.345185
## iter  60 value 327.245565
## iter  70 value 323.971083
## iter  80 value 320.669476
## iter  90 value 315.707469
## iter 100 value 310.189174
## final  value 310.189174
```

```
## stopped after 100 iterations
## # weights:  193
## initial  value 659.872726
## iter  10 value 443.614412
## iter  20 value 430.746863
## iter  30 value 390.192103
## iter  40 value 356.768821
## iter  50 value 332.323113
## iter  60 value 329.655782
## iter  70 value 326.616053
## iter  80 value 316.179422
## iter  90 value 307.273823
## iter 100 value 303.805399
## final  value 303.805399
## stopped after 100 iterations
## # weights:  209
## initial  value 584.658153
## iter  10 value 469.746361
## iter  20 value 389.012517
## iter  30 value 337.788670
## iter  40 value 325.544112
## iter  50 value 321.175363
## iter  60 value 315.567340
## iter  70 value 309.384322
## iter  80 value 306.490879
## iter  90 value 304.258435
## iter 100 value 303.126576
## final  value 303.126576
## stopped after 100 iterations
## # weights:  225
## initial  value 530.551914
## iter  10 value 462.006688
## iter  20 value 373.800122
## iter  30 value 349.433709
## iter  40 value 332.537664
## iter  50 value 327.707695
## iter  60 value 321.809735
## iter  70 value 317.713653
## iter  80 value 315.881054
## iter  90 value 311.825766
## iter 100 value 306.459206
## final  value 306.459206
## stopped after 100 iterations
## # weights:  241
## initial  value 652.924628
## iter  10 value 454.781488
## iter  20 value 396.898432
## iter  30 value 376.261862
## iter  40 value 365.530332
## iter  50 value 362.036434
## iter  60 value 349.320579
## iter  70 value 338.780574
## iter  80 value 320.709540
## iter  90 value 313.260862
```

```
## iter 100 value 310.525632
## final   value 310.525632
## stopped after 100 iterations
## # weights:  97
## initial  value 472.883830
## iter  10 value 463.950351
## iter  20 value 427.229202
## iter  30 value 364.953552
## iter  40 value 345.487811
## iter  50 value 342.725568
## iter  60 value 326.302341
## iter  70 value 313.549781
## iter  80 value 310.271320
## iter  90 value 308.213056
## iter 100 value 306.019134
## final   value 306.019134
## stopped after 100 iterations
## # weights:  113
## initial  value 468.957262
## iter  10 value 390.520814
## iter  20 value 350.497198
## iter  30 value 330.547511
## iter  40 value 324.885019
## iter  50 value 321.534223
## iter  60 value 314.094830
## iter  70 value 305.527947
## iter  80 value 295.735638
## iter  90 value 292.219616
## iter 100 value 290.778061
## final   value 290.778061
## stopped after 100 iterations
## # weights:  129
## initial  value 529.769231
## iter  10 value 434.745917
## iter  20 value 365.588900
## iter  30 value 339.491139
## iter  40 value 326.599981
## iter  50 value 321.640289
## iter  60 value 315.993793
## iter  70 value 299.436299
## iter  80 value 284.693590
## iter  90 value 269.844382
## iter 100 value 259.309431
## final   value 259.309431
## stopped after 100 iterations
## # weights:  145
## initial  value 583.686377
## iter  10 value 432.878459
## iter  20 value 359.529940
## iter  30 value 335.753310
## iter  40 value 328.912846
## iter  50 value 318.563665
## iter  60 value 316.264888
## iter  70 value 309.118635
```

```
## iter  80 value 303.634013
## iter  90 value 301.396231
## iter 100 value 292.881535
## final   value 292.881535
## stopped after 100 iterations
## # weights:  161
## initial   value 498.288071
## iter  10 value 427.705948
## iter  20 value 422.117291
## iter  30 value 404.774508
## iter  40 value 338.203539
## iter  50 value 313.394072
## iter  60 value 292.001075
## iter  70 value 280.248669
## iter  80 value 278.977023
## iter  90 value 277.118773
## iter 100 value 270.944716
## final   value 270.944716
## stopped after 100 iterations
## # weights:  177
## initial   value 523.476280
## iter  10 value 423.273742
## iter  20 value 352.892573
## iter  30 value 326.356102
## iter  40 value 316.738175
## iter  50 value 301.594241
## iter  60 value 294.993260
## iter  70 value 286.009281
## iter  80 value 271.200467
## iter  90 value 254.075016
## iter 100 value 244.810089
## final   value 244.810089
## stopped after 100 iterations
## # weights:  193
## initial   value 534.443746
## iter  10 value 435.319687
## iter  20 value 361.110696
## iter  30 value 334.668675
## iter  40 value 325.955664
## iter  50 value 324.649184
## iter  60 value 308.812157
## iter  70 value 280.805635
## iter  80 value 254.082951
## iter  90 value 240.959312
## iter 100 value 234.841563
## final   value 234.841563
## stopped after 100 iterations
## # weights:  209
## initial   value 767.088891
## iter  10 value 430.904313
## iter  20 value 424.248869
## iter  30 value 375.733857
## iter  40 value 340.591617
## iter  50 value 330.580237
```

```
## iter  60 value 304.051036
## iter  70 value 272.331620
## iter  80 value 248.792805
## iter  90 value 223.900844
## iter 100 value 211.856717
## final   value 211.856717
## stopped after 100 iterations
## # weights:  225
## initial  value 464.980882
## iter  10 value 429.298278
## iter  20 value 427.206224
## iter  30 value 422.559195
## iter  40 value 413.252779
## iter  50 value 402.856537
## iter  60 value 363.035166
## iter  70 value 303.953920
## iter  80 value 276.357253
## iter  90 value 268.850863
## iter 100 value 267.549387
## final   value 267.549387
## stopped after 100 iterations
## # weights:  241
## initial  value 513.688074
## iter  10 value 432.952667
## iter  20 value 404.216706
## iter  30 value 361.872454
## iter  40 value 345.281502
## iter  50 value 317.577382
## iter  60 value 303.886795
## iter  70 value 289.934290
## iter  80 value 268.959383
## iter  90 value 241.562516
## iter 100 value 210.137096
## final   value 210.137096
## stopped after 100 iterations
## # weights:  97
## initial  value 505.441686
## iter  10 value 431.553751
## iter  20 value 391.591041
## iter  30 value 363.641767
## iter  40 value 345.634566
## iter  50 value 306.597704
## iter  60 value 295.680027
## iter  70 value 286.510744
## iter  80 value 281.330709
## iter  90 value 273.683223
## iter 100 value 262.291418
## final   value 262.291418
## stopped after 100 iterations
## # weights:  113
## initial  value 589.819593
## iter  10 value 426.213959
## iter  20 value 393.739495
## iter  30 value 383.342535
```

```
## iter  40 value 382.141251
## iter  50 value 363.963393
## iter  60 value 318.092824
## iter  70 value 297.205824
## iter  80 value 277.222852
## iter  90 value 269.611035
## iter 100 value 266.394674
## final  value 266.394674
## stopped after 100 iterations
## # weights:  129
## initial  value 548.706968
## iter  10 value 446.984804
## iter  20 value 426.453938
## iter  30 value 361.641579
## iter  40 value 335.754367
## iter  50 value 322.115875
## iter  60 value 310.192332
## iter  70 value 306.141788
## iter  80 value 300.108682
## iter  90 value 297.666650
## iter 100 value 293.812265
## final  value 293.812265
## stopped after 100 iterations
## # weights:  145
## initial  value 621.805569
## iter  10 value 438.239540
## iter  20 value 348.318289
## iter  30 value 337.223907
## iter  40 value 317.955139
## iter  50 value 310.855902
## iter  60 value 299.134030
## iter  70 value 285.221071
## iter  80 value 282.172634
## iter  90 value 279.787509
## iter 100 value 279.459958
## final  value 279.459958
## stopped after 100 iterations
## # weights:  161
## initial  value 535.783378
## iter  10 value 432.219322
## iter  20 value 413.679807
## iter  30 value 382.523753
## iter  40 value 367.804152
## iter  50 value 318.699893
## iter  60 value 275.814804
## iter  70 value 263.127055
## iter  80 value 257.890233
## iter  90 value 256.945246
## iter 100 value 253.307244
## final  value 253.307244
## stopped after 100 iterations
## # weights:  177
## initial  value 477.597686
## iter  10 value 451.962165
```

```
## iter   20 value 360.212257
## iter   30 value 338.229383
## iter   40 value 324.096312
## iter   50 value 312.121356
## iter   60 value 295.378272
## iter   70 value 280.768436
## iter   80 value 268.784799
## iter   90 value 258.800110
## iter  100 value 237.442921
## final   value 237.442921
## stopped after 100 iterations
## # weights:  193
## initial   value 494.017592
## iter   10 value 445.800670
## iter   20 value 418.001774
## iter   30 value 397.318254
## iter   40 value 337.622214
## iter   50 value 295.776690
## iter   60 value 286.606172
## iter   70 value 269.874786
## iter   80 value 260.145142
## iter   90 value 253.391224
## iter  100 value 244.058034
## final   value 244.058034
## stopped after 100 iterations
## # weights:  209
## initial   value 602.978317
## iter   10 value 430.453796
## iter   20 value 421.219824
## iter   30 value 410.938104
## iter   40 value 330.154833
## iter   50 value 281.865700
## iter   60 value 260.649360
## iter   70 value 250.560677
## iter   80 value 247.268695
## iter   90 value 244.445752
## iter  100 value 241.218258
## final   value 241.218258
## stopped after 100 iterations
## # weights:  225
## initial   value 470.518882
## iter   10 value 437.392272
## iter   20 value 422.893125
## iter   30 value 373.483053
## iter   40 value 350.274511
## iter   50 value 337.027076
## iter   60 value 319.278662
## iter   70 value 308.049549
## iter   80 value 294.775528
## iter   90 value 263.093788
## iter  100 value 247.380258
## final   value 247.380258
## stopped after 100 iterations
## # weights:  241
```

```
## initial  value 713.902665
## iter  10 value 427.055000
## iter  20 value 358.145925
## iter  30 value 340.594556
## iter  40 value 314.879325
## iter  50 value 289.845624
## iter  60 value 283.234199
## iter  70 value 279.474723
## iter  80 value 274.537758
## iter  90 value 266.133913
## iter 100 value 258.560126
## final  value 258.560126
## stopped after 100 iterations
## # weights:  97
## initial  value 612.378112
## iter  10 value 465.333002
## iter  20 value 403.597924
## iter  30 value 353.421428
## iter  40 value 329.664933
## iter  50 value 319.548139
## iter  60 value 315.992770
## iter  70 value 306.766639
## iter  80 value 302.675215
## iter  90 value 294.694389
## iter 100 value 290.792167
## final  value 290.792167
## stopped after 100 iterations
## # weights:  113
## initial  value 533.936141
## iter  10 value 464.073933
## iter  20 value 412.867463
## iter  30 value 360.167598
## iter  40 value 331.150800
## iter  50 value 314.728382
## iter  60 value 290.182580
## iter  70 value 267.678414
## iter  80 value 257.055970
## iter  90 value 253.816949
## iter 100 value 253.029569
## final  value 253.029569
## stopped after 100 iterations
## # weights:  129
## initial  value 727.600620
## iter  10 value 438.670045
## iter  20 value 428.133755
## iter  30 value 392.228419
## iter  40 value 352.121634
## iter  50 value 331.349092
## iter  60 value 295.171853
## iter  70 value 276.823624
## iter  80 value 262.851108
## iter  90 value 249.575181
## iter 100 value 248.205798
## final  value 248.205798
```

```
## stopped after 100 iterations
## # weights:  145
## initial  value 472.156608
## iter  10 value 434.900580
## iter  20 value 414.619110
## iter  30 value 376.080419
## iter  40 value 341.427416
## iter  50 value 337.878285
## iter  60 value 329.901786
## iter  70 value 321.631110
## iter  80 value 319.938357
## iter  90 value 314.633766
## iter 100 value 306.888252
## final   value 306.888252
## stopped after 100 iterations
## # weights:  161
## initial  value 607.839366
## iter  10 value 472.061939
## iter  20 value 438.076680
## iter  30 value 356.905267
## iter  40 value 302.462390
## iter  50 value 289.779285
## iter  60 value 284.990411
## iter  70 value 276.222477
## iter  80 value 269.734149
## iter  90 value 268.080659
## iter 100 value 266.041589
## final   value 266.041589
## stopped after 100 iterations
## # weights:  177
## initial  value 911.171295
## iter  10 value 436.672801
## iter  20 value 389.595064
## iter  30 value 355.767414
## iter  40 value 342.810463
## iter  50 value 327.598676
## iter  60 value 317.454951
## iter  70 value 301.398626
## iter  80 value 289.645626
## iter  90 value 278.422668
## iter 100 value 275.400025
## final   value 275.400025
## stopped after 100 iterations
## # weights:  193
## initial  value 471.088278
## iter  10 value 461.595525
## iter  20 value 359.925569
## iter  30 value 305.713522
## iter  40 value 281.761639
## iter  50 value 272.585441
## iter  60 value 267.619224
## iter  70 value 262.962263
## iter  80 value 261.738731
## iter  90 value 256.258110
```

```
## iter 100 value 249.769825
## final  value 249.769825
## stopped after 100 iterations
## # weights:  209
## initial  value 470.208928
## iter  10 value 430.859508
## iter  20 value 365.451768
## iter  30 value 351.913246
## iter  40 value 329.674221
## iter  50 value 312.071526
## iter  60 value 299.598217
## iter  70 value 287.156250
## iter  80 value 275.044291
## iter  90 value 265.080957
## iter 100 value 257.150851
## final  value 257.150851
## stopped after 100 iterations
## # weights:  225
## initial  value 482.390288
## iter  10 value 432.451033
## iter  20 value 410.731064
## iter  30 value 370.247989
## iter  40 value 321.797009
## iter  50 value 295.711329
## iter  60 value 279.358268
## iter  70 value 277.096911
## iter  80 value 264.368750
## iter  90 value 256.516717
## iter 100 value 250.346642
## final  value 250.346642
## stopped after 100 iterations
## # weights:  241
## initial  value 555.718158
## iter  10 value 438.914780
## iter  20 value 427.189891
## iter  30 value 406.053940
## iter  40 value 375.915850
## iter  50 value 347.210868
## iter  60 value 324.026768
## iter  70 value 304.088570
## iter  80 value 282.251010
## iter  90 value 262.074569
## iter 100 value 250.964628
## final  value 250.964628
## stopped after 100 iterations
## # weights:  97
## initial  value 645.185739
## iter  10 value 467.164231
## iter  20 value 431.635955
## iter  30 value 386.619491
## iter  40 value 358.965190
## iter  50 value 354.325449
## iter  60 value 345.098909
## iter  70 value 332.146592
```

```
## iter  80 value 328.457226
## iter  90 value 327.102003
## iter 100 value 325.588764
## final   value 325.588764
## stopped after 100 iterations
## # weights:  113
## initial   value 530.063169
## iter  10 value 465.869421
## iter  20 value 425.311395
## iter  30 value 362.637709
## iter  40 value 351.154086
## iter  50 value 336.158471
## iter  60 value 327.478530
## iter  70 value 318.465265
## iter  80 value 314.581304
## iter  90 value 312.282247
## iter 100 value 309.941247
## final   value 309.941247
## stopped after 100 iterations
## # weights:  129
## initial   value 765.066006
## iter  10 value 446.725415
## iter  20 value 416.417842
## iter  30 value 368.551641
## iter  40 value 346.521033
## iter  50 value 339.114254
## iter  60 value 323.190051
## iter  70 value 319.176421
## iter  80 value 316.943374
## iter  90 value 316.057500
## iter 100 value 314.643168
## final   value 314.643168
## stopped after 100 iterations
## # weights:  145
## initial   value 511.901252
## iter  10 value 458.303922
## iter  20 value 433.038836
## iter  30 value 415.209456
## iter  40 value 373.046273
## iter  50 value 358.734503
## iter  60 value 346.709932
## iter  70 value 331.864461
## iter  80 value 317.940731
## iter  90 value 314.253138
## iter 100 value 313.547167
## final   value 313.547167
## stopped after 100 iterations
## # weights:  161
## initial   value 530.477225
## iter  10 value 450.636150
## iter  20 value 425.543626
## iter  30 value 383.064997
## iter  40 value 342.078335
## iter  50 value 326.977283
```

```
## iter  60 value 321.543400
## iter  70 value 319.211292
## iter  80 value 318.124911
## iter  90 value 317.774038
## iter 100 value 316.330099
## final   value 316.330099
## stopped after 100 iterations
## # weights:  177
## initial   value 503.966599
## iter  10 value 427.844736
## iter  20 value 409.015364
## iter  30 value 377.256214
## iter  40 value 337.399078
## iter  50 value 329.697304
## iter  60 value 325.247510
## iter  70 value 323.297521
## iter  80 value 322.429756
## iter  90 value 321.599868
## iter 100 value 321.104885
## final   value 321.104885
## stopped after 100 iterations
## # weights:  193
## initial   value 572.920435
## iter  10 value 443.916483
## iter  20 value 422.493434
## iter  30 value 364.209652
## iter  40 value 352.314780
## iter  50 value 334.773459
## iter  60 value 326.493478
## iter  70 value 317.839446
## iter  80 value 314.779952
## iter  90 value 310.412913
## iter 100 value 308.116391
## final   value 308.116391
## stopped after 100 iterations
## # weights:  209
## initial   value 516.030401
## iter  10 value 444.549212
## iter  20 value 433.487792
## iter  30 value 407.769982
## iter  40 value 366.254658
## iter  50 value 340.786275
## iter  60 value 329.836025
## iter  70 value 324.473984
## iter  80 value 322.746682
## iter  90 value 318.292794
## iter 100 value 317.549583
## final   value 317.549583
## stopped after 100 iterations
## # weights:  225
## initial   value 522.226357
## iter  10 value 441.072551
## iter  20 value 370.064937
## iter  30 value 339.478940
```

```
## iter  40 value 333.927875
## iter  50 value 330.999038
## iter  60 value 325.926430
## iter  70 value 324.098678
## iter  80 value 320.679833
## iter  90 value 316.995393
## iter 100 value 314.534710
## final   value 314.534710
## stopped after 100 iterations
## # weights:  241
## initial   value 706.482030
## iter  10 value 455.119254
## iter  20 value 401.030515
## iter  30 value 370.546366
## iter  40 value 362.092814
## iter  50 value 345.087398
## iter  60 value 333.615563
## iter  70 value 325.593929
## iter  80 value 321.793722
## iter  90 value 318.402735
## iter 100 value 316.215567
## final   value 316.215567
## stopped after 100 iterations
## # weights:  97
## initial   value 516.006088
## iter  10 value 411.586756
## iter  20 value 340.213907
## iter  30 value 295.036808
## iter  40 value 274.597004
## iter  50 value 268.182181
## iter  60 value 259.550836
## iter  70 value 254.330587
## iter  80 value 244.681723
## iter  90 value 240.942719
## iter 100 value 240.838669
## final   value 240.838669
## stopped after 100 iterations
## # weights:  113
## initial   value 472.706249
## iter  10 value 421.202600
## iter  20 value 376.746730
## iter  30 value 372.176413
## iter  40 value 356.683173
## iter  50 value 289.851462
## iter  60 value 246.325011
## iter  70 value 231.763473
## iter  80 value 228.953143
## iter  90 value 227.476944
## iter 100 value 225.864394
## final   value 225.864394
## stopped after 100 iterations
## # weights:  129
## initial   value 449.114202
## iter  10 value 414.913861
```

```
## iter  20 value 376.201276
## iter  30 value 316.926509
## iter  40 value 287.676166
## iter  50 value 266.223991
## iter  60 value 250.442313
## iter  70 value 246.320615
## iter  80 value 230.911289
## iter  90 value 200.122915
## iter 100 value 184.450332
## final  value 184.450332
## stopped after 100 iterations
## # weights:  145
## initial  value 448.847049
## iter  10 value 408.740045
## iter  20 value 373.659585
## iter  30 value 329.823585
## iter  40 value 286.180616
## iter  50 value 260.691564
## iter  60 value 245.675016
## iter  70 value 237.495984
## iter  80 value 233.903222
## iter  90 value 232.940815
## iter 100 value 231.874524
## final  value 231.874524
## stopped after 100 iterations
## # weights:  161
## initial  value 729.820037
## iter  10 value 410.296283
## iter  20 value 375.800465
## iter  30 value 360.418104
## iter  40 value 322.886541
## iter  50 value 256.841313
## iter  60 value 237.134413
## iter  70 value 230.967616
## iter  80 value 222.963937
## iter  90 value 212.272624
## iter 100 value 204.466331
## final  value 204.466331
## stopped after 100 iterations
## # weights:  177
## initial  value 448.205029
## iter  10 value 401.622354
## iter  20 value 340.089625
## iter  30 value 306.198066
## iter  40 value 269.644064
## iter  50 value 234.647215
## iter  60 value 220.795068
## iter  70 value 215.685068
## iter  80 value 207.196230
## iter  90 value 198.379534
## iter 100 value 194.870624
## final  value 194.870624
## stopped after 100 iterations
## # weights:  193
```

```
## initial  value 497.162788
## iter  10 value 430.060073
## iter  20 value 381.527371
## iter  30 value 353.268778
## iter  40 value 323.025137
## iter  50 value 280.779005
## iter  60 value 244.943940
## iter  70 value 231.959751
## iter  80 value 229.501570
## iter  90 value 228.835936
## iter 100 value 221.408114
## final  value 221.408114
## stopped after 100 iterations
## # weights:  209
## initial  value 632.183174
## iter  10 value 440.530476
## iter  20 value 335.563549
## iter  30 value 309.478850
## iter  40 value 296.430144
## iter  50 value 285.725969
## iter  60 value 276.920748
## iter  70 value 273.857045
## iter  80 value 272.678310
## iter  90 value 266.006003
## iter 100 value 262.775678
## final  value 262.775678
## stopped after 100 iterations
## # weights:  225
## initial  value 597.643267
## iter  10 value 427.823594
## iter  20 value 390.601166
## iter  30 value 355.229982
## iter  40 value 280.706214
## iter  50 value 248.185421
## iter  60 value 243.028159
## iter  70 value 222.053070
## iter  80 value 194.723929
## iter  90 value 176.149807
## iter 100 value 171.714268
## final  value 171.714268
## stopped after 100 iterations
## # weights:  241
## initial  value 644.526406
## iter  10 value 416.553939
## iter  20 value 394.891118
## iter  30 value 375.939514
## iter  40 value 311.649253
## iter  50 value 284.427920
## iter  60 value 273.343115
## iter  70 value 263.077567
## iter  80 value 242.023517
## iter  90 value 229.564935
## iter 100 value 222.427029
## final  value 222.427029
```

```
## stopped after 100 iterations
## # weights:  97
## initial  value 467.893584
## iter  10 value 407.817065
## iter  20 value 362.671139
## iter  30 value 293.071653
## iter  40 value 279.952741
## iter  50 value 273.027901
## iter  60 value 265.182670
## iter  70 value 261.675532
## iter  80 value 256.847586
## iter  90 value 254.690581
## iter 100 value 246.135279
## final  value 246.135279
## stopped after 100 iterations
## # weights:  113
## initial  value 501.889551
## iter  10 value 433.392233
## iter  20 value 348.415511
## iter  30 value 312.351948
## iter  40 value 303.295600
## iter  50 value 301.862291
## iter  60 value 300.899839
## iter  70 value 295.327983
## iter  80 value 275.354684
## iter  90 value 260.032458
## iter 100 value 250.388592
## final  value 250.388592
## stopped after 100 iterations
## # weights:  129
## initial  value 483.501402
## iter  10 value 412.448588
## iter  20 value 388.578865
## iter  30 value 379.695663
## iter  40 value 356.705046
## iter  50 value 294.921972
## iter  60 value 263.596805
## iter  70 value 249.363203
## iter  80 value 247.672347
## iter  90 value 242.323725
## iter 100 value 225.824445
## final  value 225.824445
## stopped after 100 iterations
## # weights:  145
## initial  value 869.334406
## iter  10 value 439.071356
## iter  20 value 390.363373
## iter  30 value 322.246057
## iter  40 value 303.147449
## iter  50 value 288.952695
## iter  60 value 269.071679
## iter  70 value 262.366299
## iter  80 value 259.581311
## iter  90 value 257.776353
```

```
## iter 100 value 256.912253
## final  value 256.912253
## stopped after 100 iterations
## # weights:  161
## initial  value 460.245366
## iter  10 value 420.193585
## iter  20 value 327.073498
## iter  30 value 312.737277
## iter  40 value 274.631041
## iter  50 value 240.123263
## iter  60 value 220.614271
## iter  70 value 211.682416
## iter  80 value 208.314867
## iter  90 value 205.884437
## iter 100 value 196.859253
## final  value 196.859253
## stopped after 100 iterations
## # weights:  177
## initial  value 434.924019
## iter  10 value 402.271607
## iter  20 value 348.058340
## iter  30 value 313.351459
## iter  40 value 294.535752
## iter  50 value 264.739855
## iter  60 value 233.437959
## iter  70 value 226.360217
## iter  80 value 218.753132
## iter  90 value 213.515684
## iter 100 value 210.857779
## final  value 210.857779
## stopped after 100 iterations
## # weights:  193
## initial  value 463.212556
## iter  10 value 383.532030
## iter  20 value 316.783300
## iter  30 value 298.775311
## iter  40 value 271.206009
## iter  50 value 255.010888
## iter  60 value 241.797496
## iter  70 value 233.997304
## iter  80 value 222.485789
## iter  90 value 213.084712
## iter 100 value 209.423580
## final  value 209.423580
## stopped after 100 iterations
## # weights:  209
## initial  value 477.356010
## iter  10 value 417.269835
## iter  20 value 389.417015
## iter  30 value 383.115710
## iter  40 value 339.989045
## iter  50 value 318.004979
## iter  60 value 290.391521
## iter  70 value 272.002781
```

```
## iter  80 value 265.700907
## iter  90 value 246.933686
## iter 100 value 240.199041
## final   value 240.199041
## stopped after 100 iterations
## # weights:  225
## initial   value 460.936943
## iter  10 value 412.213755
## iter  20 value 407.302557
## iter  30 value 393.906208
## iter  40 value 320.291991
## iter  50 value 293.208155
## iter  60 value 285.724883
## iter  70 value 261.669525
## iter  80 value 234.933676
## iter  90 value 221.329207
## iter 100 value 214.678982
## final   value 214.678982
## stopped after 100 iterations
## # weights:  241
## initial   value 445.456522
## iter  10 value 408.207557
## iter  20 value 377.006995
## iter  30 value 322.318256
## iter  40 value 274.748980
## iter  50 value 265.424571
## iter  60 value 247.204860
## iter  70 value 234.919330
## iter  80 value 223.582498
## iter  90 value 213.703186
## iter 100 value 209.814618
## final   value 209.814618
## stopped after 100 iterations
## # weights:   97
## initial   value 465.923569
## iter  10 value 420.312976
## iter  20 value 377.326184
## iter  30 value 316.344901
## iter  40 value 294.436570
## iter  50 value 279.349253
## iter  60 value 274.966080
## iter  70 value 264.707328
## iter  80 value 262.166213
## iter  90 value 260.733408
## iter 100 value 256.857196
## final   value 256.857196
## stopped after 100 iterations
## # weights:  113
## initial   value 512.277374
## iter  10 value 423.585105
## iter  20 value 399.474992
## iter  30 value 376.920181
## iter  40 value 324.872064
## iter  50 value 312.697194
```

```
## iter  60 value 297.221249
## iter  70 value 288.482376
## iter  80 value 278.851832
## iter  90 value 272.730002
## iter 100 value 265.853445
## final  value 265.853445
## stopped after 100 iterations
## # weights:  129
## initial  value 536.524220
## iter  10 value 446.936331
## iter  20 value 381.589159
## iter  30 value 333.272699
## iter  40 value 319.949821
## iter  50 value 302.666569
## iter  60 value 288.479679
## iter  70 value 279.624731
## iter  80 value 266.167712
## iter  90 value 254.559275
## iter 100 value 243.408455
## final  value 243.408455
## stopped after 100 iterations
## # weights:  145
## initial  value 569.520938
## iter  10 value 404.498120
## iter  20 value 400.501575
## iter  30 value 370.776175
## iter  40 value 320.991791
## iter  50 value 293.575586
## iter  60 value 287.341676
## iter  70 value 281.521686
## iter  80 value 271.742453
## iter  90 value 255.392218
## iter 100 value 239.285989
## final  value 239.285989
## stopped after 100 iterations
## # weights:  161
## initial  value 468.483541
## iter  10 value 411.232588
## iter  20 value 365.811159
## iter  30 value 314.044824
## iter  40 value 300.865624
## iter  50 value 286.819890
## iter  60 value 276.518943
## iter  70 value 258.940884
## iter  80 value 241.100147
## iter  90 value 233.636009
## iter 100 value 224.741204
## final  value 224.741204
## stopped after 100 iterations
## # weights:  177
## initial  value 566.192239
## iter  10 value 428.091675
## iter  20 value 382.776696
## iter  30 value 325.434327
```

```
## iter  40 value 306.029575
## iter  50 value 283.716308
## iter  60 value 276.680882
## iter  70 value 271.602768
## iter  80 value 250.376971
## iter  90 value 233.483531
## iter 100 value 228.769500
## final  value 228.769500
## stopped after 100 iterations
## # weights:  193
## initial  value 454.277633
## iter  10 value 416.013252
## iter  20 value 401.424490
## iter  30 value 384.445094
## iter  40 value 327.365094
## iter  50 value 313.845827
## iter  60 value 282.634422
## iter  70 value 265.984170
## iter  80 value 252.686386
## iter  90 value 245.288048
## iter 100 value 231.656126
## final  value 231.656126
## stopped after 100 iterations
## # weights:  209
## initial  value 512.208301
## iter  10 value 422.097641
## iter  20 value 390.662555
## iter  30 value 341.698686
## iter  40 value 319.889454
## iter  50 value 308.402140
## iter  60 value 296.449652
## iter  70 value 285.119868
## iter  80 value 274.904558
## iter  90 value 271.160679
## iter 100 value 267.626559
## final  value 267.626559
## stopped after 100 iterations
## # weights:  225
## initial  value 459.485637
## iter  10 value 416.103619
## iter  20 value 369.578904
## iter  30 value 318.232441
## iter  40 value 302.410494
## iter  50 value 283.099294
## iter  60 value 253.962973
## iter  70 value 251.115621
## iter  80 value 243.820047
## iter  90 value 242.150562
## iter 100 value 235.817654
## final  value 235.817654
## stopped after 100 iterations
## # weights:  241
## initial  value 675.190120
## iter  10 value 429.147039
```

```
## iter  20 value 379.345140
## iter  30 value 344.237709
## iter  40 value 327.013416
## iter  50 value 307.202497
## iter  60 value 286.169389
## iter  70 value 275.948232
## iter  80 value 269.766882
## iter  90 value 257.099730
## iter 100 value 247.460671
## final   value 247.460671
## stopped after 100 iterations
## # weights:  97
## initial   value 502.109049
## iter  10 value 421.582331
## iter  20 value 388.796144
## iter  30 value 345.251300
## iter  40 value 326.609179
## iter  50 value 315.817281
## iter  60 value 308.486230
## iter  70 value 304.851128
## iter  80 value 303.306885
## iter  90 value 303.171250
## iter 100 value 303.151819
## final   value 303.151819
## stopped after 100 iterations
## # weights:  113
## initial   value 623.499449
## iter  10 value 450.481189
## iter  20 value 418.253042
## iter  30 value 402.713301
## iter  40 value 373.191976
## iter  50 value 327.390253
## iter  60 value 311.692977
## iter  70 value 303.449777
## iter  80 value 297.592459
## iter  90 value 294.472888
## iter 100 value 293.732349
## final   value 293.732349
## stopped after 100 iterations
## # weights:  129
## initial   value 496.526433
## iter  10 value 445.562005
## iter  20 value 415.329594
## iter  30 value 342.913906
## iter  40 value 327.999315
## iter  50 value 318.270370
## iter  60 value 309.460551
## iter  70 value 306.413283
## iter  80 value 303.149910
## iter  90 value 299.982891
## iter 100 value 298.189470
## final   value 298.189470
## stopped after 100 iterations
## # weights:  145
```

```
## initial  value 498.214461
## iter  10 value 412.353714
## iter  20 value 372.677490
## iter  30 value 344.344886
## iter  40 value 333.329217
## iter  50 value 322.333468
## iter  60 value 312.623241
## iter  70 value 308.006760
## iter  80 value 301.654790
## iter  90 value 298.736949
## iter 100 value 297.966109
## final  value 297.966109
## stopped after 100 iterations
## # weights:  161
## initial  value 665.548827
## iter  10 value 443.771116
## iter  20 value 419.583930
## iter  30 value 394.167370
## iter  40 value 340.153092
## iter  50 value 322.393060
## iter  60 value 308.749569
## iter  70 value 302.712265
## iter  80 value 298.927069
## iter  90 value 297.537110
## iter 100 value 296.713490
## final  value 296.713490
## stopped after 100 iterations
## # weights:  177
## initial  value 538.005901
## iter  10 value 421.689064
## iter  20 value 393.245718
## iter  30 value 370.604018
## iter  40 value 344.611760
## iter  50 value 328.992108
## iter  60 value 314.086766
## iter  70 value 311.914154
## iter  80 value 306.881560
## iter  90 value 305.549807
## iter 100 value 302.905176
## final  value 302.905176
## stopped after 100 iterations
## # weights:  193
## initial  value 557.992469
## iter  10 value 458.459221
## iter  20 value 414.463260
## iter  30 value 401.972714
## iter  40 value 354.349256
## iter  50 value 334.718092
## iter  60 value 328.719735
## iter  70 value 318.378525
## iter  80 value 309.935249
## iter  90 value 302.615292
## iter 100 value 297.671084
## final  value 297.671084
```

```
## stopped after 100 iterations
## # weights:  209
## initial  value 809.619799
## iter  10 value 451.791782
## iter  20 value 385.455627
## iter  30 value 354.418297
## iter  40 value 334.778586
## iter  50 value 323.467853
## iter  60 value 316.826094
## iter  70 value 311.031438
## iter  80 value 308.144947
## iter  90 value 301.890665
## iter 100 value 298.072234
## final  value 298.072234
## stopped after 100 iterations
## # weights:  225
## initial  value 527.604835
## iter  10 value 422.479630
## iter  20 value 389.976518
## iter  30 value 334.921956
## iter  40 value 320.480203
## iter  50 value 315.239955
## iter  60 value 307.890569
## iter  70 value 303.907345
## iter  80 value 298.811246
## iter  90 value 294.901885
## iter 100 value 292.597689
## final  value 292.597689
## stopped after 100 iterations
## # weights:  241
## initial  value 478.698109
## iter  10 value 440.203899
## iter  20 value 404.360515
## iter  30 value 365.294885
## iter  40 value 356.465904
## iter  50 value 350.748896
## iter  60 value 336.364499
## iter  70 value 331.245304
## iter  80 value 327.648293
## iter  90 value 314.560518
## iter 100 value 302.987559
## final  value 302.987559
## stopped after 100 iterations
## # weights:  97
## initial  value 500.104292
## iter  10 value 425.552431
## iter  20 value 406.326342
## iter  30 value 356.027756
## iter  40 value 321.738257
## iter  50 value 312.862339
## iter  60 value 311.861250
## iter  70 value 307.801457
## iter  80 value 305.020126
## iter  90 value 302.298011
```

```
## iter 100 value 297.094002
## final  value 297.094002
## stopped after 100 iterations
## # weights:  113
## initial  value 442.980880
## iter  10 value 388.963255
## iter  20 value 331.093699
## iter  30 value 328.675174
## iter  40 value 326.105857
## iter  50 value 312.724092
## iter  60 value 298.354288
## iter  70 value 280.603653
## iter  80 value 262.860654
## iter  90 value 247.531834
## iter 100 value 236.046216
## final  value 236.046216
## stopped after 100 iterations
## # weights:  129
## initial  value 573.997444
## iter  10 value 419.674974
## iter  20 value 403.443993
## iter  30 value 347.781338
## iter  40 value 327.412108
## iter  50 value 321.135213
## iter  60 value 309.578264
## iter  70 value 302.007999
## iter  80 value 293.878464
## iter  90 value 293.678079
## iter 100 value 292.708258
## final  value 292.708258
## stopped after 100 iterations
## # weights:  145
## initial  value 706.214313
## iter  10 value 417.277696
## iter  20 value 371.544137
## iter  30 value 332.797237
## iter  40 value 316.459043
## iter  50 value 312.024980
## iter  60 value 282.227595
## iter  70 value 265.571946
## iter  80 value 250.800889
## iter  90 value 241.290980
## iter 100 value 230.500425
## final  value 230.500425
## stopped after 100 iterations
## # weights:  161
## initial  value 500.010791
## iter  10 value 417.180161
## iter  20 value 385.172173
## iter  30 value 340.063239
## iter  40 value 326.225604
## iter  50 value 323.459738
## iter  60 value 321.211834
## iter  70 value 317.122521
```

```
## iter  80 value 303.201064
## iter  90 value 284.850988
## iter 100 value 272.347261
## final   value 272.347261
## stopped after 100 iterations
## # weights:  177
## initial   value 739.432833
## iter  10 value 453.440319
## iter  20 value 394.357722
## iter  30 value 321.967330
## iter  40 value 295.244888
## iter  50 value 276.012988
## iter  60 value 270.059062
## iter  70 value 258.281488
## iter  80 value 252.483633
## iter  90 value 252.145834
## final   value 252.144717
## converged
## # weights:  193
## initial   value 1069.723290
## iter  10 value 422.740996
## iter  20 value 390.350217
## iter  30 value 311.428713
## iter  40 value 290.486616
## iter  50 value 287.327458
## iter  60 value 278.758803
## iter  70 value 274.873982
## iter  80 value 266.535142
## iter  90 value 251.956884
## iter 100 value 238.813043
## final   value 238.813043
## stopped after 100 iterations
## # weights:  209
## initial   value 494.690186
## iter  10 value 426.475219
## iter  20 value 407.011389
## iter  30 value 374.194954
## iter  40 value 331.717794
## iter  50 value 291.015444
## iter  60 value 263.559233
## iter  70 value 252.770832
## iter  80 value 246.030131
## iter  90 value 237.719462
## iter 100 value 233.632096
## final   value 233.632096
## stopped after 100 iterations
## # weights:  225
## initial   value 590.136786
## iter  10 value 409.881613
## iter  20 value 349.590804
## iter  30 value 328.062472
## iter  40 value 321.980463
## iter  50 value 321.036120
## iter  60 value 317.637434
```

```
## iter   70 value 312.855245
## iter   80 value 311.446728
## iter   90 value 310.905653
## iter 100 value 310.713944
## final   value 310.713944
## stopped after 100 iterations
## # weights:  241
## initial  value 468.000680
## iter   10 value 413.278019
## iter   20 value 382.347185
## iter   30 value 359.761530
## iter   40 value 319.035952
## iter   50 value 304.068344
## iter   60 value 301.040132
## iter   70 value 293.404552
## iter   80 value 285.413309
## iter   90 value 279.740025
## iter 100 value 279.516880
## final   value 279.516880
## stopped after 100 iterations
## # weights:  97
## initial  value 471.162697
## iter   10 value 396.748836
## iter   20 value 334.061161
## iter   30 value 319.632666
## iter   40 value 282.824726
## iter   50 value 271.920081
## iter   60 value 266.532164
## iter   70 value 258.139605
## iter   80 value 250.297087
## iter   90 value 249.616888
## iter 100 value 248.229929
## final   value 248.229929
## stopped after 100 iterations
## # weights:  113
## initial  value 474.113363
## iter   10 value 412.755612
## iter   20 value 389.802057
## iter   30 value 340.558457
## iter   40 value 318.754336
## iter   50 value 301.415883
## iter   60 value 288.833186
## iter   70 value 269.949871
## iter   80 value 244.888623
## iter   90 value 230.595605
## iter 100 value 223.462167
## final   value 223.462167
## stopped after 100 iterations
## # weights:  129
## initial  value 492.847657
## iter   10 value 405.220942
## iter   20 value 343.972342
## iter   30 value 332.188718
## iter   40 value 329.297061
```

```
## iter  50 value 316.809746
## iter  60 value 301.908011
## iter  70 value 280.330630
## iter  80 value 262.673692
## iter  90 value 259.494096
## iter 100 value 251.168836
## final   value 251.168836
## stopped after 100 iterations
## # weights:  145
## initial   value 474.819668
## iter  10 value 450.343041
## iter  20 value 400.433925
## iter  30 value 362.758496
## iter  40 value 331.178575
## iter  50 value 317.927424
## iter  60 value 312.872704
## iter  70 value 308.132735
## iter  80 value 296.094273
## iter  90 value 293.218124
## iter 100 value 289.504720
## final   value 289.504720
## stopped after 100 iterations
## # weights:  161
## initial   value 587.576070
## iter  10 value 417.971366
## iter  20 value 385.217344
## iter  30 value 361.218079
## iter  40 value 323.408161
## iter  50 value 287.635528
## iter  60 value 272.591763
## iter  70 value 262.466925
## iter  80 value 253.897912
## iter  90 value 251.613582
## iter 100 value 245.146152
## final   value 245.146152
## stopped after 100 iterations
## # weights:  177
## initial   value 589.091221
## iter  10 value 407.656199
## iter  20 value 351.262968
## iter  30 value 302.180556
## iter  40 value 266.632945
## iter  50 value 257.171739
## iter  60 value 249.715098
## iter  70 value 247.501786
## iter  80 value 247.132824
## iter  90 value 246.571425
## iter 100 value 241.916005
## final   value 241.916005
## stopped after 100 iterations
## # weights:  193
## initial   value 522.746348
## iter  10 value 415.046257
## iter  20 value 341.471603
```

```
## iter  30 value 291.019869
## iter  40 value 279.365316
## iter  50 value 272.823220
## iter  60 value 262.780286
## iter  70 value 251.182462
## iter  80 value 234.264725
## iter  90 value 220.799535
## iter 100 value 214.232091
## final  value 214.232091
## stopped after 100 iterations
## # weights:  209
## initial  value 501.888077
## iter  10 value 392.094370
## iter  20 value 342.630449
## iter  30 value 329.916682
## iter  40 value 313.990024
## iter  50 value 299.805184
## iter  60 value 290.035952
## iter  70 value 255.413838
## iter  80 value 243.917044
## iter  90 value 237.732346
## iter 100 value 232.987822
## final  value 232.987822
## stopped after 100 iterations
## # weights:  225
## initial  value 751.742871
## iter  10 value 438.801613
## iter  20 value 407.347494
## iter  30 value 381.130633
## iter  40 value 341.322414
## iter  50 value 325.136696
## iter  60 value 321.835922
## iter  70 value 308.521456
## iter  80 value 279.189283
## iter  90 value 267.146427
## iter 100 value 248.706983
## final  value 248.706983
## stopped after 100 iterations
## # weights:  241
## initial  value 457.085354
## iter  10 value 407.957880
## iter  20 value 386.311567
## iter  30 value 312.705627
## iter  40 value 287.463515
## iter  50 value 274.154141
## iter  60 value 251.642525
## iter  70 value 233.787705
## iter  80 value 222.071521
## iter  90 value 214.669363
## iter 100 value 212.779807
## final  value 212.779807
## stopped after 100 iterations
## # weights:  97
## initial  value 471.469385
```

```
## iter  10 value 419.943066
## iter  20 value 342.210209
## iter  30 value 330.486360
## iter  40 value 328.716238
## iter  50 value 328.054483
## iter  60 value 317.463380
## iter  70 value 311.533684
## iter  80 value 304.182239
## iter  90 value 292.233691
## iter 100 value 280.465768
## final  value 280.465768
## stopped after 100 iterations
## # weights:  113
## initial  value 485.700322
## iter  10 value 421.758377
## iter  20 value 410.812647
## iter  30 value 397.233678
## iter  40 value 382.228082
## iter  50 value 321.308245
## iter  60 value 288.001144
## iter  70 value 284.133811
## iter  80 value 266.417837
## iter  90 value 255.013088
## iter 100 value 252.296348
## final  value 252.296348
## stopped after 100 iterations
## # weights:  129
## initial  value 498.171968
## iter  10 value 436.236849
## iter  20 value 335.903497
## iter  30 value 318.131329
## iter  40 value 292.408467
## iter  50 value 263.755019
## iter  60 value 251.720287
## iter  70 value 243.761808
## iter  80 value 241.236590
## iter  90 value 239.603551
## iter 100 value 238.777332
## final  value 238.777332
## stopped after 100 iterations
## # weights:  145
## initial  value 457.486675
## iter  10 value 417.327381
## iter  20 value 364.856481
## iter  30 value 352.874470
## iter  40 value 338.772490
## iter  50 value 333.876049
## iter  60 value 325.291871
## iter  70 value 322.037619
## iter  80 value 300.579326
## iter  90 value 279.851601
## iter 100 value 265.208290
## final  value 265.208290
## stopped after 100 iterations
```

```
## # weights:  161
## initial  value 653.528637
## iter  10 value 430.022150
## iter  20 value 395.913804
## iter  30 value 312.301354
## iter  40 value 298.749352
## iter  50 value 285.910785
## iter  60 value 274.695367
## iter  70 value 261.961174
## iter  80 value 245.783835
## iter  90 value 235.901607
## iter 100 value 228.117504
## final  value 228.117504
## stopped after 100 iterations
## # weights:  177
## initial  value 672.177072
## iter  10 value 419.596488
## iter  20 value 385.511950
## iter  30 value 349.229746
## iter  40 value 314.636485
## iter  50 value 294.831217
## iter  60 value 278.852332
## iter  70 value 270.736457
## iter  80 value 263.382593
## iter  90 value 259.217308
## iter 100 value 252.736274
## final  value 252.736274
## stopped after 100 iterations
## # weights:  193
## initial  value 625.102863
## iter  10 value 505.340103
## iter  20 value 449.138445
## iter  30 value 386.553410
## iter  40 value 311.468180
## iter  50 value 300.949188
## iter  60 value 281.241386
## iter  70 value 273.938580
## iter  80 value 268.696114
## iter  90 value 265.699057
## iter 100 value 258.595854
## final  value 258.595854
## stopped after 100 iterations
## # weights:  209
## initial  value 473.563781
## iter  10 value 430.121741
## iter  20 value 414.015415
## iter  30 value 401.647338
## iter  40 value 341.250716
## iter  50 value 329.518297
## iter  60 value 315.272297
## iter  70 value 295.109290
## iter  80 value 274.409559
## iter  90 value 271.744505
## iter 100 value 265.992649
```

```
## final   value 265.992649
## stopped after 100 iterations
## # weights:  225
## initial   value 476.213806
## iter  10 value 415.315879
## iter  20 value 393.589590
## iter  30 value 338.267540
## iter  40 value 320.679644
## iter  50 value 298.846037
## iter  60 value 279.260416
## iter  70 value 265.004303
## iter  80 value 254.763096
## iter  90 value 250.304884
## iter 100 value 245.308826
## final   value 245.308826
## stopped after 100 iterations
## # weights:  241
## initial   value 658.950005
## iter  10 value 432.447609
## iter  20 value 415.032644
## iter  30 value 336.304878
## iter  40 value 312.176642
## iter  50 value 297.949972
## iter  60 value 280.976726
## iter  70 value 264.393872
## iter  80 value 245.039749
## iter  90 value 230.758301
## iter 100 value 224.739296
## final   value 224.739296
## stopped after 100 iterations
## # weights:  97
## initial   value 493.764680
## iter  10 value 374.894779
## iter  20 value 366.487159
## iter  30 value 353.011290
## iter  40 value 334.591441
## iter  50 value 323.189005
## iter  60 value 308.444057
## iter  70 value 300.766210
## iter  80 value 295.570597
## iter  90 value 293.909339
## iter 100 value 293.665927
## final   value 293.665927
## stopped after 100 iterations
## # weights:  113
## initial   value 634.365596
## iter  10 value 476.340379
## iter  20 value 375.759896
## iter  30 value 354.407187
## iter  40 value 343.666294
## iter  50 value 324.243951
## iter  60 value 313.498367
## iter  70 value 309.022200
## iter  80 value 307.374312
```

```
## iter  90 value 305.678499
## iter 100 value 304.462035
## final   value 304.462035
## stopped after 100 iterations
## # weights:  129
## initial   value 478.487256
## iter  10 value 436.103926
## iter  20 value 380.713419
## iter  30 value 351.694190
## iter  40 value 333.284711
## iter  50 value 313.561003
## iter  60 value 307.452752
## iter  70 value 299.708704
## iter  80 value 295.230844
## iter  90 value 294.282074
## iter 100 value 292.142670
## final   value 292.142670
## stopped after 100 iterations
## # weights:  145
## initial   value 492.994598
## iter  10 value 428.025954
## iter  20 value 389.114034
## iter  30 value 364.325247
## iter  40 value 323.185732
## iter  50 value 305.981227
## iter  60 value 303.443713
## iter  70 value 300.475435
## iter  80 value 298.375525
## iter  90 value 295.912180
## iter 100 value 294.693907
## final   value 294.693907
## stopped after 100 iterations
## # weights:  161
## initial   value 955.957393
## iter  10 value 435.759083
## iter  20 value 367.514369
## iter  30 value 341.408573
## iter  40 value 322.071552
## iter  50 value 313.782736
## iter  60 value 306.555247
## iter  70 value 301.088406
## iter  80 value 296.905199
## iter  90 value 294.979627
## iter 100 value 293.339297
## final   value 293.339297
## stopped after 100 iterations
## # weights:  177
## initial   value 544.620729
## iter  10 value 457.465011
## iter  20 value 419.020160
## iter  30 value 389.330654
## iter  40 value 344.566571
## iter  50 value 325.614353
## iter  60 value 317.936731
```

```
## iter  70 value 315.076226
## iter  80 value 307.156211
## iter  90 value 298.817077
## iter 100 value 296.386795
## final  value 296.386795
## stopped after 100 iterations
## # weights:  193
## initial  value 633.987706
## iter  10 value 479.299512
## iter  20 value 451.105509
## iter  30 value 395.509200
## iter  40 value 356.433702
## iter  50 value 349.079957
## iter  60 value 340.659775
## iter  70 value 318.333919
## iter  80 value 308.576520
## iter  90 value 304.027902
## iter 100 value 299.160946
## final  value 299.160946
## stopped after 100 iterations
## # weights:  209
## initial  value 628.379038
## iter  10 value 479.557238
## iter  20 value 397.092004
## iter  30 value 358.639672
## iter  40 value 337.709543
## iter  50 value 323.955919
## iter  60 value 316.333508
## iter  70 value 306.989464
## iter  80 value 304.488303
## iter  90 value 302.498685
## iter 100 value 299.875007
## final  value 299.875007
## stopped after 100 iterations
## # weights:  225
## initial  value 626.071195
## iter  10 value 453.997122
## iter  20 value 418.665755
## iter  30 value 388.750700
## iter  40 value 346.920876
## iter  50 value 319.511367
## iter  60 value 309.998656
## iter  70 value 305.293135
## iter  80 value 301.353398
## iter  90 value 297.102503
## iter 100 value 294.792294
## final  value 294.792294
## stopped after 100 iterations
## # weights:  241
## initial  value 505.980890
## iter  10 value 458.408451
## iter  20 value 415.467383
## iter  30 value 348.618349
## iter  40 value 322.299932
```

```
## iter  50 value 317.461122
## iter  60 value 307.255835
## iter  70 value 302.401349
## iter  80 value 298.899636
## iter  90 value 295.745324
## iter 100 value 292.422150
## final   value 292.422150
## stopped after 100 iterations
## # weights:  97
## initial   value 496.007745
## iter  10 value 434.734997
## iter  20 value 371.934528
## iter  30 value 317.205689
## iter  40 value 279.502952
## iter  50 value 265.465045
## iter  60 value 263.076622
## iter  70 value 259.810169
## iter  80 value 255.236383
## iter  90 value 244.646984
## iter 100 value 239.094195
## final   value 239.094195
## stopped after 100 iterations
## # weights:  113
## initial   value 511.904894
## iter  10 value 437.224754
## iter  20 value 346.765870
## iter  30 value 319.293069
## iter  40 value 313.138465
## iter  50 value 295.482249
## iter  60 value 286.165376
## iter  70 value 279.346374
## iter  80 value 268.546056
## iter  90 value 262.088977
## iter 100 value 260.590388
## final   value 260.590388
## stopped after 100 iterations
## # weights:  129
## initial   value 481.078687
## iter  10 value 440.048156
## iter  20 value 415.167021
## iter  30 value 400.688341
## iter  40 value 353.075620
## iter  50 value 313.336103
## iter  60 value 301.298054
## iter  70 value 288.936547
## iter  80 value 280.925746
## iter  90 value 279.391435
## iter 100 value 279.374239
## final   value 279.374239
## stopped after 100 iterations
## # weights:  145
## initial   value 476.912074
## iter  10 value 399.327058
## iter  20 value 376.549981
```

```
## iter  30 value 337.128643
## iter  40 value 307.329467
## iter  50 value 284.476671
## iter  60 value 263.210009
## iter  70 value 261.966482
## iter  80 value 257.825786
## iter  90 value 257.105037
## iter 100 value 244.908172
## final  value 244.908172
## stopped after 100 iterations
## # weights:  161
## initial  value 610.467931
## iter  10 value 443.241300
## iter  20 value 409.360726
## iter  30 value 357.212891
## iter  40 value 341.603717
## iter  50 value 296.596492
## iter  60 value 289.848749
## iter  70 value 283.202721
## iter  80 value 282.525396
## iter  90 value 278.735853
## iter 100 value 277.240212
## final  value 277.240212
## stopped after 100 iterations
## # weights:  177
## initial  value 476.989807
## iter  10 value 433.745794
## iter  20 value 404.952423
## iter  30 value 348.857481
## iter  40 value 313.178493
## iter  50 value 293.405127
## iter  60 value 288.524187
## iter  70 value 287.423450
## iter  80 value 275.205832
## iter  90 value 258.049798
## iter 100 value 247.405763
## final  value 247.405763
## stopped after 100 iterations
## # weights:  193
## initial  value 549.486477
## iter  10 value 435.364423
## iter  20 value 370.404302
## iter  30 value 337.058917
## iter  40 value 323.277083
## iter  50 value 293.561077
## iter  60 value 268.547361
## iter  70 value 257.328060
## iter  80 value 245.746754
## iter  90 value 231.948718
## iter 100 value 216.040405
## final  value 216.040405
## stopped after 100 iterations
## # weights:  209
## initial  value 466.397259
```

```
## iter  10 value 393.812274
## iter  20 value 343.184908
## iter  30 value 284.425665
## iter  40 value 267.791526
## iter  50 value 250.865659
## iter  60 value 244.056554
## iter  70 value 240.019689
## iter  80 value 233.434401
## iter  90 value 230.150314
## iter 100 value 229.689827
## final   value 229.689827
## stopped after 100 iterations
## # weights:  225
## initial   value 501.545957
## iter  10 value 424.748773
## iter  20 value 365.944294
## iter  30 value 318.421885
## iter  40 value 305.202748
## iter  50 value 299.178161
## iter  60 value 281.482599
## iter  70 value 251.212518
## iter  80 value 242.018462
## iter  90 value 229.354508
## iter 100 value 226.733385
## final   value 226.733385
## stopped after 100 iterations
## # weights:  241
## initial   value 484.253645
## iter  10 value 432.954542
## iter  20 value 396.275135
## iter  30 value 333.026220
## iter  40 value 303.720638
## iter  50 value 285.135343
## iter  60 value 280.834064
## iter  70 value 269.493012
## iter  80 value 248.675637
## iter  90 value 243.170039
## iter 100 value 233.892575
## final   value 233.892575
## stopped after 100 iterations
## # weights:  97
## initial   value 508.758632
## iter  10 value 436.725739
## iter  20 value 388.063233
## iter  30 value 343.990635
## iter  40 value 329.038112
## iter  50 value 298.251106
## iter  60 value 280.434644
## iter  70 value 274.259659
## iter  80 value 272.336448
## iter  90 value 271.307330
## iter 100 value 270.190385
## final   value 270.190385
## stopped after 100 iterations
```

```
## # weights:  113
## initial  value 562.843048
## iter  10 value 442.799633
## iter  20 value 416.150610
## iter  30 value 367.157712
## iter  40 value 337.034682
## iter  50 value 319.503416
## iter  60 value 308.529356
## iter  70 value 299.631254
## iter  80 value 284.644808
## iter  90 value 278.388525
## iter 100 value 265.383586
## final  value 265.383586
## stopped after 100 iterations
## # weights:  129
## initial  value 497.117127
## iter  10 value 452.236490
## iter  20 value 403.611399
## iter  30 value 360.959066
## iter  40 value 328.892539
## iter  50 value 310.659781
## iter  60 value 297.259319
## iter  70 value 259.761895
## iter  80 value 238.730726
## iter  90 value 232.093583
## iter 100 value 229.837728
## final  value 229.837728
## stopped after 100 iterations
## # weights:  145
## initial  value 477.131681
## iter  10 value 452.906230
## iter  20 value 429.973005
## iter  30 value 402.441479
## iter  40 value 321.551719
## iter  50 value 297.841221
## iter  60 value 291.812433
## iter  70 value 286.159467
## iter  80 value 284.216566
## iter  90 value 283.395294
## iter 100 value 277.456569
## final  value 277.456569
## stopped after 100 iterations
## # weights:  161
## initial  value 489.269351
## iter  10 value 464.687559
## iter  20 value 380.214941
## iter  30 value 321.663817
## iter  40 value 290.475031
## iter  50 value 277.347617
## iter  60 value 272.042858
## iter  70 value 268.652104
## iter  80 value 265.956423
## iter  90 value 256.308189
## iter 100 value 247.685266
```

```
## final   value 247.685266
## stopped after 100 iterations
## # weights:  177
## initial  value 488.485781
## iter  10 value 441.079512
## iter  20 value 411.218818
## iter  30 value 372.781929
## iter  40 value 339.971980
## iter  50 value 315.656581
## iter  60 value 268.434019
## iter  70 value 257.858311
## iter  80 value 244.997791
## iter  90 value 236.329755
## iter 100 value 219.682367
## final   value 219.682367
## stopped after 100 iterations
## # weights:  193
## initial  value 1125.391743
## iter  10 value 448.256723
## iter  20 value 427.066634
## iter  30 value 412.437159
## iter  40 value 388.416419
## iter  50 value 325.817418
## iter  60 value 315.697482
## iter  70 value 305.859715
## iter  80 value 269.497890
## iter  90 value 243.494311
## iter 100 value 235.411112
## final   value 235.411112
## stopped after 100 iterations
## # weights:  209
## initial  value 613.178758
## iter  10 value 449.202257
## iter  20 value 374.032737
## iter  30 value 331.771629
## iter  40 value 303.193673
## iter  50 value 288.737366
## iter  60 value 276.180391
## iter  70 value 270.271181
## iter  80 value 253.500384
## iter  90 value 225.559041
## iter 100 value 210.813347
## final   value 210.813347
## stopped after 100 iterations
## # weights:  225
## initial  value 467.607780
## iter  10 value 432.988102
## iter  20 value 378.902367
## iter  30 value 347.479123
## iter  40 value 315.996684
## iter  50 value 299.910418
## iter  60 value 282.564737
## iter  70 value 256.165393
## iter  80 value 229.420059
```

```
## iter  90 value 215.488019
## iter 100 value 207.492749
## final   value 207.492749
## stopped after 100 iterations
## # weights:  241
## initial  value 724.487764
## iter  10 value 434.057639
## iter  20 value 375.169719
## iter  30 value 357.060673
## iter  40 value 319.121806
## iter  50 value 302.872607
## iter  60 value 284.247090
## iter  70 value 269.428310
## iter  80 value 264.022034
## iter  90 value 249.380746
## iter 100 value 229.100975
## final   value 229.100975
## stopped after 100 iterations
## # weights:  97
## initial  value 467.311092
## iter  10 value 441.363891
## iter  20 value 403.622510
## iter  30 value 382.532888
## iter  40 value 328.239030
## iter  50 value 300.255597
## iter  60 value 288.959288
## iter  70 value 285.254814
## iter  80 value 284.185155
## iter  90 value 279.333186
## iter 100 value 275.553448
## final   value 275.553448
## stopped after 100 iterations
## # weights:  113
## initial  value 538.167613
## iter  10 value 456.413255
## iter  20 value 386.456391
## iter  30 value 341.585795
## iter  40 value 303.313117
## iter  50 value 291.803022
## iter  60 value 280.372603
## iter  70 value 271.795275
## iter  80 value 266.581835
## iter  90 value 260.821556
## iter 100 value 257.860381
## final   value 257.860381
## stopped after 100 iterations
## # weights:  129
## initial  value 788.618030
## iter  10 value 435.303097
## iter  20 value 354.347057
## iter  30 value 333.387060
## iter  40 value 321.058157
## iter  50 value 313.561392
## iter  60 value 308.495821
```

```
## iter  70 value 294.484081
## iter  80 value 278.264008
## iter  90 value 258.870421
## iter 100 value 247.634162
## final  value 247.634162
## stopped after 100 iterations
## # weights:  145
## initial  value 505.098772
## iter  10 value 461.120193
## iter  20 value 425.746827
## iter  30 value 391.249871
## iter  40 value 377.901070
## iter  50 value 330.633695
## iter  60 value 305.915542
## iter  70 value 272.473415
## iter  80 value 250.365682
## iter  90 value 246.608027
## iter 100 value 245.867103
## final  value 245.867103
## stopped after 100 iterations
## # weights:  161
## initial  value 479.528814
## iter  10 value 416.765699
## iter  20 value 365.540320
## iter  30 value 344.053778
## iter  40 value 321.614445
## iter  50 value 315.306771
## iter  60 value 304.600355
## iter  70 value 291.888366
## iter  80 value 282.535918
## iter  90 value 278.269550
## iter 100 value 265.630291
## final  value 265.630291
## stopped after 100 iterations
## # weights:  177
## initial  value 501.184762
## iter  10 value 436.904187
## iter  20 value 378.361947
## iter  30 value 353.647166
## iter  40 value 328.374086
## iter  50 value 319.215599
## iter  60 value 300.237772
## iter  70 value 294.743588
## iter  80 value 278.543709
## iter  90 value 266.524982
## iter 100 value 252.165203
## final  value 252.165203
## stopped after 100 iterations
## # weights:  193
## initial  value 661.943303
## iter  10 value 456.190284
## iter  20 value 376.172766
## iter  30 value 335.833823
## iter  40 value 322.143567
```

```
## iter  50 value 309.823807
## iter  60 value 298.341660
## iter  70 value 290.788558
## iter  80 value 279.166477
## iter  90 value 259.756677
## iter 100 value 240.303265
## final   value 240.303265
## stopped after 100 iterations
## # weights:  209
## initial  value 537.900795
## iter  10 value 459.925576
## iter  20 value 404.097795
## iter  30 value 372.586791
## iter  40 value 325.399985
## iter  50 value 303.547759
## iter  60 value 294.287848
## iter  70 value 269.559214
## iter  80 value 253.766986
## iter  90 value 240.868473
## iter 100 value 227.419288
## final   value 227.419288
## stopped after 100 iterations
## # weights:  225
## initial  value 527.982666
## iter  10 value 447.506680
## iter  20 value 380.866436
## iter  30 value 357.116034
## iter  40 value 337.628952
## iter  50 value 311.235670
## iter  60 value 292.651829
## iter  70 value 276.792335
## iter  80 value 259.207124
## iter  90 value 250.093549
## iter 100 value 244.882329
## final   value 244.882329
## stopped after 100 iterations
## # weights:  241
## initial  value 557.247504
## iter  10 value 413.887097
## iter  20 value 368.046374
## iter  30 value 319.380555
## iter  40 value 302.179299
## iter  50 value 286.955233
## iter  60 value 272.814670
## iter  70 value 256.722524
## iter  80 value 249.053921
## iter  90 value 245.767602
## iter 100 value 243.345197
## final   value 243.345197
## stopped after 100 iterations
## # weights:  97
## initial  value 489.013812
## iter  10 value 451.416079
## iter  20 value 414.885718
```

```
## iter  30 value 354.591452
## iter  40 value 344.999286
## iter  50 value 339.921447
## iter  60 value 329.416170
## iter  70 value 327.509126
## iter  80 value 326.203828
## iter  90 value 325.861614
## iter 100 value 325.810934
## final  value 325.810934
## stopped after 100 iterations
## # weights:  113
## initial  value 513.061444
## iter  10 value 456.024645
## iter  20 value 442.192523
## iter  30 value 419.151355
## iter  40 value 343.958216
## iter  50 value 336.207974
## iter  60 value 334.820404
## iter  70 value 328.788876
## iter  80 value 325.327838
## iter  90 value 322.473276
## iter 100 value 314.752376
## final  value 314.752376
## stopped after 100 iterations
## # weights:  129
## initial  value 527.825315
## iter  10 value 451.313976
## iter  20 value 407.476954
## iter  30 value 349.178702
## iter  40 value 338.876707
## iter  50 value 332.363436
## iter  60 value 322.405815
## iter  70 value 316.126636
## iter  80 value 314.948705
## iter  90 value 313.988224
## iter 100 value 312.260221
## final  value 312.260221
## stopped after 100 iterations
## # weights:  145
## initial  value 563.346347
## iter  10 value 453.084637
## iter  20 value 386.802588
## iter  30 value 377.409355
## iter  40 value 362.487651
## iter  50 value 344.924923
## iter  60 value 332.602982
## iter  70 value 324.423535
## iter  80 value 317.964699
## iter  90 value 315.542205
## iter 100 value 310.973351
## final  value 310.973351
## stopped after 100 iterations
## # weights:  161
## initial  value 648.328938
```

```
## iter  10 value 450.438566
## iter  20 value 391.047020
## iter  30 value 377.556840
## iter  40 value 374.430860
## iter  50 value 351.423233
## iter  60 value 342.700197
## iter  70 value 334.510193
## iter  80 value 330.156925
## iter  90 value 326.241828
## iter 100 value 325.147098
## final  value 325.147098
## stopped after 100 iterations
## # weights:  177
## initial  value 502.028165
## iter  10 value 465.026140
## iter  20 value 449.834518
## iter  30 value 430.012961
## iter  40 value 400.422259
## iter  50 value 358.420109
## iter  60 value 346.928534
## iter  70 value 332.159002
## iter  80 value 318.939446
## iter  90 value 313.519752
## iter 100 value 312.969325
## final  value 312.969325
## stopped after 100 iterations
## # weights:  193
## initial  value 525.752856
## iter  10 value 467.636992
## iter  20 value 374.409327
## iter  30 value 349.180263
## iter  40 value 341.490107
## iter  50 value 335.776333
## iter  60 value 332.695413
## iter  70 value 329.229804
## iter  80 value 326.509523
## iter  90 value 323.827228
## iter 100 value 318.894331
## final  value 318.894331
## stopped after 100 iterations
## # weights:  209
## initial  value 504.023774
## iter  10 value 443.170280
## iter  20 value 415.156142
## iter  30 value 378.351736
## iter  40 value 346.911952
## iter  50 value 335.342577
## iter  60 value 324.049328
## iter  70 value 320.237288
## iter  80 value 314.138349
## iter  90 value 311.058201
## iter 100 value 309.209218
## final  value 309.209218
## stopped after 100 iterations
```

```
## # weights:  225
## initial  value 506.525187
## iter  10 value 468.945988
## iter  20 value 413.677672
## iter  30 value 394.657918
## iter  40 value 360.040786
## iter  50 value 345.626250
## iter  60 value 339.343042
## iter  70 value 320.221270
## iter  80 value 313.416677
## iter  90 value 308.307714
## iter 100 value 305.546574
## final   value 305.546574
## stopped after 100 iterations
## # weights:  241
## initial  value 523.442482
## iter  10 value 480.851942
## iter  20 value 450.356770
## iter  30 value 428.778165
## iter  40 value 366.748025
## iter  50 value 354.277185
## iter  60 value 344.428047
## iter  70 value 335.758916
## iter  80 value 328.649595
## iter  90 value 321.753985
## iter 100 value 317.159681
## final   value 317.159681
## stopped after 100 iterations
## # weights:  97
## initial  value 508.685196
## iter  10 value 456.803551
## iter  20 value 407.149208
## iter  30 value 369.409921
## iter  40 value 334.818057
## iter  50 value 325.949356
## iter  60 value 317.868584
## iter  70 value 305.456841
## iter  80 value 294.452416
## iter  90 value 290.002656
## iter 100 value 289.247682
## final   value 289.247682
## stopped after 100 iterations
## # weights:  113
## initial  value 478.162330
## iter  10 value 450.625366
## iter  20 value 397.895035
## iter  30 value 348.560211
## iter  40 value 325.482232
## iter  50 value 305.310340
## iter  60 value 284.273997
## iter  70 value 279.554534
## iter  80 value 271.126241
## iter  90 value 244.654767
## iter 100 value 229.864058
```

```
## final   value 229.864058
## stopped after 100 iterations
## # weights:  129
## initial   value 490.476723
## iter  10 value 424.527136
## iter  20 value 346.272123
## iter  30 value 326.375597
## iter  40 value 318.831889
## iter  50 value 302.326157
## iter  60 value 287.266058
## iter  70 value 273.539753
## iter  80 value 256.996208
## iter  90 value 250.788829
## iter 100 value 250.722428
## final   value 250.722428
## stopped after 100 iterations
## # weights:  145
## initial   value 464.360404
## iter  10 value 425.927062
## iter  20 value 399.216483
## iter  30 value 367.571858
## iter  40 value 321.836494
## iter  50 value 279.647206
## iter  60 value 236.041150
## iter  70 value 220.178458
## iter  80 value 216.576976
## iter  90 value 207.378980
## iter 100 value 198.894464
## final   value 198.894464
## stopped after 100 iterations
## # weights:  161
## initial   value 517.320134
## iter  10 value 455.981382
## iter  20 value 426.112332
## iter  30 value 340.119208
## iter  40 value 308.453211
## iter  50 value 282.143732
## iter  60 value 273.366770
## iter  70 value 266.328310
## iter  80 value 261.705048
## iter  90 value 258.577892
## iter 100 value 253.990730
## final   value 253.990730
## stopped after 100 iterations
## # weights:  177
## initial   value 461.644163
## iter  10 value 422.702097
## iter  20 value 370.573781
## iter  30 value 334.939140
## iter  40 value 320.024320
## iter  50 value 310.875257
## iter  60 value 305.199802
## iter  70 value 302.026148
## iter  80 value 298.493008
```

```
## iter  90 value 296.670117
## iter 100 value 295.537811
## final   value 295.537811
## stopped after 100 iterations
## # weights:  193
## initial   value 520.478543
## iter  10 value 423.590944
## iter  20 value 400.230485
## iter  30 value 364.118477
## iter  40 value 317.429349
## iter  50 value 303.292477
## iter  60 value 279.471378
## iter  70 value 269.747327
## iter  80 value 267.596754
## iter  90 value 264.005154
## iter 100 value 249.827758
## final   value 249.827758
## stopped after 100 iterations
## # weights:  209
## initial   value 601.942247
## iter  10 value 411.805278
## iter  20 value 388.638301
## iter  30 value 335.020554
## iter  40 value 296.516385
## iter  50 value 285.914118
## iter  60 value 266.534059
## iter  70 value 228.339457
## iter  80 value 208.770037
## iter  90 value 193.465121
## iter 100 value 186.515988
## final   value 186.515988
## stopped after 100 iterations
## # weights:  225
## initial   value 614.919278
## iter  10 value 426.089130
## iter  20 value 382.914101
## iter  30 value 346.333515
## iter  40 value 322.547824
## iter  50 value 294.699746
## iter  60 value 270.267161
## iter  70 value 267.284577
## iter  80 value 258.250916
## iter  90 value 247.737888
## iter 100 value 240.451939
## final   value 240.451939
## stopped after 100 iterations
## # weights:  241
## initial   value 464.920544
## iter  10 value 426.598672
## iter  20 value 415.059124
## iter  30 value 380.643804
## iter  40 value 328.719923
## iter  50 value 282.905590
## iter  60 value 252.279186
```

```
## iter  70 value 237.321582
## iter  80 value 229.820579
## iter  90 value 218.062991
## iter 100 value 216.607251
## final  value 216.607251
## stopped after 100 iterations
## # weights:  97
## initial  value 694.148682
## iter  10 value 446.383483
## iter  20 value 386.031838
## iter  30 value 347.011737
## iter  40 value 324.372044
## iter  50 value 320.142814
## iter  60 value 317.030846
## iter  70 value 300.519232
## iter  80 value 297.559265
## iter  90 value 295.630684
## iter 100 value 286.239976
## final  value 286.239976
## stopped after 100 iterations
## # weights:  113
## initial  value 443.069291
## iter  10 value 397.565298
## iter  20 value 349.677250
## iter  30 value 333.086423
## iter  40 value 301.442131
## iter  50 value 271.484990
## iter  60 value 250.385632
## iter  70 value 238.782745
## iter  80 value 236.709075
## iter  90 value 235.944297
## iter 100 value 235.913955
## final  value 235.913955
## stopped after 100 iterations
## # weights:  129
## initial  value 478.359849
## iter  10 value 424.127782
## iter  20 value 392.526530
## iter  30 value 343.899414
## iter  40 value 336.173375
## iter  50 value 326.490036
## iter  60 value 304.239231
## iter  70 value 271.414097
## iter  80 value 260.864721
## iter  90 value 259.096122
## iter 100 value 257.839986
## final  value 257.839986
## stopped after 100 iterations
## # weights:  145
## initial  value 667.268071
## iter  10 value 433.016688
## iter  20 value 414.570599
## iter  30 value 393.929198
## iter  40 value 373.664203
```

```
## iter  50 value 324.688758
## iter  60 value 315.641400
## iter  70 value 309.417338
## iter  80 value 300.246109
## iter  90 value 291.497227
## iter 100 value 278.567585
## final   value 278.567585
## stopped after 100 iterations
## # weights:  161
## initial  value 484.774220
## iter  10 value 438.278121
## iter  20 value 388.291942
## iter  30 value 334.131799
## iter  40 value 324.804899
## iter  50 value 320.415174
## iter  60 value 317.937378
## iter  70 value 307.629360
## iter  80 value 298.623577
## iter  90 value 297.528951
## iter 100 value 294.322673
## final   value 294.322673
## stopped after 100 iterations
## # weights:  177
## initial  value 539.717506
## iter  10 value 456.436003
## iter  20 value 423.824649
## iter  30 value 329.630971
## iter  40 value 306.648810
## iter  50 value 266.828264
## iter  60 value 250.714002
## iter  70 value 245.422782
## iter  80 value 243.149946
## iter  90 value 239.935514
## iter 100 value 237.166592
## final   value 237.166592
## stopped after 100 iterations
## # weights:  193
## initial  value 494.978943
## iter  10 value 417.858549
## iter  20 value 357.240602
## iter  30 value 345.742587
## iter  40 value 342.152764
## iter  50 value 327.786903
## iter  60 value 312.802432
## iter  70 value 301.200316
## iter  80 value 293.787957
## iter  90 value 280.008612
## iter 100 value 264.218769
## final   value 264.218769
## stopped after 100 iterations
## # weights:  209
## initial  value 703.586625
## iter  10 value 427.169165
## iter  20 value 377.482384
```

```
## iter  30 value 344.150709
## iter  40 value 313.331377
## iter  50 value 295.457467
## iter  60 value 291.379662
## iter  70 value 288.779017
## iter  80 value 285.669258
## iter  90 value 282.763727
## iter 100 value 274.348776
## final  value 274.348776
## stopped after 100 iterations
## # weights:  225
## initial  value 489.755746
## iter  10 value 431.867468
## iter  20 value 376.615460
## iter  30 value 342.970256
## iter  40 value 317.485089
## iter  50 value 309.602508
## iter  60 value 301.737353
## iter  70 value 288.864529
## iter  80 value 265.624090
## iter  90 value 257.975236
## iter 100 value 253.939594
## final  value 253.939594
## stopped after 100 iterations
## # weights:  241
## initial  value 527.809697
## iter  10 value 423.839945
## iter  20 value 359.640644
## iter  30 value 350.306648
## iter  40 value 337.434710
## iter  50 value 303.919457
## iter  60 value 287.229247
## iter  70 value 283.150904
## iter  80 value 273.772313
## iter  90 value 268.077689
## iter 100 value 242.727354
## final  value 242.727354
## stopped after 100 iterations
## # weights:  97
## initial  value 547.782708
## iter  10 value 444.159828
## iter  20 value 398.487820
## iter  30 value 373.584268
## iter  40 value 353.266354
## iter  50 value 320.271994
## iter  60 value 300.007684
## iter  70 value 287.765186
## iter  80 value 284.482083
## iter  90 value 281.301247
## iter 100 value 272.464115
## final  value 272.464115
## stopped after 100 iterations
## # weights:  113
## initial  value 469.854188
```

```
## iter  10 value 425.987815
## iter  20 value 391.419657
## iter  30 value 341.402798
## iter  40 value 317.522780
## iter  50 value 289.285251
## iter  60 value 270.631561
## iter  70 value 266.568307
## iter  80 value 256.699807
## iter  90 value 249.372577
## iter 100 value 247.182251
## final  value 247.182251
## stopped after 100 iterations
## # weights:  129
## initial  value 628.963430
## iter  10 value 417.625409
## iter  20 value 381.472610
## iter  30 value 334.317471
## iter  40 value 296.329961
## iter  50 value 283.848368
## iter  60 value 278.904776
## iter  70 value 275.720253
## iter  80 value 266.996377
## iter  90 value 258.450586
## iter 100 value 252.865442
## final  value 252.865442
## stopped after 100 iterations
## # weights:  145
## initial  value 729.700963
## iter  10 value 454.912997
## iter  20 value 407.824185
## iter  30 value 356.609597
## iter  40 value 352.204503
## iter  50 value 331.632238
## iter  60 value 310.029005
## iter  70 value 300.830124
## iter  80 value 288.483951
## iter  90 value 277.756627
## iter 100 value 272.403470
## final  value 272.403470
## stopped after 100 iterations
## # weights:  161
## initial  value 501.667157
## iter  10 value 428.102991
## iter  20 value 366.380070
## iter  30 value 345.518467
## iter  40 value 324.279399
## iter  50 value 308.987225
## iter  60 value 283.371481
## iter  70 value 265.082934
## iter  80 value 257.282178
## iter  90 value 252.664627
## iter 100 value 241.697271
## final  value 241.697271
## stopped after 100 iterations
```

```
## # weights:  177
## initial  value 1118.830094
## iter  10 value 446.230261
## iter  20 value 357.069743
## iter  30 value 330.296959
## iter  40 value 316.874509
## iter  50 value 301.913737
## iter  60 value 291.775709
## iter  70 value 279.418854
## iter  80 value 266.340921
## iter  90 value 264.679227
## iter 100 value 262.478305
## final  value 262.478305
## stopped after 100 iterations
## # weights:  193
## initial  value 517.612296
## iter  10 value 416.118355
## iter  20 value 341.796574
## iter  30 value 330.195423
## iter  40 value 314.628882
## iter  50 value 293.590100
## iter  60 value 277.106355
## iter  70 value 255.552680
## iter  80 value 240.725398
## iter  90 value 236.005726
## iter 100 value 233.137160
## final  value 233.137160
## stopped after 100 iterations
## # weights:  209
## initial  value 713.014931
## iter  10 value 511.865507
## iter  20 value 453.869055
## iter  30 value 340.702640
## iter  40 value 333.175974
## iter  50 value 323.966238
## iter  60 value 308.990467
## iter  70 value 288.888673
## iter  80 value 269.532459
## iter  90 value 251.071848
## iter 100 value 235.081235
## final  value 235.081235
## stopped after 100 iterations
## # weights:  225
## initial  value 498.938488
## iter  10 value 411.845092
## iter  20 value 359.820419
## iter  30 value 343.212320
## iter  40 value 325.205010
## iter  50 value 303.960666
## iter  60 value 279.739732
## iter  70 value 263.439166
## iter  80 value 259.019414
## iter  90 value 246.661532
## iter 100 value 234.606269
```

```
## final   value 234.606269
## stopped after 100 iterations
## # weights:   241
## initial   value 537.112556
## iter   10 value 405.484566
## iter   20 value 341.207323
## iter   30 value 305.846580
## iter   40 value 290.424842
## iter   50 value 281.553387
## iter   60 value 278.249607
## iter   70 value 276.502116
## iter   80 value 272.875083
## iter   90 value 268.825244
## iter  100 value 258.747759
## final   value 258.747759
## stopped after 100 iterations
## # weights:   97
## initial   value 511.536242
## iter   10 value 413.173408
## iter   20 value 389.176091
## iter   30 value 344.180400
## iter   40 value 337.909804
## iter   50 value 332.502042
## iter   60 value 327.064146
## iter   70 value 322.695328
## iter   80 value 315.864782
## iter   90 value 314.137848
## iter  100 value 312.975756
## final   value 312.975756
## stopped after 100 iterations
## # weights:   113
## initial   value 634.888412
## iter   10 value 449.954154
## iter   20 value 376.176330
## iter   30 value 351.157279
## iter   40 value 338.003456
## iter   50 value 332.251521
## iter   60 value 329.488129
## iter   70 value 324.799967
## iter   80 value 323.931045
## iter   90 value 323.637546
## iter  100 value 321.674406
## final   value 321.674406
## stopped after 100 iterations
## # weights:   129
## initial   value 490.720392
## iter   10 value 463.828794
## iter   20 value 398.798522
## iter   30 value 352.011313
## iter   40 value 338.968751
## iter   50 value 328.991353
## iter   60 value 326.359130
## iter   70 value 324.823715
## iter   80 value 323.186394
```

```
## iter  90 value 321.935328
## iter 100 value 318.781166
## final   value 318.781166
## stopped after 100 iterations
## # weights:  145
## initial   value 557.407085
## iter  10 value 444.536026
## iter  20 value 378.532882
## iter  30 value 347.155884
## iter  40 value 324.486060
## iter  50 value 316.557537
## iter  60 value 313.223315
## iter  70 value 307.829784
## iter  80 value 303.691263
## iter  90 value 301.711538
## iter 100 value 301.214980
## final   value 301.214980
## stopped after 100 iterations
## # weights:  161
## initial   value 504.357718
## iter  10 value 454.241180
## iter  20 value 393.859626
## iter  30 value 380.240368
## iter  40 value 339.698730
## iter  50 value 332.007163
## iter  60 value 319.045860
## iter  70 value 314.720406
## iter  80 value 309.957880
## iter  90 value 306.244654
## iter 100 value 304.682320
## final   value 304.682320
## stopped after 100 iterations
## # weights:  177
## initial   value 530.899176
## iter  10 value 467.255509
## iter  20 value 414.448261
## iter  30 value 358.100956
## iter  40 value 337.095356
## iter  50 value 323.723095
## iter  60 value 316.911058
## iter  70 value 311.535079
## iter  80 value 308.164874
## iter  90 value 305.173179
## iter 100 value 304.074439
## final   value 304.074439
## stopped after 100 iterations
## # weights:  193
## initial   value 498.971078
## iter  10 value 475.185119
## iter  20 value 423.218855
## iter  30 value 366.580796
## iter  40 value 350.940943
## iter  50 value 327.999453
## iter  60 value 318.640132
```

```
## iter  70 value 314.293578
## iter  80 value 307.613948
## iter  90 value 304.510060
## iter 100 value 303.088248
## final   value 303.088248
## stopped after 100 iterations
## # weights:  209
## initial   value 675.789052
## iter  10 value 441.337002
## iter  20 value 390.448228
## iter  30 value 362.901226
## iter  40 value 333.838764
## iter  50 value 329.138084
## iter  60 value 321.743673
## iter  70 value 318.702072
## iter  80 value 315.238436
## iter  90 value 313.319093
## iter 100 value 312.057422
## final   value 312.057422
## stopped after 100 iterations
## # weights:  225
## initial   value 526.744782
## iter  10 value 459.194337
## iter  20 value 412.792528
## iter  30 value 377.977013
## iter  40 value 356.732204
## iter  50 value 329.416518
## iter  60 value 325.775449
## iter  70 value 317.456779
## iter  80 value 315.250471
## iter  90 value 309.321244
## iter 100 value 303.820518
## final   value 303.820518
## stopped after 100 iterations
## # weights:  241
## initial   value 538.849226
## iter  10 value 448.386012
## iter  20 value 425.949617
## iter  30 value 381.905434
## iter  40 value 371.568684
## iter  50 value 354.435112
## iter  60 value 341.119009
## iter  70 value 334.325386
## iter  80 value 328.760738
## iter  90 value 320.382728
## iter 100 value 315.587188
## final   value 315.587188
## stopped after 100 iterations
## # weights:  97
## initial   value 625.779281
## iter  10 value 426.910591
## iter  20 value 362.896998
## iter  30 value 323.871976
## iter  40 value 287.790924
```

```
## iter  50 value 257.773252
## iter  60 value 241.251092
## iter  70 value 237.469164
## iter  80 value 230.043566
## iter  90 value 219.077827
## iter 100 value 216.450602
## final   value 216.450602
## stopped after 100 iterations
## # weights:  113
## initial  value 553.318493
## iter  10 value 432.700261
## iter  20 value 425.524716
## iter  30 value 408.293392
## iter  40 value 379.566784
## iter  50 value 348.814530
## iter  60 value 321.496788
## iter  70 value 293.352533
## iter  80 value 281.012820
## iter  90 value 266.580251
## iter 100 value 247.563388
## final   value 247.563388
## stopped after 100 iterations
## # weights:  129
## initial  value 481.475991
## iter  10 value 445.433666
## iter  20 value 423.668044
## iter  30 value 400.714011
## iter  40 value 353.614173
## iter  50 value 311.826791
## iter  60 value 290.113496
## iter  70 value 281.759793
## iter  80 value 252.258868
## iter  90 value 218.034590
## iter 100 value 203.618917
## final   value 203.618917
## stopped after 100 iterations
## # weights:  145
## initial  value 496.231770
## iter  10 value 450.922705
## iter  20 value 363.534467
## iter  30 value 341.719961
## iter  40 value 332.254021
## iter  50 value 320.282485
## iter  60 value 316.952495
## iter  70 value 316.039857
## iter  80 value 315.181613
## iter  90 value 306.955564
## iter 100 value 296.940226
## final   value 296.940226
## stopped after 100 iterations
## # weights:  161
## initial  value 490.057530
## iter  10 value 429.097564
## iter  20 value 412.000270
```

```
## iter  30 value 358.166818
## iter  40 value 335.352664
## iter  50 value 304.319558
## iter  60 value 299.547850
## iter  70 value 294.797677
## iter  80 value 288.900466
## iter  90 value 281.871171
## iter 100 value 276.897523
## final  value 276.897523
## stopped after 100 iterations
## # weights:  177
## initial  value 500.436535
## iter  10 value 447.122698
## iter  20 value 405.464680
## iter  30 value 354.506109
## iter  40 value 346.247014
## iter  50 value 343.108749
## iter  60 value 294.105149
## iter  70 value 288.532911
## iter  80 value 256.745396
## iter  90 value 240.590217
## iter 100 value 232.435821
## final  value 232.435821
## stopped after 100 iterations
## # weights:  193
## initial  value 499.191001
## iter  10 value 436.501350
## iter  20 value 421.839408
## iter  30 value 365.560063
## iter  40 value 340.792249
## iter  50 value 306.096680
## iter  60 value 288.489267
## iter  70 value 263.962096
## iter  80 value 222.301933
## iter  90 value 211.312699
## iter 100 value 202.068242
## final  value 202.068242
## stopped after 100 iterations
## # weights:  209
## initial  value 480.081115
## iter  10 value 440.881947
## iter  20 value 413.032627
## iter  30 value 375.899068
## iter  40 value 308.225745
## iter  50 value 256.023396
## iter  60 value 232.902213
## iter  70 value 210.784086
## iter  80 value 207.581799
## iter  90 value 199.786997
## iter 100 value 190.639023
## final  value 190.639023
## stopped after 100 iterations
## # weights:  225
## initial  value 489.122774
```

```
## iter  10 value 430.587064
## iter  20 value 379.197219
## iter  30 value 336.006931
## iter  40 value 310.494486
## iter  50 value 297.776106
## iter  60 value 294.237382
## iter  70 value 278.945981
## iter  80 value 268.959003
## iter  90 value 256.564705
## iter 100 value 246.616823
## final  value 246.616823
## stopped after 100 iterations
## # weights:  241
## initial  value 542.825616
## iter  10 value 465.099820
## iter  20 value 419.505117
## iter  30 value 382.676772
## iter  40 value 360.715618
## iter  50 value 347.641518
## iter  60 value 321.292588
## iter  70 value 305.293391
## iter  80 value 283.161941
## iter  90 value 253.178760
## iter 100 value 229.564079
## final  value 229.564079
## stopped after 100 iterations
## # weights:  97
## initial  value 512.602260
## iter  10 value 430.461608
## iter  20 value 394.025576
## iter  30 value 329.518512
## iter  40 value 297.571138
## iter  50 value 286.937487
## iter  60 value 279.882487
## iter  70 value 269.829135
## iter  80 value 262.325793
## iter  90 value 259.696484
## iter 100 value 259.543619
## final  value 259.543619
## stopped after 100 iterations
## # weights:  113
## initial  value 465.863849
## iter  10 value 418.055308
## iter  20 value 368.538439
## iter  30 value 328.439433
## iter  40 value 319.259786
## iter  50 value 298.123884
## iter  60 value 283.526605
## iter  70 value 269.611111
## iter  80 value 260.074571
## iter  90 value 242.201511
## iter 100 value 226.156540
## final  value 226.156540
## stopped after 100 iterations
```

```
## # weights:  129
## initial  value 471.019945
## iter  10 value 415.479679
## iter  20 value 394.493969
## iter  30 value 391.088563
## iter  40 value 384.349947
## iter  50 value 373.971020
## iter  60 value 354.365925
## iter  70 value 349.356333
## iter  80 value 308.165762
## iter  90 value 275.799532
## iter 100 value 257.669654
## final  value 257.669654
## stopped after 100 iterations
## # weights:  145
## initial  value 474.267561
## iter  10 value 464.395768
## iter  20 value 422.168848
## iter  30 value 387.215586
## iter  40 value 356.138665
## iter  50 value 340.474301
## iter  60 value 322.343989
## iter  70 value 314.317850
## iter  80 value 309.429727
## iter  90 value 304.828079
## iter 100 value 300.296136
## final  value 300.296136
## stopped after 100 iterations
## # weights:  161
## initial  value 468.105611
## iter  10 value 428.605223
## iter  20 value 394.695871
## iter  30 value 347.413074
## iter  40 value 307.836217
## iter  50 value 287.561289
## iter  60 value 285.757323
## iter  70 value 283.118740
## iter  80 value 267.872798
## iter  90 value 255.689348
## iter 100 value 251.456765
## final  value 251.456765
## stopped after 100 iterations
## # weights:  177
## initial  value 627.212207
## iter  10 value 437.036970
## iter  20 value 408.121074
## iter  30 value 390.551743
## iter  40 value 361.629074
## iter  50 value 340.261231
## iter  60 value 322.330190
## iter  70 value 293.788378
## iter  80 value 278.258386
## iter  90 value 268.861819
## iter 100 value 260.534477
```

```
## final   value 260.534477
## stopped after 100 iterations
## # weights:  193
## initial   value 477.551742
## iter  10 value 432.299123
## iter  20 value 427.642785
## iter  30 value 410.755714
## iter  40 value 389.519423
## iter  50 value 342.346321
## iter  60 value 287.223638
## iter  70 value 255.286633
## iter  80 value 234.057195
## iter  90 value 226.415519
## iter 100 value 221.996825
## final   value 221.996825
## stopped after 100 iterations
## # weights:  209
## initial   value 571.768089
## iter  10 value 458.322478
## iter  20 value 377.651628
## iter  30 value 334.015030
## iter  40 value 324.468282
## iter  50 value 315.101197
## iter  60 value 306.946360
## iter  70 value 299.851224
## iter  80 value 285.733832
## iter  90 value 273.469428
## iter 100 value 268.895745
## final   value 268.895745
## stopped after 100 iterations
## # weights:  225
## initial   value 661.534916
## iter  10 value 430.908014
## iter  20 value 412.376283
## iter  30 value 335.153206
## iter  40 value 298.241558
## iter  50 value 280.444408
## iter  60 value 261.733908
## iter  70 value 253.570523
## iter  80 value 234.252030
## iter  90 value 231.732788
## iter 100 value 230.549633
## final   value 230.549633
## stopped after 100 iterations
## # weights:  241
## initial   value 514.892431
## iter  10 value 416.237092
## iter  20 value 347.970894
## iter  30 value 327.191402
## iter  40 value 292.425242
## iter  50 value 271.410802
## iter  60 value 255.756582
## iter  70 value 253.094452
## iter  80 value 244.246322
```

```
## iter  90 value 234.497813
## iter 100 value 231.972862
## final   value 231.972862
## stopped after 100 iterations
## # weights:  97
## initial   value 473.712373
## iter  10 value 429.646059
## iter  20 value 412.662916
## iter  30 value 370.479560
## iter  40 value 356.675981
## iter  50 value 343.706265
## iter  60 value 325.497971
## iter  70 value 310.851143
## iter  80 value 292.984824
## iter  90 value 279.217065
## iter 100 value 273.820793
## final   value 273.820793
## stopped after 100 iterations
## # weights:  113
## initial   value 529.621499
## iter  10 value 441.413069
## iter  20 value 417.321350
## iter  30 value 335.166126
## iter  40 value 310.407246
## iter  50 value 302.680322
## iter  60 value 288.499344
## iter  70 value 269.652731
## iter  80 value 255.372510
## iter  90 value 246.492957
## iter 100 value 235.563847
## final   value 235.563847
## stopped after 100 iterations
## # weights:  129
## initial   value 614.924194
## iter  10 value 413.305483
## iter  20 value 360.694516
## iter  30 value 315.804175
## iter  40 value 300.428324
## iter  50 value 288.284847
## iter  60 value 280.186410
## iter  70 value 265.275501
## iter  80 value 262.378171
## iter  90 value 253.094608
## iter 100 value 246.427390
## final   value 246.427390
## stopped after 100 iterations
## # weights:  145
## initial   value 582.720109
## iter  10 value 467.914197
## iter  20 value 448.100575
## iter  30 value 383.922150
## iter  40 value 337.271802
## iter  50 value 317.057825
## iter  60 value 307.408610
```

```
## iter  70 value 296.842844
## iter  80 value 287.290641
## iter  90 value 276.136057
## iter 100 value 270.689453
## final  value 270.689453
## stopped after 100 iterations
## # weights:  161
## initial  value 496.359984
## iter  10 value 435.118851
## iter  20 value 426.219152
## iter  30 value 396.274688
## iter  40 value 335.564209
## iter  50 value 309.364088
## iter  60 value 296.531487
## iter  70 value 289.189229
## iter  80 value 274.797946
## iter  90 value 260.366747
## iter 100 value 248.483809
## final  value 248.483809
## stopped after 100 iterations
## # weights:  177
## initial  value 590.029334
## iter  10 value 433.579364
## iter  20 value 407.239178
## iter  30 value 354.087344
## iter  40 value 321.635599
## iter  50 value 308.068125
## iter  60 value 304.402102
## iter  70 value 290.659973
## iter  80 value 272.499128
## iter  90 value 257.138182
## iter 100 value 249.590421
## final  value 249.590421
## stopped after 100 iterations
## # weights:  193
## initial  value 530.393039
## iter  10 value 391.309076
## iter  20 value 336.575220
## iter  30 value 308.740264
## iter  40 value 304.642176
## iter  50 value 295.110693
## iter  60 value 292.484629
## iter  70 value 265.333244
## iter  80 value 242.338257
## iter  90 value 229.107516
## iter 100 value 221.509312
## final  value 221.509312
## stopped after 100 iterations
## # weights:  209
## initial  value 921.332158
## iter  10 value 443.124083
## iter  20 value 427.639604
## iter  30 value 362.897601
## iter  40 value 326.589370
```

```
## iter  50 value 309.247479
## iter  60 value 297.694048
## iter  70 value 281.116206
## iter  80 value 266.767516
## iter  90 value 259.058535
## iter 100 value 251.178149
## final   value 251.178149
## stopped after 100 iterations
## # weights:  225
## initial   value 786.944141
## iter  10 value 444.638828
## iter  20 value 421.070095
## iter  30 value 414.858326
## iter  40 value 386.853447
## iter  50 value 342.773655
## iter  60 value 305.038202
## iter  70 value 300.074762
## iter  80 value 294.070262
## iter  90 value 292.230202
## iter 100 value 286.238694
## final   value 286.238694
## stopped after 100 iterations
## # weights:  241
## initial   value 1849.733108
## iter  10 value 430.945067
## iter  20 value 413.952302
## iter  30 value 350.013444
## iter  40 value 340.621438
## iter  50 value 309.719345
## iter  60 value 301.364870
## iter  70 value 298.242622
## iter  80 value 295.970435
## iter  90 value 294.172207
## iter 100 value 288.247360
## final   value 288.247360
## stopped after 100 iterations
## # weights:  97
## initial   value 528.912882
## iter  10 value 474.177888
## iter  20 value 431.363056
## iter  30 value 392.522456
## iter  40 value 373.121256
## iter  50 value 354.769497
## iter  60 value 332.958174
## iter  70 value 328.231845
## iter  80 value 320.022094
## iter  90 value 315.532671
## iter 100 value 313.215153
## final   value 313.215153
## stopped after 100 iterations
## # weights:  113
## initial   value 493.142563
## iter  10 value 440.331183
## iter  20 value 423.464836
```

```
## iter  30 value 385.472660
## iter  40 value 342.162493
## iter  50 value 324.557772
## iter  60 value 320.414306
## iter  70 value 318.472136
## iter  80 value 317.335780
## iter  90 value 314.345090
## iter 100 value 313.049115
## final  value 313.049115
## stopped after 100 iterations
## # weights:  129
## initial  value 591.781444
## iter  10 value 451.263889
## iter  20 value 427.329651
## iter  30 value 384.593313
## iter  40 value 371.872182
## iter  50 value 358.759224
## iter  60 value 330.205872
## iter  70 value 322.157403
## iter  80 value 314.883087
## iter  90 value 310.693276
## iter 100 value 308.410627
## final  value 308.410627
## stopped after 100 iterations
## # weights:  145
## initial  value 526.277167
## iter  10 value 471.891248
## iter  20 value 431.487121
## iter  30 value 378.633183
## iter  40 value 348.149868
## iter  50 value 331.280240
## iter  60 value 323.006736
## iter  70 value 321.190013
## iter  80 value 318.892525
## iter  90 value 315.155776
## iter 100 value 310.922747
## final  value 310.922747
## stopped after 100 iterations
## # weights:  161
## initial  value 883.785373
## iter  10 value 445.520347
## iter  20 value 404.990461
## iter  30 value 348.140857
## iter  40 value 340.878473
## iter  50 value 321.316672
## iter  60 value 311.240995
## iter  70 value 306.831328
## iter  80 value 304.514481
## iter  90 value 302.359352
## iter 100 value 301.823692
## final  value 301.823692
## stopped after 100 iterations
## # weights:  177
## initial  value 507.254353
```

```
## iter  10 value 453.012067
## iter  20 value 429.955597
## iter  30 value 410.987210
## iter  40 value 390.024047
## iter  50 value 364.791731
## iter  60 value 340.118987
## iter  70 value 334.044718
## iter  80 value 321.241470
## iter  90 value 319.986385
## iter 100 value 316.982673
## final  value 316.982673
## stopped after 100 iterations
## # weights:  193
## initial  value 509.924287
## iter  10 value 453.812914
## iter  20 value 374.069725
## iter  30 value 356.167119
## iter  40 value 340.835808
## iter  50 value 333.286789
## iter  60 value 330.134404
## iter  70 value 326.475342
## iter  80 value 319.968946
## iter  90 value 313.765362
## iter 100 value 310.554505
## final  value 310.554505
## stopped after 100 iterations
## # weights:  209
## initial  value 793.369007
## iter  10 value 456.975678
## iter  20 value 400.857753
## iter  30 value 386.146813
## iter  40 value 381.024943
## iter  50 value 362.764762
## iter  60 value 354.296149
## iter  70 value 344.825129
## iter  80 value 324.465488
## iter  90 value 319.773761
## iter 100 value 317.343047
## final  value 317.343047
## stopped after 100 iterations
## # weights:  225
## initial  value 606.548367
## iter  10 value 508.043240
## iter  20 value 446.343765
## iter  30 value 425.085145
## iter  40 value 394.211004
## iter  50 value 361.990222
## iter  60 value 347.191525
## iter  70 value 340.277843
## iter  80 value 333.250112
## iter  90 value 322.377950
## iter 100 value 317.653960
## final  value 317.653960
## stopped after 100 iterations
```

```
## # weights:  241
## initial  value 799.547971
## iter  10 value 472.426859
## iter  20 value 443.139422
## iter  30 value 421.710051
## iter  40 value 377.986496
## iter  50 value 360.915737
## iter  60 value 333.095151
## iter  70 value 326.938513
## iter  80 value 320.967855
## iter  90 value 315.173807
## iter 100 value 311.124914
## final  value 311.124914
## stopped after 100 iterations
## # weights:  97
## initial  value 496.761412
## iter  10 value 417.538745
## iter  20 value 356.574320
## iter  30 value 330.638339
## iter  40 value 325.973688
## iter  50 value 324.724409
## iter  60 value 323.560279
## iter  70 value 320.628530
## iter  80 value 319.324826
## iter  90 value 318.668055
## iter 100 value 317.727239
## final  value 317.727239
## stopped after 100 iterations
## # weights:  113
## initial  value 467.595025
## iter  10 value 447.046063
## iter  20 value 400.222425
## iter  30 value 311.458700
## iter  40 value 294.795857
## iter  50 value 280.540189
## iter  60 value 268.491195
## iter  70 value 261.859994
## iter  80 value 257.095009
## iter  90 value 256.644654
## final  value 256.644204
## converged
## # weights:  129
## initial  value 515.181541
## iter  10 value 441.518202
## iter  20 value 419.434595
## iter  30 value 327.977587
## iter  40 value 305.599421
## iter  50 value 291.888986
## iter  60 value 285.696296
## iter  70 value 285.265378
## iter  80 value 285.247195
## iter  90 value 285.239658
## iter 100 value 285.040537
## final  value 285.040537
```

```
## stopped after 100 iterations
## # weights:  145
## initial  value 472.635394
## iter  10 value 436.218883
## iter  20 value 415.849896
## iter  30 value 381.216330
## iter  40 value 344.935826
## iter  50 value 318.406996
## iter  60 value 296.463478
## iter  70 value 266.269495
## iter  80 value 235.653191
## iter  90 value 214.494257
## iter 100 value 202.311142
## final  value 202.311142
## stopped after 100 iterations
## # weights:  161
## initial  value 467.343391
## iter  10 value 430.567514
## iter  20 value 368.370327
## iter  30 value 315.713375
## iter  40 value 305.704745
## iter  50 value 303.005477
## iter  60 value 300.356722
## iter  70 value 294.665445
## iter  80 value 285.950252
## iter  90 value 281.533669
## iter 100 value 280.566251
## final  value 280.566251
## stopped after 100 iterations
## # weights:  177
## initial  value 463.097007
## iter  10 value 442.153819
## iter  20 value 380.897567
## iter  30 value 349.855664
## iter  40 value 303.116223
## iter  50 value 299.008818
## iter  60 value 298.193091
## iter  70 value 294.511909
## iter  80 value 280.187022
## iter  90 value 262.023206
## iter 100 value 255.785866
## final  value 255.785866
## stopped after 100 iterations
## # weights:  193
## initial  value 515.399385
## iter  10 value 404.131875
## iter  20 value 337.359549
## iter  30 value 301.699933
## iter  40 value 283.180315
## iter  50 value 269.812359
## iter  60 value 252.108338
## iter  70 value 249.757264
## iter  80 value 238.320743
## iter  90 value 215.779804
```

```
## iter 100 value 197.215983
## final   value 197.215983
## stopped after 100 iterations
## # weights:  209
## initial   value 1147.546844
## iter  10 value 457.992702
## iter  20 value 377.551594
## iter  30 value 347.323700
## iter  40 value 344.145937
## iter  50 value 339.780115
## iter  60 value 336.112987
## iter  70 value 329.029845
## iter  80 value 326.626688
## iter  90 value 315.743982
## iter 100 value 303.257246
## final   value 303.257246
## stopped after 100 iterations
## # weights:  225
## initial   value 664.592965
## iter  10 value 447.392423
## iter  20 value 415.307523
## iter  30 value 379.276390
## iter  40 value 322.074037
## iter  50 value 303.919047
## iter  60 value 294.454667
## iter  70 value 291.967449
## iter  80 value 290.458694
## iter  90 value 288.095624
## iter 100 value 284.790848
## final   value 284.790848
## stopped after 100 iterations
## # weights:  241
## initial   value 485.708762
## iter  10 value 435.841108
## iter  20 value 414.245337
## iter  30 value 391.379355
## iter  40 value 297.260592
## iter  50 value 249.013405
## iter  60 value 225.474544
## iter  70 value 210.185340
## iter  80 value 201.783554
## iter  90 value 186.914713
## iter 100 value 184.964921
## final   value 184.964921
## stopped after 100 iterations
## # weights:  97
## initial   value 470.873602
## iter  10 value 427.052572
## iter  20 value 417.809513
## iter  30 value 357.492343
## iter  40 value 308.332850
## iter  50 value 272.118122
## iter  60 value 257.062074
## iter  70 value 254.224603
```

```
## iter  80 value 252.161063
## iter  90 value 249.126293
## iter 100 value 246.115398
## final   value 246.115398
## stopped after 100 iterations
## # weights:  113
## initial  value 464.860308
## iter  10 value 418.149459
## iter  20 value 336.268272
## iter  30 value 277.132276
## iter  40 value 261.557807
## iter  50 value 254.548922
## iter  60 value 253.357972
## iter  70 value 248.532606
## iter  80 value 243.336065
## iter  90 value 241.952125
## iter 100 value 241.379010
## final   value 241.379010
## stopped after 100 iterations
## # weights:  129
## initial  value 558.449184
## iter  10 value 427.770808
## iter  20 value 346.718972
## iter  30 value 321.577247
## iter  40 value 290.178794
## iter  50 value 272.490674
## iter  60 value 264.479801
## iter  70 value 249.393576
## iter  80 value 245.065744
## iter  90 value 243.203838
## iter 100 value 240.137900
## final   value 240.137900
## stopped after 100 iterations
## # weights:  145
## initial  value 783.970257
## iter  10 value 433.813383
## iter  20 value 344.786609
## iter  30 value 331.200355
## iter  40 value 326.437571
## iter  50 value 325.851864
## iter  60 value 322.129970
## iter  70 value 313.900450
## iter  80 value 288.631740
## iter  90 value 284.779944
## iter 100 value 262.678461
## final   value 262.678461
## stopped after 100 iterations
## # weights:  161
## initial  value 480.131422
## iter  10 value 423.955250
## iter  20 value 380.803564
## iter  30 value 343.175546
## iter  40 value 301.457946
## iter  50 value 264.006110
```

```
## iter  60 value 242.648198
## iter  70 value 235.908344
## iter  80 value 234.552216
## iter  90 value 234.088010
## iter 100 value 232.940218
## final  value 232.940218
## stopped after 100 iterations
## # weights:  177
## initial  value 586.593222
## iter  10 value 434.240584
## iter  20 value 402.500982
## iter  30 value 325.870859
## iter  40 value 303.501709
## iter  50 value 280.872505
## iter  60 value 256.995423
## iter  70 value 239.909825
## iter  80 value 235.487138
## iter  90 value 232.828752
## iter 100 value 230.310325
## final  value 230.310325
## stopped after 100 iterations
## # weights:  193
## initial  value 455.710090
## iter  10 value 425.050520
## iter  20 value 385.599372
## iter  30 value 345.465880
## iter  40 value 317.587556
## iter  50 value 269.804594
## iter  60 value 255.127386
## iter  70 value 254.256460
## iter  80 value 242.843982
## iter  90 value 230.844144
## iter 100 value 217.288110
## final  value 217.288110
## stopped after 100 iterations
## # weights:  209
## initial  value 464.937230
## iter  10 value 429.970965
## iter  20 value 416.620689
## iter  30 value 365.858994
## iter  40 value 318.893537
## iter  50 value 288.340342
## iter  60 value 271.121417
## iter  70 value 247.558470
## iter  80 value 243.956488
## iter  90 value 239.431389
## iter 100 value 233.139662
## final  value 233.139662
## stopped after 100 iterations
## # weights:  225
## initial  value 493.302188
## iter  10 value 434.737678
## iter  20 value 369.790027
## iter  30 value 324.389997
```

```
## iter  40 value 291.314092
## iter  50 value 278.375600
## iter  60 value 275.992523
## iter  70 value 270.224397
## iter  80 value 264.100587
## iter  90 value 261.569339
## iter 100 value 259.083097
## final   value 259.083097
## stopped after 100 iterations
## # weights:  241
## initial   value 480.576378
## iter  10 value 438.057148
## iter  20 value 370.264607
## iter  30 value 318.873780
## iter  40 value 300.373065
## iter  50 value 281.544477
## iter  60 value 265.783698
## iter  70 value 255.252607
## iter  80 value 245.978490
## iter  90 value 243.247319
## iter 100 value 240.190735
## final   value 240.190735
## stopped after 100 iterations
## # weights:  97
## initial   value 528.297113
## iter  10 value 421.337820
## iter  20 value 360.697484
## iter  30 value 324.183722
## iter  40 value 305.694172
## iter  50 value 289.179555
## iter  60 value 275.280506
## iter  70 value 265.247443
## iter  80 value 263.585197
## iter  90 value 261.678646
## iter 100 value 261.258562
## final   value 261.258562
## stopped after 100 iterations
## # weights:  113
## initial   value 960.585802
## iter  10 value 440.315390
## iter  20 value 351.710416
## iter  30 value 299.750530
## iter  40 value 291.093880
## iter  50 value 270.639918
## iter  60 value 262.413639
## iter  70 value 259.377012
## iter  80 value 257.165861
## iter  90 value 249.367733
## iter 100 value 240.265139
## final   value 240.265139
## stopped after 100 iterations
## # weights:  129
## initial   value 720.543527
## iter  10 value 454.288489
```

```
## iter  20 value 416.272810
## iter  30 value 372.499879
## iter  40 value 344.387277
## iter  50 value 306.013765
## iter  60 value 291.348098
## iter  70 value 284.741972
## iter  80 value 283.129551
## iter  90 value 281.399580
## iter 100 value 278.301087
## final  value 278.301087
## stopped after 100 iterations
## # weights:  145
## initial  value 501.804498
## iter  10 value 422.121553
## iter  20 value 352.657179
## iter  30 value 339.209904
## iter  40 value 333.142132
## iter  50 value 327.899640
## iter  60 value 297.478003
## iter  70 value 280.938988
## iter  80 value 266.253266
## iter  90 value 255.930107
## iter 100 value 241.117096
## final  value 241.117096
## stopped after 100 iterations
## # weights:  161
## initial  value 550.232398
## iter  10 value 436.104053
## iter  20 value 367.393251
## iter  30 value 346.060803
## iter  40 value 333.166004
## iter  50 value 314.409971
## iter  60 value 297.463671
## iter  70 value 288.336488
## iter  80 value 265.044362
## iter  90 value 248.771844
## iter 100 value 239.520183
## final  value 239.520183
## stopped after 100 iterations
## # weights:  177
## initial  value 748.613326
## iter  10 value 452.428543
## iter  20 value 344.525003
## iter  30 value 306.923436
## iter  40 value 299.791541
## iter  50 value 290.526446
## iter  60 value 288.379162
## iter  70 value 285.513161
## iter  80 value 278.829875
## iter  90 value 274.803365
## iter 100 value 271.004454
## final  value 271.004454
## stopped after 100 iterations
## # weights:  193
```

```
## initial  value 866.072199
## iter  10 value 433.101003
## iter  20 value 413.244923
## iter  30 value 395.996750
## iter  40 value 382.053191
## iter  50 value 348.568584
## iter  60 value 312.546502
## iter  70 value 284.732826
## iter  80 value 267.888938
## iter  90 value 264.973460
## iter 100 value 259.271460
## final  value 259.271460
## stopped after 100 iterations
## # weights:  209
## initial  value 471.339037
## iter  10 value 445.947330
## iter  20 value 382.487456
## iter  30 value 323.238107
## iter  40 value 288.684613
## iter  50 value 280.425667
## iter  60 value 277.763417
## iter  70 value 272.719160
## iter  80 value 267.825876
## iter  90 value 265.429060
## iter 100 value 259.429950
## final  value 259.429950
## stopped after 100 iterations
## # weights:  225
## initial  value 476.125023
## iter  10 value 427.501239
## iter  20 value 372.943506
## iter  30 value 310.234538
## iter  40 value 295.881577
## iter  50 value 282.337187
## iter  60 value 265.525487
## iter  70 value 256.044114
## iter  80 value 244.063299
## iter  90 value 242.288550
## iter 100 value 235.455787
## final  value 235.455787
## stopped after 100 iterations
## # weights:  241
## initial  value 601.239558
## iter  10 value 455.652356
## iter  20 value 392.334544
## iter  30 value 350.018930
## iter  40 value 303.896982
## iter  50 value 295.404752
## iter  60 value 292.437089
## iter  70 value 286.093380
## iter  80 value 281.215639
## iter  90 value 272.080246
## iter 100 value 262.861958
## final  value 262.861958
```

```
## stopped after 100 iterations
## # weights:  97
## initial  value 492.468498
## iter  10 value 436.017217
## iter  20 value 401.104230
## iter  30 value 342.621507
## iter  40 value 321.944364
## iter  50 value 317.607497
## iter  60 value 314.540960
## iter  70 value 310.867150
## iter  80 value 307.628113
## iter  90 value 305.915672
## iter 100 value 305.636247
## final   value 305.636247
## stopped after 100 iterations
## # weights:  113
## initial  value 485.277868
## iter  10 value 439.463198
## iter  20 value 374.310268
## iter  30 value 329.467273
## iter  40 value 322.561978
## iter  50 value 315.693017
## iter  60 value 312.097200
## iter  70 value 307.187269
## iter  80 value 304.349028
## iter  90 value 301.050861
## iter 100 value 296.705962
## final   value 296.705962
## stopped after 100 iterations
## # weights:  129
## initial  value 465.250860
## iter  10 value 396.196405
## iter  20 value 333.193991
## iter  30 value 315.284057
## iter  40 value 311.216593
## iter  50 value 307.382438
## iter  60 value 305.221423
## iter  70 value 303.148154
## iter  80 value 302.767518
## iter  90 value 302.464808
## iter 100 value 302.123125
## final   value 302.123125
## stopped after 100 iterations
## # weights:  145
## initial  value 502.944527
## iter  10 value 433.574122
## iter  20 value 410.256402
## iter  30 value 374.339163
## iter  40 value 345.535853
## iter  50 value 320.929062
## iter  60 value 303.478677
## iter  70 value 297.625204
## iter  80 value 296.008229
## iter  90 value 294.945208
```

```
## iter 100 value 294.434090
## final   value 294.434090
## stopped after 100 iterations
## # weights:  161
## initial   value 662.123985
## iter  10 value 470.368825
## iter  20 value 413.367222
## iter  30 value 363.323624
## iter  40 value 352.703414
## iter  50 value 333.769027
## iter  60 value 313.464985
## iter  70 value 306.022048
## iter  80 value 303.222806
## iter  90 value 302.692670
## iter 100 value 302.486986
## final   value 302.486986
## stopped after 100 iterations
## # weights:  177
## initial   value 495.253988
## iter  10 value 451.116706
## iter  20 value 353.856872
## iter  30 value 327.913895
## iter  40 value 318.921489
## iter  50 value 313.055771
## iter  60 value 311.684113
## iter  70 value 310.456595
## iter  80 value 305.524072
## iter  90 value 302.932927
## iter 100 value 300.158561
## final   value 300.158561
## stopped after 100 iterations
## # weights:  193
## initial   value 587.047399
## iter  10 value 417.796683
## iter  20 value 373.393695
## iter  30 value 327.240473
## iter  40 value 314.542244
## iter  50 value 309.897724
## iter  60 value 306.431524
## iter  70 value 302.918385
## iter  80 value 301.709867
## iter  90 value 300.821006
## iter 100 value 300.641243
## final   value 300.641243
## stopped after 100 iterations
## # weights:  209
## initial   value 973.008559
## iter  10 value 490.956485
## iter  20 value 441.053110
## iter  30 value 419.562442
## iter  40 value 385.730482
## iter  50 value 345.367491
## iter  60 value 327.980909
## iter  70 value 318.258380
```

```
## iter   80 value 313.255638
## iter   90 value 312.034457
## iter  100 value 311.637732
## final    value 311.637732
## stopped after 100 iterations
## # weights:   225
## initial   value 613.337592
## iter   10 value 474.073160
## iter   20 value 455.073980
## iter   30 value 383.041751
## iter   40 value 363.226702
## iter   50 value 327.640704
## iter   60 value 319.778135
## iter   70 value 315.818697
## iter   80 value 307.920702
## iter   90 value 303.237614
## iter  100 value 298.848919
## final    value 298.848919
## stopped after 100 iterations
## # weights:   241
## initial   value 591.468143
## iter   10 value 460.992805
## iter   20 value 396.212568
## iter   30 value 374.477649
## iter   40 value 347.852516
## iter   50 value 322.684370
## iter   60 value 312.406413
## iter   70 value 307.750196
## iter   80 value 303.124044
## iter   90 value 299.531782
## iter  100 value 298.083693
## final    value 298.083693
## stopped after 100 iterations
## # weights:    97
## initial   value 509.480798
## iter   10 value 435.062033
## iter   20 value 367.933667
## iter   30 value 337.968071
## iter   40 value 322.004779
## iter   50 value 312.994528
## iter   60 value 306.221286
## iter   70 value 294.165956
## iter   80 value 279.457412
## iter   90 value 276.137283
## iter  100 value 272.879489
## final    value 272.879489
## stopped after 100 iterations
## # weights:   113
## initial   value 607.546068
## iter   10 value 468.885735
## iter   20 value 425.267849
## iter   30 value 353.981913
## iter   40 value 324.201605
## iter   50 value 316.537627
```

```
## iter  60 value 299.408177
## iter  70 value 292.676883
## iter  80 value 283.050043
## iter  90 value 272.183502
## iter 100 value 267.689935
## final   value 267.689935
## stopped after 100 iterations
## # weights:  129
## initial   value 532.962635
## iter  10 value 459.644759
## iter  20 value 419.762947
## iter  30 value 364.769242
## iter  40 value 354.791356
## iter  50 value 329.175036
## iter  60 value 306.584514
## iter  70 value 294.691559
## iter  80 value 277.588787
## iter  90 value 271.781419
## iter 100 value 271.397456
## final   value 271.397456
## stopped after 100 iterations
## # weights:  145
## initial   value 488.849277
## iter  10 value 418.245186
## iter  20 value 359.299445
## iter  30 value 317.680972
## iter  40 value 289.317549
## iter  50 value 269.141830
## iter  60 value 260.975119
## iter  70 value 252.050355
## iter  80 value 246.742172
## iter  90 value 237.277280
## iter 100 value 230.533159
## final   value 230.533159
## stopped after 100 iterations
## # weights:  161
## initial   value 554.424905
## iter  10 value 431.705909
## iter  20 value 392.182242
## iter  30 value 349.632303
## iter  40 value 299.067669
## iter  50 value 292.181327
## iter  60 value 269.374665
## iter  70 value 262.206245
## iter  80 value 257.476375
## iter  90 value 248.266637
## iter 100 value 232.577791
## final   value 232.577791
## stopped after 100 iterations
## # weights:  177
## initial   value 470.540691
## iter  10 value 425.518482
## iter  20 value 371.564791
## iter  30 value 337.704326
```

```
## iter  40 value 329.329707
## iter  50 value 317.538706
## iter  60 value 308.946366
## iter  70 value 302.248950
## iter  80 value 297.553519
## iter  90 value 297.362599
## final   value 297.362178
## converged
## # weights:  193
## initial   value 711.818941
## iter  10 value 396.535752
## iter  20 value 360.252192
## iter  30 value 333.285072
## iter  40 value 308.878856
## iter  50 value 277.141431
## iter  60 value 260.507226
## iter  70 value 251.956400
## iter  80 value 249.380362
## iter  90 value 249.325596
## iter 100 value 249.307323
## final   value 249.307323
## stopped after 100 iterations
## # weights:  209
## initial   value 656.115423
## iter  10 value 454.058959
## iter  20 value 429.705532
## iter  30 value 352.636035
## iter  40 value 345.842990
## iter  50 value 326.279684
## iter  60 value 299.856188
## iter  70 value 257.394565
## iter  80 value 237.008619
## iter  90 value 217.037066
## iter 100 value 207.315577
## final   value 207.315577
## stopped after 100 iterations
## # weights:  225
## initial   value 504.567160
## iter  10 value 437.676844
## iter  20 value 430.363059
## iter  30 value 386.569044
## iter  40 value 344.379179
## iter  50 value 322.432591
## iter  60 value 303.650626
## iter  70 value 275.648161
## iter  80 value 268.346239
## iter  90 value 249.465736
## iter 100 value 227.306393
## final   value 227.306393
## stopped after 100 iterations
## # weights:  241
## initial   value 620.615866
## iter  10 value 458.182409
## iter  20 value 421.326737
```

```
## iter  30 value 411.397880
## iter  40 value 393.177823
## iter  50 value 364.418329
## iter  60 value 297.285311
## iter  70 value 274.106176
## iter  80 value 267.045543
## iter  90 value 262.278022
## iter 100 value 259.644607
## final   value 259.644607
## stopped after 100 iterations
## # weights:  97
## initial   value 665.616785
## iter  10 value 402.661670
## iter  20 value 391.979969
## iter  30 value 328.587112
## iter  40 value 303.522281
## iter  50 value 290.441099
## iter  60 value 287.309258
## iter  70 value 286.872490
## iter  80 value 286.169832
## iter  90 value 284.176823
## iter 100 value 280.670229
## final   value 280.670229
## stopped after 100 iterations
## # weights:  113
## initial   value 465.384617
## iter  10 value 437.137964
## iter  20 value 379.452347
## iter  30 value 328.644350
## iter  40 value 308.375051
## iter  50 value 286.134299
## iter  60 value 283.100962
## iter  70 value 274.652540
## iter  80 value 270.763479
## iter  90 value 270.083446
## iter 100 value 269.293763
## final   value 269.293763
## stopped after 100 iterations
## # weights:  129
## initial   value 470.676155
## iter  10 value 431.834259
## iter  20 value 352.161979
## iter  30 value 316.642312
## iter  40 value 305.710610
## iter  50 value 299.037782
## iter  60 value 292.331711
## iter  70 value 287.409529
## iter  80 value 278.677956
## iter  90 value 274.197181
## iter 100 value 269.765306
## final   value 269.765306
## stopped after 100 iterations
## # weights:  145
## initial   value 471.649240
```

```
## iter  10 value 449.550342
## iter  20 value 409.958932
## iter  30 value 374.895057
## iter  40 value 319.691452
## iter  50 value 307.794316
## iter  60 value 304.797370
## iter  70 value 303.927107
## iter  80 value 303.409429
## iter  90 value 302.179564
## iter 100 value 301.354205
## final   value 301.354205
## stopped after 100 iterations
## # weights:  161
## initial   value 995.307606
## iter  10 value 387.027892
## iter  20 value 343.617294
## iter  30 value 308.186016
## iter  40 value 294.215468
## iter  50 value 289.584791
## iter  60 value 282.886522
## iter  70 value 279.613578
## iter  80 value 276.864936
## iter  90 value 275.333671
## iter 100 value 273.228970
## final   value 273.228970
## stopped after 100 iterations
## # weights:  177
## initial   value 500.143255
## iter  10 value 429.202394
## iter  20 value 354.394919
## iter  30 value 327.181640
## iter  40 value 305.418656
## iter  50 value 283.614835
## iter  60 value 278.446848
## iter  70 value 276.862980
## iter  80 value 274.812469
## iter  90 value 271.953889
## iter 100 value 269.633320
## final   value 269.633320
## stopped after 100 iterations
## # weights:  193
## initial   value 606.426703
## iter  10 value 392.755272
## iter  20 value 351.590057
## iter  30 value 333.816137
## iter  40 value 319.786027
## iter  50 value 312.943621
## iter  60 value 306.103867
## iter  70 value 298.719138
## iter  80 value 292.819445
## iter  90 value 290.501732
## iter 100 value 284.791566
## final   value 284.791566
## stopped after 100 iterations
```

```
## # weights:  209
## initial  value 478.713099
## iter  10 value 431.089606
## iter  20 value 365.887171
## iter  30 value 332.853531
## iter  40 value 303.381606
## iter  50 value 295.031498
## iter  60 value 275.012178
## iter  70 value 270.928126
## iter  80 value 253.842321
## iter  90 value 244.623918
## iter 100 value 233.390925
## final   value 233.390925
## stopped after 100 iterations
## # weights:  225
## initial  value 487.547146
## iter  10 value 446.142478
## iter  20 value 404.758347
## iter  30 value 391.210733
## iter  40 value 345.818538
## iter  50 value 325.441354
## iter  60 value 309.886161
## iter  70 value 294.106074
## iter  80 value 263.750980
## iter  90 value 250.860299
## iter 100 value 247.940883
## final   value 247.940883
## stopped after 100 iterations
## # weights:  241
## initial  value 524.653219
## iter  10 value 461.836399
## iter  20 value 381.350276
## iter  30 value 346.981066
## iter  40 value 308.969945
## iter  50 value 287.791487
## iter  60 value 285.231749
## iter  70 value 278.857536
## iter  80 value 262.291645
## iter  90 value 246.207127
## iter 100 value 235.269314
## final   value 235.269314
## stopped after 100 iterations
## # weights:  97
## initial  value 644.565108
## iter  10 value 440.389569
## iter  20 value 375.817720
## iter  30 value 359.900320
## iter  40 value 339.802479
## iter  50 value 323.810990
## iter  60 value 316.897874
## iter  70 value 315.027139
## iter  80 value 312.899682
## iter  90 value 308.235112
## iter 100 value 305.121029
```

```
## final   value 305.121029
## stopped after 100 iterations
## # weights:  113
## initial  value 657.921130
## iter  10 value 436.436332
## iter  20 value 418.424123
## iter  30 value 377.148330
## iter  40 value 330.381148
## iter  50 value 322.760162
## iter  60 value 318.161071
## iter  70 value 313.188528
## iter  80 value 312.238482
## iter  90 value 303.520120
## iter 100 value 286.386752
## final   value 286.386752
## stopped after 100 iterations
## # weights:  129
## initial  value 481.705454
## iter  10 value 410.192747
## iter  20 value 358.791860
## iter  30 value 331.053661
## iter  40 value 316.397667
## iter  50 value 312.231569
## iter  60 value 305.879241
## iter  70 value 298.905599
## iter  80 value 298.276872
## iter  90 value 292.058849
## iter 100 value 282.774721
## final   value 282.774721
## stopped after 100 iterations
## # weights:  145
## initial  value 631.992648
## iter  10 value 458.948756
## iter  20 value 396.707589
## iter  30 value 385.058923
## iter  40 value 354.892636
## iter  50 value 320.758234
## iter  60 value 302.010116
## iter  70 value 297.477094
## iter  80 value 287.807897
## iter  90 value 283.619824
## iter 100 value 278.079659
## final   value 278.079659
## stopped after 100 iterations
## # weights:  161
## initial  value 501.904749
## iter  10 value 445.217673
## iter  20 value 409.415994
## iter  30 value 361.629210
## iter  40 value 346.044075
## iter  50 value 334.935435
## iter  60 value 318.015718
## iter  70 value 304.266092
## iter  80 value 301.161003
```

```
## iter  90 value 292.048948
## iter 100 value 282.823522
## final   value 282.823522
## stopped after 100 iterations
## # weights:  177
## initial   value 692.491183
## iter  10 value 435.856470
## iter  20 value 378.822347
## iter  30 value 355.770174
## iter  40 value 329.217164
## iter  50 value 316.986566
## iter  60 value 299.962332
## iter  70 value 289.216232
## iter  80 value 283.145845
## iter  90 value 281.296973
## iter 100 value 278.391455
## final   value 278.391455
## stopped after 100 iterations
## # weights:  193
## initial   value 478.242265
## iter  10 value 422.304731
## iter  20 value 373.887651
## iter  30 value 342.057207
## iter  40 value 330.493685
## iter  50 value 323.171204
## iter  60 value 312.493236
## iter  70 value 296.527446
## iter  80 value 291.773135
## iter  90 value 290.874726
## iter 100 value 288.930849
## final   value 288.930849
## stopped after 100 iterations
## # weights:  209
## initial   value 652.580410
## iter  10 value 447.793408
## iter  20 value 405.568367
## iter  30 value 335.196379
## iter  40 value 312.623101
## iter  50 value 293.022577
## iter  60 value 283.930641
## iter  70 value 282.046398
## iter  80 value 272.600751
## iter  90 value 264.916502
## iter 100 value 263.686023
## final   value 263.686023
## stopped after 100 iterations
## # weights:  225
## initial   value 624.477132
## iter  10 value 438.454083
## iter  20 value 419.044997
## iter  30 value 364.405291
## iter  40 value 333.651235
## iter  50 value 313.792552
## iter  60 value 308.711083
```

```
## iter  70 value 286.542826
## iter  80 value 264.149815
## iter  90 value 255.618048
## iter 100 value 251.732417
## final  value 251.732417
## stopped after 100 iterations
## # weights:  241
## initial  value 1112.258957
## iter  10 value 449.097584
## iter  20 value 377.799931
## iter  30 value 351.664268
## iter  40 value 336.890660
## iter  50 value 324.342209
## iter  60 value 310.003802
## iter  70 value 307.058958
## iter  80 value 298.080968
## iter  90 value 288.780505
## iter 100 value 284.904845
## final  value 284.904845
## stopped after 100 iterations
## # weights:  97
## initial  value 490.611108
## iter  10 value 433.393887
## iter  20 value 382.763393
## iter  30 value 356.347853
## iter  40 value 349.152830
## iter  50 value 342.830393
## iter  60 value 341.317701
## iter  70 value 338.405322
## iter  80 value 337.369157
## iter  90 value 336.602001
## iter 100 value 335.977370
## final  value 335.977370
## stopped after 100 iterations
## # weights:  113
## initial  value 619.938820
## iter  10 value 460.213164
## iter  20 value 423.912425
## iter  30 value 391.051345
## iter  40 value 374.483514
## iter  50 value 351.658803
## iter  60 value 340.711916
## iter  70 value 337.779021
## iter  80 value 333.333297
## iter  90 value 329.816069
## iter 100 value 327.903960
## final  value 327.903960
## stopped after 100 iterations
## # weights:  129
## initial  value 556.908325
## iter  10 value 459.977895
## iter  20 value 412.116928
## iter  30 value 371.350775
## iter  40 value 351.305497
```

```
## iter   50 value 347.199284
## iter   60 value 343.369535
## iter   70 value 338.470950
## iter   80 value 337.002872
## iter   90 value 335.277974
## iter  100 value 334.878343
## final   value 334.878343
## stopped after 100 iterations
## # weights:  145
## initial   value 683.500298
## iter   10 value 485.591190
## iter   20 value 442.646354
## iter   30 value 406.126730
## iter   40 value 377.113908
## iter   50 value 351.789263
## iter   60 value 346.329881
## iter   70 value 342.755755
## iter   80 value 341.851999
## iter   90 value 336.893336
## iter  100 value 332.380826
## final   value 332.380826
## stopped after 100 iterations
## # weights:  161
## initial   value 558.583325
## iter   10 value 454.475350
## iter   20 value 425.062625
## iter   30 value 386.314236
## iter   40 value 355.401153
## iter   50 value 349.727144
## iter   60 value 344.924177
## iter   70 value 339.884584
## iter   80 value 331.920225
## iter   90 value 327.667527
## iter  100 value 326.024846
## final   value 326.024846
## stopped after 100 iterations
## # weights:  177
## initial   value 495.641868
## iter   10 value 452.797825
## iter   20 value 424.960519
## iter   30 value 395.425775
## iter   40 value 371.186310
## iter   50 value 341.012364
## iter   60 value 332.873123
## iter   70 value 327.375874
## iter   80 value 323.590361
## iter   90 value 322.071717
## iter  100 value 320.924810
## final   value 320.924810
## stopped after 100 iterations
## # weights:  193
## initial   value 571.047262
## iter   10 value 474.183605
## iter   20 value 448.027556
```

```
## iter  30 value 383.829269
## iter  40 value 351.672675
## iter  50 value 343.075762
## iter  60 value 341.139463
## iter  70 value 338.703468
## iter  80 value 334.827025
## iter  90 value 332.255181
## iter 100 value 329.692906
## final   value 329.692906
## stopped after 100 iterations
## # weights:  209
## initial   value 505.252968
## iter  10 value 453.184938
## iter  20 value 430.608681
## iter  30 value 387.660320
## iter  40 value 367.812438
## iter  50 value 345.700680
## iter  60 value 344.269985
## iter  70 value 340.614002
## iter  80 value 336.739222
## iter  90 value 332.140549
## iter 100 value 326.675683
## final   value 326.675683
## stopped after 100 iterations
## # weights:  225
## initial   value 593.975311
## iter  10 value 451.725424
## iter  20 value 420.146267
## iter  30 value 363.575736
## iter  40 value 349.751650
## iter  50 value 345.183959
## iter  60 value 343.252076
## iter  70 value 340.338520
## iter  80 value 336.184381
## iter  90 value 333.569902
## iter 100 value 332.961846
## final   value 332.961846
## stopped after 100 iterations
## # weights:  241
## initial   value 1049.975479
## iter  10 value 457.305240
## iter  20 value 398.122439
## iter  30 value 370.251342
## iter  40 value 349.532950
## iter  50 value 346.989436
## iter  60 value 341.535273
## iter  70 value 338.746088
## iter  80 value 335.511095
## iter  90 value 333.854261
## iter 100 value 332.279290
## final   value 332.279290
## stopped after 100 iterations
## # weights:  97
## initial   value 513.789190
```

```
## iter  10 value 442.264218
## iter  20 value 425.164750
## iter  30 value 400.567872
## iter  40 value 370.336760
## iter  50 value 301.820666
## iter  60 value 272.786418
## iter  70 value 266.133293
## iter  80 value 258.318617
## iter  90 value 254.144701
## iter 100 value 251.045525
## final  value 251.045525
## stopped after 100 iterations
## # weights:  113
## initial  value 621.589477
## iter  10 value 429.834325
## iter  20 value 377.354792
## iter  30 value 315.891955
## iter  40 value 290.599956
## iter  50 value 287.978746
## iter  60 value 283.546293
## iter  70 value 260.043399
## iter  80 value 247.094821
## iter  90 value 239.610961
## iter 100 value 236.682278
## final  value 236.682278
## stopped after 100 iterations
## # weights:  129
## initial  value 483.754914
## iter  10 value 447.832465
## iter  20 value 361.657094
## iter  30 value 323.331730
## iter  40 value 301.602703
## iter  50 value 286.481927
## iter  60 value 275.950838
## iter  70 value 261.011333
## iter  80 value 255.140094
## iter  90 value 248.367695
## iter 100 value 240.067034
## final  value 240.067034
## stopped after 100 iterations
## # weights:  145
## initial  value 804.021647
## iter  10 value 467.363676
## iter  20 value 381.190203
## iter  30 value 347.498348
## iter  40 value 331.964444
## iter  50 value 329.136541
## iter  60 value 325.227388
## iter  70 value 320.600202
## iter  80 value 314.828457
## iter  90 value 308.802115
## iter 100 value 307.059231
## final  value 307.059231
## stopped after 100 iterations
```

```
## # weights:  161
## initial  value 502.833523
## iter  10 value 361.163329
## iter  20 value 327.244440
## iter  30 value 324.943998
## iter  40 value 316.833930
## iter  50 value 292.799273
## iter  60 value 263.098718
## iter  70 value 258.202184
## iter  80 value 253.688323
## iter  90 value 248.009495
## iter 100 value 243.691632
## final  value 243.691632
## stopped after 100 iterations
## # weights:  177
## initial  value 508.030227
## iter  10 value 446.223979
## iter  20 value 402.294794
## iter  30 value 346.967139
## iter  40 value 330.385489
## iter  50 value 296.634153
## iter  60 value 252.178123
## iter  70 value 240.740732
## iter  80 value 234.172133
## iter  90 value 228.900362
## iter 100 value 226.921497
## final  value 226.921497
## stopped after 100 iterations
## # weights:  193
## initial  value 503.053283
## iter  10 value 444.756061
## iter  20 value 416.664077
## iter  30 value 340.775089
## iter  40 value 324.980280
## iter  50 value 301.823001
## iter  60 value 296.291969
## iter  70 value 275.795858
## iter  80 value 260.068981
## iter  90 value 246.193898
## iter 100 value 230.361522
## final  value 230.361522
## stopped after 100 iterations
## # weights:  209
## initial  value 478.689479
## iter  10 value 434.555909
## iter  20 value 342.579824
## iter  30 value 331.682915
## iter  40 value 322.212825
## iter  50 value 310.563776
## iter  60 value 295.938359
## iter  70 value 269.227586
## iter  80 value 259.721046
## iter  90 value 234.031684
## iter 100 value 215.797265
```

```
## final   value 215.797265
## stopped after 100 iterations
## # weights:   225
## initial   value 606.796516
## iter  10 value 460.906693
## iter  20 value 391.363037
## iter  30 value 337.595941
## iter  40 value 319.268925
## iter  50 value 283.418834
## iter  60 value 272.507869
## iter  70 value 253.965171
## iter  80 value 227.628892
## iter  90 value 206.029922
## iter 100 value 199.692680
## final   value 199.692680
## stopped after 100 iterations
## # weights:   241
## initial   value 516.688419
## iter  10 value 349.890996
## iter  20 value 336.734817
## iter  30 value 327.586066
## iter  40 value 317.596645
## iter  50 value 287.961019
## iter  60 value 273.966248
## iter  70 value 266.036912
## iter  80 value 262.788946
## iter  90 value 257.828983
## iter 100 value 250.148385
## final   value 250.148385
## stopped after 100 iterations
## # weights:   97
## initial   value 812.875658
## iter  10 value 435.890594
## iter  20 value 426.425071
## iter  30 value 410.778079
## iter  40 value 374.862378
## iter  50 value 332.886037
## iter  60 value 328.820653
## iter  70 value 327.457249
## iter  80 value 324.685111
## iter  90 value 322.747465
## iter 100 value 320.137259
## final   value 320.137259
## stopped after 100 iterations
## # weights:   113
## initial   value 573.363558
## iter  10 value 450.354080
## iter  20 value 395.852730
## iter  30 value 351.782341
## iter  40 value 326.350306
## iter  50 value 317.680343
## iter  60 value 314.189527
## iter  70 value 306.461089
## iter  80 value 305.605175
```

```
## iter  90 value 304.306857
## iter 100 value 290.911427
## final   value 290.911427
## stopped after 100 iterations
## # weights:  129
## initial   value 620.754911
## iter  10 value 437.719768
## iter  20 value 358.703518
## iter  30 value 305.918591
## iter  40 value 276.647604
## iter  50 value 264.305535
## iter  60 value 260.847553
## iter  70 value 256.612379
## iter  80 value 254.542205
## iter  90 value 250.973575
## iter 100 value 242.410131
## final   value 242.410131
## stopped after 100 iterations
## # weights:  145
## initial   value 484.224743
## iter  10 value 430.549328
## iter  20 value 359.219737
## iter  30 value 332.741112
## iter  40 value 325.342488
## iter  50 value 320.761051
## iter  60 value 305.865706
## iter  70 value 292.112260
## iter  80 value 286.902693
## iter  90 value 280.391735
## iter 100 value 278.784526
## final   value 278.784526
## stopped after 100 iterations
## # weights:  161
## initial   value 979.828294
## iter  10 value 444.998946
## iter  20 value 372.714120
## iter  30 value 363.517981
## iter  40 value 348.104058
## iter  50 value 333.401105
## iter  60 value 315.020498
## iter  70 value 282.335621
## iter  80 value 256.623212
## iter  90 value 248.728717
## iter 100 value 242.979255
## final   value 242.979255
## stopped after 100 iterations
## # weights:  177
## initial   value 548.494628
## iter  10 value 452.257671
## iter  20 value 392.207010
## iter  30 value 370.958102
## iter  40 value 305.820567
## iter  50 value 264.543732
## iter  60 value 256.943287
```

```
## iter  70 value 255.593972
## iter  80 value 252.105978
## iter  90 value 247.861360
## iter 100 value 243.352896
## final  value 243.352896
## stopped after 100 iterations
## # weights:  193
## initial  value 619.160147
## iter  10 value 381.904116
## iter  20 value 337.023922
## iter  30 value 332.332867
## iter  40 value 311.904120
## iter  50 value 301.399320
## iter  60 value 290.465606
## iter  70 value 266.959417
## iter  80 value 256.809111
## iter  90 value 256.170701
## iter 100 value 253.188299
## final  value 253.188299
## stopped after 100 iterations
## # weights:  209
## initial  value 488.344511
## iter  10 value 434.062416
## iter  20 value 336.455848
## iter  30 value 306.193802
## iter  40 value 291.424887
## iter  50 value 284.588974
## iter  60 value 284.025394
## iter  70 value 282.173720
## iter  80 value 273.618834
## iter  90 value 254.448837
## iter 100 value 235.573580
## final  value 235.573580
## stopped after 100 iterations
## # weights:  225
## initial  value 703.703150
## iter  10 value 441.352083
## iter  20 value 428.957877
## iter  30 value 364.068414
## iter  40 value 334.263392
## iter  50 value 310.040153
## iter  60 value 298.090362
## iter  70 value 294.536749
## iter  80 value 263.292227
## iter  90 value 253.563483
## iter 100 value 239.365896
## final  value 239.365896
## stopped after 100 iterations
## # weights:  241
## initial  value 561.752171
## iter  10 value 438.758913
## iter  20 value 430.690224
## iter  30 value 407.498062
## iter  40 value 355.209695
```

```
## iter  50 value 299.534351
## iter  60 value 291.050229
## iter  70 value 273.271399
## iter  80 value 263.736742
## iter  90 value 256.508522
## iter 100 value 241.805675
## final   value 241.805675
## stopped after 100 iterations
## # weights:  97
## initial  value 554.437029
## iter  10 value 470.943819
## iter  20 value 350.145780
## iter  30 value 335.944029
## iter  40 value 330.333577
## iter  50 value 321.963429
## iter  60 value 306.182228
## iter  70 value 267.928618
## iter  80 value 255.088278
## iter  90 value 251.077293
## iter 100 value 246.741641
## final   value 246.741641
## stopped after 100 iterations
## # weights:  113
## initial  value 505.087063
## iter  10 value 443.399274
## iter  20 value 418.105223
## iter  30 value 367.517157
## iter  40 value 334.167912
## iter  50 value 323.013492
## iter  60 value 314.191421
## iter  70 value 305.658354
## iter  80 value 280.684005
## iter  90 value 260.822261
## iter 100 value 258.942277
## final   value 258.942277
## stopped after 100 iterations
## # weights:  129
## initial  value 519.934078
## iter  10 value 462.813689
## iter  20 value 392.064009
## iter  30 value 332.064788
## iter  40 value 313.879755
## iter  50 value 308.721998
## iter  60 value 305.022554
## iter  70 value 298.810749
## iter  80 value 290.885428
## iter  90 value 269.589555
## iter 100 value 254.373602
## final   value 254.373602
## stopped after 100 iterations
## # weights:  145
## initial  value 558.589510
## iter  10 value 459.276355
## iter  20 value 426.574543
```

```
## iter  30 value 352.758691
## iter  40 value 334.289321
## iter  50 value 332.053932
## iter  60 value 327.846029
## iter  70 value 324.132964
## iter  80 value 321.524483
## iter  90 value 316.454960
## iter 100 value 310.157911
## final  value 310.157911
## stopped after 100 iterations
## # weights:  161
## initial  value 488.590314
## iter  10 value 418.121820
## iter  20 value 380.195041
## iter  30 value 330.860592
## iter  40 value 316.777366
## iter  50 value 288.030589
## iter  60 value 265.835551
## iter  70 value 258.957319
## iter  80 value 257.058574
## iter  90 value 250.437989
## iter 100 value 242.844636
## final  value 242.844636
## stopped after 100 iterations
## # weights:  177
## initial  value 491.356004
## iter  10 value 458.096625
## iter  20 value 421.196755
## iter  30 value 340.726321
## iter  40 value 303.266563
## iter  50 value 274.013046
## iter  60 value 264.599557
## iter  70 value 248.077691
## iter  80 value 239.901117
## iter  90 value 234.399996
## iter 100 value 228.503810
## final  value 228.503810
## stopped after 100 iterations
## # weights:  193
## initial  value 540.847773
## iter  10 value 456.080852
## iter  20 value 428.766450
## iter  30 value 364.072407
## iter  40 value 339.207667
## iter  50 value 301.492635
## iter  60 value 290.652064
## iter  70 value 288.979531
## iter  80 value 279.269261
## iter  90 value 266.267052
## iter 100 value 257.471393
## final  value 257.471393
## stopped after 100 iterations
## # weights:  209
## initial  value 618.362432
```

```
## iter  10 value 480.943548
## iter  20 value 440.660533
## iter  30 value 398.569716
## iter  40 value 350.567282
## iter  50 value 344.263103
## iter  60 value 341.044606
## iter  70 value 332.565746
## iter  80 value 311.163778
## iter  90 value 279.222310
## iter 100 value 268.178939
## final   value 268.178939
## stopped after 100 iterations
## # weights:  225
## initial   value 722.696240
## iter  10 value 411.007281
## iter  20 value 349.644147
## iter  30 value 324.694261
## iter  40 value 318.435087
## iter  50 value 296.115655
## iter  60 value 283.562773
## iter  70 value 266.576897
## iter  80 value 246.972967
## iter  90 value 243.014478
## iter 100 value 232.036893
## final   value 232.036893
## stopped after 100 iterations
## # weights:  241
## initial   value 497.502317
## iter  10 value 466.896017
## iter  20 value 436.640393
## iter  30 value 377.758606
## iter  40 value 326.000885
## iter  50 value 303.266335
## iter  60 value 299.270003
## iter  70 value 292.080155
## iter  80 value 288.110725
## iter  90 value 274.261980
## iter 100 value 265.445921
## final   value 265.445921
## stopped after 100 iterations
## # weights:  97
## initial   value 495.980355
## iter  10 value 458.411813
## iter  20 value 442.017127
## iter  30 value 406.313278
## iter  40 value 366.941926
## iter  50 value 355.250584
## iter  60 value 340.102141
## iter  70 value 322.834032
## iter  80 value 319.129881
## iter  90 value 313.548589
## iter 100 value 312.234621
## final   value 312.234621
## stopped after 100 iterations
```

```
## # weights:  113
## initial  value 640.492308
## iter  10 value 476.316321
## iter  20 value 444.675873
## iter  30 value 423.590053
## iter  40 value 373.924288
## iter  50 value 344.772419
## iter  60 value 330.828655
## iter  70 value 313.386005
## iter  80 value 311.209654
## iter  90 value 308.380229
## iter 100 value 305.965866
## final  value 305.965866
## stopped after 100 iterations
## # weights:  129
## initial  value 532.027363
## iter  10 value 437.572818
## iter  20 value 367.391273
## iter  30 value 336.169622
## iter  40 value 324.147343
## iter  50 value 312.284125
## iter  60 value 308.661799
## iter  70 value 307.569172
## iter  80 value 306.863983
## iter  90 value 305.835785
## iter 100 value 304.684674
## final  value 304.684674
## stopped after 100 iterations
## # weights:  145
## initial  value 819.962209
## iter  10 value 477.031214
## iter  20 value 448.481330
## iter  30 value 374.113283
## iter  40 value 362.375316
## iter  50 value 347.126445
## iter  60 value 334.273673
## iter  70 value 327.904770
## iter  80 value 325.309746
## iter  90 value 319.572836
## iter 100 value 318.182025
## final  value 318.182025
## stopped after 100 iterations
## # weights:  161
## initial  value 571.032285
## iter  10 value 475.315763
## iter  20 value 430.129349
## iter  30 value 379.619795
## iter  40 value 353.533566
## iter  50 value 334.345527
## iter  60 value 328.924857
## iter  70 value 326.925094
## iter  80 value 312.820344
## iter  90 value 305.872026
## iter 100 value 305.264687
```

```
## final   value 305.264687
## stopped after 100 iterations
## # weights:   177
## initial   value 504.421327
## iter   10 value 444.905104
## iter   20 value 381.885042
## iter   30 value 360.634302
## iter   40 value 351.534726
## iter   50 value 335.532014
## iter   60 value 327.639100
## iter   70 value 317.144853
## iter   80 value 315.288240
## iter   90 value 313.960161
## iter 100 value 311.636896
## final   value 311.636896
## stopped after 100 iterations
## # weights:   193
## initial   value 928.065466
## iter   10 value 457.169264
## iter   20 value 430.552705
## iter   30 value 379.325561
## iter   40 value 359.255253
## iter   50 value 347.159587
## iter   60 value 336.405426
## iter   70 value 332.977358
## iter   80 value 327.256264
## iter   90 value 325.316631
## iter 100 value 315.865911
## final   value 315.865911
## stopped after 100 iterations
## # weights:   209
## initial   value 586.126698
## iter   10 value 452.594809
## iter   20 value 389.365210
## iter   30 value 367.638293
## iter   40 value 353.386531
## iter   50 value 340.809697
## iter   60 value 331.350653
## iter   70 value 325.176968
## iter   80 value 320.369103
## iter   90 value 313.878610
## iter 100 value 310.334878
## final   value 310.334878
## stopped after 100 iterations
## # weights:   225
## initial   value 546.680001
## iter   10 value 483.058196
## iter   20 value 430.158225
## iter   30 value 384.714818
## iter   40 value 361.498002
## iter   50 value 322.643287
## iter   60 value 313.756999
## iter   70 value 308.248595
## iter   80 value 306.591919
```

```
## iter  90 value 304.332530
## iter 100 value 301.831620
## final   value 301.831620
## stopped after 100 iterations
## # weights:  241
## initial   value 620.098564
## iter  10 value 488.735078
## iter  20 value 447.796973
## iter  30 value 356.489944
## iter  40 value 324.608150
## iter  50 value 318.340249
## iter  60 value 310.078688
## iter  70 value 304.744661
## iter  80 value 302.078740
## iter  90 value 300.509036
## iter 100 value 299.338789
## final   value 299.338789
## stopped after 100 iterations
## # weights:  97
## initial   value 466.948024
## iter  10 value 432.925321
## iter  20 value 415.510760
## iter  30 value 357.557814
## iter  40 value 312.396471
## iter  50 value 282.455574
## iter  60 value 269.725819
## iter  70 value 259.996341
## iter  80 value 255.822374
## iter  90 value 249.157132
## iter 100 value 244.568156
## final   value 244.568156
## stopped after 100 iterations
## # weights:  113
## initial   value 469.963399
## iter  10 value 451.591859
## iter  20 value 446.092990
## iter  30 value 443.210487
## iter  40 value 436.869941
## iter  50 value 433.181091
## iter  60 value 431.011308
## iter  70 value 430.092111
## iter  80 value 428.144027
## iter  90 value 427.840329
## iter 100 value 427.784346
## final   value 427.784346
## stopped after 100 iterations
## # weights:  129
## initial   value 1071.771090
## iter  10 value 424.277304
## iter  20 value 402.796769
## iter  30 value 356.819712
## iter  40 value 316.615799
## iter  50 value 296.177149
## iter  60 value 281.619159
```

```
## iter  70 value 268.130240
## iter  80 value 265.434555
## iter  90 value 265.394637
## iter 100 value 256.354962
## final  value 256.354962
## stopped after 100 iterations
## # weights:  145
## initial  value 487.386050
## iter  10 value 440.729101
## iter  20 value 415.963892
## iter  30 value 393.014901
## iter  40 value 375.233011
## iter  50 value 325.383645
## iter  60 value 300.868841
## iter  70 value 269.565509
## iter  80 value 257.894963
## iter  90 value 254.476231
## iter 100 value 249.984754
## final  value 249.984754
## stopped after 100 iterations
## # weights:  161
## initial  value 479.754502
## iter  10 value 430.090557
## iter  20 value 401.280444
## iter  30 value 389.498863
## iter  40 value 379.176075
## iter  50 value 356.607717
## iter  60 value 335.927416
## iter  70 value 321.875704
## iter  80 value 306.189028
## iter  90 value 293.531474
## iter 100 value 281.684418
## final  value 281.684418
## stopped after 100 iterations
## # weights:  177
## initial  value 542.846101
## iter  10 value 427.382693
## iter  20 value 412.590585
## iter  30 value 394.925877
## iter  40 value 334.321249
## iter  50 value 294.534462
## iter  60 value 280.511137
## iter  70 value 269.976657
## iter  80 value 268.287289
## iter  90 value 264.293497
## iter 100 value 262.098352
## final  value 262.098352
## stopped after 100 iterations
## # weights:  193
## initial  value 504.198031
## iter  10 value 418.894090
## iter  20 value 372.332520
## iter  30 value 360.407669
## iter  40 value 350.878076
```

```
## iter   50 value 348.072356
## iter   60 value 343.559307
## iter   70 value 336.715808
## iter   80 value 335.522633
## final   value 335.241246
## converged
## # weights:  209
## initial   value 459.682253
## iter   10 value 427.483219
## iter   20 value 382.767928
## iter   30 value 349.666484
## iter   40 value 323.081590
## iter   50 value 308.415647
## iter   60 value 293.707538
## iter   70 value 275.890707
## iter   80 value 258.634782
## iter   90 value 253.205693
## iter  100 value 251.994895
## final   value 251.994895
## stopped after 100 iterations
## # weights:  225
## initial   value 723.358173
## iter   10 value 440.148858
## iter   20 value 415.021139
## iter   30 value 389.096078
## iter   40 value 383.336039
## iter   50 value 373.064024
## iter   60 value 368.274724
## iter   70 value 367.416164
## iter   80 value 365.142627
## iter   90 value 362.937198
## iter  100 value 362.340662
## final   value 362.340662
## stopped after 100 iterations
## # weights:  241
## initial   value 602.712720
## iter   10 value 440.341246
## iter   20 value 420.159583
## iter   30 value 346.316377
## iter   40 value 334.625730
## iter   50 value 326.100629
## iter   60 value 314.901374
## iter   70 value 310.623963
## iter   80 value 304.689024
## iter   90 value 288.146404
## iter  100 value 269.158369
## final   value 269.158369
## stopped after 100 iterations
## # weights:  97
## initial   value 503.952897
## iter   10 value 421.900632
## iter   20 value 373.978058
## iter   30 value 351.744590
## iter   40 value 338.091687
```

```
## iter  50 value 327.866585
## iter  60 value 325.030950
## iter  70 value 319.645598
## iter  80 value 314.124519
## iter  90 value 307.806241
## iter 100 value 306.278475
## final   value 306.278475
## stopped after 100 iterations
## # weights:  113
## initial  value 480.578305
## iter  10 value 433.600451
## iter  20 value 419.028792
## iter  30 value 407.768441
## iter  40 value 368.117816
## iter  50 value 356.022217
## iter  60 value 349.027385
## iter  70 value 344.343801
## iter  80 value 339.412317
## iter  90 value 328.411735
## iter 100 value 315.500472
## final   value 315.500472
## stopped after 100 iterations
## # weights:  129
## initial  value 587.184816
## iter  10 value 458.842097
## iter  20 value 418.270508
## iter  30 value 399.087262
## iter  40 value 383.711706
## iter  50 value 360.675536
## iter  60 value 326.575369
## iter  70 value 312.440151
## iter  80 value 300.414870
## iter  90 value 297.126780
## iter 100 value 293.935891
## final   value 293.935891
## stopped after 100 iterations
## # weights:  145
## initial  value 479.470662
## iter  10 value 457.092350
## iter  20 value 427.273272
## iter  30 value 401.148184
## iter  40 value 358.101901
## iter  50 value 326.354634
## iter  60 value 309.975060
## iter  70 value 295.833600
## iter  80 value 278.367963
## iter  90 value 268.755414
## iter 100 value 264.529941
## final   value 264.529941
## stopped after 100 iterations
## # weights:  161
## initial  value 578.632300
## iter  10 value 436.236034
## iter  20 value 420.565602
```

```
## iter  30 value 363.511875
## iter  40 value 322.339053
## iter  50 value 306.312739
## iter  60 value 302.471226
## iter  70 value 282.706342
## iter  80 value 265.078213
## iter  90 value 260.388573
## iter 100 value 248.264568
## final  value 248.264568
## stopped after 100 iterations
## # weights:  177
## initial  value 686.629215
## iter  10 value 452.428484
## iter  20 value 428.791854
## iter  30 value 418.949728
## iter  40 value 389.415309
## iter  50 value 353.057369
## iter  60 value 325.914936
## iter  70 value 316.292814
## iter  80 value 311.685019
## iter  90 value 301.122358
## iter 100 value 286.520161
## final  value 286.520161
## stopped after 100 iterations
## # weights:  193
## initial  value 478.160772
## iter  10 value 424.863554
## iter  20 value 402.823760
## iter  30 value 348.730447
## iter  40 value 330.077533
## iter  50 value 308.684159
## iter  60 value 302.620245
## iter  70 value 299.349374
## iter  80 value 294.383249
## iter  90 value 286.867374
## iter 100 value 275.540435
## final  value 275.540435
## stopped after 100 iterations
## # weights:  209
## initial  value 514.544084
## iter  10 value 460.946102
## iter  20 value 402.588888
## iter  30 value 355.752503
## iter  40 value 347.809174
## iter  50 value 345.915236
## iter  60 value 342.148192
## iter  70 value 331.212691
## iter  80 value 313.246527
## iter  90 value 306.943038
## iter 100 value 300.029945
## final  value 300.029945
## stopped after 100 iterations
## # weights:  225
## initial  value 621.116045
```

```
## iter  10 value 437.657575
## iter  20 value 425.303379
## iter  30 value 370.985636
## iter  40 value 335.354250
## iter  50 value 313.021123
## iter  60 value 302.578931
## iter  70 value 298.390994
## iter  80 value 287.240893
## iter  90 value 277.418962
## iter 100 value 272.943162
## final   value 272.943162
## stopped after 100 iterations
## # weights:  241
## initial   value 554.923720
## iter  10 value 432.687142
## iter  20 value 418.189906
## iter  30 value 400.688995
## iter  40 value 366.732221
## iter  50 value 319.780076
## iter  60 value 309.224677
## iter  70 value 292.152861
## iter  80 value 271.605652
## iter  90 value 266.877375
## iter 100 value 261.443547
## final   value 261.443547
## stopped after 100 iterations
## # weights:  97
## initial   value 530.449899
## iter  10 value 431.847143
## iter  20 value 426.543468
## iter  30 value 423.802474
## iter  40 value 411.873184
## iter  50 value 391.111290
## iter  60 value 374.365630
## iter  70 value 350.225820
## iter  80 value 324.382548
## iter  90 value 297.791143
## iter 100 value 285.485964
## final   value 285.485964
## stopped after 100 iterations
## # weights:  113
## initial   value 486.772110
## iter  10 value 434.387337
## iter  20 value 404.158916
## iter  30 value 353.556148
## iter  40 value 334.725866
## iter  50 value 317.344983
## iter  60 value 312.928443
## iter  70 value 303.292360
## iter  80 value 298.691253
## iter  90 value 297.305410
## iter 100 value 289.627052
## final   value 289.627052
## stopped after 100 iterations
```

```
## # weights:  129
## initial  value 549.156797
## iter  10 value 431.935833
## iter  20 value 422.978817
## iter  30 value 377.529407
## iter  40 value 355.279319
## iter  50 value 351.586659
## iter  60 value 349.536123
## iter  70 value 343.926781
## iter  80 value 341.833650
## iter  90 value 340.942093
## iter 100 value 340.801286
## final  value 340.801286
## stopped after 100 iterations
## # weights:  145
## initial  value 470.530560
## iter  10 value 441.671208
## iter  20 value 423.691521
## iter  30 value 379.757757
## iter  40 value 359.580529
## iter  50 value 315.572319
## iter  60 value 301.591616
## iter  70 value 290.404135
## iter  80 value 280.872258
## iter  90 value 278.668885
## iter 100 value 271.877999
## final  value 271.877999
## stopped after 100 iterations
## # weights:  161
## initial  value 450.121778
## iter  10 value 436.343661
## iter  20 value 413.899158
## iter  30 value 388.849681
## iter  40 value 368.424729
## iter  50 value 353.837842
## iter  60 value 333.236677
## iter  70 value 309.174540
## iter  80 value 298.904222
## iter  90 value 292.036320
## iter 100 value 286.827018
## final  value 286.827018
## stopped after 100 iterations
## # weights:  177
## initial  value 500.405367
## iter  10 value 422.554027
## iter  20 value 390.236277
## iter  30 value 357.022682
## iter  40 value 327.753296
## iter  50 value 311.836293
## iter  60 value 307.977579
## iter  70 value 303.779257
## iter  80 value 302.492538
## iter  90 value 299.428407
## iter 100 value 289.711475
```

```
## final   value 289.711475
## stopped after 100 iterations
## # weights:  193
## initial   value 628.093461
## iter   10 value 433.068778
## iter   20 value 423.275591
## iter   30 value 418.883355
## iter   40 value 404.399445
## iter   50 value 347.204865
## iter   60 value 335.230137
## iter   70 value 318.723531
## iter   80 value 308.575464
## iter   90 value 307.183130
## iter  100 value 304.980560
## final   value 304.980560
## stopped after 100 iterations
## # weights:  209
## initial   value 603.539050
## iter   10 value 448.704658
## iter   20 value 367.184294
## iter   30 value 359.102710
## iter   40 value 349.095271
## iter   50 value 333.918938
## iter   60 value 317.821873
## iter   70 value 310.153467
## iter   80 value 305.636309
## iter   90 value 297.548291
## iter  100 value 288.317669
## final   value 288.317669
## stopped after 100 iterations
## # weights:  225
## initial   value 569.773010
## iter   10 value 439.882954
## iter   20 value 419.993071
## iter   30 value 357.038357
## iter   40 value 332.555339
## iter   50 value 319.844819
## iter   60 value 313.149395
## iter   70 value 301.673160
## iter   80 value 286.669004
## iter   90 value 279.652879
## iter  100 value 276.418906
## final   value 276.418906
## stopped after 100 iterations
## # weights:  241
## initial   value 666.138923
## iter   10 value 439.341294
## iter   20 value 411.478651
## iter   30 value 391.292552
## iter   40 value 373.232376
## iter   50 value 340.477211
## iter   60 value 324.820851
## iter   70 value 309.379262
## iter   80 value 296.816936
```

```
## iter  90 value 290.115383
## iter 100 value 283.108307
## final   value 283.108307
## stopped after 100 iterations
## # weights:  97
## initial   value 499.262596
## iter  10 value 446.774436
## iter  20 value 412.117151
## iter  30 value 391.561448
## iter  40 value 376.544638
## iter  50 value 366.632605
## iter  60 value 361.044386
## iter  70 value 346.215584
## iter  80 value 341.528583
## iter  90 value 338.103305
## iter 100 value 337.105839
## final   value 337.105839
## stopped after 100 iterations
## # weights:  113
## initial   value 487.153666
## iter  10 value 455.814392
## iter  20 value 434.216495
## iter  30 value 425.519472
## iter  40 value 404.266061
## iter  50 value 375.754322
## iter  60 value 353.622845
## iter  70 value 341.213874
## iter  80 value 338.665227
## iter  90 value 335.700730
## iter 100 value 334.051899
## final   value 334.051899
## stopped after 100 iterations
## # weights:  129
## initial   value 854.074849
## iter  10 value 451.503064
## iter  20 value 428.937612
## iter  30 value 388.578627
## iter  40 value 374.583703
## iter  50 value 362.406458
## iter  60 value 354.008162
## iter  70 value 343.071315
## iter  80 value 336.425116
## iter  90 value 335.038308
## iter 100 value 334.657812
## final   value 334.657812
## stopped after 100 iterations
## # weights:  145
## initial   value 710.299761
## iter  10 value 440.020618
## iter  20 value 391.388490
## iter  30 value 381.790579
## iter  40 value 377.074168
## iter  50 value 371.033721
## iter  60 value 362.228428
```

```
## iter  70 value 346.501637
## iter  80 value 341.303655
## iter  90 value 333.891558
## iter 100 value 328.905473
## final  value 328.905473
## stopped after 100 iterations
## # weights:  161
## initial  value 491.201447
## iter  10 value 410.228534
## iter  20 value 369.979767
## iter  30 value 357.243533
## iter  40 value 346.324123
## iter  50 value 340.348567
## iter  60 value 335.094031
## iter  70 value 332.840065
## iter  80 value 332.088812
## iter  90 value 331.091515
## iter 100 value 330.053763
## final  value 330.053763
## stopped after 100 iterations
## # weights:  177
## initial  value 540.884187
## iter  10 value 462.052288
## iter  20 value 439.849433
## iter  30 value 405.421907
## iter  40 value 395.094714
## iter  50 value 379.760190
## iter  60 value 367.712727
## iter  70 value 355.040800
## iter  80 value 345.245564
## iter  90 value 341.838639
## iter 100 value 337.224172
## final  value 337.224172
## stopped after 100 iterations
## # weights:  193
## initial  value 536.202159
## iter  10 value 444.579386
## iter  20 value 436.260312
## iter  30 value 408.283940
## iter  40 value 370.943155
## iter  50 value 356.564359
## iter  60 value 352.640152
## iter  70 value 345.679949
## iter  80 value 342.224948
## iter  90 value 336.540232
## iter 100 value 333.921114
## final  value 333.921114
## stopped after 100 iterations
## # weights:  209
## initial  value 579.625495
## iter  10 value 445.573596
## iter  20 value 395.006268
## iter  30 value 378.595428
## iter  40 value 358.019245
```

```
## iter  50 value 345.780401
## iter  60 value 339.256410
## iter  70 value 334.916558
## iter  80 value 331.345377
## iter  90 value 330.752388
## iter 100 value 328.633080
## final   value 328.633080
## stopped after 100 iterations
## # weights:  225
## initial  value 532.244112
## iter  10 value 444.709110
## iter  20 value 431.504348
## iter  30 value 397.295921
## iter  40 value 372.667787
## iter  50 value 357.450727
## iter  60 value 346.366362
## iter  70 value 337.181194
## iter  80 value 334.119117
## iter  90 value 331.442205
## iter 100 value 330.848554
## final   value 330.848554
## stopped after 100 iterations
## # weights:  241
## initial  value 546.646923
## iter  10 value 469.312562
## iter  20 value 455.323144
## iter  30 value 430.832898
## iter  40 value 396.979452
## iter  50 value 364.346945
## iter  60 value 348.311639
## iter  70 value 339.717570
## iter  80 value 333.382866
## iter  90 value 331.779413
## iter 100 value 330.276031
## final   value 330.276031
## stopped after 100 iterations
## # weights:  97
## initial  value 472.459852
## iter  10 value 403.227837
## iter  20 value 364.097002
## iter  30 value 354.046028
## iter  40 value 334.555301
## iter  50 value 315.389973
## iter  60 value 303.220255
## iter  70 value 296.636422
## iter  80 value 292.656611
## iter  90 value 290.313271
## iter 100 value 289.704990
## final   value 289.704990
## stopped after 100 iterations
## # weights:  113
## initial  value 460.441746
## iter  10 value 431.650600
## iter  20 value 417.728758
```

```
## iter  30 value 404.062995
## iter  40 value 334.581056
## iter  50 value 295.499840
## iter  60 value 279.704289
## iter  70 value 261.698233
## iter  80 value 254.507887
## iter  90 value 253.751992
## iter 100 value 253.738811
## final  value 253.738811
## stopped after 100 iterations
## # weights:  129
## initial  value 497.628327
## iter  10 value 446.041551
## iter  20 value 391.390408
## iter  30 value 340.301679
## iter  40 value 314.525867
## iter  50 value 312.640040
## iter  60 value 307.719284
## iter  70 value 302.250711
## iter  80 value 296.976347
## iter  90 value 287.216392
## iter 100 value 281.067137
## final  value 281.067137
## stopped after 100 iterations
## # weights:  145
## initial  value 762.461037
## iter  10 value 401.680924
## iter  20 value 372.884230
## iter  30 value 309.055717
## iter  40 value 290.917354
## iter  50 value 284.202114
## iter  60 value 275.168625
## iter  70 value 264.107912
## iter  80 value 257.708964
## iter  90 value 253.269684
## iter 100 value 250.750634
## final  value 250.750634
## stopped after 100 iterations
## # weights:  161
## initial  value 997.029578
## iter  10 value 438.613157
## iter  20 value 417.005013
## iter  30 value 372.902916
## iter  40 value 349.834285
## iter  50 value 340.965054
## iter  60 value 338.022008
## iter  70 value 337.150756
## iter  80 value 332.014952
## iter  90 value 330.065349
## iter 100 value 324.784741
## final  value 324.784741
## stopped after 100 iterations
## # weights:  177
## initial  value 760.444594
```

```
## iter  10 value 460.737404
## iter  20 value 419.880222
## iter  30 value 348.446284
## iter  40 value 324.025523
## iter  50 value 313.054003
## iter  60 value 294.733648
## iter  70 value 283.211236
## iter  80 value 275.533375
## iter  90 value 274.978142
## iter 100 value 273.870608
## final  value 273.870608
## stopped after 100 iterations
## # weights:  193
## initial  value 492.708720
## iter  10 value 437.998271
## iter  20 value 408.732820
## iter  30 value 385.841154
## iter  40 value 337.916476
## iter  50 value 329.122823
## iter  60 value 310.209899
## iter  70 value 306.359520
## iter  80 value 299.517001
## iter  90 value 283.960867
## iter 100 value 272.200069
## final  value 272.200069
## stopped after 100 iterations
## # weights:  209
## initial  value 473.188665
## iter  10 value 456.608556
## iter  20 value 418.252365
## iter  30 value 372.358561
## iter  40 value 347.381937
## iter  50 value 334.394380
## iter  60 value 317.529566
## iter  70 value 309.765015
## iter  80 value 290.183872
## iter  90 value 264.923314
## iter 100 value 246.709632
## final  value 246.709632
## stopped after 100 iterations
## # weights:  225
## initial  value 476.287562
## iter  10 value 447.028508
## iter  20 value 403.948225
## iter  30 value 359.406232
## iter  40 value 324.900111
## iter  50 value 310.447985
## iter  60 value 293.831453
## iter  70 value 281.389864
## iter  80 value 278.260756
## iter  90 value 272.646268
## iter 100 value 269.153041
## final  value 269.153041
## stopped after 100 iterations
```

```
## # weights:  241
## initial  value 485.190679
## iter  10 value 433.382767
## iter  20 value 375.839710
## iter  30 value 331.862129
## iter  40 value 319.414093
## iter  50 value 305.619277
## iter  60 value 301.213032
## iter  70 value 284.133145
## iter  80 value 268.735000
## iter  90 value 257.888299
## iter 100 value 255.606204
## final  value 255.606204
## stopped after 100 iterations
## # weights:  97
## initial  value 635.245149
## iter  10 value 443.144620
## iter  20 value 423.596500
## iter  30 value 416.267003
## iter  40 value 352.328476
## iter  50 value 331.410384
## iter  60 value 299.616818
## iter  70 value 279.899912
## iter  80 value 274.097630
## iter  90 value 260.832815
## iter 100 value 254.012862
## final  value 254.012862
## stopped after 100 iterations
## # weights:  113
## initial  value 468.878612
## iter  10 value 446.849411
## iter  20 value 426.854846
## iter  30 value 376.896549
## iter  40 value 328.886194
## iter  50 value 313.279360
## iter  60 value 297.438141
## iter  70 value 294.626068
## iter  80 value 285.481625
## iter  90 value 282.801853
## iter 100 value 277.454679
## final  value 277.454679
## stopped after 100 iterations
## # weights:  129
## initial  value 492.091834
## iter  10 value 446.864711
## iter  20 value 408.738296
## iter  30 value 364.436286
## iter  40 value 348.258111
## iter  50 value 336.013654
## iter  60 value 313.351862
## iter  70 value 304.644271
## iter  80 value 302.275067
## iter  90 value 299.957997
## iter 100 value 298.852684
```

```
## final   value 298.852684
## stopped after 100 iterations
## # weights:  145
## initial   value 618.948152
## iter  10 value 460.831980
## iter  20 value 433.185404
## iter  30 value 390.735410
## iter  40 value 354.683827
## iter  50 value 338.075363
## iter  60 value 322.929694
## iter  70 value 312.659348
## iter  80 value 302.394062
## iter  90 value 299.616673
## iter 100 value 292.765370
## final   value 292.765370
## stopped after 100 iterations
## # weights:  161
## initial   value 699.026286
## iter  10 value 440.190881
## iter  20 value 379.345714
## iter  30 value 353.395457
## iter  40 value 329.580257
## iter  50 value 320.618335
## iter  60 value 313.678321
## iter  70 value 302.594198
## iter  80 value 294.441131
## iter  90 value 289.463621
## iter 100 value 284.033828
## final   value 284.033828
## stopped after 100 iterations
## # weights:  177
## initial   value 544.555793
## iter  10 value 466.815606
## iter  20 value 384.707101
## iter  30 value 340.749158
## iter  40 value 308.638301
## iter  50 value 298.917304
## iter  60 value 295.774078
## iter  70 value 287.415697
## iter  80 value 278.352330
## iter  90 value 271.863669
## iter 100 value 259.667799
## final   value 259.667799
## stopped after 100 iterations
## # weights:  193
## initial   value 471.124839
## iter  10 value 445.177171
## iter  20 value 397.083103
## iter  30 value 344.663407
## iter  40 value 320.310499
## iter  50 value 307.741466
## iter  60 value 300.906116
## iter  70 value 285.695077
## iter  80 value 268.336976
```

```
## iter  90 value 257.120433
## iter 100 value 250.782334
## final   value 250.782334
## stopped after 100 iterations
## # weights:  209
## initial   value 636.731501
## iter  10 value 440.303219
## iter  20 value 359.675657
## iter  30 value 346.558836
## iter  40 value 337.319872
## iter  50 value 334.082331
## iter  60 value 327.237122
## iter  70 value 322.362486
## iter  80 value 305.871557
## iter  90 value 282.467764
## iter 100 value 279.176566
## final   value 279.176566
## stopped after 100 iterations
## # weights:  225
## initial   value 636.299235
## iter  10 value 461.554149
## iter  20 value 427.017133
## iter  30 value 360.954511
## iter  40 value 330.319405
## iter  50 value 311.621705
## iter  60 value 301.062958
## iter  70 value 296.590517
## iter  80 value 292.891808
## iter  90 value 288.013217
## iter 100 value 283.671512
## final   value 283.671512
## stopped after 100 iterations
## # weights:  241
## initial   value 715.656856
## iter  10 value 445.232348
## iter  20 value 418.615105
## iter  30 value 344.325329
## iter  40 value 313.467066
## iter  50 value 295.007871
## iter  60 value 279.498496
## iter  70 value 271.001070
## iter  80 value 261.296419
## iter  90 value 253.699689
## iter 100 value 248.187772
## final   value 248.187772
## stopped after 100 iterations
## # weights:  97
## initial   value 715.926452
## iter  10 value 467.507044
## iter  20 value 380.248261
## iter  30 value 364.753371
## iter  40 value 352.105423
## iter  50 value 344.864624
## iter  60 value 333.933667
```

```
## iter  70 value 321.627494
## iter  80 value 302.815580
## iter  90 value 297.071436
## iter 100 value 286.970272
## final  value 286.970272
## stopped after 100 iterations
## # weights:  113
## initial  value 505.348137
## iter  10 value 418.365467
## iter  20 value 372.087778
## iter  30 value 356.862300
## iter  40 value 338.854320
## iter  50 value 328.520238
## iter  60 value 327.101204
## iter  70 value 319.033708
## iter  80 value 317.282507
## iter  90 value 311.085526
## iter 100 value 297.662395
## final  value 297.662395
## stopped after 100 iterations
## # weights:  129
## initial  value 673.940149
## iter  10 value 442.299478
## iter  20 value 414.344043
## iter  30 value 389.177706
## iter  40 value 350.156719
## iter  50 value 327.868416
## iter  60 value 316.201572
## iter  70 value 309.215366
## iter  80 value 291.025574
## iter  90 value 276.113325
## iter 100 value 274.488277
## final  value 274.488277
## stopped after 100 iterations
## # weights:  145
## initial  value 916.074669
## iter  10 value 465.334297
## iter  20 value 433.317554
## iter  30 value 417.511703
## iter  40 value 353.825354
## iter  50 value 331.857980
## iter  60 value 317.531329
## iter  70 value 314.792806
## iter  80 value 311.742963
## iter  90 value 309.689968
## iter 100 value 302.756636
## final  value 302.756636
## stopped after 100 iterations
## # weights:  161
## initial  value 484.421959
## iter  10 value 412.668472
## iter  20 value 379.767774
## iter  30 value 347.132430
## iter  40 value 336.988402
```

```
## iter  50 value 324.848453
## iter  60 value 314.113091
## iter  70 value 310.447136
## iter  80 value 302.667021
## iter  90 value 292.271752
## iter 100 value 276.064494
## final   value 276.064494
## stopped after 100 iterations
## # weights:  177
## initial  value 463.402888
## iter  10 value 432.284953
## iter  20 value 390.325270
## iter  30 value 365.139761
## iter  40 value 329.568769
## iter  50 value 317.076459
## iter  60 value 311.748605
## iter  70 value 305.883485
## iter  80 value 294.449718
## iter  90 value 279.385588
## iter 100 value 264.620325
## final   value 264.620325
## stopped after 100 iterations
## # weights:  193
## initial  value 691.205192
## iter  10 value 449.142165
## iter  20 value 430.495187
## iter  30 value 423.921813
## iter  40 value 371.022963
## iter  50 value 347.492492
## iter  60 value 320.980523
## iter  70 value 298.105501
## iter  80 value 288.354534
## iter  90 value 282.531275
## iter 100 value 281.362655
## final   value 281.362655
## stopped after 100 iterations
## # weights:  209
## initial  value 757.936335
## iter  10 value 436.690354
## iter  20 value 423.800726
## iter  30 value 413.158993
## iter  40 value 374.292044
## iter  50 value 355.044905
## iter  60 value 337.212280
## iter  70 value 330.438871
## iter  80 value 318.584278
## iter  90 value 307.522935
## iter 100 value 301.721364
## final   value 301.721364
## stopped after 100 iterations
## # weights:  225
## initial  value 851.722313
## iter  10 value 459.157567
## iter  20 value 436.346285
```

```
## iter  30 value 424.064363
## iter  40 value 375.554696
## iter  50 value 335.206957
## iter  60 value 311.938668
## iter  70 value 295.761086
## iter  80 value 292.398127
## iter  90 value 280.105118
## iter 100 value 267.024281
## final  value 267.024281
## stopped after 100 iterations
## # weights:  241
## initial  value 783.498293
## iter  10 value 439.920493
## iter  20 value 376.971777
## iter  30 value 324.707433
## iter  40 value 318.538814
## iter  50 value 311.428253
## iter  60 value 301.514845
## iter  70 value 289.940224
## iter  80 value 288.507930
## iter  90 value 281.756486
## iter 100 value 275.916323
## final  value 275.916323
## stopped after 100 iterations
## # weights:  97
## initial  value 500.430214
## iter  10 value 443.207749
## iter  20 value 425.017209
## iter  30 value 380.044503
## iter  40 value 361.442488
## iter  50 value 356.378065
## iter  60 value 347.630687
## iter  70 value 344.271206
## iter  80 value 342.646442
## iter  90 value 340.413446
## iter 100 value 337.237958
## final  value 337.237958
## stopped after 100 iterations
## # weights:  113
## initial  value 490.629328
## iter  10 value 451.260678
## iter  20 value 420.759439
## iter  30 value 383.056113
## iter  40 value 353.116637
## iter  50 value 342.114054
## iter  60 value 338.638420
## iter  70 value 336.756782
## iter  80 value 334.109205
## iter  90 value 333.397632
## iter 100 value 331.617263
## final  value 331.617263
## stopped after 100 iterations
## # weights:  129
## initial  value 494.316302
```

```
## iter  10 value 450.212928
## iter  20 value 407.105732
## iter  30 value 389.049989
## iter  40 value 366.943184
## iter  50 value 356.895129
## iter  60 value 346.306207
## iter  70 value 340.329872
## iter  80 value 337.372837
## iter  90 value 332.716769
## iter 100 value 329.437107
## final  value 329.437107
## stopped after 100 iterations
## # weights:  145
## initial  value 534.105029
## iter  10 value 452.939346
## iter  20 value 402.138251
## iter  30 value 360.952097
## iter  40 value 351.562377
## iter  50 value 342.342025
## iter  60 value 336.396758
## iter  70 value 332.313237
## iter  80 value 328.955500
## iter  90 value 324.913781
## iter 100 value 322.973695
## final  value 322.973695
## stopped after 100 iterations
## # weights:  161
## initial  value 509.234837
## iter  10 value 448.873272
## iter  20 value 396.324957
## iter  30 value 379.476777
## iter  40 value 369.646192
## iter  50 value 355.726321
## iter  60 value 351.695200
## iter  70 value 345.319234
## iter  80 value 340.453355
## iter  90 value 332.211029
## iter 100 value 326.802279
## final  value 326.802279
## stopped after 100 iterations
## # weights:  177
## initial  value 631.425940
## iter  10 value 460.927056
## iter  20 value 422.698819
## iter  30 value 387.070435
## iter  40 value 352.302001
## iter  50 value 346.644820
## iter  60 value 343.310154
## iter  70 value 337.970148
## iter  80 value 333.902770
## iter  90 value 329.673275
## iter 100 value 326.739015
## final  value 326.739015
## stopped after 100 iterations
```

```
## # weights:  193
## initial  value 527.202563
## iter  10 value 442.008441
## iter  20 value 387.334154
## iter  30 value 378.523360
## iter  40 value 358.371762
## iter  50 value 350.632980
## iter  60 value 345.872339
## iter  70 value 339.152614
## iter  80 value 332.962725
## iter  90 value 329.838274
## iter 100 value 328.449262
## final  value 328.449262
## stopped after 100 iterations
## # weights:  209
## initial  value 888.253157
## iter  10 value 559.554957
## iter  20 value 509.208458
## iter  30 value 486.508771
## iter  40 value 462.438610
## iter  50 value 383.381154
## iter  60 value 360.654846
## iter  70 value 347.428918
## iter  80 value 337.391862
## iter  90 value 333.293505
## iter 100 value 331.458530
## final  value 331.458530
## stopped after 100 iterations
## # weights:  225
## initial  value 607.027283
## iter  10 value 462.237773
## iter  20 value 447.452507
## iter  30 value 419.886805
## iter  40 value 381.404867
## iter  50 value 368.680837
## iter  60 value 357.994556
## iter  70 value 350.135636
## iter  80 value 339.862925
## iter  90 value 335.573726
## iter 100 value 333.155924
## final  value 333.155924
## stopped after 100 iterations
## # weights:  241
## initial  value 624.761079
## iter  10 value 454.626618
## iter  20 value 440.494984
## iter  30 value 386.779107
## iter  40 value 362.815675
## iter  50 value 354.316101
## iter  60 value 344.169899
## iter  70 value 342.242098
## iter  80 value 335.864950
## iter  90 value 333.681508
## iter 100 value 332.072693
```

```
## final   value 332.072693
## stopped after 100 iterations
## # weights:   97
## initial   value 975.411985
## iter   10 value 400.753963
## iter   20 value 339.823062
## iter   30 value 290.004335
## iter   40 value 270.688325
## iter   50 value 261.242796
## iter   60 value 249.964037
## iter   70 value 227.197120
## iter   80 value 222.997960
## iter   90 value 219.556391
## iter 100 value 211.803935
## final   value 211.803935
## stopped after 100 iterations
## # weights:   113
## initial   value 460.986588
## iter   10 value 440.260433
## iter   20 value 352.816001
## iter   30 value 315.062790
## iter   40 value 311.155146
## iter   50 value 309.127991
## iter   60 value 298.804047
## iter   70 value 284.731246
## iter   80 value 281.110300
## iter   90 value 279.452808
## iter 100 value 273.833902
## final   value 273.833902
## stopped after 100 iterations
## # weights:   129
## initial   value 793.709823
## iter   10 value 414.025934
## iter   20 value 385.424354
## iter   30 value 353.728419
## iter   40 value 301.499461
## iter   50 value 262.747700
## iter   60 value 227.257848
## iter   70 value 211.808555
## iter   80 value 196.543697
## iter   90 value 185.706263
## iter 100 value 181.720704
## final   value 181.720704
## stopped after 100 iterations
## # weights:   145
## initial   value 483.008634
## iter   10 value 436.226612
## iter   20 value 372.000725
## iter   30 value 309.985504
## iter   40 value 269.898625
## iter   50 value 238.845035
## iter   60 value 223.088358
## iter   70 value 220.285324
## iter   80 value 214.685351
```

```
## iter  90 value 212.763077
## iter 100 value 203.341492
## final   value 203.341492
## stopped after 100 iterations
## # weights:  161
## initial   value 597.877130
## iter  10 value 405.297506
## iter  20 value 356.090415
## iter  30 value 306.394491
## iter  40 value 294.929518
## iter  50 value 277.378050
## iter  60 value 255.430197
## iter  70 value 249.051587
## iter  80 value 229.008527
## iter  90 value 204.219035
## iter 100 value 193.413883
## final   value 193.413883
## stopped after 100 iterations
## # weights:  177
## initial   value 484.231718
## iter  10 value 409.577143
## iter  20 value 369.211984
## iter  30 value 317.400647
## iter  40 value 303.494017
## iter  50 value 292.089937
## iter  60 value 275.889246
## iter  70 value 265.051119
## iter  80 value 263.834380
## iter  90 value 255.076929
## iter 100 value 249.094429
## final   value 249.094429
## stopped after 100 iterations
## # weights:  193
## initial   value 591.998308
## iter  10 value 418.820057
## iter  20 value 393.364276
## iter  30 value 375.141191
## iter  40 value 328.037331
## iter  50 value 289.982866
## iter  60 value 261.317395
## iter  70 value 240.356781
## iter  80 value 228.879493
## iter  90 value 220.122227
## iter 100 value 218.294335
## final   value 218.294335
## stopped after 100 iterations
## # weights:  209
## initial   value 604.264347
## iter  10 value 388.080945
## iter  20 value 329.601040
## iter  30 value 302.367434
## iter  40 value 277.614455
## iter  50 value 250.037306
## iter  60 value 231.805470
```

```
## iter   70 value 223.299178
## iter   80 value 220.888579
## iter   90 value 214.862684
## iter  100 value 211.283131
## final   value 211.283131
## stopped after 100 iterations
## # weights:  225
## initial  value 515.584245
## iter   10 value 411.293209
## iter   20 value 389.838802
## iter   30 value 344.314187
## iter   40 value 306.371265
## iter   50 value 292.779764
## iter   60 value 256.157699
## iter   70 value 239.059985
## iter   80 value 231.683441
## iter   90 value 214.095434
## iter  100 value 208.792511
## final   value 208.792511
## stopped after 100 iterations
## # weights:  241
## initial  value 460.351030
## iter   10 value 404.988436
## iter   20 value 325.188368
## iter   30 value 299.413749
## iter   40 value 293.370216
## iter   50 value 273.241466
## iter   60 value 256.839557
## iter   70 value 253.654073
## iter   80 value 249.083979
## iter   90 value 237.870234
## iter  100 value 235.404513
## final   value 235.404513
## stopped after 100 iterations
## # weights:   97
## initial  value 496.344982
## iter   10 value 402.549045
## iter   20 value 355.593920
## iter   30 value 314.500558
## iter   40 value 305.032295
## iter   50 value 292.917434
## iter   60 value 282.552233
## iter   70 value 257.902608
## iter   80 value 249.951742
## iter   90 value 244.599081
## iter  100 value 239.902469
## final   value 239.902469
## stopped after 100 iterations
## # weights:  113
## initial  value 982.292340
## iter   10 value 396.197666
## iter   20 value 346.091162
## iter   30 value 304.807949
## iter   40 value 295.822810
```

```
## iter  50 value 285.820041
## iter  60 value 251.829778
## iter  70 value 242.657234
## iter  80 value 239.829571
## iter  90 value 236.169125
## iter 100 value 227.462272
## final   value 227.462272
## stopped after 100 iterations
## # weights:  129
## initial   value 512.220674
## iter  10 value 403.140576
## iter  20 value 360.582284
## iter  30 value 320.074182
## iter  40 value 297.002152
## iter  50 value 288.236954
## iter  60 value 264.366415
## iter  70 value 257.930192
## iter  80 value 255.412067
## iter  90 value 252.856355
## iter 100 value 250.461522
## final   value 250.461522
## stopped after 100 iterations
## # weights:  145
## initial   value 533.114092
## iter  10 value 398.357655
## iter  20 value 347.420080
## iter  30 value 332.661289
## iter  40 value 304.159064
## iter  50 value 296.557191
## iter  60 value 291.837554
## iter  70 value 286.333710
## iter  80 value 273.298742
## iter  90 value 267.710184
## iter 100 value 266.872493
## final   value 266.872493
## stopped after 100 iterations
## # weights:  161
## initial   value 533.997979
## iter  10 value 440.017661
## iter  20 value 350.940249
## iter  30 value 305.290976
## iter  40 value 299.259984
## iter  50 value 294.254423
## iter  60 value 291.281997
## iter  70 value 272.646839
## iter  80 value 239.302393
## iter  90 value 232.931222
## iter 100 value 231.418507
## final   value 231.418507
## stopped after 100 iterations
## # weights:  177
## initial   value 1085.645659
## iter  10 value 425.636540
## iter  20 value 403.694447
```

```
## iter  30 value 367.214076
## iter  40 value 309.547530
## iter  50 value 297.027106
## iter  60 value 281.006783
## iter  70 value 247.851913
## iter  80 value 239.899307
## iter  90 value 239.241877
## iter 100 value 235.918621
## final  value 235.918621
## stopped after 100 iterations
## # weights:  193
## initial  value 484.740569
## iter  10 value 403.011712
## iter  20 value 369.344745
## iter  30 value 341.940975
## iter  40 value 327.276172
## iter  50 value 307.510327
## iter  60 value 285.442408
## iter  70 value 272.773470
## iter  80 value 268.240294
## iter  90 value 267.038803
## iter 100 value 266.290797
## final  value 266.290797
## stopped after 100 iterations
## # weights:  209
## initial  value 511.445863
## iter  10 value 403.643089
## iter  20 value 378.769372
## iter  30 value 325.028360
## iter  40 value 301.070199
## iter  50 value 285.602535
## iter  60 value 276.104815
## iter  70 value 274.278785
## iter  80 value 270.420281
## iter  90 value 266.636589
## iter 100 value 264.883420
## final  value 264.883420
## stopped after 100 iterations
## # weights:  225
## initial  value 491.921761
## iter  10 value 409.205155
## iter  20 value 382.881296
## iter  30 value 307.104273
## iter  40 value 287.982431
## iter  50 value 273.245345
## iter  60 value 260.501922
## iter  70 value 257.081581
## iter  80 value 253.977591
## iter  90 value 246.516363
## iter 100 value 233.267404
## final  value 233.267404
## stopped after 100 iterations
## # weights:  241
## initial  value 672.931397
```

```
## iter  10 value 395.418644
## iter  20 value 337.388557
## iter  30 value 326.180141
## iter  40 value 298.165829
## iter  50 value 281.106683
## iter  60 value 265.763438
## iter  70 value 257.878457
## iter  80 value 254.190789
## iter  90 value 248.095351
## iter 100 value 240.272574
## final  value 240.272574
## stopped after 100 iterations
## # weights:  97
## initial  value 952.144688
## iter  10 value 407.424577
## iter  20 value 390.106794
## iter  30 value 319.985788
## iter  40 value 300.096365
## iter  50 value 284.861952
## iter  60 value 276.804631
## iter  70 value 274.701251
## iter  80 value 271.885768
## iter  90 value 266.807425
## iter 100 value 251.341404
## final  value 251.341404
## stopped after 100 iterations
## # weights:  113
## initial  value 478.672335
## iter  10 value 410.637229
## iter  20 value 348.747367
## iter  30 value 316.863623
## iter  40 value 309.453718
## iter  50 value 302.669112
## iter  60 value 293.720779
## iter  70 value 285.836528
## iter  80 value 275.477622
## iter  90 value 271.740372
## iter 100 value 257.457316
## final  value 257.457316
## stopped after 100 iterations
## # weights:  129
## initial  value 477.461158
## iter  10 value 424.779075
## iter  20 value 359.268021
## iter  30 value 318.516280
## iter  40 value 309.373688
## iter  50 value 301.978678
## iter  60 value 295.250135
## iter  70 value 283.384621
## iter  80 value 258.112965
## iter  90 value 242.242354
## iter 100 value 237.426234
## final  value 237.426234
## stopped after 100 iterations
```

```
## # weights:  145
## initial  value 621.302323
## iter  10 value 445.920299
## iter  20 value 377.973851
## iter  30 value 311.887661
## iter  40 value 301.692118
## iter  50 value 292.768586
## iter  60 value 285.776135
## iter  70 value 278.255109
## iter  80 value 270.105546
## iter  90 value 257.696440
## iter 100 value 241.932905
## final   value 241.932905
## stopped after 100 iterations
## # weights:  161
## initial  value 511.977801
## iter  10 value 419.972583
## iter  20 value 369.834273
## iter  30 value 315.251248
## iter  40 value 306.665745
## iter  50 value 301.389690
## iter  60 value 292.525646
## iter  70 value 283.136236
## iter  80 value 264.566370
## iter  90 value 248.307967
## iter 100 value 242.644337
## final   value 242.644337
## stopped after 100 iterations
## # weights:  177
## initial  value 515.946620
## iter  10 value 441.952117
## iter  20 value 370.278428
## iter  30 value 323.409169
## iter  40 value 309.036386
## iter  50 value 305.189758
## iter  60 value 296.095177
## iter  70 value 282.332211
## iter  80 value 268.536685
## iter  90 value 259.035106
## iter 100 value 249.979436
## final   value 249.979436
## stopped after 100 iterations
## # weights:  193
## initial  value 506.325416
## iter  10 value 408.945090
## iter  20 value 374.473557
## iter  30 value 308.732385
## iter  40 value 290.492131
## iter  50 value 285.654892
## iter  60 value 278.673012
## iter  70 value 270.075544
## iter  80 value 255.044810
## iter  90 value 243.907088
## iter 100 value 233.982777
```

```
## final   value 233.982777
## stopped after 100 iterations
## # weights:  209
## initial   value 903.182204
## iter  10 value 456.069144
## iter  20 value 397.093157
## iter  30 value 322.118683
## iter  40 value 304.406700
## iter  50 value 277.702539
## iter  60 value 275.094903
## iter  70 value 258.725910
## iter  80 value 250.615431
## iter  90 value 244.622347
## iter 100 value 236.285801
## final   value 236.285801
## stopped after 100 iterations
## # weights:  225
## initial   value 470.491810
## iter  10 value 443.382877
## iter  20 value 397.496738
## iter  30 value 366.615362
## iter  40 value 312.969204
## iter  50 value 292.545310
## iter  60 value 282.806167
## iter  70 value 267.011363
## iter  80 value 249.271243
## iter  90 value 238.698193
## iter 100 value 231.082792
## final   value 231.082792
## stopped after 100 iterations
## # weights:  241
## initial   value 699.738975
## iter  10 value 451.853848
## iter  20 value 358.780502
## iter  30 value 315.850037
## iter  40 value 297.271639
## iter  50 value 267.677228
## iter  60 value 254.010214
## iter  70 value 247.545364
## iter  80 value 242.145306
## iter  90 value 234.447953
## iter 100 value 232.761318
## final   value 232.761318
## stopped after 100 iterations
## # weights:  97
## initial   value 649.877974
## iter  10 value 385.406501
## iter  20 value 343.382597
## iter  30 value 320.020238
## iter  40 value 313.717078
## iter  50 value 311.097541
## iter  60 value 309.128723
## iter  70 value 304.439266
## iter  80 value 301.070994
```

```
## iter  90 value 296.461796
## iter 100 value 294.568853
## final   value 294.568853
## stopped after 100 iterations
## # weights:  113
## initial   value 721.558880
## iter  10 value 460.425334
## iter  20 value 427.149459
## iter  30 value 374.807630
## iter  40 value 356.766452
## iter  50 value 337.936456
## iter  60 value 327.672559
## iter  70 value 320.794601
## iter  80 value 310.929007
## iter  90 value 300.999846
## iter 100 value 293.372464
## final   value 293.372464
## stopped after 100 iterations
## # weights:  129
## initial   value 735.071569
## iter  10 value 444.277083
## iter  20 value 380.979899
## iter  30 value 338.498007
## iter  40 value 325.163909
## iter  50 value 315.475667
## iter  60 value 309.390670
## iter  70 value 305.448258
## iter  80 value 304.615746
## iter  90 value 302.396501
## iter 100 value 299.704147
## final   value 299.704147
## stopped after 100 iterations
## # weights:  145
## initial   value 490.451296
## iter  10 value 436.943458
## iter  20 value 412.228243
## iter  30 value 369.537426
## iter  40 value 322.028563
## iter  50 value 308.518192
## iter  60 value 303.894702
## iter  70 value 301.931164
## iter  80 value 299.140403
## iter  90 value 297.568346
## iter 100 value 297.217113
## final   value 297.217113
## stopped after 100 iterations
## # weights:  161
## initial   value 483.618206
## iter  10 value 423.154439
## iter  20 value 367.424958
## iter  30 value 342.467982
## iter  40 value 328.039575
## iter  50 value 316.075494
## iter  60 value 307.720683
```

```
## iter  70 value 304.027370
## iter  80 value 301.804820
## iter  90 value 300.075969
## iter 100 value 298.782328
## final  value 298.782328
## stopped after 100 iterations
## # weights:  177
## initial  value 577.025130
## iter  10 value 443.193789
## iter  20 value 425.074791
## iter  30 value 367.604296
## iter  40 value 350.138082
## iter  50 value 334.527048
## iter  60 value 324.079924
## iter  70 value 313.700802
## iter  80 value 303.933045
## iter  90 value 297.516111
## iter 100 value 294.338418
## final  value 294.338418
## stopped after 100 iterations
## # weights:  193
## initial  value 532.801584
## iter  10 value 412.249030
## iter  20 value 363.129778
## iter  30 value 332.979574
## iter  40 value 315.120044
## iter  50 value 307.297992
## iter  60 value 301.728218
## iter  70 value 300.303096
## iter  80 value 299.345357
## iter  90 value 297.302511
## iter 100 value 294.884665
## final  value 294.884665
## stopped after 100 iterations
## # weights:  209
## initial  value 520.171452
## iter  10 value 454.294187
## iter  20 value 439.919099
## iter  30 value 382.976383
## iter  40 value 348.054283
## iter  50 value 317.658301
## iter  60 value 314.880830
## iter  70 value 309.696978
## iter  80 value 303.734310
## iter  90 value 296.548098
## iter 100 value 293.596206
## final  value 293.596206
## stopped after 100 iterations
## # weights:  225
## initial  value 777.976447
## iter  10 value 515.279127
## iter  20 value 384.222772
## iter  30 value 358.669563
## iter  40 value 338.275134
```

```
## iter   50 value 325.271196
## iter   60 value 319.900092
## iter   70 value 311.562059
## iter   80 value 309.999413
## iter   90 value 308.060776
## iter  100 value 303.357181
## final    value 303.357181
## stopped after 100 iterations
## # weights:   241
## initial   value 791.293133
## iter   10 value 447.458508
## iter   20 value 380.442643
## iter   30 value 327.959483
## iter   40 value 320.416760
## iter   50 value 312.837567
## iter   60 value 310.218519
## iter   70 value 303.236434
## iter   80 value 299.927852
## iter   90 value 296.291400
## iter  100 value 294.324223
## final    value 294.324223
## stopped after 100 iterations
## # weights:   97
## initial   value 938.668055
## iter   10 value 470.497367
## iter   20 value 361.137845
## iter   30 value 322.382015
## iter   40 value 284.396190
## iter   50 value 262.376529
## iter   60 value 251.766290
## iter   70 value 248.509234
## iter   80 value 246.985945
## iter   90 value 245.166475
## iter  100 value 241.201800
## final    value 241.201800
## stopped after 100 iterations
## # weights:   113
## initial   value 562.169018
## iter   10 value 456.635032
## iter   20 value 428.701346
## iter   30 value 392.372082
## iter   40 value 321.617848
## iter   50 value 296.470723
## iter   60 value 290.109302
## iter   70 value 278.273041
## iter   80 value 268.447994
## iter   90 value 264.858128
## iter  100 value 263.275345
## final    value 263.275345
## stopped after 100 iterations
## # weights:   129
## initial   value 483.324232
## iter   10 value 467.382209
## iter   20 value 422.654342
```

```
## iter  30 value 389.089474
## iter  40 value 321.352350
## iter  50 value 287.859700
## iter  60 value 276.808425
## iter  70 value 265.482643
## iter  80 value 251.881565
## iter  90 value 247.588848
## iter 100 value 247.138768
## final  value 247.138768
## stopped after 100 iterations
## # weights:  145
## initial  value 762.349021
## iter  10 value 462.605526
## iter  20 value 420.707881
## iter  30 value 354.993844
## iter  40 value 332.671399
## iter  50 value 326.161798
## iter  60 value 318.284887
## iter  70 value 313.769554
## iter  80 value 298.968653
## iter  90 value 280.326192
## iter 100 value 266.273005
## final  value 266.273005
## stopped after 100 iterations
## # weights:  161
## initial  value 514.704089
## iter  10 value 431.402605
## iter  20 value 385.506965
## iter  30 value 315.262853
## iter  40 value 280.492926
## iter  50 value 276.593182
## iter  60 value 270.996320
## iter  70 value 259.645436
## iter  80 value 249.195708
## iter  90 value 242.198244
## iter 100 value 239.803954
## final  value 239.803954
## stopped after 100 iterations
## # weights:  177
## initial  value 573.856216
## iter  10 value 444.605978
## iter  20 value 373.143709
## iter  30 value 318.991812
## iter  40 value 297.387933
## iter  50 value 278.694065
## iter  60 value 254.930786
## iter  70 value 249.928082
## iter  80 value 245.241378
## iter  90 value 235.732307
## iter 100 value 230.741567
## final  value 230.741567
## stopped after 100 iterations
## # weights:  193
## initial  value 752.548197
```

```
## iter  10 value 438.047159
## iter  20 value 401.455329
## iter  30 value 338.621623
## iter  40 value 321.195371
## iter  50 value 317.864531
## iter  60 value 312.780102
## iter  70 value 302.573688
## iter  80 value 290.176503
## iter  90 value 276.617787
## iter 100 value 265.082149
## final   value 265.082149
## stopped after 100 iterations
## # weights:  209
## initial   value 608.412748
## iter  10 value 446.052068
## iter  20 value 356.355742
## iter  30 value 309.213741
## iter  40 value 296.593766
## iter  50 value 276.834100
## iter  60 value 266.391288
## iter  70 value 248.629963
## iter  80 value 237.427651
## iter  90 value 234.384968
## iter 100 value 234.171427
## final   value 234.171427
## stopped after 100 iterations
## # weights:  225
## initial   value 815.678836
## iter  10 value 444.976319
## iter  20 value 417.025268
## iter  30 value 407.833228
## iter  40 value 391.007785
## iter  50 value 324.983037
## iter  60 value 288.023704
## iter  70 value 283.621208
## iter  80 value 280.076453
## iter  90 value 277.750468
## iter 100 value 275.317780
## final   value 275.317780
## stopped after 100 iterations
## # weights:  241
## initial   value 476.100415
## iter  10 value 436.895662
## iter  20 value 424.643287
## iter  30 value 323.404218
## iter  40 value 295.076714
## iter  50 value 288.208574
## iter  60 value 274.552001
## iter  70 value 269.834131
## iter  80 value 251.557371
## iter  90 value 221.954171
## iter 100 value 193.596587
## final   value 193.596587
## stopped after 100 iterations
```

```
## # weights:  97
## initial  value 510.303933
## iter  10 value 438.605703
## iter  20 value 343.897529
## iter  30 value 311.365625
## iter  40 value 289.260631
## iter  50 value 282.290018
## iter  60 value 267.833680
## iter  70 value 248.375953
## iter  80 value 238.919608
## iter  90 value 232.832422
## iter 100 value 230.151019
## final  value 230.151019
## stopped after 100 iterations
## # weights:  113
## initial  value 472.397321
## iter  10 value 414.882071
## iter  20 value 371.739188
## iter  30 value 292.737218
## iter  40 value 275.602217
## iter  50 value 272.592404
## iter  60 value 260.109180
## iter  70 value 244.242083
## iter  80 value 237.899730
## iter  90 value 236.562777
## iter 100 value 230.750760
## final  value 230.750760
## stopped after 100 iterations
## # weights:  129
## initial  value 670.853872
## iter  10 value 435.266955
## iter  20 value 365.971867
## iter  30 value 336.865402
## iter  40 value 316.152768
## iter  50 value 295.600984
## iter  60 value 293.207373
## iter  70 value 291.907898
## iter  80 value 283.962073
## iter  90 value 269.954848
## iter 100 value 266.043556
## final  value 266.043556
## stopped after 100 iterations
## # weights:  145
## initial  value 1095.195202
## iter  10 value 468.425140
## iter  20 value 373.784805
## iter  30 value 365.389701
## iter  40 value 363.689735
## iter  50 value 345.157701
## iter  60 value 339.005657
## iter  70 value 313.411014
## iter  80 value 301.050066
## iter  90 value 295.063541
## iter 100 value 291.801255
```

```
## final   value 291.801255
## stopped after 100 iterations
## # weights:   161
## initial  value 512.636542
## iter   10 value 464.785951
## iter   20 value 430.201052
## iter   30 value 399.683364
## iter   40 value 348.100010
## iter   50 value 310.454926
## iter   60 value 305.599939
## iter   70 value 292.117988
## iter   80 value 277.272413
## iter   90 value 266.508101
## iter  100 value 265.736855
## final   value 265.736855
## stopped after 100 iterations
## # weights:   177
## initial  value 496.144727
## iter   10 value 437.885812
## iter   20 value 384.201881
## iter   30 value 308.502293
## iter   40 value 294.067811
## iter   50 value 281.088502
## iter   60 value 264.251582
## iter   70 value 253.587651
## iter   80 value 243.338724
## iter   90 value 236.424836
## iter  100 value 225.800330
## final   value 225.800330
## stopped after 100 iterations
## # weights:   193
## initial  value 602.595125
## iter   10 value 462.218727
## iter   20 value 432.262681
## iter   30 value 397.719902
## iter   40 value 305.066214
## iter   50 value 295.609731
## iter   60 value 293.052026
## iter   70 value 292.563422
## iter   80 value 286.821637
## iter   90 value 281.858781
## iter  100 value 278.259169
## final   value 278.259169
## stopped after 100 iterations
## # weights:   209
## initial  value 512.386177
## iter   10 value 447.525356
## iter   20 value 356.025232
## iter   30 value 309.330356
## iter   40 value 290.236841
## iter   50 value 279.201495
## iter   60 value 271.296386
## iter   70 value 268.037855
## iter   80 value 267.465732
```

```
## iter  90 value 266.586670
## iter 100 value 265.098388
## final   value 265.098388
## stopped after 100 iterations
## # weights:  225
## initial   value 506.009980
## iter  10 value 442.398697
## iter  20 value 416.006992
## iter  30 value 375.564559
## iter  40 value 313.200024
## iter  50 value 294.040254
## iter  60 value 280.696438
## iter  70 value 256.548696
## iter  80 value 237.958061
## iter  90 value 212.234334
## iter 100 value 206.196843
## final   value 206.196843
## stopped after 100 iterations
## # weights:  241
## initial   value 534.799439
## iter  10 value 439.203181
## iter  20 value 377.551316
## iter  30 value 300.405361
## iter  40 value 270.101313
## iter  50 value 259.591850
## iter  60 value 251.054722
## iter  70 value 234.807454
## iter  80 value 230.983720
## iter  90 value 223.816807
## iter 100 value 211.853225
## final   value 211.853225
## stopped after 100 iterations
## # weights:  97
## initial   value 529.789356
## iter  10 value 472.327869
## iter  20 value 428.174370
## iter  30 value 371.095059
## iter  40 value 342.191970
## iter  50 value 289.922533
## iter  60 value 270.576231
## iter  70 value 262.996335
## iter  80 value 261.398601
## iter  90 value 256.083641
## iter 100 value 248.027700
## final   value 248.027700
## stopped after 100 iterations
## # weights:  113
## initial   value 485.672117
## iter  10 value 449.578709
## iter  20 value 428.950219
## iter  30 value 411.434795
## iter  40 value 356.116408
## iter  50 value 297.700072
## iter  60 value 288.378643
```

```
## iter  70 value 271.608492
## iter  80 value 268.170979
## iter  90 value 267.030759
## iter 100 value 259.744141
## final  value 259.744141
## stopped after 100 iterations
## # weights:  129
## initial  value 571.619861
## iter  10 value 435.440591
## iter  20 value 351.478851
## iter  30 value 308.048226
## iter  40 value 288.761441
## iter  50 value 273.769026
## iter  60 value 264.573819
## iter  70 value 260.199390
## iter  80 value 251.364694
## iter  90 value 242.521172
## iter 100 value 236.458315
## final  value 236.458315
## stopped after 100 iterations
## # weights:  145
## initial  value 508.756018
## iter  10 value 416.872388
## iter  20 value 371.278090
## iter  30 value 336.630367
## iter  40 value 305.836110
## iter  50 value 288.336101
## iter  60 value 276.806541
## iter  70 value 265.019312
## iter  80 value 253.836941
## iter  90 value 248.257918
## iter 100 value 246.324182
## final  value 246.324182
## stopped after 100 iterations
## # weights:  161
## initial  value 495.355947
## iter  10 value 450.240267
## iter  20 value 358.956973
## iter  30 value 331.697188
## iter  40 value 313.812952
## iter  50 value 304.587799
## iter  60 value 299.121299
## iter  70 value 283.128011
## iter  80 value 260.099507
## iter  90 value 253.128409
## iter 100 value 248.106544
## final  value 248.106544
## stopped after 100 iterations
## # weights:  177
## initial  value 482.611768
## iter  10 value 442.629614
## iter  20 value 430.392315
## iter  30 value 378.956136
## iter  40 value 357.026265
```

```
## iter  50 value 343.206133
## iter  60 value 304.264512
## iter  70 value 294.680933
## iter  80 value 287.883154
## iter  90 value 271.550318
## iter 100 value 264.566523
## final   value 264.566523
## stopped after 100 iterations
## # weights:  193
## initial   value 577.145907
## iter  10 value 452.219591
## iter  20 value 427.943043
## iter  30 value 382.491356
## iter  40 value 337.427629
## iter  50 value 312.673164
## iter  60 value 288.467130
## iter  70 value 271.459233
## iter  80 value 267.936590
## iter  90 value 255.605293
## iter 100 value 240.507607
## final   value 240.507607
## stopped after 100 iterations
## # weights:  209
## initial   value 572.644954
## iter  10 value 425.950249
## iter  20 value 344.339405
## iter  30 value 305.500991
## iter  40 value 296.234059
## iter  50 value 286.972940
## iter  60 value 269.275154
## iter  70 value 263.560453
## iter  80 value 245.669791
## iter  90 value 234.283388
## iter 100 value 225.055045
## final   value 225.055045
## stopped after 100 iterations
## # weights:  225
## initial   value 489.398996
## iter  10 value 453.912727
## iter  20 value 346.478464
## iter  30 value 319.647499
## iter  40 value 297.841526
## iter  50 value 286.989133
## iter  60 value 279.322010
## iter  70 value 268.854370
## iter  80 value 255.058856
## iter  90 value 252.558609
## iter 100 value 251.726515
## final   value 251.726515
## stopped after 100 iterations
## # weights:  241
## initial   value 507.714269
## iter  10 value 437.265001
## iter  20 value 425.211477
```

```
## iter   30 value 378.346521
## iter   40 value 312.456200
## iter   50 value 289.869429
## iter   60 value 277.461114
## iter   70 value 275.563081
## iter   80 value 272.858977
## iter   90 value 270.093577
## iter  100 value 266.375890
## final   value 266.375890
## stopped after 100 iterations
## # weights:   97
## initial   value 597.569196
## iter   10 value 481.120470
## iter   20 value 432.914741
## iter   30 value 375.117013
## iter   40 value 325.975250
## iter   50 value 321.579219
## iter   60 value 316.389418
## iter   70 value 311.279379
## iter   80 value 305.376256
## iter   90 value 301.500627
## iter  100 value 299.962153
## final   value 299.962153
## stopped after 100 iterations
## # weights:   113
## initial   value 634.078236
## iter   10 value 481.169339
## iter   20 value 447.433614
## iter   30 value 424.656573
## iter   40 value 363.261875
## iter   50 value 345.968999
## iter   60 value 313.048949
## iter   70 value 308.154397
## iter   80 value 300.353249
## iter   90 value 296.385632
## iter  100 value 295.132703
## final   value 295.132703
## stopped after 100 iterations
## # weights:   129
## initial   value 501.781730
## iter   10 value 444.180081
## iter   20 value 379.956115
## iter   30 value 335.399376
## iter   40 value 326.204801
## iter   50 value 317.596186
## iter   60 value 312.031494
## iter   70 value 308.208281
## iter   80 value 306.299769
## iter   90 value 301.189003
## iter  100 value 296.045560
## final   value 296.045560
## stopped after 100 iterations
## # weights:   145
## initial   value 536.021372
```

```
## iter  10 value 452.494513
## iter  20 value 376.097567
## iter  30 value 356.205388
## iter  40 value 329.947100
## iter  50 value 318.633609
## iter  60 value 315.064263
## iter  70 value 310.564357
## iter  80 value 305.912678
## iter  90 value 302.584508
## iter 100 value 299.405127
## final   value 299.405127
## stopped after 100 iterations
## # weights:  161
## initial   value 535.392852
## iter  10 value 440.472887
## iter  20 value 392.629608
## iter  30 value 343.742157
## iter  40 value 328.748733
## iter  50 value 310.047818
## iter  60 value 308.067987
## iter  70 value 301.711159
## iter  80 value 297.103197
## iter  90 value 296.319232
## iter 100 value 294.245038
## final   value 294.245038
## stopped after 100 iterations
## # weights:  177
## initial   value 504.772589
## iter  10 value 417.053701
## iter  20 value 352.993287
## iter  30 value 325.944021
## iter  40 value 319.897419
## iter  50 value 318.583144
## iter  60 value 315.292280
## iter  70 value 313.931904
## iter  80 value 308.252202
## iter  90 value 305.299383
## iter 100 value 301.258203
## final   value 301.258203
## stopped after 100 iterations
## # weights:  193
## initial   value 721.481565
## iter  10 value 478.325785
## iter  20 value 432.059846
## iter  30 value 343.117862
## iter  40 value 328.065161
## iter  50 value 322.993620
## iter  60 value 321.345151
## iter  70 value 319.562565
## iter  80 value 309.467905
## iter  90 value 306.288613
## iter 100 value 301.763381
## final   value 301.763381
## stopped after 100 iterations
```

```
## # weights:  209
## initial  value 593.279479
## iter  10 value 489.788755
## iter  20 value 458.925387
## iter  30 value 432.732990
## iter  40 value 381.584207
## iter  50 value 353.365214
## iter  60 value 335.450650
## iter  70 value 324.568080
## iter  80 value 323.359593
## iter  90 value 310.685983
## iter 100 value 308.038452
## final   value 308.038452
## stopped after 100 iterations
## # weights:  225
## initial  value 928.220768
## iter  10 value 456.218280
## iter  20 value 417.996990
## iter  30 value 360.057817
## iter  40 value 335.057931
## iter  50 value 315.426986
## iter  60 value 307.916376
## iter  70 value 304.439363
## iter  80 value 302.592558
## iter  90 value 301.538215
## iter 100 value 300.167880
## final   value 300.167880
## stopped after 100 iterations
## # weights:  241
## initial  value 505.817388
## iter  10 value 436.517700
## iter  20 value 369.475737
## iter  30 value 338.444677
## iter  40 value 321.734969
## iter  50 value 315.136514
## iter  60 value 313.822784
## iter  70 value 311.086642
## iter  80 value 308.153628
## iter  90 value 307.106945
## iter 100 value 302.212321
## final   value 302.212321
## stopped after 100 iterations
## # weights:  97
## initial  value 473.681628
## iter  10 value 402.322568
## iter  20 value 355.039151
## iter  30 value 303.813709
## iter  40 value 284.055361
## iter  50 value 276.118575
## iter  60 value 271.261242
## iter  70 value 269.518842
## iter  80 value 262.499660
## iter  90 value 259.167283
## iter 100 value 258.781862
```

```
## final   value 258.781862
## stopped after 100 iterations
## # weights:   113
## initial   value 488.757099
## iter   10 value 468.070612
## iter   20 value 437.227567
## iter   30 value 416.186626
## iter   40 value 408.915266
## iter   50 value 349.769166
## iter   60 value 324.123926
## iter   70 value 305.120187
## iter   80 value 285.998249
## iter   90 value 280.002675
## iter  100 value 278.049767
## final   value 278.049767
## stopped after 100 iterations
## # weights:   129
## initial   value 618.617969
## iter   10 value 468.115651
## iter   20 value 376.159591
## iter   30 value 341.121416
## iter   40 value 336.268807
## iter   50 value 332.124840
## iter   60 value 326.144307
## iter   70 value 308.416568
## iter   80 value 286.602382
## iter   90 value 269.249532
## iter  100 value 262.092912
## final   value 262.092912
## stopped after 100 iterations
## # weights:   145
## initial   value 478.922793
## iter   10 value 445.357119
## iter   20 value 388.560804
## iter   30 value 349.044908
## iter   40 value 330.472773
## iter   50 value 323.319046
## iter   60 value 315.962822
## iter   70 value 314.623110
## iter   80 value 314.615330
## final   value 314.615322
## converged
## # weights:   161
## initial   value 482.670469
## iter   10 value 442.207675
## iter   20 value 427.397648
## iter   30 value 367.966971
## iter   40 value 347.424060
## iter   50 value 331.964252
## iter   60 value 320.024156
## iter   70 value 316.991680
## iter   80 value 314.634943
## iter   90 value 314.177319
## iter  100 value 312.080929
```

```
## final   value 312.080929
## stopped after 100 iterations
## # weights:   177
## initial   value 488.833354
## iter   10 value 432.821165
## iter   20 value 390.510277
## iter   30 value 351.963400
## iter   40 value 335.378325
## iter   50 value 319.149442
## iter   60 value 297.318306
## iter   70 value 285.619509
## iter   80 value 277.672166
## iter   90 value 273.312297
## iter  100 value 272.060543
## final   value 272.060543
## stopped after 100 iterations
## # weights:   193
## initial   value 664.198841
## iter   10 value 456.057015
## iter   20 value 391.919126
## iter   30 value 345.406276
## iter   40 value 321.522764
## iter   50 value 307.974871
## iter   60 value 300.525148
## iter   70 value 298.046810
## iter   80 value 288.031031
## iter   90 value 281.273076
## iter  100 value 269.577286
## final   value 269.577286
## stopped after 100 iterations
## # weights:   209
## initial   value 507.477210
## iter   10 value 438.338252
## iter   20 value 400.759889
## iter   30 value 342.895990
## iter   40 value 322.913840
## iter   50 value 312.864939
## iter   60 value 308.143957
## iter   70 value 307.427966
## iter   80 value 304.930994
## iter   90 value 299.074100
## iter  100 value 293.320028
## final   value 293.320028
## stopped after 100 iterations
## # weights:   225
## initial   value 494.452373
## iter   10 value 444.390405
## iter   20 value 341.967248
## iter   30 value 316.484090
## iter   40 value 289.959727
## iter   50 value 277.685104
## iter   60 value 274.841103
## iter   70 value 274.478980
## iter   80 value 274.092401
```

```
## iter  90 value 273.551301
## iter 100 value 272.631484
## final   value 272.631484
## stopped after 100 iterations
## # weights:  241
## initial   value 614.823617
## iter  10 value 435.049640
## iter  20 value 365.392431
## iter  30 value 336.463943
## iter  40 value 323.916904
## iter  50 value 287.795705
## iter  60 value 269.987071
## iter  70 value 249.645676
## iter  80 value 240.473369
## iter  90 value 238.458640
## iter 100 value 232.004616
## final   value 232.004616
## stopped after 100 iterations
## # weights:  97
## initial   value 600.636909
## iter  10 value 442.417756
## iter  20 value 434.792515
## iter  30 value 376.019348
## iter  40 value 365.201465
## iter  50 value 341.139432
## iter  60 value 332.705078
## iter  70 value 324.028204
## iter  80 value 299.073878
## iter  90 value 282.555742
## iter 100 value 278.452697
## final   value 278.452697
## stopped after 100 iterations
## # weights:  113
## initial   value 522.477382
## iter  10 value 438.392896
## iter  20 value 364.938192
## iter  30 value 355.664082
## iter  40 value 341.748961
## iter  50 value 325.692875
## iter  60 value 309.979879
## iter  70 value 304.801614
## iter  80 value 292.129814
## iter  90 value 277.282549
## iter 100 value 268.958924
## final   value 268.958924
## stopped after 100 iterations
## # weights:  129
## initial   value 845.485359
## iter  10 value 467.358121
## iter  20 value 434.618970
## iter  30 value 416.515223
## iter  40 value 361.672663
## iter  50 value 330.140921
## iter  60 value 317.791123
```

```
## iter  70 value 306.744394
## iter  80 value 286.795690
## iter  90 value 281.602008
## iter 100 value 280.717991
## final  value 280.717991
## stopped after 100 iterations
## # weights:  145
## initial  value 658.046711
## iter  10 value 466.862029
## iter  20 value 431.898009
## iter  30 value 363.868194
## iter  40 value 358.973915
## iter  50 value 351.651475
## iter  60 value 342.394261
## iter  70 value 334.704734
## iter  80 value 329.626578
## iter  90 value 324.067507
## iter 100 value 312.017898
## final  value 312.017898
## stopped after 100 iterations
## # weights:  161
## initial  value 940.524708
## iter  10 value 473.885553
## iter  20 value 433.197553
## iter  30 value 397.654682
## iter  40 value 361.869803
## iter  50 value 327.503088
## iter  60 value 311.306736
## iter  70 value 295.107479
## iter  80 value 288.161410
## iter  90 value 287.008613
## iter 100 value 285.037268
## final  value 285.037268
## stopped after 100 iterations
## # weights:  177
## initial  value 501.891712
## iter  10 value 445.002998
## iter  20 value 352.578749
## iter  30 value 327.076594
## iter  40 value 309.216048
## iter  50 value 303.125586
## iter  60 value 301.241788
## iter  70 value 289.355678
## iter  80 value 276.099710
## iter  90 value 272.996830
## iter 100 value 266.630285
## final  value 266.630285
## stopped after 100 iterations
## # weights:  193
## initial  value 491.032499
## iter  10 value 441.452759
## iter  20 value 433.831399
## iter  30 value 406.682886
## iter  40 value 395.169877
```

```
## iter  50 value 364.628660
## iter  60 value 314.653570
## iter  70 value 299.462010
## iter  80 value 273.853285
## iter  90 value 263.859498
## iter 100 value 253.269678
## final   value 253.269678
## stopped after 100 iterations
## # weights:  209
## initial  value 509.066717
## iter  10 value 420.298419
## iter  20 value 358.140917
## iter  30 value 343.681215
## iter  40 value 300.649927
## iter  50 value 294.358409
## iter  60 value 291.112871
## iter  70 value 272.343759
## iter  80 value 262.826321
## iter  90 value 260.475702
## iter 100 value 259.917341
## final   value 259.917341
## stopped after 100 iterations
## # weights:  225
## initial  value 503.427842
## iter  10 value 463.435402
## iter  20 value 439.284648
## iter  30 value 406.778148
## iter  40 value 345.675671
## iter  50 value 337.024369
## iter  60 value 328.052316
## iter  70 value 313.461634
## iter  80 value 307.509532
## iter  90 value 300.321204
## iter 100 value 296.704971
## final   value 296.704971
## stopped after 100 iterations
## # weights:  241
## initial  value 590.618996
## iter  10 value 369.304042
## iter  20 value 334.097725
## iter  30 value 302.091033
## iter  40 value 278.170722
## iter  50 value 266.284216
## iter  60 value 258.219857
## iter  70 value 254.555452
## iter  80 value 254.252377
## iter  90 value 248.123934
## iter 100 value 230.711045
## final   value 230.711045
## stopped after 100 iterations
## # weights:  97
## initial  value 495.865150
## iter  10 value 467.003993
## iter  20 value 432.822545
```

```
## iter  30 value 382.324708
## iter  40 value 336.897858
## iter  50 value 314.249177
## iter  60 value 293.920619
## iter  70 value 289.001862
## iter  80 value 285.567219
## iter  90 value 278.228809
## iter 100 value 270.879972
## final  value 270.879972
## stopped after 100 iterations
## # weights:  113
## initial  value 489.479867
## iter  10 value 447.767862
## iter  20 value 418.549145
## iter  30 value 358.914186
## iter  40 value 353.253965
## iter  50 value 350.861444
## iter  60 value 347.404433
## iter  70 value 345.723877
## iter  80 value 342.613782
## iter  90 value 329.838459
## iter 100 value 324.966698
## final  value 324.966698
## stopped after 100 iterations
## # weights:  129
## initial  value 506.768646
## iter  10 value 438.379884
## iter  20 value 416.038124
## iter  30 value 364.470253
## iter  40 value 340.878455
## iter  50 value 335.688271
## iter  60 value 331.232527
## iter  70 value 326.650760
## iter  80 value 323.458499
## iter  90 value 315.229130
## iter 100 value 287.373618
## final  value 287.373618
## stopped after 100 iterations
## # weights:  145
## initial  value 499.318840
## iter  10 value 452.319289
## iter  20 value 375.899739
## iter  30 value 358.837058
## iter  40 value 335.800186
## iter  50 value 309.462773
## iter  60 value 293.776860
## iter  70 value 288.913039
## iter  80 value 280.844326
## iter  90 value 278.305819
## iter 100 value 277.570481
## final  value 277.570481
## stopped after 100 iterations
## # weights:  161
## initial  value 473.475148
```

```
## iter  10 value 446.932094
## iter  20 value 389.984381
## iter  30 value 325.764671
## iter  40 value 314.247508
## iter  50 value 307.914908
## iter  60 value 294.055389
## iter  70 value 290.846009
## iter  80 value 289.285374
## iter  90 value 288.803953
## iter 100 value 284.746460
## final  value 284.746460
## stopped after 100 iterations
## # weights:  177
## initial  value 483.288428
## iter  10 value 448.555815
## iter  20 value 436.430543
## iter  30 value 380.573803
## iter  40 value 345.635457
## iter  50 value 325.812680
## iter  60 value 309.260583
## iter  70 value 287.879674
## iter  80 value 278.027986
## iter  90 value 262.294967
## iter 100 value 253.284432
## final  value 253.284432
## stopped after 100 iterations
## # weights:  193
## initial  value 507.019262
## iter  10 value 436.880578
## iter  20 value 416.710211
## iter  30 value 399.406803
## iter  40 value 365.413034
## iter  50 value 327.827829
## iter  60 value 319.985914
## iter  70 value 318.268250
## iter  80 value 312.563400
## iter  90 value 287.367741
## iter 100 value 271.962848
## final  value 271.962848
## stopped after 100 iterations
## # weights:  209
## initial  value 512.414214
## iter  10 value 444.661219
## iter  20 value 424.372823
## iter  30 value 340.730695
## iter  40 value 314.127801
## iter  50 value 304.574612
## iter  60 value 301.118337
## iter  70 value 299.065673
## iter  80 value 295.230721
## iter  90 value 288.960732
## iter 100 value 285.634408
## final  value 285.634408
## stopped after 100 iterations
```

```
## # weights:  225
## initial  value 529.893380
## iter  10 value 455.090430
## iter  20 value 445.667129
## iter  30 value 438.703354
## iter  40 value 427.770920
## iter  50 value 379.714740
## iter  60 value 352.411309
## iter  70 value 346.821455
## iter  80 value 339.370114
## iter  90 value 334.865674
## iter 100 value 316.300140
## final   value 316.300140
## stopped after 100 iterations
## # weights:   241
## initial  value 500.948915
## iter  10 value 447.350824
## iter  20 value 438.868016
## iter  30 value 391.035003
## iter  40 value 359.223893
## iter  50 value 326.491922
## iter  60 value 306.571437
## iter  70 value 296.651992
## iter  80 value 280.938531
## iter  90 value 265.965126
## iter 100 value 263.587037
## final   value 263.587037
## stopped after 100 iterations
## # weights:   97
## initial  value 493.680147
## iter  10 value 460.912875
## iter  20 value 436.129184
## iter  30 value 395.740714
## iter  40 value 342.962656
## iter  50 value 334.531276
## iter  60 value 329.385865
## iter  70 value 326.275172
## iter  80 value 325.143914
## iter  90 value 324.111400
## iter 100 value 323.469000
## final   value 323.469000
## stopped after 100 iterations
## # weights:   113
## initial  value 551.649883
## iter  10 value 467.793626
## iter  20 value 400.269364
## iter  30 value 368.440029
## iter  40 value 366.606944
## iter  50 value 365.977639
## iter  60 value 353.726089
## iter  70 value 344.709663
## iter  80 value 340.777159
## iter  90 value 336.934643
## iter 100 value 332.985625
```

```
## final   value 332.985625
## stopped after 100 iterations
## # weights:  129
## initial  value 513.661110
## iter  10 value 447.695462
## iter  20 value 388.496881
## iter  30 value 374.484716
## iter  40 value 371.417206
## iter  50 value 363.622275
## iter  60 value 352.658197
## iter  70 value 335.774104
## iter  80 value 330.367641
## iter  90 value 325.452856
## iter 100 value 323.213392
## final   value 323.213392
## stopped after 100 iterations
## # weights:  145
## initial  value 501.435892
## iter  10 value 462.886992
## iter  20 value 431.051545
## iter  30 value 379.760409
## iter  40 value 367.799720
## iter  50 value 363.608783
## iter  60 value 354.770670
## iter  70 value 343.438507
## iter  80 value 333.761836
## iter  90 value 328.457813
## iter 100 value 325.041154
## final   value 325.041154
## stopped after 100 iterations
## # weights:  161
## initial  value 553.806796
## iter  10 value 475.937426
## iter  20 value 421.023978
## iter  30 value 399.180534
## iter  40 value 380.773586
## iter  50 value 359.160437
## iter  60 value 345.363639
## iter  70 value 336.999633
## iter  80 value 331.246062
## iter  90 value 328.737284
## iter 100 value 326.678850
## final   value 326.678850
## stopped after 100 iterations
## # weights:  177
## initial  value 850.818972
## iter  10 value 464.723510
## iter  20 value 424.899777
## iter  30 value 361.804689
## iter  40 value 336.307260
## iter  50 value 332.682781
## iter  60 value 329.789807
## iter  70 value 327.928676
## iter  80 value 320.455255
```

```
## iter  90 value 318.465098
## iter 100 value 316.122281
## final   value 316.122281
## stopped after 100 iterations
## # weights:  193
## initial   value 949.511015
## iter  10 value 466.896783
## iter  20 value 442.823179
## iter  30 value 432.608499
## iter  40 value 370.325505
## iter  50 value 345.861165
## iter  60 value 338.788101
## iter  70 value 333.144177
## iter  80 value 329.098091
## iter  90 value 324.725244
## iter 100 value 320.656053
## final   value 320.656053
## stopped after 100 iterations
## # weights:  209
## initial   value 635.337080
## iter  10 value 481.420404
## iter  20 value 429.986210
## iter  30 value 392.654801
## iter  40 value 372.822758
## iter  50 value 364.072251
## iter  60 value 357.304636
## iter  70 value 347.423377
## iter  80 value 339.126805
## iter  90 value 326.080665
## iter 100 value 321.477235
## final   value 321.477235
## stopped after 100 iterations
## # weights:  225
## initial   value 821.951197
## iter  10 value 472.805513
## iter  20 value 444.521934
## iter  30 value 391.579951
## iter  40 value 345.171318
## iter  50 value 331.005381
## iter  60 value 324.578307
## iter  70 value 322.571221
## iter  80 value 320.632775
## iter  90 value 316.737490
## iter 100 value 314.171234
## final   value 314.171234
## stopped after 100 iterations
## # weights:  241
## initial   value 1112.093386
## iter  10 value 489.765050
## iter  20 value 453.026077
## iter  30 value 422.681384
## iter  40 value 392.505085
## iter  50 value 380.541214
## iter  60 value 367.394864
```

```
## iter  70 value 351.344620
## iter  80 value 340.306568
## iter  90 value 333.960477
## iter 100 value 329.150394
## final  value 329.150394
## stopped after 100 iterations
## # weights:  97
## initial  value 602.822505
## iter  10 value 403.018213
## iter  20 value 332.371063
## iter  30 value 306.992305
## iter  40 value 303.074415
## iter  50 value 301.378969
## iter  60 value 297.819018
## iter  70 value 288.201865
## iter  80 value 279.860314
## iter  90 value 261.813952
## iter 100 value 252.585751
## final  value 252.585751
## stopped after 100 iterations
## # weights:  113
## initial  value 491.083623
## iter  10 value 426.667211
## iter  20 value 407.853658
## iter  30 value 343.363418
## iter  40 value 319.605895
## iter  50 value 312.841955
## iter  60 value 299.897344
## iter  70 value 272.903685
## iter  80 value 254.962236
## iter  90 value 242.117514
## iter 100 value 239.960900
## final  value 239.960900
## stopped after 100 iterations
## # weights:  129
## initial  value 664.738814
## iter  10 value 416.474996
## iter  20 value 343.899418
## iter  30 value 322.223185
## iter  40 value 317.252915
## iter  50 value 292.674084
## iter  60 value 279.267424
## iter  70 value 275.157403
## iter  80 value 273.809972
## iter  90 value 272.684339
## iter 100 value 272.134823
## final  value 272.134823
## stopped after 100 iterations
## # weights:  145
## initial  value 483.394900
## iter  10 value 414.070548
## iter  20 value 371.351488
## iter  30 value 346.630098
## iter  40 value 340.037568
```

```
## iter  50 value 314.251288
## iter  60 value 302.992649
## iter  70 value 292.974651
## iter  80 value 273.805177
## iter  90 value 266.508447
## iter 100 value 262.728073
## final   value 262.728073
## stopped after 100 iterations
## # weights:  161
## initial   value 478.464293
## iter  10 value 417.764816
## iter  20 value 377.073491
## iter  30 value 348.538793
## iter  40 value 331.936461
## iter  50 value 299.182825
## iter  60 value 287.343015
## iter  70 value 275.315157
## iter  80 value 260.590761
## iter  90 value 242.960114
## iter 100 value 235.039360
## final   value 235.039360
## stopped after 100 iterations
## # weights:  177
## initial   value 525.895643
## iter  10 value 434.250931
## iter  20 value 375.652003
## iter  30 value 355.305938
## iter  40 value 347.319665
## iter  50 value 333.710318
## iter  60 value 320.014459
## iter  70 value 317.415333
## iter  80 value 314.561444
## iter  90 value 312.497795
## iter 100 value 303.166214
## final   value 303.166214
## stopped after 100 iterations
## # weights:  193
## initial   value 488.583222
## iter  10 value 417.781691
## iter  20 value 366.871079
## iter  30 value 339.357053
## iter  40 value 327.320231
## iter  50 value 316.495071
## iter  60 value 306.780137
## iter  70 value 295.760045
## iter  80 value 288.757300
## iter  90 value 283.082151
## iter 100 value 271.965919
## final   value 271.965919
## stopped after 100 iterations
## # weights:  209
## initial   value 643.722746
## iter  10 value 471.705655
## iter  20 value 411.835334
```

```
## iter  30 value 395.036633
## iter  40 value 385.319293
## iter  50 value 376.870021
## iter  60 value 358.872720
## iter  70 value 323.389796
## iter  80 value 281.827366
## iter  90 value 267.756527
## iter 100 value 265.983130
## final  value 265.983130
## stopped after 100 iterations
## # weights:  225
## initial  value 571.820132
## iter  10 value 398.740170
## iter  20 value 333.684370
## iter  30 value 329.201183
## iter  40 value 325.265809
## iter  50 value 308.559021
## iter  60 value 286.212221
## iter  70 value 277.462822
## iter  80 value 271.715898
## iter  90 value 264.978969
## iter 100 value 263.536722
## final  value 263.536722
## stopped after 100 iterations
## # weights:  241
## initial  value 738.794586
## iter  10 value 439.495606
## iter  20 value 368.482973
## iter  30 value 322.789996
## iter  40 value 300.552854
## iter  50 value 283.895185
## iter  60 value 266.624101
## iter  70 value 252.806834
## iter  80 value 239.696875
## iter  90 value 235.345903
## iter 100 value 230.003291
## final  value 230.003291
## stopped after 100 iterations
## # weights:  97
## initial  value 613.426727
## iter  10 value 433.203749
## iter  20 value 412.871366
## iter  30 value 396.199142
## iter  40 value 368.611539
## iter  50 value 329.069079
## iter  60 value 321.363607
## iter  70 value 318.714432
## iter  80 value 313.625256
## iter  90 value 308.409672
## iter 100 value 298.369846
## final  value 298.369846
## stopped after 100 iterations
## # weights:  113
## initial  value 578.360908
```

```
## iter  10 value 404.690898
## iter  20 value 334.458417
## iter  30 value 320.150457
## iter  40 value 311.184301
## iter  50 value 304.618434
## iter  60 value 301.793670
## iter  70 value 289.261285
## iter  80 value 285.018344
## iter  90 value 281.514690
## iter 100 value 275.956732
## final   value 275.956732
## stopped after 100 iterations
## # weights:  129
## initial   value 537.673428
## iter  10 value 389.793447
## iter  20 value 355.590099
## iter  30 value 331.160825
## iter  40 value 312.709827
## iter  50 value 299.747489
## iter  60 value 293.760534
## iter  70 value 292.750416
## iter  80 value 292.376037
## iter  90 value 291.394267
## iter 100 value 287.401582
## final   value 287.401582
## stopped after 100 iterations
## # weights:  145
## initial   value 895.884879
## iter  10 value 434.918560
## iter  20 value 350.324497
## iter  30 value 346.047902
## iter  40 value 333.892677
## iter  50 value 327.035945
## iter  60 value 304.509202
## iter  70 value 293.409638
## iter  80 value 274.189467
## iter  90 value 269.570067
## iter 100 value 265.725011
## final   value 265.725011
## stopped after 100 iterations
## # weights:  161
## initial   value 536.046116
## iter  10 value 413.263456
## iter  20 value 346.020641
## iter  30 value 311.144756
## iter  40 value 299.111428
## iter  50 value 294.192988
## iter  60 value 291.339135
## iter  70 value 287.399711
## iter  80 value 279.692768
## iter  90 value 277.723930
## iter 100 value 274.901825
## final   value 274.901825
## stopped after 100 iterations
```

```
## # weights:  177
## initial  value 656.364130
## iter  10 value 414.820275
## iter  20 value 346.019470
## iter  30 value 335.273567
## iter  40 value 301.688312
## iter  50 value 292.936991
## iter  60 value 281.656586
## iter  70 value 263.955604
## iter  80 value 245.409703
## iter  90 value 236.642057
## iter 100 value 232.867172
## final  value 232.867172
## stopped after 100 iterations
## # weights:  193
## initial  value 557.282771
## iter  10 value 433.012083
## iter  20 value 384.243289
## iter  30 value 313.096521
## iter  40 value 300.934572
## iter  50 value 288.809627
## iter  60 value 285.497838
## iter  70 value 275.936670
## iter  80 value 266.082777
## iter  90 value 262.616673
## iter 100 value 261.462152
## final  value 261.462152
## stopped after 100 iterations
## # weights:  209
## initial  value 912.766319
## iter  10 value 420.352559
## iter  20 value 388.111213
## iter  30 value 351.912555
## iter  40 value 320.600878
## iter  50 value 309.270443
## iter  60 value 306.056704
## iter  70 value 305.281415
## iter  80 value 296.887594
## iter  90 value 282.784627
## iter 100 value 258.708560
## final  value 258.708560
## stopped after 100 iterations
## # weights:  225
## initial  value 594.136763
## iter  10 value 457.335730
## iter  20 value 346.929722
## iter  30 value 328.418994
## iter  40 value 306.644284
## iter  50 value 303.114744
## iter  60 value 293.712551
## iter  70 value 280.540790
## iter  80 value 270.830910
## iter  90 value 262.985724
## iter 100 value 259.634769
```

```
## final   value 259.634769
## stopped after 100 iterations
## # weights:  241
## initial  value 677.110587
## iter  10 value 368.003055
## iter  20 value 338.587749
## iter  30 value 323.043468
## iter  40 value 313.796328
## iter  50 value 299.602456
## iter  60 value 269.284969
## iter  70 value 258.145851
## iter  80 value 257.526544
## iter  90 value 251.671990
## iter 100 value 249.433814
## final   value 249.433814
## stopped after 100 iterations
## # weights:  97
## initial  value 508.184777
## iter  10 value 445.851204
## iter  20 value 373.703866
## iter  30 value 335.844098
## iter  40 value 312.697275
## iter  50 value 305.341050
## iter  60 value 298.918672
## iter  70 value 284.521205
## iter  80 value 279.396621
## iter  90 value 270.091845
## iter 100 value 253.220966
## final   value 253.220966
## stopped after 100 iterations
## # weights:  113
## initial  value 485.655793
## iter  10 value 443.165534
## iter  20 value 387.032613
## iter  30 value 352.885079
## iter  40 value 308.811435
## iter  50 value 296.883905
## iter  60 value 291.387551
## iter  70 value 288.866587
## iter  80 value 286.739291
## iter  90 value 283.265307
## iter 100 value 281.500937
## final   value 281.500937
## stopped after 100 iterations
## # weights:  129
## initial  value 522.521412
## iter  10 value 427.989086
## iter  20 value 374.641603
## iter  30 value 343.064128
## iter  40 value 317.073932
## iter  50 value 293.422311
## iter  60 value 289.959816
## iter  70 value 282.957913
## iter  80 value 273.354170
```

```
## iter  90 value 268.008712
## iter 100 value 260.872008
## final   value 260.872008
## stopped after 100 iterations
## # weights:  145
## initial  value 489.368973
## iter  10 value 430.720890
## iter  20 value 387.580757
## iter  30 value 349.608621
## iter  40 value 327.848355
## iter  50 value 316.595122
## iter  60 value 301.107291
## iter  70 value 291.793365
## iter  80 value 276.136168
## iter  90 value 272.391956
## iter 100 value 264.315185
## final   value 264.315185
## stopped after 100 iterations
## # weights:  161
## initial  value 592.122808
## iter  10 value 426.991203
## iter  20 value 401.795280
## iter  30 value 382.577444
## iter  40 value 332.553586
## iter  50 value 314.996536
## iter  60 value 311.575693
## iter  70 value 307.231852
## iter  80 value 297.731131
## iter  90 value 275.519704
## iter 100 value 260.503301
## final   value 260.503301
## stopped after 100 iterations
## # weights:  177
## initial  value 533.667648
## iter  10 value 424.851779
## iter  20 value 383.470133
## iter  30 value 333.166312
## iter  40 value 323.645990
## iter  50 value 307.100176
## iter  60 value 293.271286
## iter  70 value 285.684175
## iter  80 value 269.149484
## iter  90 value 256.735868
## iter 100 value 251.594370
## final   value 251.594370
## stopped after 100 iterations
## # weights:  193
## initial  value 569.875125
## iter  10 value 472.355550
## iter  20 value 413.502954
## iter  30 value 373.551847
## iter  40 value 351.069363
## iter  50 value 316.458622
## iter  60 value 314.104431
```

```
## iter   70 value 299.267647
## iter   80 value 287.879933
## iter   90 value 272.838688
## iter  100 value 264.369359
## final   value 264.369359
## stopped after 100 iterations
## # weights:   209
## initial   value 463.807678
## iter   10 value 442.214524
## iter   20 value 423.999101
## iter   30 value 370.400536
## iter   40 value 333.244757
## iter   50 value 323.152429
## iter   60 value 317.478953
## iter   70 value 308.043656
## iter   80 value 300.906976
## iter   90 value 281.275794
## iter  100 value 274.697194
## final   value 274.697194
## stopped after 100 iterations
## # weights:   225
## initial   value 459.841084
## iter   10 value 401.627648
## iter   20 value 353.326071
## iter   30 value 323.338594
## iter   40 value 314.761694
## iter   50 value 305.427085
## iter   60 value 300.831542
## iter   70 value 298.752992
## iter   80 value 298.287654
## iter   90 value 291.392076
## iter  100 value 283.005266
## final   value 283.005266
## stopped after 100 iterations
## # weights:   241
## initial   value 1273.101517
## iter   10 value 457.353339
## iter   20 value 412.635009
## iter   30 value 354.182630
## iter   40 value 339.187392
## iter   50 value 331.036845
## iter   60 value 298.327636
## iter   70 value 292.184785
## iter   80 value 286.325565
## iter   90 value 276.597653
## iter  100 value 271.685205
## final   value 271.685205
## stopped after 100 iterations
## # weights:   97
## initial   value 500.763589
## iter   10 value 438.968186
## iter   20 value 412.396409
## iter   30 value 380.947630
## iter   40 value 342.464329
```

```
## iter  50 value 334.820726
## iter  60 value 331.773406
## iter  70 value 325.238597
## iter  80 value 321.389678
## iter  90 value 319.290490
## iter 100 value 318.997747
## final   value 318.997747
## stopped after 100 iterations
## # weights:  113
## initial   value 522.254666
## iter  10 value 452.947232
## iter  20 value 376.212293
## iter  30 value 361.734005
## iter  40 value 341.744270
## iter  50 value 333.814589
## iter  60 value 331.425653
## iter  70 value 324.105140
## iter  80 value 319.408112
## iter  90 value 318.437551
## iter 100 value 316.196439
## final   value 316.196439
## stopped after 100 iterations
## # weights:  129
## initial   value 538.407519
## iter  10 value 475.665938
## iter  20 value 450.429274
## iter  30 value 381.885356
## iter  40 value 353.805896
## iter  50 value 334.598883
## iter  60 value 323.398825
## iter  70 value 320.190634
## iter  80 value 318.434508
## iter  90 value 316.924508
## iter 100 value 316.219889
## final   value 316.219889
## stopped after 100 iterations
## # weights:  145
## initial   value 533.488346
## iter  10 value 441.484625
## iter  20 value 390.481337
## iter  30 value 343.691892
## iter  40 value 334.798466
## iter  50 value 332.577871
## iter  60 value 326.561898
## iter  70 value 325.542823
## iter  80 value 323.984913
## iter  90 value 322.321553
## iter 100 value 320.087094
## final   value 320.087094
## stopped after 100 iterations
## # weights:  161
## initial   value 521.905170
## iter  10 value 455.014141
## iter  20 value 396.753384
```

```
## iter  30 value 360.207809
## iter  40 value 345.702458
## iter  50 value 335.766248
## iter  60 value 329.610130
## iter  70 value 325.452080
## iter  80 value 323.373983
## iter  90 value 321.225201
## iter 100 value 319.327223
## final  value 319.327223
## stopped after 100 iterations
## # weights:  177
## initial  value 775.082812
## iter  10 value 441.210410
## iter  20 value 400.034512
## iter  30 value 373.305541
## iter  40 value 349.058850
## iter  50 value 338.154948
## iter  60 value 331.942778
## iter  70 value 325.565725
## iter  80 value 322.345116
## iter  90 value 317.628889
## iter 100 value 314.794659
## final  value 314.794659
## stopped after 100 iterations
## # weights:  193
## initial  value 744.787600
## iter  10 value 479.576311
## iter  20 value 400.466787
## iter  30 value 366.653586
## iter  40 value 343.722200
## iter  50 value 336.721570
## iter  60 value 333.458010
## iter  70 value 327.787551
## iter  80 value 326.188998
## iter  90 value 324.328998
## iter 100 value 322.545175
## final  value 322.545175
## stopped after 100 iterations
## # weights:  209
## initial  value 511.824547
## iter  10 value 440.350690
## iter  20 value 428.345719
## iter  30 value 415.449741
## iter  40 value 401.052710
## iter  50 value 370.158362
## iter  60 value 344.087801
## iter  70 value 334.250206
## iter  80 value 326.147037
## iter  90 value 322.907016
## iter 100 value 318.182929
## final  value 318.182929
## stopped after 100 iterations
## # weights:  225
## initial  value 554.743944
```

```
## iter  10 value 453.366064
## iter  20 value 411.561741
## iter  30 value 371.203548
## iter  40 value 350.695779
## iter  50 value 339.263913
## iter  60 value 331.790638
## iter  70 value 328.060985
## iter  80 value 324.658560
## iter  90 value 321.573749
## iter 100 value 318.208165
## final  value 318.208165
## stopped after 100 iterations
## # weights:  241
## initial  value 588.512111
## iter  10 value 466.608910
## iter  20 value 431.860235
## iter  30 value 345.822274
## iter  40 value 339.297144
## iter  50 value 336.663608
## iter  60 value 333.074674
## iter  70 value 329.615540
## iter  80 value 328.417685
## iter  90 value 324.721191
## iter 100 value 321.824320
## final  value 321.824320
## stopped after 100 iterations
## # weights:  97
## initial  value 588.093454
## iter  10 value 438.298708
## iter  20 value 398.106477
## iter  30 value 338.659474
## iter  40 value 320.365039
## iter  50 value 312.577875
## iter  60 value 303.830048
## iter  70 value 297.772687
## iter  80 value 276.669572
## iter  90 value 257.144877
## iter 100 value 246.770418
## final  value 246.770418
## stopped after 100 iterations
## # weights:  113
## initial  value 465.031078
## iter  10 value 420.141959
## iter  20 value 354.275811
## iter  30 value 303.402255
## iter  40 value 270.735481
## iter  50 value 254.106818
## iter  60 value 237.232889
## iter  70 value 225.019163
## iter  80 value 221.805983
## iter  90 value 216.747599
## iter 100 value 213.034460
## final  value 213.034460
## stopped after 100 iterations
```

```
## # weights:  129
## initial  value 496.075225
## iter  10 value 422.897608
## iter  20 value 365.230993
## iter  30 value 317.239625
## iter  40 value 300.137614
## iter  50 value 292.122556
## iter  60 value 284.605495
## iter  70 value 270.708769
## iter  80 value 256.732647
## iter  90 value 249.591757
## iter 100 value 248.770996
## final   value 248.770996
## stopped after 100 iterations
## # weights:  145
## initial  value 580.378073
## iter  10 value 436.152232
## iter  20 value 411.269254
## iter  30 value 345.562484
## iter  40 value 304.567590
## iter  50 value 288.915425
## iter  60 value 267.747236
## iter  70 value 230.873101
## iter  80 value 219.297143
## iter  90 value 210.519474
## iter 100 value 204.711289
## final   value 204.711289
## stopped after 100 iterations
## # weights:  161
## initial  value 482.665638
## iter  10 value 446.864869
## iter  20 value 418.769959
## iter  30 value 375.848162
## iter  40 value 320.777009
## iter  50 value 300.553074
## iter  60 value 288.969048
## iter  70 value 271.778780
## iter  80 value 259.746316
## iter  90 value 254.638021
## iter 100 value 252.850824
## final   value 252.850824
## stopped after 100 iterations
## # weights:  177
## initial  value 482.592663
## iter  10 value 429.080083
## iter  20 value 415.155145
## iter  30 value 360.071730
## iter  40 value 320.600760
## iter  50 value 298.142069
## iter  60 value 289.019263
## iter  70 value 283.632213
## iter  80 value 279.850904
## iter  90 value 274.076581
## iter 100 value 267.856533
```

```
## final   value 267.856533
## stopped after 100 iterations
## # weights:  193
## initial   value 553.105163
## iter  10 value 464.450755
## iter  20 value 429.004051
## iter  30 value 372.543769
## iter  40 value 338.589766
## iter  50 value 315.310058
## iter  60 value 293.865924
## iter  70 value 278.459548
## iter  80 value 255.992369
## iter  90 value 249.302489
## iter 100 value 243.409137
## final   value 243.409137
## stopped after 100 iterations
## # weights:  209
## initial   value 997.734420
## iter  10 value 450.713039
## iter  20 value 400.385832
## iter  30 value 347.578308
## iter  40 value 340.105456
## iter  50 value 305.130134
## iter  60 value 291.604115
## iter  70 value 281.674104
## iter  80 value 266.820669
## iter  90 value 244.085610
## iter 100 value 221.047495
## final   value 221.047495
## stopped after 100 iterations
## # weights:  225
## initial   value 558.725806
## iter  10 value 374.867346
## iter  20 value 359.540115
## iter  30 value 316.062744
## iter  40 value 291.810601
## iter  50 value 285.824153
## iter  60 value 282.438138
## iter  70 value 261.487372
## iter  80 value 239.293140
## iter  90 value 222.136462
## iter 100 value 211.706678
## final   value 211.706678
## stopped after 100 iterations
## # weights:  241
## initial   value 814.203983
## iter  10 value 435.665139
## iter  20 value 410.382573
## iter  30 value 331.708140
## iter  40 value 305.439771
## iter  50 value 291.998840
## iter  60 value 281.509897
## iter  70 value 276.424472
## iter  80 value 271.697333
```

```
## iter  90 value 262.831125
## iter 100 value 260.036936
## final   value 260.036936
## stopped after 100 iterations
## # weights:  97
## initial   value 668.589070
## iter  10 value 466.848779
## iter  20 value 392.379299
## iter  30 value 356.583447
## iter  40 value 345.021211
## iter  50 value 315.265061
## iter  60 value 301.401345
## iter  70 value 284.881311
## iter  80 value 276.869025
## iter  90 value 266.832828
## iter 100 value 265.088852
## final   value 265.088852
## stopped after 100 iterations
## # weights:  113
## initial   value 484.624851
## iter  10 value 457.784388
## iter  20 value 371.898953
## iter  30 value 329.600238
## iter  40 value 320.191076
## iter  50 value 309.948071
## iter  60 value 284.707267
## iter  70 value 278.175544
## iter  80 value 276.751664
## iter  90 value 275.234087
## iter 100 value 272.846816
## final   value 272.846816
## stopped after 100 iterations
## # weights:  129
## initial   value 545.329839
## iter  10 value 473.575873
## iter  20 value 468.682743
## iter  30 value 456.191960
## iter  40 value 422.447746
## iter  50 value 381.630485
## iter  60 value 372.666493
## iter  70 value 370.034922
## iter  80 value 348.695658
## iter  90 value 304.622070
## iter 100 value 293.659159
## final   value 293.659159
## stopped after 100 iterations
## # weights:  145
## initial   value 488.005834
## iter  10 value 464.083007
## iter  20 value 394.568493
## iter  30 value 354.082262
## iter  40 value 316.287209
## iter  50 value 291.000551
## iter  60 value 275.812490
```

```
## iter  70 value 269.334506
## iter  80 value 263.667807
## iter  90 value 253.129230
## iter 100 value 239.054079
## final  value 239.054079
## stopped after 100 iterations
## # weights:  161
## initial  value 519.787178
## iter  10 value 439.964364
## iter  20 value 376.564272
## iter  30 value 319.879213
## iter  40 value 303.957255
## iter  50 value 291.027387
## iter  60 value 278.364517
## iter  70 value 272.233330
## iter  80 value 267.868477
## iter  90 value 265.704049
## iter 100 value 265.284891
## final  value 265.284891
## stopped after 100 iterations
## # weights:  177
## initial  value 533.181663
## iter  10 value 433.565046
## iter  20 value 395.299899
## iter  30 value 337.778331
## iter  40 value 318.813258
## iter  50 value 312.291351
## iter  60 value 307.789915
## iter  70 value 294.497311
## iter  80 value 260.242339
## iter  90 value 253.880955
## iter 100 value 249.598150
## final  value 249.598150
## stopped after 100 iterations
## # weights:  193
## initial  value 504.556024
## iter  10 value 430.789386
## iter  20 value 403.029183
## iter  30 value 334.882868
## iter  40 value 308.402884
## iter  50 value 282.885655
## iter  60 value 278.135570
## iter  70 value 268.161990
## iter  80 value 253.917742
## iter  90 value 249.422718
## iter 100 value 241.310744
## final  value 241.310744
## stopped after 100 iterations
## # weights:  209
## initial  value 902.159607
## iter  10 value 451.908523
## iter  20 value 423.036704
## iter  30 value 369.730713
## iter  40 value 324.620650
```

```
## iter  50 value 307.937806
## iter  60 value 300.272012
## iter  70 value 283.783353
## iter  80 value 273.169499
## iter  90 value 266.879511
## iter 100 value 265.843281
## final   value 265.843281
## stopped after 100 iterations
## # weights:  225
## initial   value 537.492719
## iter  10 value 457.355103
## iter  20 value 356.993592
## iter  30 value 335.851601
## iter  40 value 308.460254
## iter  50 value 281.971952
## iter  60 value 263.182326
## iter  70 value 249.167426
## iter  80 value 244.411519
## iter  90 value 243.658173
## iter 100 value 238.426734
## final   value 238.426734
## stopped after 100 iterations
## # weights:  241
## initial   value 792.894976
## iter  10 value 454.711647
## iter  20 value 422.898787
## iter  30 value 401.719614
## iter  40 value 343.257138
## iter  50 value 316.770520
## iter  60 value 303.930381
## iter  70 value 290.973855
## iter  80 value 278.440442
## iter  90 value 271.607189
## iter 100 value 259.598161
## final   value 259.598161
## stopped after 100 iterations
## # weights:  97
## initial   value 523.545313
## iter  10 value 453.911643
## iter  20 value 363.641033
## iter  30 value 325.232358
## iter  40 value 303.197268
## iter  50 value 297.213193
## iter  60 value 295.758205
## iter  70 value 291.833917
## iter  80 value 287.643429
## iter  90 value 272.631033
## iter 100 value 256.689634
## final   value 256.689634
## stopped after 100 iterations
## # weights:  113
## initial   value 521.457298
## iter  10 value 440.124182
## iter  20 value 408.796525
```

```
## iter  30 value 368.534668
## iter  40 value 335.890685
## iter  50 value 311.723865
## iter  60 value 302.425310
## iter  70 value 298.484333
## iter  80 value 289.666214
## iter  90 value 277.900572
## iter 100 value 274.348460
## final   value 274.348460
## stopped after 100 iterations
## # weights:  129
## initial   value 490.388917
## iter  10 value 476.615723
## iter  20 value 399.079620
## iter  30 value 334.355240
## iter  40 value 294.710850
## iter  50 value 279.243208
## iter  60 value 268.371984
## iter  70 value 259.665097
## iter  80 value 258.353794
## iter  90 value 257.471047
## iter 100 value 257.009670
## final   value 257.009670
## stopped after 100 iterations
## # weights:  145
## initial   value 574.139056
## iter  10 value 443.332890
## iter  20 value 385.116203
## iter  30 value 337.837675
## iter  40 value 325.023500
## iter  50 value 323.155297
## iter  60 value 309.026964
## iter  70 value 274.865581
## iter  80 value 263.711287
## iter  90 value 260.718479
## iter 100 value 259.058882
## final   value 259.058882
## stopped after 100 iterations
## # weights:  161
## initial   value 522.559099
## iter  10 value 445.451241
## iter  20 value 398.025764
## iter  30 value 335.077918
## iter  40 value 319.017024
## iter  50 value 307.521375
## iter  60 value 296.489757
## iter  70 value 272.580640
## iter  80 value 262.967725
## iter  90 value 260.707427
## iter 100 value 253.707175
## final   value 253.707175
## stopped after 100 iterations
## # weights:  177
## initial   value 585.349865
```

```
## iter  10 value 477.694806
## iter  20 value 413.524054
## iter  30 value 362.916816
## iter  40 value 335.681043
## iter  50 value 313.348759
## iter  60 value 296.588676
## iter  70 value 269.893919
## iter  80 value 257.850446
## iter  90 value 243.010527
## iter 100 value 236.650193
## final  value 236.650193
## stopped after 100 iterations
## # weights:  193
## initial  value 487.104691
## iter  10 value 426.801922
## iter  20 value 374.926109
## iter  30 value 338.607310
## iter  40 value 320.338248
## iter  50 value 308.086257
## iter  60 value 296.673625
## iter  70 value 294.513761
## iter  80 value 280.528278
## iter  90 value 267.115562
## iter 100 value 261.533120
## final  value 261.533120
## stopped after 100 iterations
## # weights:  209
## initial  value 624.086331
## iter  10 value 450.510059
## iter  20 value 391.968491
## iter  30 value 337.054244
## iter  40 value 284.481288
## iter  50 value 271.279419
## iter  60 value 265.058659
## iter  70 value 264.143946
## iter  80 value 257.313199
## iter  90 value 248.349851
## iter 100 value 243.646422
## final  value 243.646422
## stopped after 100 iterations
## # weights:  225
## initial  value 634.477870
## iter  10 value 445.910759
## iter  20 value 368.836513
## iter  30 value 330.427949
## iter  40 value 310.600346
## iter  50 value 304.874445
## iter  60 value 292.176279
## iter  70 value 281.439089
## iter  80 value 275.355090
## iter  90 value 269.172054
## iter 100 value 264.512265
## final  value 264.512265
## stopped after 100 iterations
```

```
## # weights:  241
## initial  value 507.042411
## iter  10 value 439.490805
## iter  20 value 419.159100
## iter  30 value 392.337783
## iter  40 value 317.304129
## iter  50 value 295.919720
## iter  60 value 264.523541
## iter  70 value 250.244076
## iter  80 value 239.901422
## iter  90 value 232.169856
## iter 100 value 224.264703
## final  value 224.264703
## stopped after 100 iterations
## # weights:  97
## initial  value 519.312722
## iter  10 value 454.623312
## iter  20 value 420.212538
## iter  30 value 379.900428
## iter  40 value 355.935577
## iter  50 value 338.053600
## iter  60 value 330.154404
## iter  70 value 326.297808
## iter  80 value 324.700854
## iter  90 value 321.190625
## iter 100 value 318.354906
## final  value 318.354906
## stopped after 100 iterations
## # weights:  113
## initial  value 501.962542
## iter  10 value 445.504465
## iter  20 value 426.245647
## iter  30 value 375.313104
## iter  40 value 348.318608
## iter  50 value 339.172462
## iter  60 value 324.199076
## iter  70 value 317.204255
## iter  80 value 313.681089
## iter  90 value 312.800258
## iter 100 value 311.060989
## final  value 311.060989
## stopped after 100 iterations
## # weights:  129
## initial  value 642.576392
## iter  10 value 468.747583
## iter  20 value 427.820281
## iter  30 value 373.135811
## iter  40 value 341.104437
## iter  50 value 334.761471
## iter  60 value 331.745109
## iter  70 value 328.802651
## iter  80 value 327.236732
## iter  90 value 324.601017
## iter 100 value 321.880913
```

```
## final   value 321.880913
## stopped after 100 iterations
## # weights:  145
## initial   value 493.991579
## iter  10 value 442.106774
## iter  20 value 360.556730
## iter  30 value 345.280951
## iter  40 value 337.766042
## iter  50 value 331.889204
## iter  60 value 323.880502
## iter  70 value 319.138376
## iter  80 value 317.340976
## iter  90 value 316.121981
## iter 100 value 315.684746
## final   value 315.684746
## stopped after 100 iterations
## # weights:  161
## initial   value 544.288962
## iter  10 value 453.851609
## iter  20 value 384.848117
## iter  30 value 354.109668
## iter  40 value 338.516387
## iter  50 value 334.637523
## iter  60 value 331.620373
## iter  70 value 328.209918
## iter  80 value 325.542603
## iter  90 value 322.440219
## iter 100 value 317.488557
## final   value 317.488557
## stopped after 100 iterations
## # weights:  177
## initial   value 491.027027
## iter  10 value 444.479311
## iter  20 value 374.103789
## iter  30 value 340.359646
## iter  40 value 331.887077
## iter  50 value 327.158015
## iter  60 value 324.339718
## iter  70 value 322.301610
## iter  80 value 320.990455
## iter  90 value 316.734705
## iter 100 value 313.206049
## final   value 313.206049
## stopped after 100 iterations
## # weights:  193
## initial   value 518.871271
## iter  10 value 445.478769
## iter  20 value 384.373230
## iter  30 value 353.472363
## iter  40 value 341.962065
## iter  50 value 329.763883
## iter  60 value 325.244331
## iter  70 value 322.355880
## iter  80 value 320.040542
```

```
## iter  90 value 318.922905
## iter 100 value 315.961508
## final   value 315.961508
## stopped after 100 iterations
## # weights:  209
## initial   value 664.361868
## iter  10 value 473.335247
## iter  20 value 408.031516
## iter  30 value 368.428386
## iter  40 value 360.675757
## iter  50 value 343.916606
## iter  60 value 324.586919
## iter  70 value 318.289498
## iter  80 value 311.428584
## iter  90 value 307.282565
## iter 100 value 304.495785
## final   value 304.495785
## stopped after 100 iterations
## # weights:  225
## initial   value 522.402927
## iter  10 value 477.842294
## iter  20 value 453.210136
## iter  30 value 433.822498
## iter  40 value 384.833598
## iter  50 value 363.740158
## iter  60 value 345.631110
## iter  70 value 337.452820
## iter  80 value 324.345131
## iter  90 value 319.383779
## iter 100 value 313.761344
## final   value 313.761344
## stopped after 100 iterations
## # weights:  241
## initial   value 597.874916
## iter  10 value 483.036778
## iter  20 value 392.055095
## iter  30 value 368.973444
## iter  40 value 351.423963
## iter  50 value 340.825785
## iter  60 value 336.325993
## iter  70 value 335.200735
## iter  80 value 323.886209
## iter  90 value 318.384411
## iter 100 value 313.928072
## final   value 313.928072
## stopped after 100 iterations
## # weights:  97
## initial   value 479.868288
## iter  10 value 404.812525
## iter  20 value 336.421826
## iter  30 value 320.831474
## iter  40 value 308.753224
## iter  50 value 275.313343
## iter  60 value 270.216896
```

```
## iter  70 value 265.821133
## iter  80 value 258.750163
## iter  90 value 254.382436
## iter 100 value 253.183588
## final  value 253.183588
## stopped after 100 iterations
## # weights:  113
## initial  value 480.566637
## iter  10 value 409.878236
## iter  20 value 344.062519
## iter  30 value 297.125593
## iter  40 value 261.829740
## iter  50 value 240.636665
## iter  60 value 232.917889
## iter  70 value 229.061298
## iter  80 value 226.974278
## iter  90 value 226.397474
## iter 100 value 224.776510
## final  value 224.776510
## stopped after 100 iterations
## # weights:  129
## initial  value 693.807215
## iter  10 value 422.051534
## iter  20 value 399.446663
## iter  30 value 390.255729
## iter  40 value 365.952494
## iter  50 value 338.491544
## iter  60 value 293.398607
## iter  70 value 267.573682
## iter  80 value 247.781088
## iter  90 value 246.177691
## iter 100 value 245.802306
## final  value 245.802306
## stopped after 100 iterations
## # weights:  145
## initial  value 474.663960
## iter  10 value 417.987006
## iter  20 value 377.201514
## iter  30 value 352.604275
## iter  40 value 281.707853
## iter  50 value 249.862233
## iter  60 value 225.160140
## iter  70 value 214.816608
## iter  80 value 208.500426
## iter  90 value 202.310295
## iter 100 value 201.423905
## final  value 201.423905
## stopped after 100 iterations
## # weights:  161
## initial  value 530.144988
## iter  10 value 440.566707
## iter  20 value 352.175824
## iter  30 value 306.292787
## iter  40 value 284.834363
```

```
## iter  50 value 261.038176
## iter  60 value 249.865392
## iter  70 value 234.198267
## iter  80 value 222.063238
## iter  90 value 219.586988
## iter 100 value 218.920901
## final   value 218.920901
## stopped after 100 iterations
## # weights:  177
## initial  value 638.454218
## iter  10 value 464.049423
## iter  20 value 386.419214
## iter  30 value 329.063148
## iter  40 value 317.399904
## iter  50 value 298.523724
## iter  60 value 293.439250
## iter  70 value 291.577396
## iter  80 value 290.331624
## iter  90 value 290.087227
## iter 100 value 289.640714
## final   value 289.640714
## stopped after 100 iterations
## # weights:  193
## initial  value 467.436453
## iter  10 value 414.084380
## iter  20 value 343.925092
## iter  30 value 300.601515
## iter  40 value 272.979108
## iter  50 value 244.919987
## iter  60 value 227.392767
## iter  70 value 212.130488
## iter  80 value 204.317362
## iter  90 value 202.997732
## iter 100 value 202.617414
## final   value 202.617414
## stopped after 100 iterations
## # weights:  209
## initial  value 633.008494
## iter  10 value 399.260991
## iter  20 value 349.475366
## iter  30 value 336.239150
## iter  40 value 327.088583
## iter  50 value 292.368535
## iter  60 value 268.066465
## iter  70 value 265.466767
## iter  80 value 259.849826
## iter  90 value 247.484674
## iter 100 value 242.597043
## final   value 242.597043
## stopped after 100 iterations
## # weights:  225
## initial  value 620.070096
## iter  10 value 433.628780
## iter  20 value 353.554996
```

```
## iter  30 value 337.422408
## iter  40 value 328.876301
## iter  50 value 301.176852
## iter  60 value 275.724145
## iter  70 value 261.194799
## iter  80 value 255.067660
## iter  90 value 246.899098
## iter 100 value 238.293135
## final  value 238.293135
## stopped after 100 iterations
## # weights:  241
## initial  value 515.872924
## iter  10 value 459.075783
## iter  20 value 385.746035
## iter  30 value 323.608375
## iter  40 value 276.421413
## iter  50 value 259.714885
## iter  60 value 243.563069
## iter  70 value 233.604183
## iter  80 value 219.591550
## iter  90 value 206.955343
## iter 100 value 200.474382
## final  value 200.474382
## stopped after 100 iterations
## # weights:  97
## initial  value 477.624152
## iter  10 value 441.972235
## iter  20 value 342.761374
## iter  30 value 328.517613
## iter  40 value 323.633903
## iter  50 value 319.888285
## iter  60 value 276.901367
## iter  70 value 262.591922
## iter  80 value 260.346452
## iter  90 value 259.956874
## iter 100 value 253.207786
## final  value 253.207786
## stopped after 100 iterations
## # weights:  113
## initial  value 561.361238
## iter  10 value 415.977846
## iter  20 value 379.157567
## iter  30 value 316.774335
## iter  40 value 277.512457
## iter  50 value 269.954164
## iter  60 value 268.856264
## iter  70 value 254.177883
## iter  80 value 241.297759
## iter  90 value 238.416805
## iter 100 value 237.950928
## final  value 237.950928
## stopped after 100 iterations
## # weights:  129
## initial  value 609.669109
```

```
## iter  10 value 392.745589
## iter  20 value 331.228714
## iter  30 value 322.666460
## iter  40 value 315.779117
## iter  50 value 306.561602
## iter  60 value 299.366262
## iter  70 value 285.794680
## iter  80 value 277.715543
## iter  90 value 275.667385
## iter 100 value 274.893074
## final   value 274.893074
## stopped after 100 iterations
## # weights:  145
## initial   value 524.726601
## iter  10 value 420.458554
## iter  20 value 350.194771
## iter  30 value 328.631252
## iter  40 value 294.768224
## iter  50 value 264.774880
## iter  60 value 251.683270
## iter  70 value 248.826892
## iter  80 value 248.080410
## iter  90 value 247.826649
## iter 100 value 242.629401
## final   value 242.629401
## stopped after 100 iterations
## # weights:  161
## initial   value 607.055947
## iter  10 value 440.483590
## iter  20 value 344.989708
## iter  30 value 320.803324
## iter  40 value 290.570881
## iter  50 value 280.724303
## iter  60 value 269.665982
## iter  70 value 249.487770
## iter  80 value 247.378293
## iter  90 value 232.321015
## iter 100 value 216.864111
## final   value 216.864111
## stopped after 100 iterations
## # weights:  177
## initial   value 997.491517
## iter  10 value 414.633534
## iter  20 value 363.946465
## iter  30 value 288.537284
## iter  40 value 281.142893
## iter  50 value 275.129896
## iter  60 value 268.161815
## iter  70 value 263.018675
## iter  80 value 247.478378
## iter  90 value 241.444462
## iter 100 value 236.944575
## final   value 236.944575
## stopped after 100 iterations
```

```
## # weights:  193
## initial  value 1089.715319
## iter  10 value 428.152741
## iter  20 value 361.715791
## iter  30 value 329.104594
## iter  40 value 324.672604
## iter  50 value 300.610502
## iter  60 value 272.590908
## iter  70 value 246.950712
## iter  80 value 236.628288
## iter  90 value 234.292572
## iter 100 value 228.268201
## final  value 228.268201
## stopped after 100 iterations
## # weights:  209
## initial  value 839.380209
## iter  10 value 426.419236
## iter  20 value 356.658748
## iter  30 value 343.568690
## iter  40 value 331.467442
## iter  50 value 311.876813
## iter  60 value 294.356343
## iter  70 value 274.312304
## iter  80 value 268.698920
## iter  90 value 268.570698
## iter 100 value 265.672496
## final  value 265.672496
## stopped after 100 iterations
## # weights:  225
## initial  value 570.728120
## iter  10 value 413.024185
## iter  20 value 392.181141
## iter  30 value 374.240907
## iter  40 value 303.604126
## iter  50 value 280.315883
## iter  60 value 258.128134
## iter  70 value 241.544649
## iter  80 value 236.884318
## iter  90 value 235.307882
## iter 100 value 232.701947
## final  value 232.701947
## stopped after 100 iterations
## # weights:  241
## initial  value 717.484822
## iter  10 value 426.472348
## iter  20 value 396.824337
## iter  30 value 370.789651
## iter  40 value 341.110706
## iter  50 value 332.462192
## iter  60 value 326.649710
## iter  70 value 305.553616
## iter  80 value 281.048790
## iter  90 value 274.561066
## iter 100 value 256.967636
```

```
## final   value 256.967636
## stopped after 100 iterations
## # weights:   97
## initial  value 519.771859
## iter  10 value 430.005153
## iter  20 value 375.886009
## iter  30 value 347.141846
## iter  40 value 328.064495
## iter  50 value 320.662961
## iter  60 value 302.822533
## iter  70 value 294.411021
## iter  80 value 269.413989
## iter  90 value 249.164606
## iter 100 value 246.665397
## final   value 246.665397
## stopped after 100 iterations
## # weights:   113
## initial  value 505.546597
## iter  10 value 416.074990
## iter  20 value 347.202595
## iter  30 value 337.816613
## iter  40 value 329.303357
## iter  50 value 320.291077
## iter  60 value 315.692591
## iter  70 value 308.077717
## iter  80 value 302.029471
## iter  90 value 277.526331
## iter 100 value 265.292118
## final   value 265.292118
## stopped after 100 iterations
## # weights:   129
## initial  value 710.273774
## iter  10 value 455.265939
## iter  20 value 369.717667
## iter  30 value 342.169470
## iter  40 value 320.105360
## iter  50 value 284.472916
## iter  60 value 269.096994
## iter  70 value 257.782236
## iter  80 value 254.649948
## iter  90 value 254.175969
## iter 100 value 251.981603
## final   value 251.981603
## stopped after 100 iterations
## # weights:   145
## initial  value 461.765054
## iter  10 value 409.134728
## iter  20 value 345.473455
## iter  30 value 290.621004
## iter  40 value 274.625073
## iter  50 value 268.489497
## iter  60 value 251.850588
## iter  70 value 242.305856
## iter  80 value 233.557069
```

```
## iter  90 value 224.640773
## iter 100 value 218.870927
## final   value 218.870927
## stopped after 100 iterations
## # weights:  161
## initial   value 551.886337
## iter  10 value 423.034179
## iter  20 value 416.858996
## iter  30 value 350.790603
## iter  40 value 330.603010
## iter  50 value 302.906755
## iter  60 value 291.345481
## iter  70 value 275.430726
## iter  80 value 265.879544
## iter  90 value 249.509037
## iter 100 value 232.884868
## final   value 232.884868
## stopped after 100 iterations
## # weights:  177
## initial   value 606.338181
## iter  10 value 444.766783
## iter  20 value 385.837675
## iter  30 value 343.780486
## iter  40 value 302.963531
## iter  50 value 274.022375
## iter  60 value 271.305495
## iter  70 value 266.165829
## iter  80 value 260.449928
## iter  90 value 255.082155
## iter 100 value 247.767978
## final   value 247.767978
## stopped after 100 iterations
## # weights:  193
## initial   value 503.831745
## iter  10 value 425.759952
## iter  20 value 397.397472
## iter  30 value 346.521362
## iter  40 value 332.595945
## iter  50 value 314.441090
## iter  60 value 309.426932
## iter  70 value 282.148849
## iter  80 value 259.482228
## iter  90 value 249.388172
## iter 100 value 243.411345
## final   value 243.411345
## stopped after 100 iterations
## # weights:  209
## initial   value 669.732986
## iter  10 value 409.961625
## iter  20 value 349.122033
## iter  30 value 338.059303
## iter  40 value 309.132376
## iter  50 value 293.291973
## iter  60 value 288.537387
```

```
## iter  70 value 280.800719
## iter  80 value 277.825962
## iter  90 value 269.795446
## iter 100 value 253.181636
## final  value 253.181636
## stopped after 100 iterations
## # weights:  225
## initial  value 493.206260
## iter  10 value 411.694256
## iter  20 value 380.053985
## iter  30 value 336.713184
## iter  40 value 314.849349
## iter  50 value 308.726074
## iter  60 value 291.433342
## iter  70 value 276.785355
## iter  80 value 255.580852
## iter  90 value 245.404646
## iter 100 value 241.323400
## final  value 241.323400
## stopped after 100 iterations
## # weights:  241
## initial  value 741.571347
## iter  10 value 404.193722
## iter  20 value 341.949567
## iter  30 value 338.500646
## iter  40 value 333.111852
## iter  50 value 323.514323
## iter  60 value 296.331988
## iter  70 value 291.227160
## iter  80 value 280.680859
## iter  90 value 252.374471
## iter 100 value 242.061359
## final  value 242.061359
## stopped after 100 iterations
## # weights:  97
## initial  value 491.736544
## iter  10 value 446.180083
## iter  20 value 421.730252
## iter  30 value 371.853269
## iter  40 value 353.164288
## iter  50 value 344.035419
## iter  60 value 330.212228
## iter  70 value 315.554906
## iter  80 value 310.599209
## iter  90 value 306.042975
## iter 100 value 305.003236
## final  value 305.003236
## stopped after 100 iterations
## # weights:  113
## initial  value 616.669248
## iter  10 value 470.794043
## iter  20 value 368.843445
## iter  30 value 358.519535
## iter  40 value 348.735273
```

```
## iter  50 value 324.946078
## iter  60 value 314.898220
## iter  70 value 307.456487
## iter  80 value 306.297236
## iter  90 value 303.959599
## iter 100 value 301.197128
## final   value 301.197128
## stopped after 100 iterations
## # weights:  129
## initial   value 569.029800
## iter  10 value 476.428513
## iter  20 value 422.877770
## iter  30 value 393.068997
## iter  40 value 371.005976
## iter  50 value 340.009306
## iter  60 value 317.972059
## iter  70 value 309.320374
## iter  80 value 304.982610
## iter  90 value 301.107336
## iter 100 value 295.959807
## final   value 295.959807
## stopped after 100 iterations
## # weights:  145
## initial   value 756.286599
## iter  10 value 450.419864
## iter  20 value 431.500976
## iter  30 value 384.858362
## iter  40 value 373.224046
## iter  50 value 364.832917
## iter  60 value 340.319026
## iter  70 value 325.637345
## iter  80 value 310.371341
## iter  90 value 303.034285
## iter 100 value 300.491784
## final   value 300.491784
## stopped after 100 iterations
## # weights:  161
## initial   value 469.606702
## iter  10 value 442.407242
## iter  20 value 379.190232
## iter  30 value 333.978572
## iter  40 value 325.124191
## iter  50 value 311.937498
## iter  60 value 303.032014
## iter  70 value 298.729159
## iter  80 value 297.492044
## iter  90 value 296.282753
## iter 100 value 295.195378
## final   value 295.195378
## stopped after 100 iterations
## # weights:  177
## initial   value 613.669302
## iter  10 value 455.749000
## iter  20 value 429.178882
```

```
## iter  30 value 376.529687
## iter  40 value 360.172791
## iter  50 value 349.721014
## iter  60 value 330.557895
## iter  70 value 320.533148
## iter  80 value 313.647611
## iter  90 value 306.486745
## iter 100 value 301.085905
## final  value 301.085905
## stopped after 100 iterations
## # weights:  193
## initial  value 737.972222
## iter  10 value 454.998318
## iter  20 value 410.806061
## iter  30 value 367.727692
## iter  40 value 339.463912
## iter  50 value 324.016249
## iter  60 value 312.866612
## iter  70 value 306.241730
## iter  80 value 302.581472
## iter  90 value 298.960707
## iter 100 value 297.890820
## final  value 297.890820
## stopped after 100 iterations
## # weights:  209
## initial  value 629.822622
## iter  10 value 452.149639
## iter  20 value 406.607537
## iter  30 value 339.971519
## iter  40 value 320.558387
## iter  50 value 308.299020
## iter  60 value 303.029815
## iter  70 value 300.831949
## iter  80 value 299.441463
## iter  90 value 298.529206
## iter 100 value 297.647170
## final  value 297.647170
## stopped after 100 iterations
## # weights:  225
## initial  value 576.313775
## iter  10 value 466.353755
## iter  20 value 410.435306
## iter  30 value 362.138935
## iter  40 value 331.560117
## iter  50 value 324.490532
## iter  60 value 308.859786
## iter  70 value 303.653787
## iter  80 value 298.373649
## iter  90 value 295.706558
## iter 100 value 295.320219
## final  value 295.320219
## stopped after 100 iterations
## # weights:  241
## initial  value 531.957531
```

```
## iter  10 value 451.655755
## iter  20 value 433.965712
## iter  30 value 390.571838
## iter  40 value 347.136469
## iter  50 value 328.175991
## iter  60 value 315.226886
## iter  70 value 305.161893
## iter  80 value 303.005411
## iter  90 value 299.856105
## iter 100 value 296.197555
## final   value 296.197555
## stopped after 100 iterations
## # weights:  97
## initial   value 520.367676
## iter  10 value 474.995114
## iter  20 value 446.239767
## iter  30 value 399.185540
## iter  40 value 316.009188
## iter  50 value 298.109457
## iter  60 value 295.683834
## iter  70 value 287.047073
## iter  80 value 284.136395
## iter  90 value 281.141086
## iter 100 value 276.353641
## final   value 276.353641
## stopped after 100 iterations
## # weights:  113
## initial   value 561.388894
## iter  10 value 464.222004
## iter  20 value 433.954732
## iter  30 value 391.450185
## iter  40 value 337.048156
## iter  50 value 299.845231
## iter  60 value 273.761084
## iter  70 value 246.743792
## iter  80 value 235.504719
## iter  90 value 228.120429
## iter 100 value 224.951685
## final   value 224.951685
## stopped after 100 iterations
## # weights:  129
## initial   value 1133.334097
## iter  10 value 432.439949
## iter  20 value 335.685567
## iter  30 value 319.819816
## iter  40 value 316.347748
## iter  50 value 311.693108
## iter  60 value 299.168406
## iter  70 value 268.592949
## iter  80 value 266.536244
## iter  90 value 264.917864
## iter 100 value 253.817325
## final   value 253.817325
## stopped after 100 iterations
```

```
## # weights:  145
## initial  value 549.870228
## iter  10 value 409.423942
## iter  20 value 349.648432
## iter  30 value 323.412712
## iter  40 value 319.848844
## iter  50 value 314.795267
## iter  60 value 311.268776
## iter  70 value 304.559585
## iter  80 value 303.679704
## iter  90 value 303.118773
## iter 100 value 302.748821
## final  value 302.748821
## stopped after 100 iterations
## # weights:  161
## initial  value 629.993722
## iter  10 value 479.997756
## iter  20 value 466.999098
## iter  30 value 459.127145
## iter  40 value 382.471992
## iter  50 value 350.617961
## iter  60 value 324.861456
## iter  70 value 302.378265
## iter  80 value 293.788458
## iter  90 value 287.297543
## iter 100 value 273.495929
## final  value 273.495929
## stopped after 100 iterations
## # weights:  177
## initial  value 473.731616
## iter  10 value 441.540813
## iter  20 value 378.550787
## iter  30 value 345.626390
## iter  40 value 332.657222
## iter  50 value 292.302721
## iter  60 value 281.144332
## iter  70 value 278.771326
## iter  80 value 277.785739
## iter  90 value 277.383437
## iter 100 value 275.928885
## final  value 275.928885
## stopped after 100 iterations
## # weights:  193
## initial  value 1023.461666
## iter  10 value 445.022319
## iter  20 value 373.959700
## iter  30 value 329.360629
## iter  40 value 310.209542
## iter  50 value 282.110812
## iter  60 value 251.127385
## iter  70 value 238.867981
## iter  80 value 233.727816
## iter  90 value 223.395336
## iter 100 value 219.778394
```

```
## final   value 219.778394
## stopped after 100 iterations
## # weights:  209
## initial  value 784.605283
## iter  10 value 457.691381
## iter  20 value 419.428655
## iter  30 value 347.113336
## iter  40 value 334.071467
## iter  50 value 327.487561
## iter  60 value 325.193510
## iter  70 value 311.070142
## iter  80 value 292.525930
## iter  90 value 289.307816
## iter 100 value 281.904654
## final   value 281.904654
## stopped after 100 iterations
## # weights:  225
## initial  value 659.026375
## iter  10 value 449.838211
## iter  20 value 424.756492
## iter  30 value 380.603756
## iter  40 value 313.001763
## iter  50 value 297.013712
## iter  60 value 282.061579
## iter  70 value 264.474764
## iter  80 value 231.874085
## iter  90 value 207.443839
## iter 100 value 191.941202
## final   value 191.941202
## stopped after 100 iterations
## # weights:  241
## initial  value 517.722635
## iter  10 value 446.319736
## iter  20 value 411.987702
## iter  30 value 349.913459
## iter  40 value 328.496516
## iter  50 value 317.727872
## iter  60 value 298.802777
## iter  70 value 269.356839
## iter  80 value 241.087828
## iter  90 value 233.327120
## iter 100 value 233.001892
## final   value 233.001892
## stopped after 100 iterations
## # weights:  97
## initial  value 522.665456
## iter  10 value 436.599900
## iter  20 value 347.489047
## iter  30 value 312.484582
## iter  40 value 309.305968
## iter  50 value 308.408162
## iter  60 value 300.433056
## iter  70 value 291.098473
## iter  80 value 283.945784
```

```
## iter  90 value 276.547442
## iter 100 value 274.833325
## final   value 274.833325
## stopped after 100 iterations
## # weights:  113
## initial   value 529.578706
## iter  10 value 441.445543
## iter  20 value 410.210466
## iter  30 value 400.794353
## iter  40 value 391.069607
## iter  50 value 334.068821
## iter  60 value 315.980051
## iter  70 value 291.555605
## iter  80 value 283.497512
## iter  90 value 280.738281
## iter 100 value 277.673808
## final   value 277.673808
## stopped after 100 iterations
## # weights:  129
## initial   value 784.232795
## iter  10 value 445.520240
## iter  20 value 376.318940
## iter  30 value 335.782614
## iter  40 value 322.488035
## iter  50 value 317.726591
## iter  60 value 316.884869
## iter  70 value 316.556996
## iter  80 value 315.231720
## iter  90 value 302.443206
## iter 100 value 271.493561
## final   value 271.493561
## stopped after 100 iterations
## # weights:  145
## initial   value 633.610544
## iter  10 value 452.798189
## iter  20 value 392.995816
## iter  30 value 330.748587
## iter  40 value 322.290657
## iter  50 value 308.394113
## iter  60 value 290.015420
## iter  70 value 272.400148
## iter  80 value 255.768681
## iter  90 value 249.656244
## iter 100 value 230.601470
## final   value 230.601470
## stopped after 100 iterations
## # weights:  161
## initial   value 533.789713
## iter  10 value 445.345605
## iter  20 value 425.248316
## iter  30 value 363.622940
## iter  40 value 276.996397
## iter  50 value 255.013852
## iter  60 value 243.951962
```

```
## iter  70 value 240.747149
## iter  80 value 239.480072
## iter  90 value 238.479006
## iter 100 value 231.251302
## final  value 231.251302
## stopped after 100 iterations
## # weights:  177
## initial  value 729.954926
## iter  10 value 465.066385
## iter  20 value 410.318480
## iter  30 value 329.624806
## iter  40 value 317.779400
## iter  50 value 293.313682
## iter  60 value 257.532892
## iter  70 value 249.621946
## iter  80 value 242.621635
## iter  90 value 233.351616
## iter 100 value 223.487553
## final  value 223.487553
## stopped after 100 iterations
## # weights:  193
## initial  value 509.279727
## iter  10 value 456.084960
## iter  20 value 402.504234
## iter  30 value 338.351074
## iter  40 value 323.295113
## iter  50 value 289.654552
## iter  60 value 277.592091
## iter  70 value 270.887768
## iter  80 value 262.739901
## iter  90 value 253.349079
## iter 100 value 241.146206
## final  value 241.146206
## stopped after 100 iterations
## # weights:  209
## initial  value 505.213907
## iter  10 value 451.847395
## iter  20 value 366.324432
## iter  30 value 354.992786
## iter  40 value 338.906190
## iter  50 value 321.831201
## iter  60 value 292.025574
## iter  70 value 267.044176
## iter  80 value 259.586316
## iter  90 value 249.725443
## iter 100 value 245.531067
## final  value 245.531067
## stopped after 100 iterations
## # weights:  225
## initial  value 1128.553599
## iter  10 value 455.998476
## iter  20 value 440.447357
## iter  30 value 366.860888
## iter  40 value 317.477889
```

```
## iter  50 value 290.714680
## iter  60 value 243.378910
## iter  70 value 217.222353
## iter  80 value 201.032366
## iter  90 value 194.284412
## iter 100 value 189.480232
## final   value 189.480232
## stopped after 100 iterations
## # weights:  241
## initial   value 479.800829
## iter  10 value 442.805410
## iter  20 value 413.254203
## iter  30 value 393.872824
## iter  40 value 354.003726
## iter  50 value 332.523631
## iter  60 value 265.655651
## iter  70 value 257.438628
## iter  80 value 247.062366
## iter  90 value 228.016924
## iter 100 value 213.941064
## final   value 213.941064
## stopped after 100 iterations
## # weights:  97
## initial   value 490.915215
## iter  10 value 397.511107
## iter  20 value 362.075793
## iter  30 value 338.815557
## iter  40 value 323.367149
## iter  50 value 312.645204
## iter  60 value 306.535875
## iter  70 value 301.275163
## iter  80 value 288.642554
## iter  90 value 274.416733
## iter 100 value 256.708533
## final   value 256.708533
## stopped after 100 iterations
## # weights:  113
## initial   value 613.911641
## iter  10 value 455.951558
## iter  20 value 424.601488
## iter  30 value 331.129917
## iter  40 value 295.036905
## iter  50 value 277.766322
## iter  60 value 263.701886
## iter  70 value 256.626852
## iter  80 value 254.744782
## iter  90 value 253.027541
## iter 100 value 251.731436
## final   value 251.731436
## stopped after 100 iterations
## # weights:  129
## initial   value 547.844451
## iter  10 value 443.159404
## iter  20 value 385.362994
```

```
## iter  30 value 336.096586
## iter  40 value 321.030846
## iter  50 value 291.926663
## iter  60 value 282.147351
## iter  70 value 278.840901
## iter  80 value 274.847826
## iter  90 value 266.717185
## iter 100 value 256.961955
## final  value 256.961955
## stopped after 100 iterations
## # weights:  145
## initial  value 483.422992
## iter  10 value 452.750625
## iter  20 value 396.516154
## iter  30 value 336.949744
## iter  40 value 320.088402
## iter  50 value 302.745416
## iter  60 value 287.229337
## iter  70 value 280.428023
## iter  80 value 270.208031
## iter  90 value 264.490978
## iter 100 value 260.841545
## final  value 260.841545
## stopped after 100 iterations
## # weights:  161
## initial  value 549.807164
## iter  10 value 446.686208
## iter  20 value 432.672674
## iter  30 value 407.525871
## iter  40 value 368.905826
## iter  50 value 306.133745
## iter  60 value 277.432206
## iter  70 value 262.322932
## iter  80 value 258.506621
## iter  90 value 254.531346
## iter 100 value 251.071949
## final  value 251.071949
## stopped after 100 iterations
## # weights:  177
## initial  value 704.993604
## iter  10 value 524.881952
## iter  20 value 449.773895
## iter  30 value 393.766905
## iter  40 value 330.645891
## iter  50 value 315.318426
## iter  60 value 291.664681
## iter  70 value 279.840220
## iter  80 value 267.575360
## iter  90 value 251.124694
## iter 100 value 241.148860
## final  value 241.148860
## stopped after 100 iterations
## # weights:  193
## initial  value 1040.789262
```

```
## iter  10 value 453.897454
## iter  20 value 441.299791
## iter  30 value 385.076188
## iter  40 value 353.133450
## iter  50 value 344.203797
## iter  60 value 328.377336
## iter  70 value 294.989715
## iter  80 value 285.807670
## iter  90 value 269.342597
## iter 100 value 262.029015
## final   value 262.029015
## stopped after 100 iterations
## # weights:  209
## initial   value 481.865324
## iter  10 value 450.186809
## iter  20 value 415.317147
## iter  30 value 329.600093
## iter  40 value 297.000920
## iter  50 value 282.964582
## iter  60 value 275.744349
## iter  70 value 271.862548
## iter  80 value 270.538116
## iter  90 value 263.449969
## iter 100 value 251.629075
## final   value 251.629075
## stopped after 100 iterations
## # weights:  225
## initial   value 554.360172
## iter  10 value 470.869926
## iter  20 value 360.505098
## iter  30 value 337.348327
## iter  40 value 298.212744
## iter  50 value 288.024753
## iter  60 value 277.954656
## iter  70 value 272.855991
## iter  80 value 271.658622
## iter  90 value 269.533891
## iter 100 value 265.476425
## final   value 265.476425
## stopped after 100 iterations
## # weights:  241
## initial   value 921.304225
## iter  10 value 440.743286
## iter  20 value 399.471273
## iter  30 value 362.318249
## iter  40 value 328.284306
## iter  50 value 305.307549
## iter  60 value 286.556300
## iter  70 value 276.100958
## iter  80 value 261.295297
## iter  90 value 243.459014
## iter 100 value 230.684913
## final   value 230.684913
## stopped after 100 iterations
```

```
## # weights:  97
## initial  value 565.712862
## iter  10 value 424.551267
## iter  20 value 388.528777
## iter  30 value 360.353194
## iter  40 value 340.748068
## iter  50 value 320.790471
## iter  60 value 315.004242
## iter  70 value 312.920409
## iter  80 value 309.738407
## iter  90 value 306.804993
## iter 100 value 305.042924
## final  value 305.042924
## stopped after 100 iterations
## # weights:  113
## initial  value 709.529531
## iter  10 value 480.513982
## iter  20 value 431.091140
## iter  30 value 399.989365
## iter  40 value 381.488303
## iter  50 value 360.049003
## iter  60 value 343.356673
## iter  70 value 334.529505
## iter  80 value 324.269092
## iter  90 value 320.540755
## iter 100 value 314.254119
## final  value 314.254119
## stopped after 100 iterations
## # weights:  129
## initial  value 703.280582
## iter  10 value 470.158605
## iter  20 value 451.199505
## iter  30 value 396.098485
## iter  40 value 372.978505
## iter  50 value 330.423599
## iter  60 value 323.977261
## iter  70 value 316.520985
## iter  80 value 314.549876
## iter  90 value 311.566040
## iter 100 value 309.839544
## final  value 309.839544
## stopped after 100 iterations
## # weights:  145
## initial  value 619.157375
## iter  10 value 455.130954
## iter  20 value 432.783004
## iter  30 value 367.100144
## iter  40 value 344.652055
## iter  50 value 331.694133
## iter  60 value 325.312285
## iter  70 value 322.250450
## iter  80 value 319.908302
## iter  90 value 317.687067
## iter 100 value 314.312288
```

```
## final   value 314.312288
## stopped after 100 iterations
## # weights:   161
## initial   value 553.407242
## iter   10 value 466.432412
## iter   20 value 432.012944
## iter   30 value 354.253609
## iter   40 value 341.096378
## iter   50 value 335.295737
## iter   60 value 327.684779
## iter   70 value 320.928090
## iter   80 value 318.573646
## iter   90 value 314.116771
## iter  100 value 311.866211
## final   value 311.866211
## stopped after 100 iterations
## # weights:   177
## initial   value 556.822315
## iter   10 value 457.798563
## iter   20 value 409.816909
## iter   30 value 349.660383
## iter   40 value 339.748087
## iter   50 value 332.027382
## iter   60 value 324.161003
## iter   70 value 322.451376
## iter   80 value 320.335272
## iter   90 value 318.227625
## iter  100 value 316.426927
## final   value 316.426927
## stopped after 100 iterations
## # weights:   193
## initial   value 537.594045
## iter   10 value 440.849057
## iter   20 value 430.724923
## iter   30 value 358.039405
## iter   40 value 341.543784
## iter   50 value 336.855793
## iter   60 value 327.689926
## iter   70 value 324.123038
## iter   80 value 320.920338
## iter   90 value 317.828881
## iter  100 value 317.404753
## final   value 317.404753
## stopped after 100 iterations
## # weights:   209
## initial   value 544.455065
## iter   10 value 475.110400
## iter   20 value 425.295990
## iter   30 value 366.652916
## iter   40 value 352.252617
## iter   50 value 332.190014
## iter   60 value 315.380204
## iter   70 value 311.389040
## iter   80 value 309.213550
```

```
## iter  90 value 306.856794
## iter 100 value 305.222406
## final   value 305.222406
## stopped after 100 iterations
## # weights:  225
## initial   value 534.960378
## iter  10 value 439.637577
## iter  20 value 389.517918
## iter  30 value 360.807227
## iter  40 value 344.618986
## iter  50 value 326.885669
## iter  60 value 314.136067
## iter  70 value 309.711817
## iter  80 value 308.164705
## iter  90 value 305.964306
## iter 100 value 305.569920
## final   value 305.569920
## stopped after 100 iterations
## # weights:  241
## initial   value 637.130254
## iter  10 value 476.337788
## iter  20 value 450.743574
## iter  30 value 388.799355
## iter  40 value 353.058895
## iter  50 value 340.141537
## iter  60 value 334.255384
## iter  70 value 332.187329
## iter  80 value 329.410864
## iter  90 value 322.528909
## iter 100 value 315.382053
## final   value 315.382053
## stopped after 100 iterations
## # weights:  97
## initial   value 478.328740
## iter  10 value 428.654489
## iter  20 value 394.566457
## iter  30 value 364.459482
## iter  40 value 318.722257
## iter  50 value 305.495764
## iter  60 value 300.999720
## iter  70 value 297.744899
## iter  80 value 290.968935
## iter  90 value 285.214042
## iter 100 value 278.789656
## final   value 278.789656
## stopped after 100 iterations
## # weights:  113
## initial   value 484.440294
## iter  10 value 420.582185
## iter  20 value 412.750768
## iter  30 value 360.746406
## iter  40 value 330.519266
## iter  50 value 306.151306
## iter  60 value 304.586063
```

```
## iter  70 value 299.573399
## iter  80 value 291.977663
## iter  90 value 284.362840
## iter 100 value 284.085314
## final  value 284.085314
## stopped after 100 iterations
## # weights:  129
## initial  value 594.034351
## iter  10 value 426.326440
## iter  20 value 394.988825
## iter  30 value 359.917406
## iter  40 value 346.273573
## iter  50 value 341.677980
## iter  60 value 335.113695
## iter  70 value 331.226236
## iter  80 value 330.807730
## iter  90 value 330.804151
## final  value 330.804146
## converged
## # weights:  145
## initial  value 711.098104
## iter  10 value 467.250608
## iter  20 value 424.778770
## iter  30 value 408.844230
## iter  40 value 390.532409
## iter  50 value 338.476293
## iter  60 value 322.733636
## iter  70 value 307.216862
## iter  80 value 285.695216
## iter  90 value 275.883626
## iter 100 value 269.191457
## final  value 269.191457
## stopped after 100 iterations
## # weights:  161
## initial  value 512.486509
## iter  10 value 431.672235
## iter  20 value 420.581659
## iter  30 value 408.014072
## iter  40 value 346.555622
## iter  50 value 312.685527
## iter  60 value 310.248001
## iter  70 value 301.406631
## iter  80 value 290.987623
## iter  90 value 278.810674
## iter 100 value 278.242164
## final  value 278.242164
## stopped after 100 iterations
## # weights:  177
## initial  value 476.676181
## iter  10 value 420.888989
## iter  20 value 405.975946
## iter  30 value 345.277632
## iter  40 value 326.414664
## iter  50 value 303.675677
```

```
## iter  60 value 291.448323
## iter  70 value 284.083132
## iter  80 value 267.062115
## iter  90 value 249.209239
## iter 100 value 243.386373
## final   value 243.386373
## stopped after 100 iterations
## # weights:  193
## initial  value 645.564077
## iter  10 value 417.138254
## iter  20 value 399.876238
## iter  30 value 379.099599
## iter  40 value 367.171149
## iter  50 value 332.749246
## iter  60 value 307.753363
## iter  70 value 299.032993
## iter  80 value 294.081261
## iter  90 value 289.325824
## iter 100 value 280.246357
## final   value 280.246357
## stopped after 100 iterations
## # weights:  209
## initial  value 587.966985
## iter  10 value 422.544846
## iter  20 value 378.344891
## iter  30 value 343.988336
## iter  40 value 335.855128
## iter  50 value 331.826538
## iter  60 value 315.891464
## iter  70 value 304.740862
## iter  80 value 299.471238
## iter  90 value 296.575833
## iter 100 value 289.630233
## final   value 289.630233
## stopped after 100 iterations
## # weights:  225
## initial  value 489.544097
## iter  10 value 437.231454
## iter  20 value 404.154635
## iter  30 value 367.126452
## iter  40 value 314.159802
## iter  50 value 291.334490
## iter  60 value 267.781723
## iter  70 value 245.525107
## iter  80 value 227.988165
## iter  90 value 217.219300
## iter 100 value 210.962887
## final   value 210.962887
## stopped after 100 iterations
## # weights:  241
## initial  value 1177.719669
## iter  10 value 476.757696
## iter  20 value 465.315610
## iter  30 value 359.915868
```

```
## iter  40 value 348.024103
## iter  50 value 328.289879
## iter  60 value 298.612084
## iter  70 value 283.236893
## iter  80 value 272.219014
## iter  90 value 261.723680
## iter 100 value 259.457267
## final  value 259.457267
## stopped after 100 iterations
## # weights:  97
## initial  value 694.364995
## iter  10 value 435.166074
## iter  20 value 405.314396
## iter  30 value 349.313479
## iter  40 value 336.797241
## iter  50 value 325.760148
## iter  60 value 319.295634
## iter  70 value 293.975627
## iter  80 value 281.188246
## iter  90 value 273.476956
## iter 100 value 267.539628
## final  value 267.539628
## stopped after 100 iterations
## # weights:  113
## initial  value 667.134124
## iter  10 value 478.025665
## iter  20 value 429.557001
## iter  30 value 420.285357
## iter  40 value 416.461871
## iter  50 value 413.360643
## iter  60 value 399.380022
## iter  70 value 369.380851
## iter  80 value 357.022040
## iter  90 value 309.929375
## iter 100 value 294.019772
## final  value 294.019772
## stopped after 100 iterations
## # weights:  129
## initial  value 546.803583
## iter  10 value 429.100791
## iter  20 value 398.001829
## iter  30 value 379.173343
## iter  40 value 351.099280
## iter  50 value 321.716167
## iter  60 value 295.535600
## iter  70 value 287.426093
## iter  80 value 279.018180
## iter  90 value 273.556296
## iter 100 value 255.371401
## final  value 255.371401
## stopped after 100 iterations
## # weights:  145
## initial  value 777.772122
## iter  10 value 442.465544
```

```
## iter  20 value 412.107928
## iter  30 value 403.354448
## iter  40 value 385.402229
## iter  50 value 339.301497
## iter  60 value 334.168393
## iter  70 value 317.516412
## iter  80 value 310.271458
## iter  90 value 308.059276
## iter 100 value 294.908601
## final   value 294.908601
## stopped after 100 iterations
## # weights:  161
## initial  value 642.955510
## iter  10 value 453.999769
## iter  20 value 410.080536
## iter  30 value 396.848582
## iter  40 value 375.989342
## iter  50 value 354.259623
## iter  60 value 343.833035
## iter  70 value 341.017102
## iter  80 value 316.408061
## iter  90 value 290.057897
## iter 100 value 278.292195
## final   value 278.292195
## stopped after 100 iterations
## # weights:  177
## initial  value 721.041018
## iter  10 value 455.415816
## iter  20 value 383.450083
## iter  30 value 345.423524
## iter  40 value 338.933643
## iter  50 value 333.222199
## iter  60 value 327.426569
## iter  70 value 321.081219
## iter  80 value 317.295535
## iter  90 value 299.441338
## iter 100 value 282.636869
## final   value 282.636869
## stopped after 100 iterations
## # weights:  193
## initial  value 595.800349
## iter  10 value 432.835432
## iter  20 value 400.623475
## iter  30 value 335.691065
## iter  40 value 314.071227
## iter  50 value 294.692710
## iter  60 value 280.002703
## iter  70 value 271.372234
## iter  80 value 266.883779
## iter  90 value 261.515283
## iter 100 value 255.149172
## final   value 255.149172
## stopped after 100 iterations
## # weights:  209
```

```
## initial  value 825.361741
## iter  10 value 430.139116
## iter  20 value 409.862997
## iter  30 value 359.951106
## iter  40 value 346.760598
## iter  50 value 329.203057
## iter  60 value 321.897033
## iter  70 value 317.609248
## iter  80 value 298.860736
## iter  90 value 294.709601
## iter 100 value 285.615701
## final  value 285.615701
## stopped after 100 iterations
## # weights:  225
## initial  value 506.825438
## iter  10 value 426.158548
## iter  20 value 394.750819
## iter  30 value 341.581277
## iter  40 value 321.976763
## iter  50 value 304.114940
## iter  60 value 293.733767
## iter  70 value 281.939329
## iter  80 value 281.250986
## iter  90 value 278.734093
## iter 100 value 273.459489
## final  value 273.459489
## stopped after 100 iterations
## # weights:  241
## initial  value 1020.408256
## iter  10 value 436.038524
## iter  20 value 421.202990
## iter  30 value 388.587216
## iter  40 value 377.868429
## iter  50 value 347.016761
## iter  60 value 305.865668
## iter  70 value 286.531222
## iter  80 value 274.141929
## iter  90 value 267.214602
## iter 100 value 265.672651
## final  value 265.672651
## stopped after 100 iterations
## # weights:  97
## initial  value 778.506604
## iter  10 value 452.832143
## iter  20 value 388.950217
## iter  30 value 355.461486
## iter  40 value 345.893231
## iter  50 value 343.433697
## iter  60 value 341.934710
## iter  70 value 336.488022
## iter  80 value 322.230033
## iter  90 value 301.694111
## iter 100 value 289.727428
## final  value 289.727428
```

```
## stopped after 100 iterations
## # weights:  113
## initial  value 484.531852
## iter  10 value 443.052881
## iter  20 value 414.629064
## iter  30 value 370.744031
## iter  40 value 342.162215
## iter  50 value 338.194150
## iter  60 value 333.313298
## iter  70 value 330.891481
## iter  80 value 323.519570
## iter  90 value 284.471839
## iter 100 value 274.381054
## final   value 274.381054
## stopped after 100 iterations
## # weights:  129
## initial  value 487.455092
## iter  10 value 420.788010
## iter  20 value 357.284181
## iter  30 value 347.177240
## iter  40 value 344.705575
## iter  50 value 342.074354
## iter  60 value 339.222508
## iter  70 value 330.709672
## iter  80 value 325.399856
## iter  90 value 311.996496
## iter 100 value 294.438194
## final   value 294.438194
## stopped after 100 iterations
## # weights:  145
## initial  value 553.521006
## iter  10 value 433.389269
## iter  20 value 413.610610
## iter  30 value 357.654349
## iter  40 value 317.916409
## iter  50 value 307.282489
## iter  60 value 297.338082
## iter  70 value 283.070573
## iter  80 value 278.285491
## iter  90 value 273.011753
## iter 100 value 271.059605
## final   value 271.059605
## stopped after 100 iterations
## # weights:  161
## initial  value 609.296425
## iter  10 value 425.639196
## iter  20 value 413.687134
## iter  30 value 401.027282
## iter  40 value 357.011369
## iter  50 value 351.373348
## iter  60 value 341.758219
## iter  70 value 321.930579
## iter  80 value 301.853943
## iter  90 value 296.988495
```

```
## iter 100 value 287.947427
## final  value 287.947427
## stopped after 100 iterations
## # weights:  177
## initial  value 497.567688
## iter  10 value 429.253549
## iter  20 value 404.651700
## iter  30 value 366.917185
## iter  40 value 347.354405
## iter  50 value 319.525770
## iter  60 value 312.746252
## iter  70 value 299.061543
## iter  80 value 286.596119
## iter  90 value 279.381241
## iter 100 value 271.994299
## final  value 271.994299
## stopped after 100 iterations
## # weights:  193
## initial  value 480.101886
## iter  10 value 406.562120
## iter  20 value 364.844275
## iter  30 value 348.164171
## iter  40 value 330.731299
## iter  50 value 321.130904
## iter  60 value 309.482842
## iter  70 value 301.803102
## iter  80 value 288.570319
## iter  90 value 281.701315
## iter 100 value 276.971659
## final  value 276.971659
## stopped after 100 iterations
## # weights:  209
## initial  value 918.068878
## iter  10 value 454.164591
## iter  20 value 438.199063
## iter  30 value 416.412304
## iter  40 value 379.769528
## iter  50 value 360.706266
## iter  60 value 342.027340
## iter  70 value 330.668683
## iter  80 value 320.132122
## iter  90 value 307.498541
## iter 100 value 297.681720
## final  value 297.681720
## stopped after 100 iterations
## # weights:  225
## initial  value 517.656667
## iter  10 value 455.643205
## iter  20 value 413.714732
## iter  30 value 375.994106
## iter  40 value 348.995298
## iter  50 value 337.038521
## iter  60 value 329.730999
## iter  70 value 322.710579
```

```
## iter  80 value 307.566848
## iter  90 value 288.702637
## iter 100 value 280.970219
## final   value 280.970219
## stopped after 100 iterations
## # weights:  241
## initial  value 486.871899
## iter  10 value 447.723849
## iter  20 value 432.487704
## iter  30 value 413.414403
## iter  40 value 407.515449
## iter  50 value 394.155406
## iter  60 value 364.275617
## iter  70 value 327.343581
## iter  80 value 306.720170
## iter  90 value 300.671987
## iter 100 value 293.744923
## final   value 293.744923
## stopped after 100 iterations
## # weights:  97
## initial  value 548.137137
## iter  10 value 450.814703
## iter  20 value 394.731974
## iter  30 value 367.972317
## iter  40 value 359.395684
## iter  50 value 348.634637
## iter  60 value 332.341805
## iter  70 value 329.087607
## iter  80 value 326.750567
## iter  90 value 325.961020
## iter 100 value 325.801260
## final   value 325.801260
## stopped after 100 iterations
## # weights:  113
## initial  value 524.122887
## iter  10 value 458.441280
## iter  20 value 430.540796
## iter  30 value 415.136552
## iter  40 value 373.617314
## iter  50 value 345.946398
## iter  60 value 339.459730
## iter  70 value 330.311692
## iter  80 value 328.033792
## iter  90 value 325.613333
## iter 100 value 323.688150
## final   value 323.688150
## stopped after 100 iterations
## # weights:  129
## initial  value 521.981468
## iter  10 value 444.396076
## iter  20 value 413.176192
## iter  30 value 385.959270
## iter  40 value 368.660086
## iter  50 value 353.034977
```

```
## iter  60 value 346.643272
## iter  70 value 336.251645
## iter  80 value 329.363823
## iter  90 value 325.964537
## iter 100 value 322.628199
## final   value 322.628199
## stopped after 100 iterations
## # weights:  145
## initial   value 538.586406
## iter  10 value 464.066238
## iter  20 value 424.824879
## iter  30 value 398.471712
## iter  40 value 371.880059
## iter  50 value 356.100461
## iter  60 value 344.060366
## iter  70 value 337.059442
## iter  80 value 334.041965
## iter  90 value 329.540774
## iter 100 value 326.249882
## final   value 326.249882
## stopped after 100 iterations
## # weights:  161
## initial   value 567.618754
## iter  10 value 464.378172
## iter  20 value 417.331567
## iter  30 value 387.826600
## iter  40 value 374.251668
## iter  50 value 362.265276
## iter  60 value 350.225124
## iter  70 value 341.213701
## iter  80 value 329.687160
## iter  90 value 321.642308
## iter 100 value 319.866825
## final   value 319.866825
## stopped after 100 iterations
## # weights:  177
## initial   value 641.999550
## iter  10 value 466.127641
## iter  20 value 386.360551
## iter  30 value 358.336808
## iter  40 value 341.989893
## iter  50 value 334.382267
## iter  60 value 330.030854
## iter  70 value 329.069895
## iter  80 value 328.867460
## iter  90 value 326.991893
## iter 100 value 324.261851
## final   value 324.261851
## stopped after 100 iterations
## # weights:  193
## initial   value 524.504354
## iter  10 value 447.761105
## iter  20 value 424.768917
## iter  30 value 377.987578
```

```
## iter  40 value 355.396553
## iter  50 value 340.398650
## iter  60 value 333.347209
## iter  70 value 327.896765
## iter  80 value 325.516075
## iter  90 value 323.456768
## iter 100 value 320.845940
## final  value 320.845940
## stopped after 100 iterations
## # weights:  209
## initial  value 540.386980
## iter  10 value 466.625320
## iter  20 value 439.864133
## iter  30 value 415.533386
## iter  40 value 390.843280
## iter  50 value 359.304589
## iter  60 value 347.585335
## iter  70 value 340.016473
## iter  80 value 337.336603
## iter  90 value 331.352379
## iter 100 value 330.022907
## final  value 330.022907
## stopped after 100 iterations
## # weights:  225
## initial  value 543.607533
## iter  10 value 467.019608
## iter  20 value 426.380305
## iter  30 value 365.544876
## iter  40 value 351.698266
## iter  50 value 348.237960
## iter  60 value 346.587371
## iter  70 value 340.535047
## iter  80 value 334.694157
## iter  90 value 331.351045
## iter 100 value 327.635661
## final  value 327.635661
## stopped after 100 iterations
## # weights:  241
## initial  value 515.676181
## iter  10 value 446.498794
## iter  20 value 421.406462
## iter  30 value 386.815291
## iter  40 value 370.903110
## iter  50 value 363.305344
## iter  60 value 360.480121
## iter  70 value 356.150997
## iter  80 value 350.993326
## iter  90 value 338.508807
## iter 100 value 333.119975
## final  value 333.119975
## stopped after 100 iterations
## # weights:  97
## initial  value 488.738546
## iter  10 value 428.145367
```

```
## iter  20 value 406.421720
## iter  30 value 402.854018
## iter  40 value 399.344946
## iter  50 value 398.207518
## iter  60 value 398.191980
## iter  70 value 397.699472
## iter  80 value 396.132331
## iter  90 value 396.126439
## final   value 396.125666
## converged
## # weights:  113
## initial   value 798.482929
## iter  10 value 418.007959
## iter  20 value 384.210443
## iter  30 value 334.514606
## iter  40 value 310.364005
## iter  50 value 295.142026
## iter  60 value 277.118585
## iter  70 value 267.458535
## iter  80 value 263.033111
## iter  90 value 262.275148
## iter 100 value 262.266756
## final   value 262.266756
## stopped after 100 iterations
## # weights:  129
## initial   value 518.589068
## iter  10 value 425.004759
## iter  20 value 399.349015
## iter  30 value 331.243675
## iter  40 value 314.904724
## iter  50 value 297.719006
## iter  60 value 287.535862
## iter  70 value 278.810070
## iter  80 value 259.471709
## iter  90 value 248.159543
## iter 100 value 238.095499
## final   value 238.095499
## stopped after 100 iterations
## # weights:  145
## initial   value 472.557215
## iter  10 value 419.702636
## iter  20 value 398.310586
## iter  30 value 366.284239
## iter  40 value 326.470947
## iter  50 value 317.131573
## iter  60 value 315.536762
## iter  70 value 296.647750
## iter  80 value 274.461617
## iter  90 value 262.509496
## iter 100 value 257.580049
## final   value 257.580049
## stopped after 100 iterations
## # weights:  161
## initial   value 464.868710
```

```
## iter  10 value 415.846050
## iter  20 value 401.867736
## iter  30 value 359.833359
## iter  40 value 327.470484
## iter  50 value 314.262385
## iter  60 value 308.595399
## iter  70 value 307.870982
## iter  80 value 304.935293
## iter  90 value 286.718938
## iter 100 value 261.967697
## final   value 261.967697
## stopped after 100 iterations
## # weights:  177
## initial   value 459.870599
## iter  10 value 426.993003
## iter  20 value 374.405394
## iter  30 value 310.883522
## iter  40 value 280.092574
## iter  50 value 265.157615
## iter  60 value 257.648558
## iter  70 value 253.089988
## iter  80 value 249.302354
## iter  90 value 246.516728
## iter 100 value 243.729779
## final   value 243.729779
## stopped after 100 iterations
## # weights:  193
## initial   value 469.404672
## iter  10 value 426.389013
## iter  20 value 398.825847
## iter  30 value 357.123443
## iter  40 value 326.094161
## iter  50 value 315.289290
## iter  60 value 304.807676
## iter  70 value 293.869069
## iter  80 value 283.379621
## iter  90 value 278.053374
## iter 100 value 275.103461
## final   value 275.103461
## stopped after 100 iterations
## # weights:  209
## initial   value 463.868294
## iter  10 value 417.132997
## iter  20 value 368.780607
## iter  30 value 335.669478
## iter  40 value 308.845853
## iter  50 value 290.948693
## iter  60 value 274.602684
## iter  70 value 263.934104
## iter  80 value 257.720337
## iter  90 value 255.733021
## iter 100 value 253.711256
## final    value 253.711256
## stopped after 100 iterations
```

```
## # weights:  225
## initial  value 508.268236
## iter  10 value 416.493068
## iter  20 value 336.591031
## iter  30 value 319.733013
## iter  40 value 300.943469
## iter  50 value 273.042604
## iter  60 value 250.301138
## iter  70 value 245.934300
## iter  80 value 240.796380
## iter  90 value 237.701956
## iter 100 value 235.718675
## final   value 235.718675
## stopped after 100 iterations
## # weights:  241
## initial  value 862.863483
## iter  10 value 419.729808
## iter  20 value 392.633895
## iter  30 value 346.240834
## iter  40 value 317.708614
## iter  50 value 307.434421
## iter  60 value 295.144376
## iter  70 value 282.868172
## iter  80 value 275.566809
## iter  90 value 271.777782
## iter 100 value 265.476364
## final   value 265.476364
## stopped after 100 iterations
## # weights:  97
## initial  value 472.370500
## iter  10 value 406.921972
## iter  20 value 370.651704
## iter  30 value 336.980235
## iter  40 value 321.892134
## iter  50 value 305.366933
## iter  60 value 286.454273
## iter  70 value 284.118275
## iter  80 value 279.487812
## iter  90 value 259.521166
## iter 100 value 250.819371
## final   value 250.819371
## stopped after 100 iterations
## # weights:  113
## initial  value 570.148229
## iter  10 value 414.704623
## iter  20 value 397.646655
## iter  30 value 341.709814
## iter  40 value 303.146590
## iter  50 value 285.461008
## iter  60 value 264.483273
## iter  70 value 258.043421
## iter  80 value 254.842315
## iter  90 value 253.156480
## iter 100 value 250.491549
```

```
## final   value 250.491549
## stopped after 100 iterations
## # weights:   129
## initial   value 639.354535
## iter   10 value 423.684672
## iter   20 value 386.992624
## iter   30 value 339.412066
## iter   40 value 326.301968
## iter   50 value 323.199648
## iter   60 value 317.698595
## iter   70 value 306.795298
## iter   80 value 298.741516
## iter   90 value 289.079544
## iter  100 value 281.060652
## final   value 281.060652
## stopped after 100 iterations
## # weights:   145
## initial   value 543.035775
## iter   10 value 422.430704
## iter   20 value 373.462970
## iter   30 value 322.718744
## iter   40 value 294.956266
## iter   50 value 292.409839
## iter   60 value 290.039811
## iter   70 value 285.651174
## iter   80 value 283.917101
## iter   90 value 279.821852
## iter  100 value 275.916476
## final   value 275.916476
## stopped after 100 iterations
## # weights:   161
## initial   value 483.458316
## iter   10 value 419.276612
## iter   20 value 409.750168
## iter   30 value 375.042255
## iter   40 value 314.908503
## iter   50 value 305.344726
## iter   60 value 296.710463
## iter   70 value 281.027313
## iter   80 value 272.545797
## iter   90 value 266.808859
## iter  100 value 260.664456
## final   value 260.664456
## stopped after 100 iterations
## # weights:   177
## initial   value 459.001085
## iter   10 value 404.614778
## iter   20 value 380.663835
## iter   30 value 328.125111
## iter   40 value 288.868653
## iter   50 value 275.842384
## iter   60 value 260.488113
## iter   70 value 255.914153
## iter   80 value 248.314055
```

```
## iter  90 value 229.562086
## iter 100 value 223.670098
## final   value 223.670098
## stopped after 100 iterations
## # weights:  193
## initial   value 499.217985
## iter  10 value 409.189206
## iter  20 value 356.197067
## iter  30 value 298.576402
## iter  40 value 274.011851
## iter  50 value 271.223642
## iter  60 value 267.645707
## iter  70 value 259.096234
## iter  80 value 256.587625
## iter  90 value 252.444894
## iter 100 value 245.509373
## final   value 245.509373
## stopped after 100 iterations
## # weights:  209
## initial   value 861.218779
## iter  10 value 416.217622
## iter  20 value 377.349998
## iter  30 value 327.535607
## iter  40 value 308.564100
## iter  50 value 294.693680
## iter  60 value 271.146711
## iter  70 value 249.016059
## iter  80 value 239.527500
## iter  90 value 236.569001
## iter 100 value 228.177813
## final   value 228.177813
## stopped after 100 iterations
## # weights:  225
## initial   value 654.576831
## iter  10 value 441.743857
## iter  20 value 406.850701
## iter  30 value 380.709900
## iter  40 value 329.042654
## iter  50 value 290.756937
## iter  60 value 269.020825
## iter  70 value 259.543325
## iter  80 value 251.704052
## iter  90 value 238.985416
## iter 100 value 233.585221
## final   value 233.585221
## stopped after 100 iterations
## # weights:  241
## initial   value 528.779660
## iter  10 value 416.112241
## iter  20 value 390.294865
## iter  30 value 348.347132
## iter  40 value 297.447530
## iter  50 value 281.896690
## iter  60 value 273.693622
```

```
## iter  70 value 270.164234
## iter  80 value 267.680686
## iter  90 value 265.879727
## iter 100 value 263.290796
## final  value 263.290796
## stopped after 100 iterations
## # weights:  97
## initial  value 533.984373
## iter  10 value 456.262017
## iter  20 value 411.220772
## iter  30 value 385.736254
## iter  40 value 368.119064
## iter  50 value 326.512774
## iter  60 value 316.112190
## iter  70 value 301.996055
## iter  80 value 298.959975
## iter  90 value 286.626299
## iter 100 value 272.764597
## final  value 272.764597
## stopped after 100 iterations
## # weights:  113
## initial  value 518.936660
## iter  10 value 423.084763
## iter  20 value 393.926468
## iter  30 value 355.306276
## iter  40 value 320.931217
## iter  50 value 292.064633
## iter  60 value 270.681701
## iter  70 value 260.793862
## iter  80 value 249.773993
## iter  90 value 245.034551
## iter 100 value 240.560112
## final  value 240.560112
## stopped after 100 iterations
## # weights:  129
## initial  value 480.344059
## iter  10 value 425.440154
## iter  20 value 355.140133
## iter  30 value 306.870496
## iter  40 value 288.133354
## iter  50 value 285.371216
## iter  60 value 274.950792
## iter  70 value 267.924841
## iter  80 value 264.890587
## iter  90 value 259.262245
## iter 100 value 256.045935
## final  value 256.045935
## stopped after 100 iterations
## # weights:  145
## initial  value 491.805266
## iter  10 value 439.748977
## iter  20 value 366.566655
## iter  30 value 354.752120
## iter  40 value 329.268355
```

```
## iter  50 value 315.169804
## iter  60 value 290.738986
## iter  70 value 273.949596
## iter  80 value 271.738894
## iter  90 value 266.115470
## iter 100 value 258.783755
## final   value 258.783755
## stopped after 100 iterations
## # weights:  161
## initial  value 1066.119253
## iter  10 value 425.469426
## iter  20 value 397.311032
## iter  30 value 347.804147
## iter  40 value 324.524270
## iter  50 value 305.060223
## iter  60 value 289.742096
## iter  70 value 276.499469
## iter  80 value 273.923979
## iter  90 value 273.006368
## iter 100 value 270.952473
## final   value 270.952473
## stopped after 100 iterations
## # weights:  177
## initial  value 512.655160
## iter  10 value 420.633987
## iter  20 value 403.614173
## iter  30 value 316.647348
## iter  40 value 299.366096
## iter  50 value 292.533911
## iter  60 value 282.134435
## iter  70 value 274.823967
## iter  80 value 271.982519
## iter  90 value 264.321090
## iter 100 value 257.715157
## final   value 257.715157
## stopped after 100 iterations
## # weights:  193
## initial  value 757.879468
## iter  10 value 389.832409
## iter  20 value 358.015251
## iter  30 value 333.847507
## iter  40 value 299.970498
## iter  50 value 281.202999
## iter  60 value 274.113650
## iter  70 value 267.674225
## iter  80 value 261.198269
## iter  90 value 255.693308
## iter 100 value 248.256737
## final   value 248.256737
## stopped after 100 iterations
## # weights:  209
## initial  value 918.406713
## iter  10 value 446.694888
## iter  20 value 354.962373
```

```
## iter  30 value 338.750593
## iter  40 value 332.111847
## iter  50 value 312.600086
## iter  60 value 294.536269
## iter  70 value 286.426280
## iter  80 value 274.682764
## iter  90 value 266.906201
## iter 100 value 264.082176
## final  value 264.082176
## stopped after 100 iterations
## # weights:  225
## initial  value 484.853094
## iter  10 value 416.313270
## iter  20 value 366.923552
## iter  30 value 349.257796
## iter  40 value 345.140910
## iter  50 value 338.701426
## iter  60 value 326.005328
## iter  70 value 304.492895
## iter  80 value 275.157591
## iter  90 value 266.317153
## iter 100 value 257.982834
## final  value 257.982834
## stopped after 100 iterations
## # weights:  241
## initial  value 565.244132
## iter  10 value 417.125319
## iter  20 value 382.713942
## iter  30 value 372.176964
## iter  40 value 308.609277
## iter  50 value 292.986453
## iter  60 value 271.035343
## iter  70 value 258.239778
## iter  80 value 251.368605
## iter  90 value 245.698679
## iter 100 value 236.450884
## final  value 236.450884
## stopped after 100 iterations
## # weights:  97
## initial  value 480.133795
## iter  10 value 404.440473
## iter  20 value 368.311502
## iter  30 value 363.100727
## iter  40 value 339.529450
## iter  50 value 326.176893
## iter  60 value 318.900877
## iter  70 value 314.843016
## iter  80 value 310.144241
## iter  90 value 307.654425
## iter 100 value 307.478382
## final  value 307.478382
## stopped after 100 iterations
## # weights:  113
## initial  value 510.351761
```

```
## iter  10 value 441.744708
## iter  20 value 419.874206
## iter  30 value 386.133169
## iter  40 value 332.535539
## iter  50 value 329.274197
## iter  60 value 324.048416
## iter  70 value 317.170102
## iter  80 value 312.966301
## iter  90 value 310.723431
## iter 100 value 309.401166
## final  value 309.401166
## stopped after 100 iterations
## # weights:  129
## initial  value 499.648762
## iter  10 value 443.261744
## iter  20 value 413.499012
## iter  30 value 382.368344
## iter  40 value 339.477622
## iter  50 value 331.892649
## iter  60 value 322.372684
## iter  70 value 316.058865
## iter  80 value 313.472836
## iter  90 value 310.762665
## iter 100 value 308.153116
## final  value 308.153116
## stopped after 100 iterations
## # weights:  145
## initial  value 486.122989
## iter  10 value 451.503388
## iter  20 value 401.252996
## iter  30 value 374.090108
## iter  40 value 356.650661
## iter  50 value 340.816733
## iter  60 value 332.656224
## iter  70 value 315.829888
## iter  80 value 310.701316
## iter  90 value 308.576865
## iter 100 value 307.608744
## final  value 307.608744
## stopped after 100 iterations
## # weights:  161
## initial  value 679.969997
## iter  10 value 424.934043
## iter  20 value 414.262812
## iter  30 value 400.715426
## iter  40 value 356.428246
## iter  50 value 337.120385
## iter  60 value 326.109144
## iter  70 value 323.476653
## iter  80 value 322.192249
## iter  90 value 318.184082
## iter 100 value 317.432604
## final  value 317.432604
## stopped after 100 iterations
```

```
## # weights:  177
## initial  value 502.529770
## iter  10 value 425.281501
## iter  20 value 399.284343
## iter  30 value 357.139538
## iter  40 value 327.658418
## iter  50 value 321.181378
## iter  60 value 316.069130
## iter  70 value 314.055385
## iter  80 value 313.381080
## iter  90 value 309.958314
## iter 100 value 309.038650
## final   value 309.038650
## stopped after 100 iterations
## # weights:  193
## initial  value 549.578954
## iter  10 value 421.515512
## iter  20 value 360.912762
## iter  30 value 343.168973
## iter  40 value 330.263480
## iter  50 value 326.727567
## iter  60 value 324.848468
## iter  70 value 321.118969
## iter  80 value 319.296774
## iter  90 value 315.466959
## iter 100 value 313.762745
## final   value 313.762745
## stopped after 100 iterations
## # weights:  209
## initial  value 495.868044
## iter  10 value 436.117872
## iter  20 value 399.894992
## iter  30 value 386.247081
## iter  40 value 347.337322
## iter  50 value 335.008041
## iter  60 value 328.399344
## iter  70 value 323.190331
## iter  80 value 318.778471
## iter  90 value 315.115130
## iter 100 value 312.091106
## final   value 312.091106
## stopped after 100 iterations
## # weights:  225
## initial  value 949.822379
## iter  10 value 468.712479
## iter  20 value 426.571321
## iter  30 value 355.840917
## iter  40 value 337.565374
## iter  50 value 329.229507
## iter  60 value 322.386542
## iter  70 value 316.637578
## iter  80 value 315.952420
## iter  90 value 313.553773
## iter 100 value 309.914409
```

```
## final   value 309.914409
## stopped after 100 iterations
## # weights:   241
## initial   value 741.982411
## iter   10 value 471.424560
## iter   20 value 420.151911
## iter   30 value 341.459272
## iter   40 value 328.032186
## iter   50 value 323.053377
## iter   60 value 320.006854
## iter   70 value 319.059367
## iter   80 value 315.595389
## iter   90 value 310.885285
## iter  100 value 307.471910
## final   value 307.471910
## stopped after 100 iterations
## # weights:   97
## initial   value 602.688512
## iter   10 value 437.405083
## iter   20 value 352.159193
## iter   30 value 298.431379
## iter   40 value 286.888770
## iter   50 value 279.953898
## iter   60 value 276.247517
## iter   70 value 268.108477
## iter   80 value 262.815606
## iter   90 value 255.969512
## iter  100 value 252.203241
## final   value 252.203241
## stopped after 100 iterations
## # weights:   113
## initial   value 492.872208
## iter   10 value 432.065010
## iter   20 value 341.884397
## iter   30 value 326.939904
## iter   40 value 320.889973
## iter   50 value 298.046405
## iter   60 value 279.463345
## iter   70 value 254.583479
## iter   80 value 236.626393
## iter   90 value 224.807055
## iter  100 value 220.743482
## final   value 220.743482
## stopped after 100 iterations
## # weights:   129
## initial   value 508.225601
## iter   10 value 435.974097
## iter   20 value 341.253342
## iter   30 value 307.471822
## iter   40 value 279.692819
## iter   50 value 254.643272
## iter   60 value 241.148124
## iter   70 value 234.419696
## iter   80 value 231.081153
```

```
## iter  90 value 230.207874
## iter 100 value 229.754076
## final   value 229.754076
## stopped after 100 iterations
## # weights:  145
## initial  value 523.493228
## iter  10 value 436.862853
## iter  20 value 364.306163
## iter  30 value 338.648769
## iter  40 value 310.319348
## iter  50 value 279.282841
## iter  60 value 265.687751
## iter  70 value 251.135210
## iter  80 value 226.191739
## iter  90 value 216.725224
## iter 100 value 215.423895
## final   value 215.423895
## stopped after 100 iterations
## # weights:  161
## initial  value 481.380543
## iter  10 value 410.234632
## iter  20 value 379.219727
## iter  30 value 316.177707
## iter  40 value 275.409947
## iter  50 value 254.717747
## iter  60 value 245.361575
## iter  70 value 236.493070
## iter  80 value 229.105853
## iter  90 value 226.098887
## iter 100 value 225.772127
## final   value 225.772127
## stopped after 100 iterations
## # weights:  177
## initial  value 471.040417
## iter  10 value 387.211207
## iter  20 value 327.804117
## iter  30 value 305.475698
## iter  40 value 286.163999
## iter  50 value 274.736282
## iter  60 value 269.180666
## iter  70 value 257.803609
## iter  80 value 235.572441
## iter  90 value 221.478597
## iter 100 value 220.255284
## final   value 220.255284
## stopped after 100 iterations
## # weights:  193
## initial  value 599.776613
## iter  10 value 417.534300
## iter  20 value 335.051023
## iter  30 value 301.691054
## iter  40 value 287.285598
## iter  50 value 273.159347
## iter  60 value 268.246380
```

```
## iter  70 value 265.999861
## iter  80 value 244.542189
## iter  90 value 221.997097
## iter 100 value 203.182087
## final  value 203.182087
## stopped after 100 iterations
## # weights:  209
## initial  value 654.782070
## iter  10 value 439.773593
## iter  20 value 387.002183
## iter  30 value 322.902267
## iter  40 value 293.359465
## iter  50 value 281.503699
## iter  60 value 263.877567
## iter  70 value 259.508049
## iter  80 value 257.778671
## iter  90 value 250.802470
## iter 100 value 243.265274
## final  value 243.265274
## stopped after 100 iterations
## # weights:  225
## initial  value 560.346201
## iter  10 value 432.774377
## iter  20 value 378.184697
## iter  30 value 340.176643
## iter  40 value 308.593673
## iter  50 value 301.048403
## iter  60 value 277.416390
## iter  70 value 271.483006
## iter  80 value 256.810777
## iter  90 value 241.427837
## iter 100 value 233.516671
## final  value 233.516671
## stopped after 100 iterations
## # weights:  241
## initial  value 646.539685
## iter  10 value 441.825837
## iter  20 value 398.045198
## iter  30 value 340.625360
## iter  40 value 313.862805
## iter  50 value 292.188743
## iter  60 value 280.541955
## iter  70 value 273.944274
## iter  80 value 267.049638
## iter  90 value 255.410908
## iter 100 value 253.812482
## final  value 253.812482
## stopped after 100 iterations
## # weights:  97
## initial  value 607.685505
## iter  10 value 417.664116
## iter  20 value 336.848372
## iter  30 value 281.423224
## iter  40 value 270.458861
```

```
## iter  50 value 263.925843
## iter  60 value 259.667412
## iter  70 value 258.451339
## iter  80 value 257.992967
## iter  90 value 256.264437
## iter 100 value 252.605256
## final   value 252.605256
## stopped after 100 iterations
## # weights:  113
## initial  value 536.453092
## iter  10 value 439.259462
## iter  20 value 337.926972
## iter  30 value 313.814809
## iter  40 value 304.312586
## iter  50 value 295.984543
## iter  60 value 277.907514
## iter  70 value 261.030062
## iter  80 value 251.898068
## iter  90 value 248.724202
## iter 100 value 244.863323
## final   value 244.863323
## stopped after 100 iterations
## # weights:  129
## initial  value 537.000113
## iter  10 value 427.234274
## iter  20 value 355.098866
## iter  30 value 315.280917
## iter  40 value 310.953979
## iter  50 value 287.370286
## iter  60 value 278.266044
## iter  70 value 276.568147
## iter  80 value 274.100076
## iter  90 value 272.932916
## iter 100 value 268.713720
## final   value 268.713720
## stopped after 100 iterations
## # weights:  145
## initial  value 481.564729
## iter  10 value 451.767575
## iter  20 value 407.698185
## iter  30 value 311.603759
## iter  40 value 304.601150
## iter  50 value 279.448822
## iter  60 value 260.815618
## iter  70 value 254.292697
## iter  80 value 252.883148
## iter  90 value 252.063227
## iter 100 value 251.820895
## final   value 251.820895
## stopped after 100 iterations
## # weights:  161
## initial  value 584.644423
## iter  10 value 427.232478
## iter  20 value 324.444403
```

```
## iter  30 value 305.510504
## iter  40 value 268.938979
## iter  50 value 264.919068
## iter  60 value 253.271852
## iter  70 value 238.593583
## iter  80 value 232.555668
## iter  90 value 230.967142
## iter 100 value 226.166996
## final  value 226.166996
## stopped after 100 iterations
## # weights:  177
## initial  value 486.431059
## iter  10 value 425.808133
## iter  20 value 360.266747
## iter  30 value 335.966665
## iter  40 value 306.572670
## iter  50 value 284.707875
## iter  60 value 274.284739
## iter  70 value 270.802415
## iter  80 value 270.336834
## iter  90 value 268.568022
## iter 100 value 259.303958
## final  value 259.303958
## stopped after 100 iterations
## # weights:  193
## initial  value 601.999380
## iter  10 value 450.658466
## iter  20 value 375.758718
## iter  30 value 323.586470
## iter  40 value 301.744878
## iter  50 value 280.706029
## iter  60 value 278.322896
## iter  70 value 270.676611
## iter  80 value 258.192278
## iter  90 value 256.243252
## iter 100 value 254.633051
## final  value 254.633051
## stopped after 100 iterations
## # weights:  209
## initial  value 593.828165
## iter  10 value 432.850807
## iter  20 value 400.795849
## iter  30 value 368.638070
## iter  40 value 328.158161
## iter  50 value 309.086098
## iter  60 value 283.953096
## iter  70 value 271.558606
## iter  80 value 261.283423
## iter  90 value 249.534232
## iter 100 value 247.422681
## final  value 247.422681
## stopped after 100 iterations
## # weights:  225
## initial  value 501.701932
```

```
## iter  10 value 436.697561
## iter  20 value 395.880203
## iter  30 value 359.456465
## iter  40 value 309.943188
## iter  50 value 279.004410
## iter  60 value 260.718791
## iter  70 value 252.043146
## iter  80 value 249.782510
## iter  90 value 248.696022
## iter 100 value 246.810747
## final  value 246.810747
## stopped after 100 iterations
## # weights:  241
## initial  value 541.035231
## iter  10 value 440.148665
## iter  20 value 361.917831
## iter  30 value 317.793401
## iter  40 value 306.275684
## iter  50 value 292.484070
## iter  60 value 289.396543
## iter  70 value 286.612852
## iter  80 value 266.776349
## iter  90 value 255.622354
## iter 100 value 243.332388
## final  value 243.332388
## stopped after 100 iterations
## # weights:  97
## initial  value 469.104044
## iter  10 value 421.379326
## iter  20 value 355.472219
## iter  30 value 336.798489
## iter  40 value 335.008900
## iter  50 value 329.589858
## iter  60 value 304.544059
## iter  70 value 288.855178
## iter  80 value 275.805450
## iter  90 value 262.765277
## iter 100 value 261.366700
## final  value 261.366700
## stopped after 100 iterations
## # weights:  113
## initial  value 485.369431
## iter  10 value 437.456425
## iter  20 value 361.557223
## iter  30 value 331.222447
## iter  40 value 311.209456
## iter  50 value 287.824568
## iter  60 value 279.732621
## iter  70 value 275.968210
## iter  80 value 267.514669
## iter  90 value 262.424602
## iter 100 value 261.764300
## final  value 261.764300
## stopped after 100 iterations
```

```
## # weights:  129
## initial  value 492.969744
## iter  10 value 451.602921
## iter  20 value 402.023968
## iter  30 value 359.335498
## iter  40 value 322.187982
## iter  50 value 287.143388
## iter  60 value 277.685761
## iter  70 value 276.252892
## iter  80 value 272.841226
## iter  90 value 268.375117
## iter 100 value 258.894728
## final  value 258.894728
## stopped after 100 iterations
## # weights:  145
## initial  value 504.044637
## iter  10 value 438.301619
## iter  20 value 384.179094
## iter  30 value 333.963804
## iter  40 value 304.716823
## iter  50 value 292.232646
## iter  60 value 288.833308
## iter  70 value 285.935945
## iter  80 value 277.544597
## iter  90 value 268.838907
## iter 100 value 261.635308
## final  value 261.635308
## stopped after 100 iterations
## # weights:  161
## initial  value 490.396641
## iter  10 value 427.703677
## iter  20 value 349.434908
## iter  30 value 317.807918
## iter  40 value 295.913947
## iter  50 value 287.378030
## iter  60 value 277.188700
## iter  70 value 271.188102
## iter  80 value 261.295920
## iter  90 value 252.084072
## iter 100 value 246.807029
## final  value 246.807029
## stopped after 100 iterations
## # weights:  177
## initial  value 474.381293
## iter  10 value 436.309332
## iter  20 value 406.692430
## iter  30 value 352.302251
## iter  40 value 322.820154
## iter  50 value 293.014992
## iter  60 value 283.824546
## iter  70 value 281.088316
## iter  80 value 271.108928
## iter  90 value 262.785902
## iter 100 value 258.449191
```

```
## final   value 258.449191
## stopped after 100 iterations
## # weights:  193
## initial   value 475.057771
## iter  10 value 428.764031
## iter  20 value 399.353061
## iter  30 value 303.773262
## iter  40 value 289.756531
## iter  50 value 275.959018
## iter  60 value 272.454098
## iter  70 value 263.439924
## iter  80 value 254.669494
## iter  90 value 254.262341
## iter 100 value 253.998225
## final   value 253.998225
## stopped after 100 iterations
## # weights:  209
## initial   value 480.636441
## iter  10 value 437.035910
## iter  20 value 373.086634
## iter  30 value 351.882562
## iter  40 value 316.137478
## iter  50 value 285.699496
## iter  60 value 273.082187
## iter  70 value 268.433542
## iter  80 value 264.782120
## iter  90 value 252.842808
## iter 100 value 249.764105
## final   value 249.764105
## stopped after 100 iterations
## # weights:  225
## initial   value 602.168457
## iter  10 value 464.238886
## iter  20 value 419.885587
## iter  30 value 346.294227
## iter  40 value 323.995274
## iter  50 value 298.419939
## iter  60 value 280.147732
## iter  70 value 269.718718
## iter  80 value 258.584815
## iter  90 value 248.070419
## iter 100 value 242.185684
## final   value 242.185684
## stopped after 100 iterations
## # weights:  241
## initial   value 495.641261
## iter  10 value 445.228988
## iter  20 value 403.866414
## iter  30 value 349.458938
## iter  40 value 324.481329
## iter  50 value 317.784810
## iter  60 value 303.526477
## iter  70 value 292.764397
## iter  80 value 290.547589
```

```
## iter  90 value 288.674044
## iter 100 value 288.193639
## final   value 288.193639
## stopped after 100 iterations
## # weights:  97
## initial  value 594.609026
## iter  10 value 474.436792
## iter  20 value 419.060776
## iter  30 value 360.768881
## iter  40 value 355.848803
## iter  50 value 328.608675
## iter  60 value 315.772961
## iter  70 value 313.162732
## iter  80 value 311.599126
## iter  90 value 310.166815
## iter 100 value 309.357431
## final   value 309.357431
## stopped after 100 iterations
## # weights:  113
## initial  value 499.320777
## iter  10 value 444.816220
## iter  20 value 365.646211
## iter  30 value 340.991312
## iter  40 value 320.074027
## iter  50 value 314.624669
## iter  60 value 311.546783
## iter  70 value 308.271536
## iter  80 value 306.283392
## iter  90 value 304.821238
## iter 100 value 303.540834
## final   value 303.540834
## stopped after 100 iterations
## # weights:  129
## initial  value 663.356212
## iter  10 value 451.900361
## iter  20 value 365.343763
## iter  30 value 324.752142
## iter  40 value 315.579133
## iter  50 value 311.924513
## iter  60 value 308.976469
## iter  70 value 308.410111
## iter  80 value 305.976136
## iter  90 value 304.034083
## iter 100 value 302.705807
## final   value 302.705807
## stopped after 100 iterations
## # weights:  145
## initial  value 509.515410
## iter  10 value 445.787627
## iter  20 value 372.389851
## iter  30 value 341.703923
## iter  40 value 331.368519
## iter  50 value 315.232970
## iter  60 value 313.187642
```

```
## iter  70 value 310.997154
## iter  80 value 309.569359
## iter  90 value 306.868404
## iter 100 value 303.438647
## final  value 303.438647
## stopped after 100 iterations
## # weights:  161
## initial  value 528.249980
## iter  10 value 459.599556
## iter  20 value 425.213483
## iter  30 value 381.740432
## iter  40 value 330.478510
## iter  50 value 319.771683
## iter  60 value 313.843330
## iter  70 value 309.800868
## iter  80 value 309.013240
## iter  90 value 307.568831
## iter 100 value 306.240226
## final  value 306.240226
## stopped after 100 iterations
## # weights:  177
## initial  value 525.097236
## iter  10 value 461.084788
## iter  20 value 384.513797
## iter  30 value 334.981523
## iter  40 value 324.538827
## iter  50 value 318.146986
## iter  60 value 313.328744
## iter  70 value 308.278390
## iter  80 value 305.609854
## iter  90 value 303.754595
## iter 100 value 302.056939
## final  value 302.056939
## stopped after 100 iterations
## # weights:  193
## initial  value 635.601309
## iter  10 value 468.445348
## iter  20 value 392.801673
## iter  30 value 374.420351
## iter  40 value 353.708920
## iter  50 value 338.749047
## iter  60 value 329.751131
## iter  70 value 322.860173
## iter  80 value 312.526115
## iter  90 value 303.569214
## iter 100 value 302.804430
## final  value 302.804430
## stopped after 100 iterations
## # weights:  209
## initial  value 506.427275
## iter  10 value 473.123374
## iter  20 value 429.132776
## iter  30 value 371.192841
## iter  40 value 338.937028
```

```
## iter  50 value 321.387221
## iter  60 value 315.645673
## iter  70 value 310.677523
## iter  80 value 308.403719
## iter  90 value 305.225856
## iter 100 value 303.549540
## final   value 303.549540
## stopped after 100 iterations
## # weights:  225
## initial   value 612.072352
## iter  10 value 444.575328
## iter  20 value 419.340958
## iter  30 value 373.783751
## iter  40 value 355.923501
## iter  50 value 338.338002
## iter  60 value 319.432408
## iter  70 value 313.637762
## iter  80 value 310.630747
## iter  90 value 308.386121
## iter 100 value 307.449890
## final   value 307.449890
## stopped after 100 iterations
## # weights:  241
## initial   value 487.083034
## iter  10 value 414.260356
## iter  20 value 365.600725
## iter  30 value 353.629399
## iter  40 value 336.943406
## iter  50 value 323.492053
## iter  60 value 317.183240
## iter  70 value 310.215452
## iter  80 value 305.483499
## iter  90 value 303.688885
## iter 100 value 301.963651
## final   value 301.963651
## stopped after 100 iterations
## # weights:  97
## initial   value 479.374314
## iter  10 value 430.446310
## iter  20 value 402.414618
## iter  30 value 347.231922
## iter  40 value 323.295027
## iter  50 value 318.311629
## iter  60 value 308.963943
## iter  70 value 291.373750
## iter  80 value 283.570161
## iter  90 value 275.199752
## iter 100 value 270.893645
## final   value 270.893645
## stopped after 100 iterations
## # weights:  113
## initial   value 483.072217
## iter  10 value 430.723114
## iter  20 value 376.516651
```

```
## iter  30 value 332.513097
## iter  40 value 309.126540
## iter  50 value 295.384377
## iter  60 value 287.757549
## iter  70 value 287.077705
## iter  80 value 284.452260
## iter  90 value 264.542574
## iter 100 value 255.818156
## final  value 255.818156
## stopped after 100 iterations
## # weights:  129
## initial  value 470.998197
## iter  10 value 434.032589
## iter  20 value 426.759363
## iter  30 value 405.179169
## iter  40 value 333.952019
## iter  50 value 307.413407
## iter  60 value 272.122286
## iter  70 value 245.217336
## iter  80 value 232.629607
## iter  90 value 224.632157
## iter 100 value 217.644563
## final  value 217.644563
## stopped after 100 iterations
## # weights:  145
## initial  value 502.467284
## iter  10 value 466.361214
## iter  20 value 435.398446
## iter  30 value 373.385672
## iter  40 value 297.840265
## iter  50 value 270.017797
## iter  60 value 260.481624
## iter  70 value 250.453458
## iter  80 value 243.724922
## iter  90 value 239.434393
## iter 100 value 234.694207
## final  value 234.694207
## stopped after 100 iterations
## # weights:  161
## initial  value 909.917295
## iter  10 value 454.095831
## iter  20 value 415.982058
## iter  30 value 410.805673
## iter  40 value 359.481835
## iter  50 value 338.499886
## iter  60 value 302.352645
## iter  70 value 267.018503
## iter  80 value 239.299342
## iter  90 value 233.714784
## iter 100 value 227.882758
## final  value 227.882758
## stopped after 100 iterations
## # weights:  177
## initial  value 513.352270
```

```
## iter  10 value 436.682184
## iter  20 value 392.011386
## iter  30 value 333.519418
## iter  40 value 322.207743
## iter  50 value 298.099802
## iter  60 value 284.705062
## iter  70 value 274.526421
## iter  80 value 269.174504
## iter  90 value 266.107021
## iter 100 value 263.876508
## final   value 263.876508
## stopped after 100 iterations
## # weights:  193
## initial   value 525.631566
## iter  10 value 392.931334
## iter  20 value 350.382577
## iter  30 value 335.793584
## iter  40 value 306.486905
## iter  50 value 284.245603
## iter  60 value 276.518625
## iter  70 value 262.076905
## iter  80 value 243.767354
## iter  90 value 232.047122
## iter 100 value 225.867749
## final   value 225.867749
## stopped after 100 iterations
## # weights:  209
## initial   value 654.163959
## iter  10 value 432.690654
## iter  20 value 415.644013
## iter  30 value 404.459809
## iter  40 value 342.979475
## iter  50 value 327.097753
## iter  60 value 322.814990
## iter  70 value 318.603489
## iter  80 value 317.770884
## iter  90 value 316.809036
## iter 100 value 316.052559
## final   value 316.052559
## stopped after 100 iterations
## # weights:  225
## initial   value 472.950827
## iter  10 value 432.082684
## iter  20 value 339.083011
## iter  30 value 316.762279
## iter  40 value 286.457700
## iter  50 value 267.142229
## iter  60 value 258.036238
## iter  70 value 237.417655
## iter  80 value 211.183751
## iter  90 value 191.870801
## iter 100 value 188.784611
## final   value 188.784611
## stopped after 100 iterations
```

```
## # weights:  241
## initial  value 1596.494767
## iter  10 value 434.329501
## iter  20 value 370.635889
## iter  30 value 346.060120
## iter  40 value 331.483099
## iter  50 value 325.825903
## iter  60 value 301.768939
## iter  70 value 275.457579
## iter  80 value 257.130153
## iter  90 value 241.789097
## iter 100 value 239.137350
## final   value 239.137350
## stopped after 100 iterations
## # weights:  97
## initial  value 547.028549
## iter  10 value 430.847390
## iter  20 value 364.459497
## iter  30 value 339.773582
## iter  40 value 331.728213
## iter  50 value 328.427816
## iter  60 value 328.103470
## iter  70 value 324.633511
## iter  80 value 315.577845
## iter  90 value 304.187639
## iter 100 value 298.251063
## final   value 298.251063
## stopped after 100 iterations
## # weights:  113
## initial  value 684.589060
## iter  10 value 429.572964
## iter  20 value 347.851522
## iter  30 value 318.491405
## iter  40 value 310.813390
## iter  50 value 296.573196
## iter  60 value 292.713695
## iter  70 value 290.301530
## iter  80 value 277.211838
## iter  90 value 271.897722
## iter 100 value 265.499380
## final   value 265.499380
## stopped after 100 iterations
## # weights:  129
## initial  value 585.911479
## iter  10 value 443.800167
## iter  20 value 386.596312
## iter  30 value 313.010435
## iter  40 value 297.493768
## iter  50 value 278.932622
## iter  60 value 273.034542
## iter  70 value 269.235466
## iter  80 value 263.594364
## iter  90 value 261.929390
## iter 100 value 256.998826
```

```
## final   value 256.998826
## stopped after 100 iterations
## # weights:  145
## initial  value 492.413298
## iter  10 value 427.585287
## iter  20 value 367.244714
## iter  30 value 323.975168
## iter  40 value 301.508241
## iter  50 value 297.227793
## iter  60 value 292.156179
## iter  70 value 283.544064
## iter  80 value 268.770271
## iter  90 value 241.709354
## iter 100 value 229.961700
## final   value 229.961700
## stopped after 100 iterations
## # weights:  161
## initial  value 546.922914
## iter  10 value 436.632710
## iter  20 value 381.995754
## iter  30 value 353.073495
## iter  40 value 331.673177
## iter  50 value 325.468436
## iter  60 value 278.424481
## iter  70 value 258.271623
## iter  80 value 240.539614
## iter  90 value 220.204007
## iter 100 value 211.500129
## final   value 211.500129
## stopped after 100 iterations
## # weights:  177
## initial  value 524.384242
## iter  10 value 442.086639
## iter  20 value 386.562646
## iter  30 value 316.391088
## iter  40 value 286.269467
## iter  50 value 247.582831
## iter  60 value 243.382630
## iter  70 value 234.110255
## iter  80 value 229.466625
## iter  90 value 225.313995
## iter 100 value 224.748990
## final   value 224.748990
## stopped after 100 iterations
## # weights:  193
## initial  value 471.718942
## iter  10 value 391.206426
## iter  20 value 341.757703
## iter  30 value 307.265743
## iter  40 value 270.120078
## iter  50 value 231.358206
## iter  60 value 221.625376
## iter  70 value 215.577710
## iter  80 value 214.682530
```

```
## iter  90 value 211.466177
## iter 100 value 199.309129
## final   value 199.309129
## stopped after 100 iterations
## # weights:  209
## initial  value 512.033817
## iter  10 value 427.225667
## iter  20 value 387.113405
## iter  30 value 367.050438
## iter  40 value 349.004001
## iter  50 value 345.219873
## iter  60 value 305.301438
## iter  70 value 273.193002
## iter  80 value 230.613470
## iter  90 value 220.452706
## iter 100 value 215.636249
## final   value 215.636249
## stopped after 100 iterations
## # weights:  225
## initial  value 526.276467
## iter  10 value 433.666565
## iter  20 value 355.639107
## iter  30 value 295.706735
## iter  40 value 260.137173
## iter  50 value 250.233072
## iter  60 value 227.661288
## iter  70 value 219.149832
## iter  80 value 208.913276
## iter  90 value 200.411945
## iter 100 value 193.501278
## final   value 193.501278
## stopped after 100 iterations
## # weights:  241
## initial  value 1495.812079
## iter  10 value 421.010401
## iter  20 value 371.586526
## iter  30 value 331.538324
## iter  40 value 324.042521
## iter  50 value 319.421507
## iter  60 value 297.228181
## iter  70 value 261.657450
## iter  80 value 240.884177
## iter  90 value 231.420618
## iter 100 value 223.656579
## final   value 223.656579
## stopped after 100 iterations
## # weights:  97
## initial  value 1129.048407
## iter  10 value 466.578531
## iter  20 value 431.795458
## iter  30 value 409.283117
## iter  40 value 336.337020
## iter  50 value 320.823091
## iter  60 value 297.863342
```

```
## iter  70 value 270.272227
## iter  80 value 262.341383
## iter  90 value 252.236615
## iter 100 value 242.534772
## final  value 242.534772
## stopped after 100 iterations
## # weights:  113
## initial  value 597.188640
## iter  10 value 426.857328
## iter  20 value 377.043292
## iter  30 value 324.971944
## iter  40 value 298.722703
## iter  50 value 295.513410
## iter  60 value 286.600350
## iter  70 value 269.289440
## iter  80 value 262.906040
## iter  90 value 260.046580
## iter 100 value 250.081047
## final  value 250.081047
## stopped after 100 iterations
## # weights:  129
## initial  value 680.354922
## iter  10 value 434.209750
## iter  20 value 401.000204
## iter  30 value 330.571549
## iter  40 value 291.793855
## iter  50 value 263.130039
## iter  60 value 256.840509
## iter  70 value 241.221833
## iter  80 value 227.494953
## iter  90 value 218.126956
## iter 100 value 214.812887
## final  value 214.812887
## stopped after 100 iterations
## # weights:  145
## initial  value 618.772716
## iter  10 value 446.762641
## iter  20 value 336.486510
## iter  30 value 302.080706
## iter  40 value 297.536067
## iter  50 value 286.557221
## iter  60 value 277.825230
## iter  70 value 261.410984
## iter  80 value 256.227051
## iter  90 value 253.879391
## iter 100 value 246.492771
## final  value 246.492771
## stopped after 100 iterations
## # weights:  161
## initial  value 1251.415702
## iter  10 value 386.671063
## iter  20 value 333.398678
## iter  30 value 319.615430
## iter  40 value 279.729715
```

```
## iter  50 value 259.529756
## iter  60 value 249.539011
## iter  70 value 243.262299
## iter  80 value 240.100729
## iter  90 value 233.358335
## iter 100 value 223.915948
## final   value 223.915948
## stopped after 100 iterations
## # weights:  177
## initial  value 517.190097
## iter  10 value 416.384682
## iter  20 value 376.935289
## iter  30 value 342.428549
## iter  40 value 335.085020
## iter  50 value 322.844979
## iter  60 value 312.719119
## iter  70 value 288.121743
## iter  80 value 283.834631
## iter  90 value 277.258484
## iter 100 value 263.817944
## final   value 263.817944
## stopped after 100 iterations
## # weights:  193
## initial  value 596.452926
## iter  10 value 436.775640
## iter  20 value 419.848814
## iter  30 value 412.881166
## iter  40 value 387.035076
## iter  50 value 360.351518
## iter  60 value 292.751091
## iter  70 value 278.962090
## iter  80 value 266.432989
## iter  90 value 261.192455
## iter 100 value 260.114587
## final   value 260.114587
## stopped after 100 iterations
## # weights:  209
## initial  value 587.247943
## iter  10 value 445.716434
## iter  20 value 383.783777
## iter  30 value 330.920567
## iter  40 value 294.634861
## iter  50 value 280.375090
## iter  60 value 269.534636
## iter  70 value 251.846105
## iter  80 value 247.355706
## iter  90 value 245.767632
## iter 100 value 237.779135
## final   value 237.779135
## stopped after 100 iterations
## # weights:  225
## initial  value 677.476322
## iter  10 value 425.910348
## iter  20 value 335.886223
```

```
## iter  30 value 327.631561
## iter  40 value 322.593472
## iter  50 value 301.651320
## iter  60 value 288.343404
## iter  70 value 283.299065
## iter  80 value 264.644510
## iter  90 value 246.316870
## iter 100 value 240.690479
## final   value 240.690479
## stopped after 100 iterations
## # weights:  241
## initial   value 476.335817
## iter  10 value 449.767428
## iter  20 value 421.110883
## iter  30 value 390.801412
## iter  40 value 334.570957
## iter  50 value 307.584990
## iter  60 value 299.809965
## iter  70 value 286.330342
## iter  80 value 257.440904
## iter  90 value 238.905138
## iter 100 value 224.681642
## final   value 224.681642
## stopped after 100 iterations
## # weights:  97
## initial   value 738.009285
## iter  10 value 439.470491
## iter  20 value 383.533055
## iter  30 value 359.930236
## iter  40 value 352.134771
## iter  50 value 346.383459
## iter  60 value 329.510548
## iter  70 value 315.562001
## iter  80 value 305.378912
## iter  90 value 303.204353
## iter 100 value 302.025418
## final   value 302.025418
## stopped after 100 iterations
## # weights:  113
## initial   value 698.620497
## iter  10 value 469.875332
## iter  20 value 416.879598
## iter  30 value 379.469285
## iter  40 value 358.345177
## iter  50 value 354.176474
## iter  60 value 318.607010
## iter  70 value 309.316718
## iter  80 value 303.731236
## iter  90 value 300.051214
## iter 100 value 297.713315
## final   value 297.713315
## stopped after 100 iterations
## # weights:  129
## initial   value 506.026699
```

```
## iter  10 value 468.893491
## iter  20 value 435.018143
## iter  30 value 415.164415
## iter  40 value 377.910648
## iter  50 value 361.529057
## iter  60 value 351.295591
## iter  70 value 326.201363
## iter  80 value 310.212984
## iter  90 value 302.511446
## iter 100 value 299.651118
## final  value 299.651118
## stopped after 100 iterations
## # weights:  145
## initial  value 621.391403
## iter  10 value 440.998555
## iter  20 value 384.159393
## iter  30 value 366.455056
## iter  40 value 358.023881
## iter  50 value 352.939961
## iter  60 value 337.461691
## iter  70 value 322.141172
## iter  80 value 318.273754
## iter  90 value 310.941481
## iter 100 value 307.088498
## final  value 307.088498
## stopped after 100 iterations
## # weights:  161
## initial  value 598.202588
## iter  10 value 444.396455
## iter  20 value 407.433773
## iter  30 value 380.044488
## iter  40 value 335.465333
## iter  50 value 326.892589
## iter  60 value 313.822832
## iter  70 value 310.472282
## iter  80 value 305.335864
## iter  90 value 300.156462
## iter 100 value 294.962857
## final  value 294.962857
## stopped after 100 iterations
## # weights:  177
## initial  value 515.300442
## iter  10 value 470.954374
## iter  20 value 405.905127
## iter  30 value 375.120758
## iter  40 value 361.836889
## iter  50 value 355.382269
## iter  60 value 346.718129
## iter  70 value 338.180460
## iter  80 value 320.070742
## iter  90 value 302.489428
## iter 100 value 297.549150
## final  value 297.549150
## stopped after 100 iterations
```

```
## # weights:  193
## initial  value 1370.974810
## iter  10 value 522.791553
## iter  20 value 422.811698
## iter  30 value 369.226050
## iter  40 value 359.195731
## iter  50 value 352.334132
## iter  60 value 347.583733
## iter  70 value 343.252187
## iter  80 value 330.522259
## iter  90 value 319.594885
## iter 100 value 313.566616
## final  value 313.566616
## stopped after 100 iterations
## # weights:  209
## initial  value 1084.038186
## iter  10 value 516.988268
## iter  20 value 445.576880
## iter  30 value 364.925371
## iter  40 value 334.375825
## iter  50 value 316.092254
## iter  60 value 313.642993
## iter  70 value 311.445245
## iter  80 value 305.980483
## iter  90 value 303.437289
## iter 100 value 302.297750
## final  value 302.297750
## stopped after 100 iterations
## # weights:  225
## initial  value 506.029090
## iter  10 value 467.046522
## iter  20 value 427.507904
## iter  30 value 369.008840
## iter  40 value 322.307378
## iter  50 value 316.710054
## iter  60 value 307.823653
## iter  70 value 301.638211
## iter  80 value 298.293898
## iter  90 value 295.824794
## iter 100 value 294.583590
## final  value 294.583590
## stopped after 100 iterations
## # weights:  241
## initial  value 948.061744
## iter  10 value 480.591350
## iter  20 value 436.677916
## iter  30 value 365.099873
## iter  40 value 355.043573
## iter  50 value 351.285671
## iter  60 value 349.211729
## iter  70 value 345.622702
## iter  80 value 338.709145
## iter  90 value 328.403106
## iter 100 value 325.152984
```

```
## final  value 325.152984
## stopped after 100 iterations
## # weights:  129
## initial  value 704.899543
## iter  10 value 477.542794
## iter  20 value 443.826866
## iter  30 value 391.992230
## iter  40 value 368.001428
## iter  50 value 363.688643
## iter  60 value 347.739653
## iter  70 value 335.234344
## iter  80 value 330.864013
## iter  90 value 326.037336
## iter 100 value 320.555539
## final  value 320.555539
## stopped after 100 iterations
```

```
pred <- predict(nfit, train_test, type="raw")
confusionMatrix(pred, train[t2,]$Survived)
```

```
## Confusion Matrix and Statistics
##
##           Reference
## Prediction  0  1
##          0 87 19
##          1 15 58
##
##                Accuracy : 0.8101
##                  95% CI : (0.7448, 0.8647)
##     No Information Rate : 0.5698
##     P-Value [Acc > NIR] : 9.039e-12
##
##                   Kappa : 0.6101
##  Mcnemar's Test P-Value : 0.6069
##
##             Sensitivity : 0.8529
##             Specificity : 0.7532
##          Pos Pred Value : 0.8208
##          Neg Pred Value : 0.7945
##              Prevalence : 0.5698
##          Detection Rate : 0.4860
##    Detection Prevalence : 0.5922
##       Balanced Accuracy : 0.8031
##
##        'Positive' Class : 0
##
```

```
pred <- predict(nfit, test, type="raw")

print("Number of survival..")
```

```
## [1] "Number of survival.."
```

```
table(pred)
```

```
## pred
##   0   1
## 231 186
```