## BAN 502

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## Parameter Selection and Neural Networks

Load tidyverse, caret, rpart, rattle, and RColorBrewer, nnet.

library(tidyverse)

##

## v ggplot2 3.1.0 v purrr 0.2.5  
## v tibble 1.4.2 v dplyr 0.7.7  
## v tidyr 0.8.2 v stringr 1.3.1  
## v readr 1.1.1 v forcats 0.3.0

##   
## x dplyr::filter() masks stats::filter()  
## x dplyr::lag() masks stats::lag()

library(caret)

## Loading required package: lattice

##   
## Attaching package: 'caret'

## The following object is masked from 'package:purrr':  
##   
## lift

library(rpart)  
library(rattle)

## Rattle: A free graphical interface for data science with R.  
## Version 5.2.0 Copyright (c) 2006-2018 Togaware Pty Ltd.  
## Type 'rattle()' to shake, rattle, and roll your data.

library(RColorBrewer)  
library(nnet)#for neural networks

parole <- read\_csv("parole.csv")

## Parsed with column specification:  
## cols(  
## male = col\_integer(),  
## race = col\_integer(),  
## age = col\_double(),  
## state = col\_integer(),  
## time.served = col\_double(),  
## max.sentence = col\_integer(),  
## multiple.offenses = col\_integer(),  
## crime = col\_integer(),  
## violator = col\_integer()  
## )

View(parole)

Factoring (renaming) the data Convert the male, race, state, crime, multiple.offenses, and violator variables to factors.

parole=parole %>% mutate(male =as.factor(as.character(male))) %>% mutate(male = fct\_recode(male, "Female" = "0" , "Male" = "1"))

parole = parole %>% mutate(race = as\_factor(as.character(race))) %>% mutate(race = fct\_recode(race, "NotWhite" = "2", "White" = "1"))

parole = parole %>% mutate(state = as\_factor(as.character(state))) %>% mutate(state = fct\_recode(state, "Kentucky"= "2", "Louisiana"="3", "Virginia"= "4", "Not\_KY\_LA\_or\_VA" ="1"))

parole = parole %>% mutate(crime = as\_factor(as.character(crime))) %>% mutate(crime = fct\_recode(crime, "Larceny" ="2", "Drug" = "3", "Driving" ="4", "Other" = "1"))

parole = parole %>% mutate(violator = as\_factor(as.character(violator))) %>% mutate(violator = fct\_recode(violator, "No" = "0", "Yes" = "1"))

parole = parole %>% mutate(multiple.offenses = as\_factor(as.character(multiple.offenses))) %>% mutate(multiple.offenses = fct\_recode(multiple.offenses, "No" = "0", "Yes" = "1"))

Drop empty rows

parole = parole %>% drop\_na() #delete any row with an NA value   
str(parole) #check structure after the drop

## Classes 'tbl\_df', 'tbl' and 'data.frame': 675 obs. of 9 variables:  
## $ male : Factor w/ 2 levels "Female","Male": 2 1 2 2 2 2 2 1 1 2 ...  
## $ race : Factor w/ 2 levels "White","NotWhite": 1 1 2 1 2 2 1 1 1 2 ...  
## $ age : num 33.2 39.7 29.5 22.4 21.6 46.7 31 24.6 32.6 29.1 ...  
## $ state : Factor w/ 4 levels "Not\_KY\_LA\_or\_VA",..: 1 1 1 1 1 1 1 1 1 1 ...  
## $ time.served : num 5.5 5.4 5.6 5.7 5.4 6 6 4.8 4.5 4.7 ...  
## $ max.sentence : int 18 12 12 18 12 18 18 12 13 12 ...  
## $ multiple.offenses: Factor w/ 2 levels "No","Yes": 1 1 1 1 1 1 1 1 1 1 ...  
## $ crime : Factor w/ 4 levels "Driving","Drug",..: 1 2 2 3 3 1 2 3 2 4 ...  
## $ violator : Factor w/ 2 levels "No","Yes": 1 1 1 1 1 1 1 1 1 1 ...

## Task 1

Split the data into training and testing sets. Your training set should have 70% of the data. Use a random number (set.seed) of 12345.

set.seed(12345)  
train.rows = createDataPartition(y = parole$violator, p=0.7, list = FALSE) #70% in training  
train = parole[train.rows,]   
test = parole[-train.rows,]

## Task 2

Create a neural network to predict parole violation.

start\_time = Sys.time() #for timing  
fitControl = trainControl(method = "cv",   
 number = 10)  
  
nnetGrid <- expand.grid(size = 12, decay = 0.1)  
  
set.seed(1234)  
nnetBasic = train(violator ~ .,   
 parole,  
 method = "nnet",  
 tuneGrid = nnetGrid,  
 trControl = fitControl,  
 verbose = FALSE,  
 trace = FALSE)  
  
end\_time = Sys.time()  
end\_time-start\_time

## Time difference of 4.783688 secs

nnetBasic

## Neural Network   
##   
## 675 samples  
## 8 predictor  
## 2 classes: 'No', 'Yes'   
##   
## No pre-processing  
## Resampling: Cross-Validated (10 fold)   
## Summary of sample sizes: 608, 607, 609, 607, 607, 607, ...   
## Resampling results:  
##   
## Accuracy Kappa   
## 0.8830467 0.3348548  
##   
## Tuning parameter 'size' was held constant at a value of 12  
##   
## Tuning parameter 'decay' was held constant at a value of 0.1

## Task 3

Use your model from Task 2 to develop predictions on the training set. Use caret’s confusionMatrix function to evaluate the model quality. Comment on the model quality. 93% accurate and the p-value is less than .05.

predNetBasic = predict(nnetBasic, parole)

Confusion matrix

confusionMatrix(predNetBasic, parole$violator, positive = "Yes")

## Confusion Matrix and Statistics  
##   
## Reference  
## Prediction No Yes  
## No 587 36  
## Yes 10 42  
##   
## Accuracy : 0.9319   
## 95% CI : (0.9101, 0.9497)  
## No Information Rate : 0.8844   
## P-Value [Acc > NIR] : 2.578e-05   
##   
## Kappa : 0.6101   
## Mcnemar's Test P-Value : 0.0002278   
##   
## Sensitivity : 0.53846   
## Specificity : 0.98325   
## Pos Pred Value : 0.80769   
## Neg Pred Value : 0.94222   
## Prevalence : 0.11556   
## Detection Rate : 0.06222   
## Detection Prevalence : 0.07704   
## Balanced Accuracy : 0.76086   
##   
## 'Positive' Class : Yes   
##

## Task 4

Create a neural network to predict parole violation

start\_time = Sys.time() #for timing  
fitControl = trainControl(method = "cv",   
 number = 10)  
  
nnetGrid = expand.grid(size = seq(from = 1, to = 12, by = 1), #rule of thumb --> between # of input and # of output layers  
 decay = seq(from = 0.1, to = 0.5, by = 0.1))  
set.seed(1234)  
nnetFit = train(violator ~ .,   
 parole,  
 method = "nnet",  
 trControl = fitControl,  
 tuneGrid = nnetGrid,  
 verbose = FALSE)

## # weights: 15  
## initial value 507.388561   
## iter 10 value 217.772589  
## iter 20 value 200.588260  
## iter 30 value 168.324191  
## iter 40 value 160.705083  
## iter 50 value 160.382379  
## iter 60 value 160.363976  
## final value 160.363946   
## converged  
## # weights: 29  
## initial value 408.579580   
## iter 10 value 205.182631  
## iter 20 value 166.559494  
## iter 30 value 160.941414  
## iter 40 value 160.235801  
## iter 50 value 156.816596  
## iter 60 value 151.256770  
## iter 70 value 149.161979  
## iter 80 value 148.205553  
## iter 90 value 147.583544  
## iter 100 value 147.560243  
## final value 147.560243   
## stopped after 100 iterations  
## # weights: 43  
## initial value 363.722849   
## iter 10 value 215.694980  
## iter 20 value 169.281660  
## iter 30 value 161.485252  
## iter 40 value 160.430869  
## iter 50 value 159.352642  
## iter 60 value 155.393705  
## iter 70 value 150.235997  
## iter 80 value 149.706077  
## iter 90 value 149.060210  
## iter 100 value 146.880896  
## final value 146.880896   
## stopped after 100 iterations  
## # weights: 57  
## initial value 421.733690   
## iter 10 value 189.861001  
## iter 20 value 164.104333  
## iter 30 value 158.265579  
## iter 40 value 154.689298  
## iter 50 value 152.484647  
## iter 60 value 150.909463  
## iter 70 value 149.450349  
## iter 80 value 148.286233  
## iter 90 value 146.514536  
## iter 100 value 146.338761  
## final value 146.338761   
## stopped after 100 iterations  
## # weights: 71  
## initial value 374.028649   
## iter 10 value 185.254312  
## iter 20 value 163.228402  
## iter 30 value 154.385809  
## iter 40 value 149.405918  
## iter 50 value 146.528147  
## iter 60 value 144.878306  
## iter 70 value 144.517957  
## iter 80 value 144.493276  
## iter 90 value 143.853851  
## iter 100 value 142.129116  
## final value 142.129116   
## stopped after 100 iterations  
## # weights: 85  
## initial value 288.093033   
## iter 10 value 212.143064  
## iter 20 value 177.932269  
## iter 30 value 162.835639  
## iter 40 value 160.978141  
## iter 50 value 158.780839  
## iter 60 value 151.953486  
## iter 70 value 149.633686  
## iter 80 value 145.784072  
## iter 90 value 144.127332  
## iter 100 value 141.556220  
## final value 141.556220   
## stopped after 100 iterations  
## # weights: 99  
## initial value 985.662591   
## iter 10 value 217.107621  
## iter 20 value 205.875971  
## iter 30 value 176.314428  
## iter 40 value 162.491253  
## iter 50 value 154.813152  
## iter 60 value 147.567192  
## iter 70 value 140.980120  
## iter 80 value 139.611052  
## iter 90 value 139.194701  
## iter 100 value 138.656367  
## final value 138.656367   
## stopped after 100 iterations  
## # weights: 113  
## initial value 643.694641   
## iter 10 value 217.411553  
## iter 20 value 169.551933  
## iter 30 value 158.406413  
## iter 40 value 153.005850  
## iter 50 value 148.896477  
## iter 60 value 144.753638  
## iter 70 value 142.841396  
## iter 80 value 142.015951  
## iter 90 value 141.697012  
## iter 100 value 139.532194  
## final value 139.532194   
## stopped after 100 iterations  
## # weights: 127  
## initial value 449.519832   
## iter 10 value 216.599984  
## iter 20 value 185.093635  
## iter 30 value 162.936368  
## iter 40 value 156.614921  
## iter 50 value 149.883318  
## iter 60 value 141.388144  
## iter 70 value 133.729151  
## iter 80 value 130.710473  
## iter 90 value 130.322948  
## iter 100 value 128.800300  
## final value 128.800300   
## stopped after 100 iterations  
## # weights: 141  
## initial value 482.910285   
## iter 10 value 212.850987  
## iter 20 value 182.171652  
## iter 30 value 164.465481  
## iter 40 value 153.420062  
## iter 50 value 143.785544  
## iter 60 value 133.820608  
## iter 70 value 130.496276  
## iter 80 value 126.317985  
## iter 90 value 124.898840  
## iter 100 value 123.076311  
## final value 123.076311   
## stopped after 100 iterations  
## # weights: 155  
## initial value 517.656997   
## iter 10 value 209.590935  
## iter 20 value 168.728503  
## iter 30 value 161.719506  
## iter 40 value 159.203177  
## iter 50 value 153.266690  
## iter 60 value 147.044968  
## iter 70 value 145.867491  
## iter 80 value 139.495676  
## iter 90 value 134.739671  
## iter 100 value 131.708764  
## final value 131.708764   
## stopped after 100 iterations  
## # weights: 169  
## initial value 469.372851   
## iter 10 value 199.315979  
## iter 20 value 176.996483  
## iter 30 value 162.787772  
## iter 40 value 152.504473  
## iter 50 value 144.964936  
## iter 60 value 136.591363  
## iter 70 value 133.118074  
## iter 80 value 128.125422  
## iter 90 value 123.674242  
## iter 100 value 122.008579  
## final value 122.008579   
## stopped after 100 iterations  
## # weights: 15  
## initial value 305.515789   
## iter 10 value 217.558323  
## iter 20 value 208.689720  
## iter 30 value 167.534040  
## iter 40 value 164.360643  
## final value 164.333253   
## converged  
## # weights: 29  
## initial value 293.055372   
## iter 10 value 205.655045  
## iter 20 value 172.851046  
## iter 30 value 163.060385  
## iter 40 value 160.135080  
## iter 50 value 159.303359  
## iter 60 value 159.263758  
## final value 159.263749   
## converged  
## # weights: 43  
## initial value 544.390433   
## iter 10 value 221.157328  
## iter 20 value 200.764391  
## iter 30 value 169.169321  
## iter 40 value 158.653127  
## iter 50 value 154.790830  
## iter 60 value 154.482559  
## iter 70 value 154.474705  
## final value 154.474698   
## converged  
## # weights: 57  
## initial value 434.583946   
## iter 10 value 218.952228  
## iter 20 value 193.019519  
## iter 30 value 167.201275  
## iter 40 value 162.445526  
## iter 50 value 159.069533  
## iter 60 value 156.817356  
## iter 70 value 154.948200  
## iter 80 value 154.077511  
## iter 90 value 153.458195  
## iter 100 value 152.730463  
## final value 152.730463   
## stopped after 100 iterations  
## # weights: 71  
## initial value 1056.767811   
## iter 10 value 217.617711  
## iter 20 value 190.066022  
## iter 30 value 166.268315  
## iter 40 value 161.321988  
## iter 50 value 156.664491  
## iter 60 value 155.512282  
## iter 70 value 154.079552  
## iter 80 value 151.807173  
## iter 90 value 150.741598  
## iter 100 value 150.383417  
## final value 150.383417   
## stopped after 100 iterations  
## # weights: 85  
## initial value 579.504717   
## iter 10 value 218.339935  
## iter 20 value 178.406730  
## iter 30 value 167.375137  
## iter 40 value 165.101943  
## iter 50 value 160.928185  
## iter 60 value 156.637178  
## iter 70 value 153.032195  
## iter 80 value 149.632969  
## iter 90 value 148.331872  
## iter 100 value 147.608772  
## final value 147.608772   
## stopped after 100 iterations  
## # weights: 99  
## initial value 508.308961   
## iter 10 value 211.582298  
## iter 20 value 196.266450  
## iter 30 value 166.769603  
## iter 40 value 154.318339  
## iter 50 value 151.218024  
## iter 60 value 150.449189  
## iter 70 value 148.847298  
## iter 80 value 145.945217  
## iter 90 value 144.523629  
## iter 100 value 142.187789  
## final value 142.187789   
## stopped after 100 iterations  
## # weights: 113  
## initial value 341.760343   
## iter 10 value 216.338623  
## iter 20 value 187.656000  
## iter 30 value 166.036177  
## iter 40 value 161.733420  
## iter 50 value 156.667329  
## iter 60 value 154.365238  
## iter 70 value 153.415996  
## iter 80 value 151.075545  
## iter 90 value 148.625902  
## iter 100 value 147.296149  
## final value 147.296149   
## stopped after 100 iterations  
## # weights: 127  
## initial value 442.276698   
## iter 10 value 215.355299  
## iter 20 value 190.144525  
## iter 30 value 162.382536  
## iter 40 value 155.708365  
## iter 50 value 153.443376  
## iter 60 value 149.352061  
## iter 70 value 147.046019  
## iter 80 value 145.702530  
## iter 90 value 144.772112  
## iter 100 value 142.538758  
## final value 142.538758   
## stopped after 100 iterations  
## # weights: 141  
## initial value 341.694554   
## iter 10 value 209.787772  
## iter 20 value 181.125524  
## iter 30 value 167.300579  
## iter 40 value 159.722755  
## iter 50 value 153.627044  
## iter 60 value 148.754406  
## iter 70 value 146.888188  
## iter 80 value 145.306973  
## iter 90 value 143.525650  
## iter 100 value 142.162480  
## final value 142.162480   
## stopped after 100 iterations  
## # weights: 155  
## initial value 438.567075   
## iter 10 value 206.470425  
## iter 20 value 177.724585  
## iter 30 value 163.718966  
## iter 40 value 157.560062  
## iter 50 value 154.516093  
## iter 60 value 149.229622  
## iter 70 value 144.836063  
## iter 80 value 143.955841  
## iter 90 value 143.585080  
## iter 100 value 143.079119  
## final value 143.079119   
## stopped after 100 iterations  
## # weights: 169  
## initial value 310.161284   
## iter 10 value 215.774431  
## iter 20 value 198.928752  
## iter 30 value 170.796998  
## iter 40 value 159.836741  
## iter 50 value 155.682919  
## iter 60 value 152.087782  
## iter 70 value 148.550682  
## iter 80 value 147.724624  
## iter 90 value 146.018145  
## iter 100 value 143.982390  
## final value 143.982390   
## stopped after 100 iterations  
## # weights: 15  
## initial value 426.750071   
## iter 10 value 217.943221  
## iter 20 value 207.279110  
## iter 30 value 174.739333  
## iter 40 value 172.473412  
## final value 172.471028   
## converged  
## # weights: 29  
## initial value 367.818219   
## iter 10 value 220.191444  
## iter 20 value 208.137246  
## iter 30 value 170.720185  
## iter 40 value 167.523404  
## iter 50 value 165.121505  
## iter 60 value 164.689699  
## iter 70 value 164.337287  
## iter 80 value 164.253650  
## iter 90 value 164.246453  
## final value 164.246449   
## converged  
## # weights: 43  
## initial value 494.761594   
## iter 10 value 216.380702  
## iter 20 value 175.615950  
## iter 30 value 172.434220  
## iter 40 value 170.168592  
## iter 50 value 167.814367  
## iter 60 value 165.393315  
## iter 70 value 164.924305  
## iter 80 value 164.732215  
## final value 164.730428   
## converged  
## # weights: 57  
## initial value 290.743498   
## iter 10 value 215.780172  
## iter 20 value 205.017946  
## iter 30 value 171.007808  
## iter 40 value 167.193900  
## iter 50 value 165.994330  
## iter 60 value 161.546070  
## iter 70 value 160.599449  
## iter 80 value 160.174032  
## iter 90 value 157.895142  
## iter 100 value 156.750879  
## final value 156.750879   
## stopped after 100 iterations  
## # weights: 71  
## initial value 438.848344   
## iter 10 value 216.503085  
## iter 20 value 183.892797  
## iter 30 value 168.651103  
## iter 40 value 165.961297  
## iter 50 value 164.452544  
## iter 60 value 161.385810  
## iter 70 value 160.347630  
## iter 80 value 159.700593  
## iter 90 value 158.936340  
## iter 100 value 158.357749  
## final value 158.357749   
## stopped after 100 iterations  
## # weights: 85  
## initial value 897.081649   
## iter 10 value 215.519801  
## iter 20 value 181.407750  
## iter 30 value 168.079787  
## iter 40 value 165.029922  
## iter 50 value 162.053227  
## iter 60 value 161.247632  
## iter 70 value 160.513617  
## iter 80 value 158.339505  
## iter 90 value 157.667685  
## iter 100 value 156.908874  
## final value 156.908874   
## stopped after 100 iterations  
## # weights: 99  
## initial value 706.966464   
## iter 10 value 216.116515  
## iter 20 value 195.187935  
## iter 30 value 167.471189  
## iter 40 value 162.784747  
## iter 50 value 160.813028  
## iter 60 value 159.431498  
## iter 70 value 158.163045  
## iter 80 value 157.786585  
## iter 90 value 157.503858  
## iter 100 value 157.363215  
## final value 157.363215   
## stopped after 100 iterations  
## # weights: 113  
## initial value 569.988186   
## iter 10 value 234.957662  
## iter 20 value 207.394564  
## iter 30 value 183.701174  
## iter 40 value 169.069099  
## iter 50 value 166.509347  
## iter 60 value 161.657406  
## iter 70 value 159.028956  
## iter 80 value 157.861688  
## iter 90 value 157.477919  
## iter 100 value 157.215777  
## final value 157.215777   
## stopped after 100 iterations  
## # weights: 127  
## initial value 610.267981   
## iter 10 value 210.482233  
## iter 20 value 188.511624  
## iter 30 value 166.976740  
## iter 40 value 164.589001  
## iter 50 value 163.385398  
## iter 60 value 161.771190  
## iter 70 value 159.459854  
## iter 80 value 156.517145  
## iter 90 value 155.344268  
## iter 100 value 154.542294  
## final value 154.542294   
## stopped after 100 iterations  
## # weights: 141  
## initial value 755.240152   
## iter 10 value 217.528842  
## iter 20 value 179.335664  
## iter 30 value 168.262603  
## iter 40 value 164.369230  
## iter 50 value 161.595875  
## iter 60 value 160.568430  
## iter 70 value 158.907987  
## iter 80 value 158.184824  
## iter 90 value 157.299418  
## iter 100 value 156.116118  
## final value 156.116118   
## stopped after 100 iterations  
## # weights: 155  
## initial value 358.096674   
## iter 10 value 217.362322  
## iter 20 value 203.245284  
## iter 30 value 177.504706  
## iter 40 value 169.396759  
## iter 50 value 165.976400  
## iter 60 value 164.282948  
## iter 70 value 163.096393  
## iter 80 value 159.137317  
## iter 90 value 156.670694  
## iter 100 value 155.207943  
## final value 155.207943   
## stopped after 100 iterations  
## # weights: 169  
## initial value 294.514394   
## iter 10 value 219.626860  
## iter 20 value 202.130843  
## iter 30 value 184.603740  
## iter 40 value 165.268074  
## iter 50 value 159.759896  
## iter 60 value 156.748526  
## iter 70 value 156.121284  
## iter 80 value 155.721933  
## iter 90 value 155.073341  
## iter 100 value 154.222131  
## final value 154.222131   
## stopped after 100 iterations  
## # weights: 15  
## initial value 745.756099   
## iter 10 value 218.791308  
## iter 20 value 209.891613  
## iter 30 value 179.597819  
## iter 40 value 176.874864  
## final value 176.870776   
## converged  
## # weights: 29  
## initial value 374.807743   
## iter 10 value 222.507386  
## iter 20 value 201.266321  
## iter 30 value 173.740887  
## iter 40 value 171.035949  
## iter 50 value 169.544200  
## iter 60 value 169.256943  
## iter 70 value 168.935536  
## final value 168.929480   
## converged  
## # weights: 43  
## initial value 314.584227   
## iter 10 value 217.422951  
## iter 20 value 212.761404  
## iter 30 value 192.430591  
## iter 40 value 169.099742  
## iter 50 value 168.265192  
## iter 60 value 168.240829  
## iter 70 value 168.196705  
## iter 80 value 167.380937  
## iter 90 value 165.824986  
## iter 100 value 165.330971  
## final value 165.330971   
## stopped after 100 iterations  
## # weights: 57  
## initial value 312.889324   
## iter 10 value 214.596781  
## iter 20 value 181.065437  
## iter 30 value 171.764459  
## iter 40 value 170.168856  
## iter 50 value 168.524032  
## iter 60 value 168.314663  
## iter 70 value 165.967487  
## iter 80 value 165.297891  
## iter 90 value 165.063833  
## iter 100 value 164.843950  
## final value 164.843950   
## stopped after 100 iterations  
## # weights: 71  
## initial value 403.570535   
## iter 10 value 217.153706  
## iter 20 value 205.457488  
## iter 30 value 177.871716  
## iter 40 value 167.861543  
## iter 50 value 166.134545  
## iter 60 value 165.417438  
## iter 70 value 165.182432  
## iter 80 value 165.142086  
## iter 90 value 165.138024  
## iter 100 value 165.128037  
## final value 165.128037   
## stopped after 100 iterations  
## # weights: 85  
## initial value 578.470108   
## iter 10 value 231.483678  
## iter 20 value 194.408983  
## iter 30 value 174.569121  
## iter 40 value 171.797233  
## iter 50 value 169.075331  
## iter 60 value 165.684098  
## iter 70 value 163.964833  
## iter 80 value 162.695441  
## iter 90 value 162.439943  
## iter 100 value 162.396309  
## final value 162.396309   
## stopped after 100 iterations  
## # weights: 99  
## initial value 955.318160   
## iter 10 value 261.749018  
## iter 20 value 189.212128  
## iter 30 value 174.101910  
## iter 40 value 170.226497  
## iter 50 value 169.318326  
## iter 60 value 168.760269  
## iter 70 value 167.881627  
## iter 80 value 166.750927  
## iter 90 value 164.979747  
## iter 100 value 164.090144  
## final value 164.090144   
## stopped after 100 iterations  
## # weights: 113  
## initial value 228.771619   
## iter 10 value 213.962014  
## iter 20 value 188.995485  
## iter 30 value 175.332099  
## iter 40 value 169.247765  
## iter 50 value 168.311728  
## iter 60 value 167.623507  
## iter 70 value 165.702082  
## iter 80 value 164.655711  
## iter 90 value 163.884711  
## iter 100 value 163.277790  
## final value 163.277790   
## stopped after 100 iterations  
## # weights: 127  
## initial value 422.719091   
## iter 10 value 214.676247  
## iter 20 value 200.557900  
## iter 30 value 172.255065  
## iter 40 value 167.199267  
## iter 50 value 165.234598  
## iter 60 value 164.171566  
## iter 70 value 163.737124  
## iter 80 value 163.420799  
## iter 90 value 162.901701  
## iter 100 value 162.521722  
## final value 162.521722   
## stopped after 100 iterations  
## # weights: 141  
## initial value 517.165089   
## iter 10 value 216.928079  
## iter 20 value 202.194087  
## iter 30 value 173.740101  
## iter 40 value 168.909788  
## iter 50 value 167.370337  
## iter 60 value 166.032622  
## iter 70 value 164.840822  
## iter 80 value 163.922127  
## iter 90 value 163.398286  
## iter 100 value 163.069294  
## final value 163.069294   
## stopped after 100 iterations  
## # weights: 155  
## initial value 613.529047   
## iter 10 value 204.477762  
## iter 20 value 173.566518  
## iter 30 value 170.401788  
## iter 40 value 168.808242  
## iter 50 value 167.908080  
## iter 60 value 166.014636  
## iter 70 value 163.781872  
## iter 80 value 162.803473  
## iter 90 value 162.182974  
## iter 100 value 161.720334  
## final value 161.720334   
## stopped after 100 iterations  
## # weights: 169  
## initial value 608.850972   
## iter 10 value 218.783593  
## iter 20 value 201.689251  
## iter 30 value 179.096479  
## iter 40 value 169.701392  
## iter 50 value 167.699222  
## iter 60 value 166.186840  
## iter 70 value 165.119433  
## iter 80 value 164.393996  
## iter 90 value 163.395873  
## iter 100 value 162.721745  
## final value 162.721745   
## stopped after 100 iterations  
## # weights: 15  
## initial value 662.831867   
## iter 10 value 216.796604  
## iter 20 value 175.480331  
## iter 30 value 174.273597  
## final value 174.273090   
## converged  
## # weights: 29  
## initial value 364.429436   
## iter 10 value 185.680014  
## iter 20 value 174.672612  
## iter 30 value 174.291014  
## iter 40 value 174.174641  
## iter 50 value 172.621491  
## iter 60 value 172.055290  
## final value 172.053935   
## converged  
## # weights: 43  
## initial value 374.475624   
## iter 10 value 215.873642  
## iter 20 value 198.673314  
## iter 30 value 174.305718  
## iter 40 value 172.736909  
## iter 50 value 172.366465  
## iter 60 value 171.899304  
## iter 70 value 171.750275  
## final value 171.724671   
## converged  
## # weights: 57  
## initial value 231.320983   
## iter 10 value 218.450898  
## iter 20 value 197.897077  
## iter 30 value 178.935648  
## iter 40 value 174.087033  
## iter 50 value 173.360399  
## iter 60 value 171.144231  
## iter 70 value 170.636893  
## iter 80 value 170.213468  
## iter 90 value 169.950847  
## iter 100 value 169.746777  
## final value 169.746777   
## stopped after 100 iterations  
## # weights: 71  
## initial value 313.716856   
## iter 10 value 218.642323  
## iter 20 value 207.328402  
## iter 30 value 177.810068  
## iter 40 value 171.207184  
## iter 50 value 169.878521  
## iter 60 value 169.345017  
## iter 70 value 169.218674  
## iter 80 value 169.009540  
## iter 90 value 169.004008  
## iter 100 value 169.003411  
## final value 169.003411   
## stopped after 100 iterations  
## # weights: 85  
## initial value 770.478812   
## iter 10 value 276.459730  
## iter 20 value 230.567218  
## iter 30 value 203.956859  
## iter 40 value 181.150166  
## iter 50 value 174.104452  
## iter 60 value 172.415355  
## iter 70 value 172.038407  
## iter 80 value 171.071545  
## iter 90 value 170.230176  
## iter 100 value 169.158664  
## final value 169.158664   
## stopped after 100 iterations  
## # weights: 99  
## initial value 466.093424   
## iter 10 value 215.384991  
## iter 20 value 202.276174  
## iter 30 value 175.825115  
## iter 40 value 172.217116  
## iter 50 value 170.988518  
## iter 60 value 170.371121  
## iter 70 value 169.701755  
## iter 80 value 169.254515  
## iter 90 value 169.108744  
## iter 100 value 169.093971  
## final value 169.093971   
## stopped after 100 iterations  
## # weights: 113  
## initial value 320.267542   
## iter 10 value 220.304845  
## iter 20 value 198.123730  
## iter 30 value 179.727765  
## iter 40 value 173.751458  
## iter 50 value 172.208434  
## iter 60 value 171.150262  
## iter 70 value 170.014749  
## iter 80 value 169.518872  
## iter 90 value 169.075453  
## iter 100 value 168.517603  
## final value 168.517603   
## stopped after 100 iterations  
## # weights: 127  
## initial value 449.759814   
## iter 10 value 211.779614  
## iter 20 value 193.268927  
## iter 30 value 177.617789  
## iter 40 value 173.216505  
## iter 50 value 171.229901  
## iter 60 value 170.464667  
## iter 70 value 170.220568  
## iter 80 value 169.495292  
## iter 90 value 169.188548  
## iter 100 value 168.894135  
## final value 168.894135   
## stopped after 100 iterations  
## # weights: 141  
## initial value 283.165625   
## iter 10 value 199.330725  
## iter 20 value 182.765033  
## iter 30 value 175.681785  
## iter 40 value 174.079654  
## iter 50 value 171.084283  
## iter 60 value 169.976127  
## iter 70 value 169.186189  
## iter 80 value 168.362808  
## iter 90 value 167.931270  
## iter 100 value 167.622526  
## final value 167.622526   
## stopped after 100 iterations  
## # weights: 155  
## initial value 390.826871   
## iter 10 value 215.722168  
## iter 20 value 197.369005  
## iter 30 value 175.544482  
## iter 40 value 171.727399  
## iter 50 value 171.066753  
## iter 60 value 170.126001  
## iter 70 value 169.013579  
## iter 80 value 168.322373  
## iter 90 value 168.158262  
## iter 100 value 167.985445  
## final value 167.985445   
## stopped after 100 iterations  
## # weights: 169  
## initial value 319.152962   
## iter 10 value 217.904997  
## iter 20 value 199.977172  
## iter 30 value 177.149805  
## iter 40 value 172.508801  
## iter 50 value 170.807212  
## iter 60 value 169.100970  
## iter 70 value 168.039042  
## iter 80 value 167.616914  
## iter 90 value 167.365583  
## iter 100 value 166.625068  
## final value 166.625068   
## stopped after 100 iterations  
## # weights: 15  
## initial value 263.402842   
## iter 10 value 216.934827  
## iter 20 value 176.663820  
## iter 30 value 168.430915  
## iter 40 value 167.391722  
## iter 50 value 167.324934  
## final value 167.324365   
## converged  
## # weights: 29  
## initial value 456.272116   
## iter 10 value 209.201087  
## iter 20 value 170.079824  
## iter 30 value 164.386615  
## iter 40 value 162.212841  
## iter 50 value 160.850902  
## iter 60 value 157.527620  
## iter 70 value 156.189033  
## iter 80 value 156.078883  
## final value 156.077820   
## converged  
## # weights: 43  
## initial value 311.924192   
## iter 10 value 204.237845  
## iter 20 value 170.895005  
## iter 30 value 168.873912  
## iter 40 value 164.947079  
## iter 50 value 164.135490  
## iter 60 value 163.247926  
## iter 70 value 160.553560  
## iter 80 value 157.740545  
## iter 90 value 157.425541  
## iter 100 value 157.415155  
## final value 157.415155   
## stopped after 100 iterations  
## # weights: 57  
## initial value 359.277575   
## iter 10 value 214.622071  
## iter 20 value 195.072600  
## iter 30 value 171.104398  
## iter 40 value 164.713613  
## iter 50 value 158.519639  
## iter 60 value 157.353405  
## iter 70 value 155.958275  
## iter 80 value 153.815091  
## iter 90 value 153.133969  
## iter 100 value 153.072188  
## final value 153.072188   
## stopped after 100 iterations  
## # weights: 71  
## initial value 818.555622   
## iter 10 value 217.720845  
## iter 20 value 200.029120  
## iter 30 value 179.640912  
## iter 40 value 168.890160  
## iter 50 value 163.936581  
## iter 60 value 160.909569  
## iter 70 value 153.065002  
## iter 80 value 147.052962  
## iter 90 value 145.933542  
## iter 100 value 140.867752  
## final value 140.867752   
## stopped after 100 iterations  
## # weights: 85  
## initial value 492.694449   
## iter 10 value 213.712490  
## iter 20 value 192.480206  
## iter 30 value 169.828396  
## iter 40 value 159.105050  
## iter 50 value 154.424167  
## iter 60 value 151.157469  
## iter 70 value 147.812665  
## iter 80 value 141.223519  
## iter 90 value 135.769194  
## iter 100 value 133.148071  
## final value 133.148071   
## stopped after 100 iterations  
## # weights: 99  
## initial value 357.880898   
## iter 10 value 207.727799  
## iter 20 value 180.267361  
## iter 30 value 164.366039  
## iter 40 value 154.692296  
## iter 50 value 151.006554  
## iter 60 value 149.109155  
## iter 70 value 146.406958  
## iter 80 value 144.140485  
## iter 90 value 142.047102  
## iter 100 value 140.779785  
## final value 140.779785   
## stopped after 100 iterations  
## # weights: 113  
## initial value 301.854187   
## iter 10 value 210.386148  
## iter 20 value 194.482413  
## iter 30 value 168.917600  
## iter 40 value 165.932464  
## iter 50 value 160.050177  
## iter 60 value 152.208779  
## iter 70 value 147.503107  
## iter 80 value 142.175280  
## iter 90 value 140.582357  
## iter 100 value 140.033095  
## final value 140.033095   
## stopped after 100 iterations  
## # weights: 127  
## initial value 558.274621   
## iter 10 value 192.739806  
## iter 20 value 176.695245  
## iter 30 value 167.924302  
## iter 40 value 162.989963  
## iter 50 value 160.697350  
## iter 60 value 157.762768  
## iter 70 value 151.161360  
## iter 80 value 142.549920  
## iter 90 value 136.589647  
## iter 100 value 133.034661  
## final value 133.034661   
## stopped after 100 iterations  
## # weights: 141  
## initial value 676.276039   
## iter 10 value 206.962024  
## iter 20 value 176.421599  
## iter 30 value 161.801729  
## iter 40 value 153.478768  
## iter 50 value 150.339467  
## iter 60 value 145.818630  
## iter 70 value 142.973751  
## iter 80 value 137.375988  
## iter 90 value 135.181137  
## iter 100 value 132.896208  
## final value 132.896208   
## stopped after 100 iterations  
## # weights: 155  
## initial value 428.252485   
## iter 10 value 215.142936  
## iter 20 value 183.163626  
## iter 30 value 164.845178  
## iter 40 value 159.519761  
## iter 50 value 153.973991  
## iter 60 value 146.619303  
## iter 70 value 143.576293  
## iter 80 value 139.451822  
## iter 90 value 132.938420  
## iter 100 value 128.543541  
## final value 128.543541   
## stopped after 100 iterations  
## # weights: 169  
## initial value 265.943280   
## iter 10 value 213.453632  
## iter 20 value 179.381906  
## iter 30 value 169.427270  
## iter 40 value 157.419742  
## iter 50 value 150.459481  
## iter 60 value 142.197268  
## iter 70 value 132.879232  
## iter 80 value 129.903055  
## iter 90 value 128.627387  
## iter 100 value 126.316449  
## final value 126.316449   
## stopped after 100 iterations  
## # weights: 15  
## initial value 332.744057   
## iter 10 value 213.567496  
## iter 20 value 182.098413  
## iter 30 value 174.518793  
## iter 40 value 174.140008  
## final value 174.136309   
## converged  
## # weights: 29  
## initial value 300.463360   
## iter 10 value 216.871161  
## iter 20 value 196.927164  
## iter 30 value 176.518276  
## iter 40 value 172.962724  
## iter 50 value 172.536337  
## final value 172.517673   
## converged  
## # weights: 43  
## initial value 328.885523   
## iter 10 value 215.287555  
## iter 20 value 205.601907  
## iter 30 value 178.235650  
## iter 40 value 170.525171  
## iter 50 value 168.353874  
## iter 60 value 167.272861  
## iter 70 value 163.862466  
## iter 80 value 162.360452  
## iter 90 value 161.806308  
## iter 100 value 161.776375  
## final value 161.776375   
## stopped after 100 iterations  
## # weights: 57  
## initial value 394.230992   
## iter 10 value 188.207651  
## iter 20 value 170.469431  
## iter 30 value 167.676229  
## iter 40 value 165.402452  
## iter 50 value 162.966529  
## iter 60 value 161.283103  
## iter 70 value 158.877874  
## iter 80 value 157.268828  
## iter 90 value 155.823517  
## iter 100 value 155.186840  
## final value 155.186840   
## stopped after 100 iterations  
## # weights: 71  
## initial value 444.835811   
## iter 10 value 210.283120  
## iter 20 value 186.476798  
## iter 30 value 173.553642  
## iter 40 value 171.080779  
## iter 50 value 168.702388  
## iter 60 value 168.085363  
## iter 70 value 164.104471  
## iter 80 value 161.854182  
## iter 90 value 160.915331  
## iter 100 value 160.744141  
## final value 160.744141   
## stopped after 100 iterations  
## # weights: 85  
## initial value 370.778639   
## iter 10 value 212.851953  
## iter 20 value 184.172879  
## iter 30 value 171.136018  
## iter 40 value 167.247337  
## iter 50 value 164.947404  
## iter 60 value 162.654142  
## iter 70 value 157.529575  
## iter 80 value 153.899057  
## iter 90 value 152.778951  
## iter 100 value 152.031729  
## final value 152.031729   
## stopped after 100 iterations  
## # weights: 99  
## initial value 476.322513   
## iter 10 value 224.873967  
## iter 20 value 204.652364  
## iter 30 value 175.356329  
## iter 40 value 168.010753  
## iter 50 value 160.860909  
## iter 60 value 159.645963  
## iter 70 value 156.812542  
## iter 80 value 155.107038  
## iter 90 value 152.672363  
## iter 100 value 149.143507  
## final value 149.143507   
## stopped after 100 iterations  
## # weights: 113  
## initial value 456.193769   
## iter 10 value 213.368729  
## iter 20 value 196.873208  
## iter 30 value 171.768962  
## iter 40 value 161.832536  
## iter 50 value 157.014747  
## iter 60 value 151.516005  
## iter 70 value 150.871162  
## iter 80 value 150.184370  
## iter 90 value 149.698461  
## iter 100 value 149.349325  
## final value 149.349325   
## stopped after 100 iterations  
## # weights: 127  
## initial value 865.564215   
## iter 10 value 223.642458  
## iter 20 value 213.996669  
## iter 30 value 200.350438  
## iter 40 value 182.788613  
## iter 50 value 168.783329  
## iter 60 value 163.802124  
## iter 70 value 162.412538  
## iter 80 value 160.653064  
## iter 90 value 158.256049  
## iter 100 value 153.026019  
## final value 153.026019   
## stopped after 100 iterations  
## # weights: 141  
## initial value 411.378315   
## iter 10 value 216.481585  
## iter 20 value 192.914521  
## iter 30 value 171.644620  
## iter 40 value 165.795986  
## iter 50 value 161.991743  
## iter 60 value 159.382387  
## iter 70 value 155.428528  
## iter 80 value 151.130778  
## iter 90 value 148.001888  
## iter 100 value 146.743917  
## final value 146.743917   
## stopped after 100 iterations  
## # weights: 155  
## initial value 663.211041   
## iter 10 value 196.920077  
## iter 20 value 173.267135  
## iter 30 value 169.048296  
## iter 40 value 167.522171  
## iter 50 value 164.966407  
## iter 60 value 159.217915  
## iter 70 value 156.994678  
## iter 80 value 155.293191  
## iter 90 value 151.009234  
## iter 100 value 147.801697  
## final value 147.801697   
## stopped after 100 iterations  
## # weights: 169  
## initial value 821.346794   
## iter 10 value 214.435978  
## iter 20 value 198.864662  
## iter 30 value 174.982249  
## iter 40 value 166.457956  
## iter 50 value 160.982257  
## iter 60 value 157.804896  
## iter 70 value 155.693775  
## iter 80 value 153.076027  
## iter 90 value 151.461441  
## iter 100 value 149.045556  
## final value 149.045556   
## stopped after 100 iterations  
## # weights: 15  
## initial value 599.193761   
## iter 10 value 203.172702  
## iter 20 value 178.902047  
## iter 30 value 178.579980  
## final value 178.579862   
## converged  
## # weights: 29  
## initial value 361.190865   
## iter 10 value 216.731639  
## iter 20 value 207.054019  
## iter 30 value 176.125310  
## iter 40 value 172.313512  
## iter 50 value 170.997793  
## iter 60 value 170.103715  
## iter 70 value 170.045906  
## final value 170.045903   
## converged  
## # weights: 43  
## initial value 319.423783   
## iter 10 value 228.265398  
## iter 20 value 194.321427  
## iter 30 value 176.841108  
## iter 40 value 174.281789  
## iter 50 value 171.425829  
## iter 60 value 170.369501  
## iter 70 value 168.485423  
## iter 80 value 167.211939  
## iter 90 value 167.182105  
## final value 167.181705   
## converged  
## # weights: 57  
## initial value 317.618861   
## iter 10 value 213.815695  
## iter 20 value 186.226904  
## iter 30 value 172.750136  
## iter 40 value 170.740992  
## iter 50 value 169.484319  
## iter 60 value 168.602295  
## iter 70 value 167.746081  
## iter 80 value 167.638602  
## iter 90 value 167.255219  
## iter 100 value 164.116006  
## final value 164.116006   
## stopped after 100 iterations  
## # weights: 71  
## initial value 981.778369   
## iter 10 value 221.294990  
## iter 20 value 186.588003  
## iter 30 value 181.959409  
## iter 40 value 179.097867  
## iter 50 value 174.390206  
## iter 60 value 169.792404  
## iter 70 value 165.804733  
## iter 80 value 163.819477  
## iter 90 value 162.063531  
## iter 100 value 160.671914  
## final value 160.671914   
## stopped after 100 iterations  
## # weights: 85  
## initial value 303.976336   
## iter 10 value 215.695966  
## iter 20 value 192.144708  
## iter 30 value 176.805988  
## iter 40 value 175.667102  
## iter 50 value 174.820083  
## iter 60 value 172.786260  
## iter 70 value 171.523034  
## iter 80 value 170.340130  
## iter 90 value 168.699262  
## iter 100 value 168.231854  
## final value 168.231854   
## stopped after 100 iterations  
## # weights: 99  
## initial value 226.524020   
## iter 10 value 212.953225  
## iter 20 value 184.720361  
## iter 30 value 175.445899  
## iter 40 value 173.077386  
## iter 50 value 169.142532  
## iter 60 value 167.505512  
## iter 70 value 166.861672  
## iter 80 value 165.491969  
## iter 90 value 162.470131  
## iter 100 value 160.873296  
## final value 160.873296   
## stopped after 100 iterations  
## # weights: 113  
## initial value 564.827089   
## iter 10 value 228.474130  
## iter 20 value 195.867459  
## iter 30 value 178.313832  
## iter 40 value 172.002452  
## iter 50 value 170.009918  
## iter 60 value 165.816805  
## iter 70 value 163.645511  
## iter 80 value 162.615765  
## iter 90 value 161.473304  
## iter 100 value 160.232400  
## final value 160.232400   
## stopped after 100 iterations  
## # weights: 127  
## initial value 321.168673   
## iter 10 value 202.195076  
## iter 20 value 186.499055  
## iter 30 value 171.087293  
## iter 40 value 164.880827  
## iter 50 value 160.838988  
## iter 60 value 159.821942  
## iter 70 value 159.287585  
## iter 80 value 159.007131  
## iter 90 value 158.780796  
## iter 100 value 158.710556  
## final value 158.710556   
## stopped after 100 iterations  
## # weights: 141  
## initial value 404.059360   
## iter 10 value 217.406734  
## iter 20 value 189.307204  
## iter 30 value 179.018191  
## iter 40 value 169.819853  
## iter 50 value 166.219241  
## iter 60 value 162.568516  
## iter 70 value 160.958990  
## iter 80 value 160.601690  
## iter 90 value 160.450125  
## iter 100 value 160.361002  
## final value 160.361002   
## stopped after 100 iterations  
## # weights: 155  
## initial value 233.060069   
## iter 10 value 217.707189  
## iter 20 value 194.482473  
## iter 30 value 174.741787  
## iter 40 value 169.415087  
## iter 50 value 166.670659  
## iter 60 value 161.803070  
## iter 70 value 161.094763  
## iter 80 value 160.340561  
## iter 90 value 159.766105  
## iter 100 value 159.239629  
## final value 159.239629   
## stopped after 100 iterations  
## # weights: 169  
## initial value 1043.438918   
## iter 10 value 216.050322  
## iter 20 value 210.765665  
## iter 30 value 200.232616  
## iter 40 value 173.884207  
## iter 50 value 168.345653  
## iter 60 value 165.404778  
## iter 70 value 162.642875  
## iter 80 value 161.119504  
## iter 90 value 159.216755  
## iter 100 value 158.762141  
## final value 158.762141   
## stopped after 100 iterations  
## # weights: 15  
## initial value 364.483924   
## iter 10 value 217.874227  
## iter 20 value 200.840174  
## iter 30 value 178.236062  
## iter 40 value 177.112760  
## final value 177.110080   
## converged  
## # weights: 29  
## initial value 512.827661   
## iter 10 value 210.867010  
## iter 20 value 185.304387  
## iter 30 value 177.271583  
## iter 40 value 176.880698  
## iter 50 value 175.098434  
## iter 60 value 174.847042  
## final value 174.846432   
## converged  
## # weights: 43  
## initial value 394.431403   
## iter 10 value 217.363204  
## iter 20 value 190.064128  
## iter 30 value 178.865946  
## iter 40 value 177.343837  
## iter 50 value 174.721272  
## iter 60 value 174.639581  
## iter 70 value 174.542646  
## iter 80 value 174.045375  
## iter 90 value 173.288552  
## iter 100 value 172.524078  
## final value 172.524078   
## stopped after 100 iterations  
## # weights: 57  
## initial value 440.197881   
## iter 10 value 215.319595  
## iter 20 value 185.543868  
## iter 30 value 177.731420  
## iter 40 value 174.937022  
## iter 50 value 174.644922  
## iter 60 value 174.565834  
## final value 174.564101   
## converged  
## # weights: 71  
## initial value 755.593227   
## iter 10 value 234.556438  
## iter 20 value 217.487264  
## iter 30 value 209.280393  
## iter 40 value 183.983466  
## iter 50 value 177.154296  
## iter 60 value 175.456224  
## iter 70 value 174.763128  
## iter 80 value 174.275942  
## iter 90 value 173.226802  
## iter 100 value 171.606994  
## final value 171.606994   
## stopped after 100 iterations  
## # weights: 85  
## initial value 297.001070   
## iter 10 value 218.338881  
## iter 20 value 210.598985  
## iter 30 value 187.332190  
## iter 40 value 177.982153  
## iter 50 value 175.291293  
## iter 60 value 174.883730  
## iter 70 value 174.605228  
## iter 80 value 174.376914  
## iter 90 value 172.701286  
## iter 100 value 172.397750  
## final value 172.397750   
## stopped after 100 iterations  
## # weights: 99  
## initial value 354.346380   
## iter 10 value 201.236456  
## iter 20 value 188.146363  
## iter 30 value 176.295182  
## iter 40 value 174.613035  
## iter 50 value 174.231357  
## iter 60 value 173.754320  
## iter 70 value 172.203780  
## iter 80 value 169.682126  
## iter 90 value 167.337804  
## iter 100 value 167.083770  
## final value 167.083770   
## stopped after 100 iterations  
## # weights: 113  
## initial value 312.879289   
## iter 10 value 215.265644  
## iter 20 value 206.024516  
## iter 30 value 181.335126  
## iter 40 value 176.552828  
## iter 50 value 172.917754  
## iter 60 value 172.016259  
## iter 70 value 171.400507  
## iter 80 value 171.097293  
## iter 90 value 169.832435  
## iter 100 value 169.068152  
## final value 169.068152   
## stopped after 100 iterations  
## # weights: 127  
## initial value 325.175111   
## iter 10 value 212.070314  
## iter 20 value 189.622741  
## iter 30 value 176.954825  
## iter 40 value 172.688353  
## iter 50 value 170.518348  
## iter 60 value 167.801813  
## iter 70 value 167.402833  
## iter 80 value 167.227463  
## iter 90 value 166.920165  
## iter 100 value 166.686908  
## final value 166.686908   
## stopped after 100 iterations  
## # weights: 141  
## initial value 543.227252   
## iter 10 value 217.244012  
## iter 20 value 197.693607  
## iter 30 value 178.003732  
## iter 40 value 173.623339  
## iter 50 value 172.670494  
## iter 60 value 171.639988  
## iter 70 value 170.863135  
## iter 80 value 168.535091  
## iter 90 value 167.316276  
## iter 100 value 166.968142  
## final value 166.968142   
## stopped after 100 iterations  
## # weights: 155  
## initial value 452.968828   
## iter 10 value 215.814947  
## iter 20 value 204.325059  
## iter 30 value 185.063791  
## iter 40 value 173.941037  
## iter 50 value 171.736809  
## iter 60 value 171.084962  
## iter 70 value 169.236309  
## iter 80 value 167.576802  
## iter 90 value 167.319148  
## iter 100 value 166.898085  
## final value 166.898085   
## stopped after 100 iterations  
## # weights: 169  
## initial value 319.204589   
## iter 10 value 222.189375  
## iter 20 value 202.007061  
## iter 30 value 181.179676  
## iter 40 value 177.338637  
## iter 50 value 174.105251  
## iter 60 value 171.145691  
## iter 70 value 169.746683  
## iter 80 value 168.574513  
## iter 90 value 167.802545  
## iter 100 value 167.451325  
## final value 167.451325   
## stopped after 100 iterations  
## # weights: 15  
## initial value 416.181217   
## iter 10 value 218.987492  
## iter 20 value 216.187105  
## iter 30 value 201.118794  
## iter 40 value 186.473669  
## iter 50 value 186.305443  
## final value 186.305435   
## converged  
## # weights: 29  
## initial value 353.220898   
## iter 10 value 219.477563  
## iter 20 value 203.800792  
## iter 30 value 183.268371  
## iter 40 value 180.459558  
## iter 50 value 179.807571  
## iter 60 value 178.098746  
## iter 70 value 178.012838  
## iter 70 value 178.012838  
## final value 178.012838   
## converged  
## # weights: 43  
## initial value 569.273118   
## iter 10 value 227.124093  
## iter 20 value 189.635144  
## iter 30 value 183.663829  
## iter 40 value 178.315171  
## iter 50 value 178.097394  
## iter 60 value 177.700782  
## iter 70 value 177.696342  
## iter 80 value 177.672966  
## iter 90 value 177.154563  
## iter 100 value 175.621459  
## final value 175.621459   
## stopped after 100 iterations  
## # weights: 57  
## initial value 357.890436   
## iter 10 value 216.652222  
## iter 20 value 191.646912  
## iter 30 value 180.425765  
## iter 40 value 179.491864  
## iter 50 value 178.301009  
## iter 60 value 177.787178  
## iter 70 value 177.705598  
## iter 80 value 177.429083  
## iter 90 value 176.112719  
## iter 100 value 175.932492  
## final value 175.932492   
## stopped after 100 iterations  
## # weights: 71  
## initial value 409.568694   
## iter 10 value 202.558812  
## iter 20 value 182.822842  
## iter 30 value 178.149205  
## iter 40 value 177.683103  
## iter 50 value 177.435257  
## iter 60 value 176.170712  
## iter 70 value 174.248289  
## iter 80 value 174.026466  
## iter 90 value 173.964370  
## iter 100 value 173.941093  
## final value 173.941093   
## stopped after 100 iterations  
## # weights: 85  
## initial value 543.332231   
## iter 10 value 224.090853  
## iter 20 value 190.193234  
## iter 30 value 181.779415  
## iter 40 value 179.089709  
## iter 50 value 178.021826  
## iter 60 value 176.177642  
## iter 70 value 175.759910  
## iter 80 value 175.084172  
## iter 90 value 174.392732  
## iter 100 value 173.674940  
## final value 173.674940   
## stopped after 100 iterations  
## # weights: 99  
## initial value 566.639424   
## iter 10 value 228.640227  
## iter 20 value 217.123505  
## iter 30 value 180.341018  
## iter 40 value 178.800962  
## iter 50 value 177.743694  
## iter 60 value 176.888306  
## iter 70 value 176.374919  
## iter 80 value 175.715312  
## iter 90 value 174.726781  
## iter 100 value 173.922812  
## final value 173.922812   
## stopped after 100 iterations  
## # weights: 113  
## initial value 541.976200   
## iter 10 value 249.964366  
## iter 20 value 205.710546  
## iter 30 value 186.219309  
## iter 40 value 179.191843  
## iter 50 value 177.685019  
## iter 60 value 176.103542  
## iter 70 value 175.132464  
## iter 80 value 175.035023  
## iter 90 value 174.675711  
## iter 100 value 173.749513  
## final value 173.749513   
## stopped after 100 iterations  
## # weights: 127  
## initial value 847.427968   
## iter 10 value 219.271133  
## iter 20 value 193.801851  
## iter 30 value 178.422695  
## iter 40 value 177.728278  
## iter 50 value 177.325996  
## iter 60 value 176.092529  
## iter 70 value 175.164577  
## iter 80 value 174.786990  
## iter 90 value 174.042853  
## iter 100 value 173.496311  
## final value 173.496311   
## stopped after 100 iterations  
## # weights: 141  
## initial value 307.751285   
## iter 10 value 215.416058  
## iter 20 value 206.341207  
## iter 30 value 184.831519  
## iter 40 value 179.730132  
## iter 50 value 177.014110  
## iter 60 value 176.081987  
## iter 70 value 175.550357  
## iter 80 value 175.269037  
## iter 90 value 175.158482  
## iter 100 value 175.083566  
## final value 175.083566   
## stopped after 100 iterations  
## # weights: 155  
## initial value 770.531300   
## iter 10 value 213.908182  
## iter 20 value 201.449662  
## iter 30 value 184.368816  
## iter 40 value 179.917415  
## iter 50 value 177.227662  
## iter 60 value 175.084964  
## iter 70 value 173.830808  
## iter 80 value 173.343537  
## iter 90 value 172.871814  
## iter 100 value 172.450926  
## final value 172.450926   
## stopped after 100 iterations  
## # weights: 169  
## initial value 717.291447   
## iter 10 value 218.070641  
## iter 20 value 210.588409  
## iter 30 value 198.343083  
## iter 40 value 178.829151  
## iter 50 value 175.679671  
## iter 60 value 175.045064  
## iter 70 value 174.328470  
## iter 80 value 173.346572  
## iter 90 value 173.115418  
## iter 100 value 172.709578  
## final value 172.709578   
## stopped after 100 iterations  
## # weights: 15  
## initial value 574.433918   
## iter 10 value 218.572484  
## iter 20 value 197.828261  
## iter 30 value 169.003164  
## iter 40 value 168.621979  
## final value 168.620922   
## converged  
## # weights: 29  
## initial value 489.339396   
## iter 10 value 215.192460  
## iter 20 value 175.859812  
## iter 30 value 168.179264  
## iter 40 value 167.255012  
## iter 50 value 167.082446  
## iter 60 value 166.753055  
## iter 70 value 164.991349  
## iter 80 value 160.361840  
## iter 90 value 158.665245  
## iter 100 value 158.443622  
## final value 158.443622   
## stopped after 100 iterations  
## # weights: 43  
## initial value 270.025552   
## iter 10 value 219.517020  
## iter 20 value 192.180291  
## iter 30 value 166.570477  
## iter 40 value 160.110302  
## iter 50 value 153.705057  
## iter 60 value 149.760312  
## iter 70 value 149.084739  
## iter 80 value 148.914772  
## iter 90 value 148.884238  
## final value 148.884067   
## converged  
## # weights: 57  
## initial value 357.435158   
## iter 10 value 213.381136  
## iter 20 value 179.071998  
## iter 30 value 167.479186  
## iter 40 value 165.159737  
## iter 50 value 159.085370  
## iter 60 value 155.652275  
## iter 70 value 153.988392  
## iter 80 value 152.689373  
## iter 90 value 149.089449  
## iter 100 value 145.389973  
## final value 145.389973   
## stopped after 100 iterations  
## # weights: 71  
## initial value 473.519950   
## iter 10 value 224.232765  
## iter 20 value 185.843440  
## iter 30 value 164.691120  
## iter 40 value 153.673369  
## iter 50 value 149.106841  
## iter 60 value 147.798330  
## iter 70 value 144.517724  
## iter 80 value 142.061937  
## iter 90 value 140.956461  
## iter 100 value 139.930704  
## final value 139.930704   
## stopped after 100 iterations  
## # weights: 85  
## initial value 285.417387   
## iter 10 value 208.138639  
## iter 20 value 178.473928  
## iter 30 value 168.078636  
## iter 40 value 165.228986  
## iter 50 value 163.793411  
## iter 60 value 160.915820  
## iter 70 value 158.114059  
## iter 80 value 153.275990  
## iter 90 value 146.075166  
## iter 100 value 140.285136  
## final value 140.285136   
## stopped after 100 iterations  
## # weights: 99  
## initial value 313.993565   
## iter 10 value 194.989950  
## iter 20 value 172.507034  
## iter 30 value 163.631163  
## iter 40 value 157.008993  
## iter 50 value 148.718277  
## iter 60 value 146.061880  
## iter 70 value 145.221608  
## iter 80 value 140.525125  
## iter 90 value 136.799257  
## iter 100 value 131.450629  
## final value 131.450629   
## stopped after 100 iterations  
## # weights: 113  
## initial value 302.287296   
## iter 10 value 210.075988  
## iter 20 value 190.882087  
## iter 30 value 165.300106  
## iter 40 value 153.633536  
## iter 50 value 146.264581  
## iter 60 value 140.479731  
## iter 70 value 138.720932  
## iter 80 value 137.525159  
## iter 90 value 134.601819  
## iter 100 value 133.791704  
## final value 133.791704   
## stopped after 100 iterations  
## # weights: 127  
## initial value 457.185106   
## iter 10 value 209.838267  
## iter 20 value 194.272464  
## iter 30 value 167.224456  
## iter 40 value 160.202364  
## iter 50 value 154.812980  
## iter 60 value 151.192431  
## iter 70 value 149.110885  
## iter 80 value 148.415202  
## iter 90 value 147.921435  
## iter 100 value 147.486808  
## final value 147.486808   
## stopped after 100 iterations  
## # weights: 141  
## initial value 241.139691   
## iter 10 value 203.550093  
## iter 20 value 167.390155  
## iter 30 value 163.852452  
## iter 40 value 158.336598  
## iter 50 value 152.187685  
## iter 60 value 143.477661  
## iter 70 value 138.381678  
## iter 80 value 136.061967  
## iter 90 value 133.928480  
## iter 100 value 130.743880  
## final value 130.743880   
## stopped after 100 iterations  
## # weights: 155  
## initial value 247.393322   
## iter 10 value 213.632023  
## iter 20 value 176.633879  
## iter 30 value 162.891626  
## iter 40 value 158.091933  
## iter 50 value 151.509224  
## iter 60 value 139.350721  
## iter 70 value 136.927674  
## iter 80 value 135.628718  
## iter 90 value 134.092263  
## iter 100 value 131.261269  
## final value 131.261269   
## stopped after 100 iterations  
## # weights: 169  
## initial value 647.624640   
## iter 10 value 217.128797  
## iter 20 value 199.197112  
## iter 30 value 171.982205  
## iter 40 value 165.607817  
## iter 50 value 157.378739  
## iter 60 value 150.732227  
## iter 70 value 145.971529  
## iter 80 value 143.288709  
## iter 90 value 139.555482  
## iter 100 value 133.551929  
## final value 133.551929   
## stopped after 100 iterations  
## # weights: 15  
## initial value 529.591068   
## iter 10 value 212.913120  
## iter 20 value 173.485331  
## iter 30 value 170.440803  
## iter 40 value 170.300208  
## final value 170.300063   
## converged  
## # weights: 29  
## initial value 368.759823   
## iter 10 value 219.429193  
## iter 20 value 209.522682  
## iter 30 value 178.329510  
## iter 40 value 171.416096  
## iter 50 value 170.854435  
## iter 60 value 170.568481  
## iter 70 value 169.429339  
## iter 80 value 169.072456  
## iter 90 value 168.968495  
## final value 168.965470   
## converged  
## # weights: 43  
## initial value 344.197003   
## iter 10 value 216.868314  
## iter 20 value 180.557886  
## iter 30 value 171.971123  
## iter 40 value 168.285657  
## iter 50 value 165.716850  
## iter 60 value 165.106707  
## iter 70 value 163.202908  
## iter 80 value 161.461409  
## iter 90 value 161.039050  
## iter 100 value 161.001761  
## final value 161.001761   
## stopped after 100 iterations  
## # weights: 57  
## initial value 278.408319   
## iter 10 value 223.739489  
## iter 20 value 179.878695  
## iter 30 value 170.915354  
## iter 40 value 170.181344  
## iter 50 value 168.319763  
## iter 60 value 166.173324  
## iter 70 value 164.585026  
## iter 80 value 164.194325  
## iter 90 value 163.846245  
## iter 100 value 162.673940  
## final value 162.673940   
## stopped after 100 iterations  
## # weights: 71  
## initial value 410.693078   
## iter 10 value 204.403322  
## iter 20 value 184.551225  
## iter 30 value 171.659948  
## iter 40 value 164.585813  
## iter 50 value 163.771737  
## iter 60 value 163.293066  
## iter 70 value 162.435197  
## iter 80 value 160.463479  
## iter 90 value 158.911201  
## iter 100 value 158.244551  
## final value 158.244551   
## stopped after 100 iterations  
## # weights: 85  
## initial value 448.324384   
## iter 10 value 207.677416  
## iter 20 value 186.235462  
## iter 30 value 170.651351  
## iter 40 value 168.631402  
## iter 50 value 164.450500  
## iter 60 value 160.481396  
## iter 70 value 155.726747  
## iter 80 value 154.078765  
## iter 90 value 153.112970  
## iter 100 value 152.659520  
## final value 152.659520   
## stopped after 100 iterations  
## # weights: 99  
## initial value 456.331516   
## iter 10 value 217.636528  
## iter 20 value 199.374980  
## iter 30 value 173.286832  
## iter 40 value 166.542490  
## iter 50 value 163.080585  
## iter 60 value 160.552030  
## iter 70 value 158.341056  
## iter 80 value 156.213798  
## iter 90 value 155.476580  
## iter 100 value 152.269523  
## final value 152.269523   
## stopped after 100 iterations  
## # weights: 113  
## initial value 581.468568   
## iter 10 value 209.491948  
## iter 20 value 173.463808  
## iter 30 value 170.957018  
## iter 40 value 168.547156  
## iter 50 value 164.484324  
## iter 60 value 162.451890  
## iter 70 value 161.072832  
## iter 80 value 160.175960  
## iter 90 value 158.203451  
## iter 100 value 154.776146  
## final value 154.776146   
## stopped after 100 iterations  
## # weights: 127  
## initial value 600.462929   
## iter 10 value 203.856394  
## iter 20 value 174.928774  
## iter 30 value 171.583340  
## iter 40 value 167.306118  
## iter 50 value 163.881511  
## iter 60 value 158.462214  
## iter 70 value 153.069774  
## iter 80 value 151.601377  
## iter 90 value 150.435601  
## iter 100 value 150.179972  
## final value 150.179972   
## stopped after 100 iterations  
## # weights: 141  
## initial value 629.129027   
## iter 10 value 207.896799  
## iter 20 value 180.978613  
## iter 30 value 171.056154  
## iter 40 value 167.514129  
## iter 50 value 166.079975  
## iter 60 value 162.651082  
## iter 70 value 160.653181  
## iter 80 value 157.344110  
## iter 90 value 154.494214  
## iter 100 value 151.308652  
## final value 151.308652   
## stopped after 100 iterations  
## # weights: 155  
## initial value 440.601400   
## iter 10 value 211.568603  
## iter 20 value 188.923335  
## iter 30 value 171.946750  
## iter 40 value 165.718254  
## iter 50 value 164.110594  
## iter 60 value 161.127650  
## iter 70 value 157.952130  
## iter 80 value 155.383518  
## iter 90 value 152.713360  
## iter 100 value 150.926560  
## final value 150.926560   
## stopped after 100 iterations  
## # weights: 169  
## initial value 601.289846   
## iter 10 value 213.572364  
## iter 20 value 195.336997  
## iter 30 value 179.480541  
## iter 40 value 167.314640  
## iter 50 value 157.372567  
## iter 60 value 153.820605  
## iter 70 value 151.546030  
## iter 80 value 149.661240  
## iter 90 value 148.086588  
## iter 100 value 146.841607  
## final value 146.841607   
## stopped after 100 iterations  
## # weights: 15  
## initial value 295.046353   
## iter 10 value 220.513438  
## iter 20 value 213.076236  
## iter 30 value 175.963673  
## iter 40 value 173.498970  
## final value 173.498168   
## converged  
## # weights: 29  
## initial value 383.210062   
## iter 10 value 216.431750  
## iter 20 value 189.795912  
## iter 30 value 176.091149  
## iter 40 value 175.884064  
## iter 50 value 175.837990  
## iter 60 value 175.473608  
## iter 70 value 174.317717  
## iter 80 value 172.975125  
## iter 90 value 171.717854  
## iter 100 value 171.099697  
## final value 171.099697   
## stopped after 100 iterations  
## # weights: 43  
## initial value 531.754498   
## iter 10 value 216.708450  
## iter 20 value 184.313931  
## iter 30 value 175.179771  
## iter 40 value 170.931870  
## iter 50 value 169.732391  
## iter 60 value 169.280625  
## iter 70 value 169.245631  
## final value 169.245391   
## converged  
## # weights: 57  
## initial value 494.826933   
## iter 10 value 226.031551  
## iter 20 value 206.848665  
## iter 30 value 179.166774  
## iter 40 value 175.573776  
## iter 50 value 173.700023  
## iter 60 value 172.119575  
## iter 70 value 171.451479  
## iter 80 value 167.947628  
## iter 90 value 165.346292  
## iter 100 value 164.797349  
## final value 164.797349   
## stopped after 100 iterations  
## # weights: 71  
## initial value 525.315504   
## iter 10 value 226.627873  
## iter 20 value 198.581352  
## iter 30 value 175.722173  
## iter 40 value 171.370786  
## iter 50 value 170.022310  
## iter 60 value 169.535066  
## iter 70 value 169.241117  
## iter 80 value 169.162369  
## iter 90 value 169.093686  
## iter 100 value 168.219745  
## final value 168.219745   
## stopped after 100 iterations  
## # weights: 85  
## initial value 373.241624   
## iter 10 value 212.807440  
## iter 20 value 179.555750  
## iter 30 value 171.760984  
## iter 40 value 169.248885  
## iter 50 value 165.957304  
## iter 60 value 162.210655  
## iter 70 value 161.207524  
## iter 80 value 160.793175  
## iter 90 value 160.560212  
## iter 100 value 160.189572  
## final value 160.189572   
## stopped after 100 iterations  
## # weights: 99  
## initial value 1289.041915   
## iter 10 value 265.753611  
## iter 20 value 234.555600  
## iter 30 value 213.405229  
## iter 40 value 180.294265  
## iter 50 value 172.270044  
## iter 60 value 170.173644  
## iter 70 value 168.038956  
## iter 80 value 165.188032  
## iter 90 value 162.451183  
## iter 100 value 161.128104  
## final value 161.128104   
## stopped after 100 iterations  
## # weights: 113  
## initial value 644.892907   
## iter 10 value 184.634055  
## iter 20 value 174.206422  
## iter 30 value 173.041704  
## iter 40 value 170.647209  
## iter 50 value 165.220382  
## iter 60 value 162.342076  
## iter 70 value 160.895591  
## iter 80 value 160.429665  
## iter 90 value 159.959421  
## iter 100 value 159.712936  
## final value 159.712936   
## stopped after 100 iterations  
## # weights: 127  
## initial value 553.366147   
## iter 10 value 225.366001  
## iter 20 value 203.411529  
## iter 30 value 189.939420  
## iter 40 value 176.508121  
## iter 50 value 171.218567  
## iter 60 value 168.262739  
## iter 70 value 165.412391  
## iter 80 value 162.296786  
## iter 90 value 161.147739  
## iter 100 value 160.870554  
## final value 160.870554   
## stopped after 100 iterations  
## # weights: 141  
## initial value 339.076305   
## iter 10 value 198.253299  
## iter 20 value 183.682134  
## iter 30 value 173.456508  
## iter 40 value 171.287057  
## iter 50 value 169.663345  
## iter 60 value 167.682414  
## iter 70 value 163.914696  
## iter 80 value 162.656369  
## iter 90 value 161.843470  
## iter 100 value 160.854941  
## final value 160.854941   
## stopped after 100 iterations  
## # weights: 155  
## initial value 255.561990   
## iter 10 value 200.769779  
## iter 20 value 182.940452  
## iter 30 value 173.101637  
## iter 40 value 169.067398  
## iter 50 value 167.491074  
## iter 60 value 163.923118  
## iter 70 value 160.686115  
## iter 80 value 159.339655  
## iter 90 value 158.506445  
## iter 100 value 157.914741  
## final value 157.914741   
## stopped after 100 iterations  
## # weights: 169  
## initial value 862.058962   
## iter 10 value 219.260086  
## iter 20 value 205.159306  
## iter 30 value 178.825619  
## iter 40 value 166.095709  
## iter 50 value 163.450029  
## iter 60 value 162.488980  
## iter 70 value 161.680250  
## iter 80 value 160.837016  
## iter 90 value 160.463621  
## iter 100 value 159.897433  
## final value 159.897433   
## stopped after 100 iterations  
## # weights: 15  
## initial value 439.408865   
## iter 10 value 221.389720  
## iter 20 value 215.798055  
## iter 30 value 185.563205  
## iter 40 value 181.944779  
## final value 181.937811   
## converged  
## # weights: 29  
## initial value 311.860926   
## iter 10 value 220.251878  
## iter 20 value 214.051512  
## iter 30 value 194.834653  
## iter 40 value 178.491484  
## iter 50 value 177.036684  
## iter 60 value 176.737823  
## iter 70 value 176.415547  
## iter 80 value 175.269402  
## iter 90 value 174.213145  
## final value 174.201912   
## converged  
## # weights: 43  
## initial value 403.456805   
## iter 10 value 221.735428  
## iter 20 value 191.459284  
## iter 30 value 181.420691  
## iter 40 value 177.361458  
## iter 50 value 175.800681  
## iter 60 value 174.671782  
## iter 70 value 173.854470  
## iter 80 value 172.637650  
## iter 90 value 171.872407  
## iter 100 value 171.831717  
## final value 171.831717   
## stopped after 100 iterations  
## # weights: 57  
## initial value 570.944360   
## iter 10 value 233.362848  
## iter 20 value 190.698482  
## iter 30 value 183.237703  
## iter 40 value 180.048663  
## iter 50 value 176.484250  
## iter 60 value 175.688866  
## iter 70 value 175.415199  
## iter 80 value 175.316493  
## final value 175.315754   
## converged  
## # weights: 71  
## initial value 401.446329   
## iter 10 value 202.842048  
## iter 20 value 184.012680  
## iter 30 value 176.981294  
## iter 40 value 175.778222  
## iter 50 value 174.920657  
## iter 60 value 174.532652  
## iter 70 value 172.853143  
## iter 80 value 170.312874  
## iter 90 value 169.796764  
## iter 100 value 169.689354  
## final value 169.689354   
## stopped after 100 iterations  
## # weights: 85  
## initial value 286.653382   
## iter 10 value 210.453942  
## iter 20 value 187.091237  
## iter 30 value 179.040862  
## iter 40 value 174.288891  
## iter 50 value 173.138945  
## iter 60 value 172.427151  
## iter 70 value 171.682584  
## iter 80 value 170.446396  
## iter 90 value 170.138532  
## iter 100 value 170.013176  
## final value 170.013176   
## stopped after 100 iterations  
## # weights: 99  
## initial value 361.685574   
## iter 10 value 216.991344  
## iter 20 value 210.595697  
## iter 30 value 182.264493  
## iter 40 value 175.609903  
## iter 50 value 173.472648  
## iter 60 value 171.733772  
## iter 70 value 170.752326  
## iter 80 value 170.104604  
## iter 90 value 168.429730  
## iter 100 value 167.958658  
## final value 167.958658   
## stopped after 100 iterations  
## # weights: 113  
## initial value 1064.045238   
## iter 10 value 221.368291  
## iter 20 value 194.481357  
## iter 30 value 177.109210  
## iter 40 value 172.740516  
## iter 50 value 171.026237  
## iter 60 value 168.855977  
## iter 70 value 167.531044  
## iter 80 value 167.342140  
## iter 90 value 167.290843  
## iter 100 value 167.190300  
## final value 167.190300   
## stopped after 100 iterations  
## # weights: 127  
## initial value 346.722549   
## iter 10 value 214.912870  
## iter 20 value 192.274296  
## iter 30 value 177.084868  
## iter 40 value 173.730193  
## iter 50 value 172.309959  
## iter 60 value 170.481425  
## iter 70 value 168.983164  
## iter 80 value 168.191095  
## iter 90 value 167.606712  
## iter 100 value 166.922436  
## final value 166.922436   
## stopped after 100 iterations  
## # weights: 141  
## initial value 648.358153   
## iter 10 value 220.601420  
## iter 20 value 198.650102  
## iter 30 value 182.812475  
## iter 40 value 173.737269  
## iter 50 value 171.482639  
## iter 60 value 170.031010  
## iter 70 value 168.971553  
## iter 80 value 168.373508  
## iter 90 value 168.144240  
## iter 100 value 167.729224  
## final value 167.729224   
## stopped after 100 iterations  
## # weights: 155  
## initial value 278.331139   
## iter 10 value 214.090420  
## iter 20 value 190.172097  
## iter 30 value 176.714397  
## iter 40 value 174.065363  
## iter 50 value 171.558664  
## iter 60 value 169.470168  
## iter 70 value 167.635748  
## iter 80 value 166.923702  
## iter 90 value 166.619160  
## iter 100 value 166.398910  
## final value 166.398910   
## stopped after 100 iterations  
## # weights: 169  
## initial value 402.805148   
## iter 10 value 214.241614  
## iter 20 value 194.824272  
## iter 30 value 177.678191  
## iter 40 value 175.129883  
## iter 50 value 173.128866  
## iter 60 value 168.474322  
## iter 70 value 166.921756  
## iter 80 value 166.539056  
## iter 90 value 166.368310  
## iter 100 value 166.281236  
## final value 166.281236   
## stopped after 100 iterations  
## # weights: 15  
## initial value 728.809441   
## iter 10 value 223.512014  
## iter 20 value 220.298855  
## iter 30 value 205.695059  
## iter 40 value 179.934747  
## iter 50 value 179.157389  
## iter 60 value 179.153947  
## final value 179.153944   
## converged  
## # weights: 29  
## initial value 301.894805   
## iter 10 value 210.629385  
## iter 20 value 180.024246  
## iter 30 value 179.024454  
## iter 40 value 177.785285  
## iter 50 value 177.760220  
## final value 177.760216   
## converged  
## # weights: 43  
## initial value 326.609562   
## iter 10 value 220.840266  
## iter 20 value 191.942716  
## iter 30 value 180.009395  
## iter 40 value 178.194907  
## iter 50 value 177.443524  
## iter 60 value 176.726454  
## iter 70 value 176.520205  
## iter 80 value 175.795037  
## iter 90 value 175.728250  
## iter 100 value 175.724925  
## final value 175.724925   
## stopped after 100 iterations  
## # weights: 57  
## initial value 740.478223   
## iter 10 value 256.000877  
## iter 20 value 226.969038  
## iter 30 value 195.430121  
## iter 40 value 182.148591  
## iter 50 value 179.059565  
## iter 60 value 175.725929  
## iter 70 value 174.981211  
## iter 80 value 174.870067  
## iter 90 value 174.857383  
## iter 90 value 174.857383  
## iter 90 value 174.857383  
## final value 174.857383   
## converged  
## # weights: 71  
## initial value 647.016609   
## iter 10 value 245.372319  
## iter 20 value 186.819801  
## iter 30 value 179.006592  
## iter 40 value 177.472891  
## iter 50 value 177.318383  
## iter 60 value 176.490319  
## iter 70 value 176.246798  
## iter 80 value 175.861977  
## iter 90 value 174.630827  
## iter 100 value 174.151566  
## final value 174.151566   
## stopped after 100 iterations  
## # weights: 85  
## initial value 435.668562   
## iter 10 value 219.840088  
## iter 20 value 198.874250  
## iter 30 value 180.199605  
## iter 40 value 177.527350  
## iter 50 value 176.583259  
## iter 60 value 175.186364  
## iter 70 value 174.191418  
## iter 80 value 173.498027  
## iter 90 value 172.345018  
## iter 100 value 172.291349  
## final value 172.291349   
## stopped after 100 iterations  
## # weights: 99  
## initial value 449.412638   
## iter 10 value 218.775307  
## iter 20 value 204.187424  
## iter 30 value 182.741905  
## iter 40 value 179.442424  
## iter 50 value 178.171829  
## iter 60 value 177.018411  
## iter 70 value 175.849111  
## iter 80 value 174.033745  
## iter 90 value 173.593154  
## iter 100 value 172.867316  
## final value 172.867316   
## stopped after 100 iterations  
## # weights: 113  
## initial value 261.957412   
## iter 10 value 218.270964  
## iter 20 value 192.961253  
## iter 30 value 180.319598  
## iter 40 value 178.887382  
## iter 50 value 178.125051  
## iter 60 value 177.949333  
## iter 70 value 177.484046  
## iter 80 value 176.218915  
## iter 90 value 175.112446  
## iter 100 value 173.575250  
## final value 173.575250   
## stopped after 100 iterations  
## # weights: 127  
## initial value 374.122461   
## iter 10 value 208.614228  
## iter 20 value 185.413965  
## iter 30 value 179.984530  
## iter 40 value 177.101449  
## iter 50 value 176.198987  
## iter 60 value 175.293357  
## iter 70 value 174.666690  
## iter 80 value 174.388420  
## iter 90 value 174.175639  
## iter 100 value 173.915381  
## final value 173.915381   
## stopped after 100 iterations  
## # weights: 141  
## initial value 369.196615   
## iter 10 value 219.223614  
## iter 20 value 209.855093  
## iter 30 value 182.375833  
## iter 40 value 177.374759  
## iter 50 value 175.499805  
## iter 60 value 173.252284  
## iter 70 value 172.454978  
## iter 80 value 172.251366  
## iter 90 value 172.065565  
## iter 100 value 171.887888  
## final value 171.887888   
## stopped after 100 iterations  
## # weights: 155  
## initial value 2027.991562   
## iter 10 value 220.716489  
## iter 20 value 212.572686  
## iter 30 value 189.240446  
## iter 40 value 183.516764  
## iter 50 value 179.343073  
## iter 60 value 177.709471  
## iter 70 value 176.837676  
## iter 80 value 175.243064  
## iter 90 value 173.736204  
## iter 100 value 172.612911  
## final value 172.612911   
## stopped after 100 iterations  
## # weights: 169  
## initial value 676.622046   
## iter 10 value 222.809804  
## iter 20 value 211.708872  
## iter 30 value 184.120732  
## iter 40 value 177.941621  
## iter 50 value 177.137363  
## iter 60 value 176.082300  
## iter 70 value 174.234268  
## iter 80 value 172.544579  
## iter 90 value 171.816837  
## iter 100 value 171.482610  
## final value 171.482610   
## stopped after 100 iterations  
## # weights: 15  
## initial value 423.234997   
## iter 10 value 195.858253  
## iter 20 value 162.966180  
## iter 30 value 158.442196  
## iter 40 value 158.275148  
## final value 158.269136   
## converged  
## # weights: 29  
## initial value 465.921880   
## iter 10 value 205.301324  
## iter 20 value 165.831886  
## iter 30 value 156.928964  
## iter 40 value 153.951054  
## iter 50 value 151.627780  
## iter 60 value 151.352586  
## iter 70 value 151.215548  
## iter 80 value 151.175695  
## iter 90 value 151.159068  
## final value 151.159066   
## converged  
## # weights: 43  
## initial value 501.041149   
## iter 10 value 216.995806  
## iter 20 value 197.771313  
## iter 30 value 164.491202  
## iter 40 value 159.151847  
## iter 50 value 153.642535  
## iter 60 value 152.267885  
## iter 70 value 152.157093  
## iter 80 value 151.791508  
## iter 90 value 150.487092  
## iter 100 value 144.773630  
## final value 144.773630   
## stopped after 100 iterations  
## # weights: 57  
## initial value 250.224432   
## iter 10 value 215.855573  
## iter 20 value 191.042638  
## iter 30 value 165.338876  
## iter 40 value 157.514833  
## iter 50 value 155.466667  
## iter 60 value 152.303902  
## iter 70 value 151.980171  
## iter 80 value 151.945118  
## final value 151.944315   
## converged  
## # weights: 71  
## initial value 453.096474   
## iter 10 value 214.511646  
## iter 20 value 197.155058  
## iter 30 value 165.889354  
## iter 40 value 156.817440  
## iter 50 value 153.512396  
## iter 60 value 146.803354  
## iter 70 value 144.317848  
## iter 80 value 143.778630  
## iter 90 value 142.580823  
## iter 100 value 141.691068  
## final value 141.691068   
## stopped after 100 iterations  
## # weights: 85  
## initial value 546.490430   
## iter 10 value 204.885435  
## iter 20 value 173.489700  
## iter 30 value 157.341041  
## iter 40 value 151.403034  
## iter 50 value 148.122488  
## iter 60 value 144.668043  
## iter 70 value 140.828855  
## iter 80 value 138.251288  
## iter 90 value 134.178947  
## iter 100 value 131.268814  
## final value 131.268814   
## stopped after 100 iterations  
## # weights: 99  
## initial value 476.637765   
## iter 10 value 201.445028  
## iter 20 value 164.765373  
## iter 30 value 155.777007  
## iter 40 value 151.879705  
## iter 50 value 148.542358  
## iter 60 value 142.873208  
## iter 70 value 133.510873  
## iter 80 value 126.115220  
## iter 90 value 121.686548  
## iter 100 value 120.421916  
## final value 120.421916   
## stopped after 100 iterations  
## # weights: 113  
## initial value 926.470092   
## iter 10 value 227.145390  
## iter 20 value 213.378352  
## iter 30 value 171.222404  
## iter 40 value 158.250707  
## iter 50 value 155.159033  
## iter 60 value 153.025069  
## iter 70 value 149.788436  
## iter 80 value 144.622757  
## iter 90 value 139.196418  
## iter 100 value 132.845042  
## final value 132.845042   
## stopped after 100 iterations  
## # weights: 127  
## initial value 319.741160   
## iter 10 value 213.336452  
## iter 20 value 201.781571  
## iter 30 value 159.617400  
## iter 40 value 152.953872  
## iter 50 value 147.753240  
## iter 60 value 142.735966  
## iter 70 value 134.320668  
## iter 80 value 124.700244  
## iter 90 value 122.447442  
## iter 100 value 121.258154  
## final value 121.258154   
## stopped after 100 iterations  
## # weights: 141  
## initial value 344.339456   
## iter 10 value 204.799403  
## iter 20 value 172.053220  
## iter 30 value 156.718916  
## iter 40 value 151.173282  
## iter 50 value 146.926605  
## iter 60 value 144.547874  
## iter 70 value 139.679807  
## iter 80 value 133.867182  
## iter 90 value 130.160532  
## iter 100 value 127.459631  
## final value 127.459631   
## stopped after 100 iterations  
## # weights: 155  
## initial value 254.712782   
## iter 10 value 210.798276  
## iter 20 value 179.148781  
## iter 30 value 151.099916  
## iter 40 value 142.496620  
## iter 50 value 137.423452  
## iter 60 value 132.855639  
## iter 70 value 127.164722  
## iter 80 value 124.480969  
## iter 90 value 121.075234  
## iter 100 value 119.713467  
## final value 119.713467   
## stopped after 100 iterations  
## # weights: 169  
## initial value 525.354142   
## iter 10 value 214.076358  
## iter 20 value 197.015948  
## iter 30 value 169.361606  
## iter 40 value 157.413721  
## iter 50 value 152.064857  
## iter 60 value 147.378113  
## iter 70 value 145.859209  
## iter 80 value 143.309855  
## iter 90 value 140.311442  
## iter 100 value 136.936109  
## final value 136.936109   
## stopped after 100 iterations  
## # weights: 15  
## initial value 387.495085   
## iter 10 value 214.992195  
## iter 20 value 190.631160  
## iter 30 value 167.581299  
## iter 40 value 165.669006  
## final value 165.663638   
## converged  
## # weights: 29  
## initial value 324.176380   
## iter 10 value 215.698440  
## iter 20 value 210.117287  
## iter 30 value 184.237790  
## iter 40 value 171.329343  
## iter 50 value 165.710871  
## iter 60 value 164.598448  
## iter 70 value 163.731199  
## iter 80 value 163.441860  
## final value 163.441394   
## converged  
## # weights: 43  
## initial value 476.092062   
## iter 10 value 202.114482  
## iter 20 value 166.767852  
## iter 30 value 160.936760  
## iter 40 value 158.391363  
## iter 50 value 156.497542  
## iter 60 value 155.598776  
## iter 70 value 154.442310  
## iter 80 value 154.206510  
## final value 154.203786   
## converged  
## # weights: 57  
## initial value 277.785392   
## iter 10 value 213.910022  
## iter 20 value 204.705121  
## iter 30 value 164.523284  
## iter 40 value 159.536814  
## iter 50 value 157.501523  
## iter 60 value 155.954262  
## iter 70 value 154.653002  
## iter 80 value 154.580446  
## iter 90 value 154.517838  
## final value 154.510426   
## converged  
## # weights: 71  
## initial value 724.668771   
## iter 10 value 215.506259  
## iter 20 value 192.943814  
## iter 30 value 163.995141  
## iter 40 value 159.304465  
## iter 50 value 155.601214  
## iter 60 value 154.311467  
## iter 70 value 153.951048  
## iter 80 value 153.882060  
## iter 90 value 153.742071  
## iter 100 value 152.921465  
## final value 152.921465   
## stopped after 100 iterations  
## # weights: 85  
## initial value 528.715694   
## iter 10 value 202.222476  
## iter 20 value 168.223074  
## iter 30 value 161.616688  
## iter 40 value 158.843975  
## iter 50 value 158.122881  
## iter 60 value 157.902700  
## iter 70 value 157.602188  
## iter 80 value 156.641844  
## iter 90 value 152.725532  
## iter 100 value 149.987297  
## final value 149.987297   
## stopped after 100 iterations  
## # weights: 99  
## initial value 746.174730   
## iter 10 value 217.965625  
## iter 20 value 201.186085  
## iter 30 value 168.363707  
## iter 40 value 157.146196  
## iter 50 value 154.240371  
## iter 60 value 151.326898  
## iter 70 value 149.495917  
## iter 80 value 148.486012  
## iter 90 value 148.060131  
## iter 100 value 147.988448  
## final value 147.988448   
## stopped after 100 iterations  
## # weights: 113  
## initial value 456.423170   
## iter 10 value 214.597847  
## iter 20 value 185.698070  
## iter 30 value 172.069623  
## iter 40 value 161.000110  
## iter 50 value 157.274836  
## iter 60 value 155.668776  
## iter 70 value 155.094003  
## iter 80 value 154.820800  
## iter 90 value 154.503092  
## iter 100 value 153.327699  
## final value 153.327699   
## stopped after 100 iterations  
## # weights: 127  
## initial value 480.710007   
## iter 10 value 214.263196  
## iter 20 value 192.810462  
## iter 30 value 167.833245  
## iter 40 value 159.653717  
## iter 50 value 155.753590  
## iter 60 value 153.871513  
## iter 70 value 152.330567  
## iter 80 value 151.673448  
## iter 90 value 150.207924  
## iter 100 value 146.031916  
## final value 146.031916   
## stopped after 100 iterations  
## # weights: 141  
## initial value 566.216120   
## iter 10 value 210.295092  
## iter 20 value 174.423060  
## iter 30 value 160.366224  
## iter 40 value 155.719999  
## iter 50 value 153.208285  
## iter 60 value 150.352462  
## iter 70 value 146.998777  
## iter 80 value 145.646356  
## iter 90 value 144.729005  
## iter 100 value 144.537296  
## final value 144.537296   
## stopped after 100 iterations  
## # weights: 155  
## initial value 309.213226   
## iter 10 value 211.718809  
## iter 20 value 195.009068  
## iter 30 value 169.235727  
## iter 40 value 155.964877  
## iter 50 value 154.157225  
## iter 60 value 153.799909  
## iter 70 value 153.372193  
## iter 80 value 151.932257  
## iter 90 value 148.613732  
## iter 100 value 146.798654  
## final value 146.798654   
## stopped after 100 iterations  
## # weights: 169  
## initial value 367.813929   
## iter 10 value 215.945103  
## iter 20 value 182.307646  
## iter 30 value 163.027530  
## iter 40 value 157.568054  
## iter 50 value 154.811529  
## iter 60 value 153.875924  
## iter 70 value 152.653593  
## iter 80 value 148.508599  
## iter 90 value 145.042714  
## iter 100 value 143.519226  
## final value 143.519226   
## stopped after 100 iterations  
## # weights: 15  
## initial value 663.022087   
## iter 10 value 215.458150  
## iter 20 value 180.045444  
## iter 30 value 170.844992  
## iter 40 value 170.480066  
## final value 170.476714   
## converged  
## # weights: 29  
## initial value 471.998409   
## iter 10 value 220.500990  
## iter 20 value 185.041057  
## iter 30 value 165.799573  
## iter 40 value 163.290376  
## iter 50 value 163.191670  
## final value 163.191612   
## converged  
## # weights: 43  
## initial value 512.117756   
## iter 10 value 217.847650  
## iter 20 value 205.860349  
## iter 30 value 172.972693  
## iter 40 value 166.173206  
## iter 50 value 164.423765  
## iter 60 value 163.518446  
## iter 70 value 163.164343  
## iter 80 value 163.050852  
## final value 163.050662   
## converged  
## # weights: 57  
## initial value 397.409129   
## iter 10 value 195.791980  
## iter 20 value 170.314576  
## iter 30 value 165.227610  
## iter 40 value 163.716225  
## iter 50 value 162.175228  
## iter 60 value 159.433038  
## iter 70 value 158.415395  
## iter 80 value 158.297883  
## iter 90 value 158.186299  
## iter 100 value 158.143033  
## final value 158.143033   
## stopped after 100 iterations  
## # weights: 71  
## initial value 269.729971   
## iter 10 value 214.823109  
## iter 20 value 207.372980  
## iter 30 value 167.582092  
## iter 40 value 164.723342  
## iter 50 value 163.947823  
## iter 60 value 163.760210  
## iter 70 value 163.165324  
## iter 80 value 160.018177  
## iter 90 value 159.190180  
## iter 100 value 158.254934  
## final value 158.254934   
## stopped after 100 iterations  
## # weights: 85  
## initial value 558.137923   
## iter 10 value 225.033109  
## iter 20 value 206.040811  
## iter 30 value 178.992789  
## iter 40 value 168.101849  
## iter 50 value 165.454754  
## iter 60 value 162.319473  
## iter 70 value 160.212789  
## iter 80 value 157.787157  
## iter 90 value 157.046614  
## iter 100 value 156.595719  
## final value 156.595719   
## stopped after 100 iterations  
## # weights: 99  
## initial value 323.094485   
## iter 10 value 190.488644  
## iter 20 value 164.972641  
## iter 30 value 163.207542  
## iter 40 value 162.474529  
## iter 50 value 160.431752  
## iter 60 value 159.049116  
## iter 70 value 156.249130  
## iter 80 value 154.629486  
## iter 90 value 154.234592  
## iter 100 value 153.625948  
## final value 153.625948   
## stopped after 100 iterations  
## # weights: 113  
## initial value 666.752475   
## iter 10 value 215.815564  
## iter 20 value 207.521370  
## iter 30 value 173.564936  
## iter 40 value 166.856716  
## iter 50 value 163.064113  
## iter 60 value 159.882386  
## iter 70 value 158.062043  
## iter 80 value 157.059012  
## iter 90 value 156.805971  
## iter 100 value 155.846370  
## final value 155.846370   
## stopped after 100 iterations  
## # weights: 127  
## initial value 547.236995   
## iter 10 value 200.419377  
## iter 20 value 180.158148  
## iter 30 value 168.174735  
## iter 40 value 162.912266  
## iter 50 value 159.953868  
## iter 60 value 159.175923  
## iter 70 value 158.617497  
## iter 80 value 155.839400  
## iter 90 value 155.458944  
## iter 100 value 154.280699  
## final value 154.280699   
## stopped after 100 iterations  
## # weights: 141  
## initial value 764.884884   
## iter 10 value 223.913332  
## iter 20 value 191.357088  
## iter 30 value 185.357252  
## iter 40 value 173.675729  
## iter 50 value 164.464049  
## iter 60 value 162.333445  
## iter 70 value 160.871071  
## iter 80 value 160.306566  
## iter 90 value 159.688554  
## iter 100 value 158.382673  
## final value 158.382673   
## stopped after 100 iterations  
## # weights: 155  
## initial value 449.713401   
## iter 10 value 218.992628  
## iter 20 value 205.915517  
## iter 30 value 168.208406  
## iter 40 value 163.833228  
## iter 50 value 162.442295  
## iter 60 value 160.950129  
## iter 70 value 158.571110  
## iter 80 value 156.803314  
## iter 90 value 155.365868  
## iter 100 value 153.042591  
## final value 153.042591   
## stopped after 100 iterations  
## # weights: 169  
## initial value 689.084632   
## iter 10 value 221.217331  
## iter 20 value 201.012593  
## iter 30 value 172.695384  
## iter 40 value 163.884713  
## iter 50 value 161.293418  
## iter 60 value 159.391389  
## iter 70 value 156.574116  
## iter 80 value 155.283000  
## iter 90 value 154.874666  
## iter 100 value 154.450113  
## final value 154.450113   
## stopped after 100 iterations  
## # weights: 15  
## initial value 397.987555   
## iter 10 value 218.444589  
## iter 20 value 205.032465  
## iter 30 value 170.436820  
## iter 40 value 169.036885  
## final value 169.029510   
## converged  
## # weights: 29  
## initial value 691.526174   
## iter 10 value 200.148432  
## iter 20 value 169.491393  
## iter 30 value 168.719400  
## iter 40 value 167.548058  
## iter 50 value 167.073578  
## final value 167.073570   
## converged  
## # weights: 43  
## initial value 920.370405   
## iter 10 value 229.895650  
## iter 20 value 196.970554  
## iter 30 value 174.950705  
## iter 40 value 164.972970  
## iter 50 value 164.255366  
## iter 60 value 164.222014  
## final value 164.221881   
## converged  
## # weights: 57  
## initial value 518.320501   
## iter 10 value 221.700062  
## iter 20 value 188.303157  
## iter 30 value 171.296916  
## iter 40 value 170.987521  
## iter 50 value 170.738193  
## final value 170.699451   
## converged  
## # weights: 71  
## initial value 348.326765   
## iter 10 value 218.433826  
## iter 20 value 212.177775  
## iter 30 value 187.674733  
## iter 40 value 170.106852  
## iter 50 value 167.047838  
## iter 60 value 165.357594  
## iter 70 value 164.839166  
## iter 80 value 163.773029  
## iter 90 value 163.002484  
## iter 100 value 162.056070  
## final value 162.056070   
## stopped after 100 iterations  
## # weights: 85  
## initial value 289.071922   
## iter 10 value 215.864656  
## iter 20 value 184.786703  
## iter 30 value 168.576670  
## iter 40 value 166.406459  
## iter 50 value 165.404406  
## iter 60 value 164.400351  
## iter 70 value 162.951122  
## iter 80 value 162.255927  
## iter 90 value 161.633920  
## iter 100 value 161.294758  
## final value 161.294758   
## stopped after 100 iterations  
## # weights: 99  
## initial value 326.781779   
## iter 10 value 212.711518  
## iter 20 value 190.664181  
## iter 30 value 174.709663  
## iter 40 value 167.001953  
## iter 50 value 164.842526  
## iter 60 value 164.412219  
## iter 70 value 164.104646  
## iter 80 value 164.048583  
## iter 90 value 164.019488  
## iter 100 value 164.002387  
## final value 164.002387   
## stopped after 100 iterations  
## # weights: 113  
## initial value 500.136686   
## iter 10 value 207.135082  
## iter 20 value 177.682771  
## iter 30 value 168.289918  
## iter 40 value 166.364908  
## iter 50 value 165.582033  
## iter 60 value 164.192544  
## iter 70 value 163.388849  
## iter 80 value 162.621246  
## iter 90 value 161.528590  
## iter 100 value 161.357727  
## final value 161.357727   
## stopped after 100 iterations  
## # weights: 127  
## initial value 495.673900   
## iter 10 value 213.072653  
## iter 20 value 193.751136  
## iter 30 value 170.039714  
## iter 40 value 165.971833  
## iter 50 value 163.934547  
## iter 60 value 162.630552  
## iter 70 value 160.813034  
## iter 80 value 160.367100  
## iter 90 value 160.005750  
## iter 100 value 159.516036  
## final value 159.516036   
## stopped after 100 iterations  
## # weights: 141  
## initial value 513.894383   
## iter 10 value 215.002614  
## iter 20 value 204.081905  
## iter 30 value 175.622873  
## iter 40 value 167.193420  
## iter 50 value 164.581879  
## iter 60 value 163.779481  
## iter 70 value 163.439145  
## iter 80 value 163.015287  
## iter 90 value 162.450745  
## iter 100 value 162.064146  
## final value 162.064146   
## stopped after 100 iterations  
## # weights: 155  
## initial value 544.048186   
## iter 10 value 216.598388  
## iter 20 value 207.427787  
## iter 30 value 181.661742  
## iter 40 value 168.128371  
## iter 50 value 165.525456  
## iter 60 value 163.999258  
## iter 70 value 162.185779  
## iter 80 value 161.311556  
## iter 90 value 160.943129  
## iter 100 value 160.828617  
## final value 160.828617   
## stopped after 100 iterations  
## # weights: 169  
## initial value 899.527505   
## iter 10 value 215.946063  
## iter 20 value 190.842142  
## iter 30 value 172.779668  
## iter 40 value 168.393176  
## iter 50 value 166.227285  
## iter 60 value 165.258983  
## iter 70 value 163.934820  
## iter 80 value 161.218232  
## iter 90 value 160.607592  
## iter 100 value 160.306389  
## final value 160.306389   
## stopped after 100 iterations  
## # weights: 15  
## initial value 317.511631   
## iter 10 value 218.180582  
## iter 20 value 186.589455  
## iter 30 value 173.045235  
## iter 40 value 172.010990  
## final value 172.004228   
## converged  
## # weights: 29  
## initial value 412.398881   
## iter 10 value 218.262753  
## iter 20 value 194.129675  
## iter 30 value 172.681410  
## iter 40 value 172.058010  
## iter 50 value 171.735747  
## iter 60 value 170.496251  
## iter 70 value 170.450975  
## iter 70 value 170.450975  
## iter 70 value 170.450975  
## final value 170.450975   
## converged  
## # weights: 43  
## initial value 416.317614   
## iter 10 value 195.066076  
## iter 20 value 174.665921  
## iter 30 value 172.059004  
## iter 40 value 171.044422  
## iter 50 value 170.491387  
## iter 60 value 170.439170  
## iter 70 value 170.204362  
## iter 80 value 169.136074  
## iter 90 value 167.999684  
## iter 100 value 167.750179  
## final value 167.750179   
## stopped after 100 iterations  
## # weights: 57  
## initial value 525.527617   
## iter 10 value 226.552848  
## iter 20 value 188.673585  
## iter 30 value 175.329359  
## iter 40 value 170.558197  
## iter 50 value 170.193058  
## iter 60 value 169.993315  
## iter 70 value 169.679478  
## iter 80 value 168.560770  
## iter 90 value 168.196777  
## iter 100 value 168.151401  
## final value 168.151401   
## stopped after 100 iterations  
## # weights: 71  
## initial value 274.120370   
## iter 10 value 217.914939  
## iter 20 value 190.505560  
## iter 30 value 173.371214  
## iter 40 value 169.738165  
## iter 50 value 168.770673  
## iter 60 value 168.215860  
## iter 70 value 168.065794  
## iter 80 value 167.973050  
## iter 90 value 167.902625  
## iter 100 value 167.835702  
## final value 167.835702   
## stopped after 100 iterations  
## # weights: 85  
## initial value 410.765128   
## iter 10 value 217.621801  
## iter 20 value 202.311757  
## iter 30 value 179.664166  
## iter 40 value 172.391354  
## iter 50 value 169.864358  
## iter 60 value 168.289271  
## iter 70 value 167.518310  
## iter 80 value 167.462631  
## iter 90 value 167.444921  
## iter 100 value 167.437398  
## final value 167.437398   
## stopped after 100 iterations  
## # weights: 99  
## initial value 493.456477   
## iter 10 value 198.375615  
## iter 20 value 178.760604  
## iter 30 value 172.743000  
## iter 40 value 169.939124  
## iter 50 value 169.099125  
## iter 60 value 168.526923  
## iter 70 value 168.319038  
## iter 80 value 167.919834  
## iter 90 value 167.224601  
## iter 100 value 167.104462  
## final value 167.104462   
## stopped after 100 iterations  
## # weights: 113  
## initial value 310.693672   
## iter 10 value 214.090683  
## iter 20 value 191.003026  
## iter 30 value 173.620408  
## iter 40 value 171.247710  
## iter 50 value 169.374211  
## iter 60 value 167.761754  
## iter 70 value 167.042320  
## iter 80 value 166.403963  
## iter 90 value 165.680659  
## iter 100 value 165.500182  
## final value 165.500182   
## stopped after 100 iterations  
## # weights: 127  
## initial value 654.599119   
## iter 10 value 217.357887  
## iter 20 value 198.929803  
## iter 30 value 174.630382  
## iter 40 value 170.198061  
## iter 50 value 167.840553  
## iter 60 value 167.461826  
## iter 70 value 167.331321  
## iter 80 value 167.261577  
## iter 90 value 167.010504  
## iter 100 value 166.724870  
## final value 166.724870   
## stopped after 100 iterations  
## # weights: 141  
## initial value 389.728422   
## iter 10 value 218.153195  
## iter 20 value 201.938224  
## iter 30 value 183.916833  
## iter 40 value 173.972909  
## iter 50 value 171.902463  
## iter 60 value 171.034247  
## iter 70 value 169.879810  
## iter 80 value 169.004224  
## iter 90 value 168.455342  
## iter 100 value 167.995713  
## final value 167.995713   
## stopped after 100 iterations  
## # weights: 155  
## initial value 774.132721   
## iter 10 value 226.807248  
## iter 20 value 202.175691  
## iter 30 value 176.948253  
## iter 40 value 171.046502  
## iter 50 value 168.200594  
## iter 60 value 167.195700  
## iter 70 value 166.836679  
## iter 80 value 166.582536  
## iter 90 value 166.336313  
## iter 100 value 166.156774  
## final value 166.156774   
## stopped after 100 iterations  
## # weights: 169  
## initial value 451.263906   
## iter 10 value 215.275867  
## iter 20 value 190.848007  
## iter 30 value 172.282354  
## iter 40 value 170.684522  
## iter 50 value 169.477577  
## iter 60 value 168.001388  
## iter 70 value 166.967918  
## iter 80 value 166.404984  
## iter 90 value 166.118343  
## iter 100 value 165.995220  
## final value 165.995220   
## stopped after 100 iterations  
## # weights: 15  
## initial value 394.900704   
## iter 10 value 192.093738  
## iter 20 value 163.524228  
## iter 30 value 158.493715  
## iter 40 value 157.822394  
## iter 50 value 157.819809  
## final value 157.819766   
## converged  
## # weights: 29  
## initial value 463.865717   
## iter 10 value 215.739903  
## iter 20 value 185.988417  
## iter 30 value 161.789916  
## iter 40 value 157.000553  
## iter 50 value 155.420794  
## iter 60 value 152.129135  
## iter 70 value 149.711896  
## iter 80 value 149.649762  
## iter 90 value 149.633175  
## final value 149.632911   
## converged  
## # weights: 43  
## initial value 319.431458   
## iter 10 value 211.202849  
## iter 20 value 168.825402  
## iter 30 value 158.696164  
## iter 40 value 156.364019  
## iter 50 value 153.435895  
## iter 60 value 151.577546  
## iter 70 value 143.927152  
## iter 80 value 142.390249  
## iter 90 value 142.129447  
## iter 100 value 141.963040  
## final value 141.963040   
## stopped after 100 iterations  
## # weights: 57  
## initial value 407.755078   
## iter 10 value 228.975412  
## iter 20 value 207.348475  
## iter 30 value 170.977971  
## iter 40 value 157.801712  
## iter 50 value 156.468631  
## iter 60 value 154.755309  
## iter 70 value 149.560521  
## iter 80 value 147.842524  
## iter 90 value 147.179241  
## iter 100 value 146.324387  
## final value 146.324387   
## stopped after 100 iterations  
## # weights: 71  
## initial value 410.372018   
## iter 10 value 196.210178  
## iter 20 value 167.076805  
## iter 30 value 159.388124  
## iter 40 value 156.092745  
## iter 50 value 152.666611  
## iter 60 value 149.391970  
## iter 70 value 144.914976  
## iter 80 value 141.248596  
## iter 90 value 139.839776  
## iter 100 value 137.078691  
## final value 137.078691   
## stopped after 100 iterations  
## # weights: 85  
## initial value 225.118908   
## iter 10 value 190.334364  
## iter 20 value 160.933253  
## iter 30 value 152.974713  
## iter 40 value 150.981813  
## iter 50 value 148.536487  
## iter 60 value 148.006137  
## iter 70 value 147.515447  
## iter 80 value 147.502527  
## iter 90 value 147.497176  
## iter 100 value 147.481869  
## final value 147.481869   
## stopped after 100 iterations  
## # weights: 99  
## initial value 495.023551   
## iter 10 value 213.324040  
## iter 20 value 187.769898  
## iter 30 value 164.443099  
## iter 40 value 159.307750  
## iter 50 value 157.135518  
## iter 60 value 155.770777  
## iter 70 value 155.069713  
## iter 80 value 154.760577  
## iter 90 value 153.799179  
## iter 100 value 150.375722  
## final value 150.375722   
## stopped after 100 iterations  
## # weights: 113  
## initial value 404.661245   
## iter 10 value 212.894818  
## iter 20 value 185.277925  
## iter 30 value 160.676050  
## iter 40 value 156.718586  
## iter 50 value 151.272313  
## iter 60 value 146.904326  
## iter 70 value 145.368700  
## iter 80 value 140.838960  
## iter 90 value 138.929111  
## iter 100 value 135.627306  
## final value 135.627306   
## stopped after 100 iterations  
## # weights: 127  
## initial value 263.077608   
## iter 10 value 195.003119  
## iter 20 value 165.316220  
## iter 30 value 152.239305  
## iter 40 value 149.553335  
## iter 50 value 142.661407  
## iter 60 value 136.753253  
## iter 70 value 134.555505  
## iter 80 value 133.209106  
## iter 90 value 130.572797  
## iter 100 value 128.458760  
## final value 128.458760   
## stopped after 100 iterations  
## # weights: 141  
## initial value 659.049218   
## iter 10 value 197.853539  
## iter 20 value 166.439169  
## iter 30 value 160.083143  
## iter 40 value 154.043511  
## iter 50 value 149.685691  
## iter 60 value 144.669448  
## iter 70 value 141.032670  
## iter 80 value 139.366543  
## iter 90 value 137.988322  
## iter 100 value 134.746514  
## final value 134.746514   
## stopped after 100 iterations  
## # weights: 155  
## initial value 247.945333   
## iter 10 value 212.014558  
## iter 20 value 172.619096  
## iter 30 value 154.812718  
## iter 40 value 142.604509  
## iter 50 value 137.251426  
## iter 60 value 132.120045  
## iter 70 value 128.076657  
## iter 80 value 124.469419  
## iter 90 value 123.310996  
## iter 100 value 121.971938  
## final value 121.971938   
## stopped after 100 iterations  
## # weights: 169  
## initial value 811.400986   
## iter 10 value 208.221130  
## iter 20 value 189.816121  
## iter 30 value 167.020476  
## iter 40 value 157.030406  
## iter 50 value 149.819662  
## iter 60 value 140.286554  
## iter 70 value 134.172092  
## iter 80 value 127.079072  
## iter 90 value 124.253396  
## iter 100 value 122.854603  
## final value 122.854603   
## stopped after 100 iterations  
## # weights: 15  
## initial value 375.076203   
## iter 10 value 215.443539  
## iter 20 value 180.398832  
## iter 30 value 166.620710  
## iter 40 value 165.561126  
## final value 165.560727   
## converged  
## # weights: 29  
## initial value 687.739058   
## iter 10 value 219.137505  
## iter 20 value 191.633873  
## iter 30 value 167.086367  
## iter 40 value 161.933672  
## iter 50 value 158.647423  
## iter 60 value 156.524299  
## iter 70 value 156.447059  
## final value 156.447051   
## converged  
## # weights: 43  
## initial value 258.654939   
## iter 10 value 212.708945  
## iter 20 value 172.372960  
## iter 30 value 159.346427  
## iter 40 value 158.410271  
## iter 50 value 157.250341  
## iter 60 value 156.411935  
## iter 70 value 154.804639  
## iter 80 value 154.050105  
## iter 90 value 153.948753  
## final value 153.948726   
## converged  
## # weights: 57  
## initial value 499.728751   
## iter 10 value 208.982225  
## iter 20 value 178.558341  
## iter 30 value 161.827403  
## iter 40 value 157.298513  
## iter 50 value 152.375182  
## iter 60 value 150.612639  
## iter 70 value 150.488843  
## iter 80 value 150.261660  
## iter 90 value 149.894152  
## iter 100 value 149.810800  
## final value 149.810800   
## stopped after 100 iterations  
## # weights: 71  
## initial value 448.379514   
## iter 10 value 217.446701  
## iter 20 value 199.247700  
## iter 30 value 172.703751  
## iter 40 value 160.163925  
## iter 50 value 157.288985  
## iter 60 value 155.390373  
## iter 70 value 153.603059  
## iter 80 value 152.390510  
## iter 90 value 152.019318  
## iter 100 value 151.975330  
## final value 151.975330   
## stopped after 100 iterations  
## # weights: 85  
## initial value 491.433279   
## iter 10 value 216.211982  
## iter 20 value 204.707362  
## iter 30 value 166.620845  
## iter 40 value 159.559499  
## iter 50 value 155.655056  
## iter 60 value 149.422812  
## iter 70 value 147.901222  
## iter 80 value 146.554503  
## iter 90 value 146.015066  
## iter 100 value 145.249898  
## final value 145.249898   
## stopped after 100 iterations  
## # weights: 99  
## initial value 292.852273   
## iter 10 value 215.533691  
## iter 20 value 209.527023  
## iter 30 value 165.717385  
## iter 40 value 160.160440  
## iter 50 value 154.358921  
## iter 60 value 153.032783  
## iter 70 value 151.389047  
## iter 80 value 149.823775  
## iter 90 value 149.428941  
## iter 100 value 149.390176  
## final value 149.390176   
## stopped after 100 iterations  
## # weights: 113  
## initial value 416.351336   
## iter 10 value 202.299760  
## iter 20 value 169.042279  
## iter 30 value 164.300381  
## iter 40 value 160.172987  
## iter 50 value 157.367125  
## iter 60 value 153.443953  
## iter 70 value 150.462484  
## iter 80 value 148.234806  
## iter 90 value 146.268428  
## iter 100 value 144.872478  
## final value 144.872478   
## stopped after 100 iterations  
## # weights: 127  
## initial value 402.739654   
## iter 10 value 202.935599  
## iter 20 value 176.353031  
## iter 30 value 161.694235  
## iter 40 value 158.342168  
## iter 50 value 155.825895  
## iter 60 value 154.943018  
## iter 70 value 152.733884  
## iter 80 value 149.773954  
## iter 90 value 147.762057  
## iter 100 value 146.482768  
## final value 146.482768   
## stopped after 100 iterations  
## # weights: 141  
## initial value 661.770268   
## iter 10 value 210.413995  
## iter 20 value 187.685267  
## iter 30 value 162.793099  
## iter 40 value 159.131902  
## iter 50 value 156.593024  
## iter 60 value 151.538452  
## iter 70 value 146.849003  
## iter 80 value 145.774398  
## iter 90 value 144.871857  
## iter 100 value 144.199835  
## final value 144.199835   
## stopped after 100 iterations  
## # weights: 155  
## initial value 356.190128   
## iter 10 value 217.356697  
## iter 20 value 208.449326  
## iter 30 value 175.016821  
## iter 40 value 161.861440  
## iter 50 value 157.856585  
## iter 60 value 153.897285  
## iter 70 value 150.533963  
## iter 80 value 147.796820  
## iter 90 value 146.774530  
## iter 100 value 146.058975  
## final value 146.058975   
## stopped after 100 iterations  
## # weights: 169  
## initial value 291.146882   
## iter 10 value 207.336601  
## iter 20 value 178.056600  
## iter 30 value 163.311766  
## iter 40 value 157.610574  
## iter 50 value 152.523565  
## iter 60 value 148.424783  
## iter 70 value 146.141476  
## iter 80 value 144.406658  
## iter 90 value 143.242673  
## iter 100 value 142.912720  
## final value 142.912720   
## stopped after 100 iterations  
## # weights: 15  
## initial value 432.353921   
## iter 10 value 213.209157  
## iter 20 value 178.709863  
## iter 30 value 165.955129  
## iter 40 value 165.491538  
## final value 165.491220   
## converged  
## # weights: 29  
## initial value 485.131315   
## iter 10 value 213.977573  
## iter 20 value 180.468282  
## iter 30 value 169.916321  
## iter 40 value 168.722712  
## iter 50 value 168.079983  
## final value 168.079973   
## converged  
## # weights: 43  
## initial value 564.159179   
## iter 10 value 221.286998  
## iter 20 value 213.896138  
## iter 30 value 196.865537  
## iter 40 value 179.581576  
## iter 50 value 164.777944  
## iter 60 value 161.434329  
## iter 70 value 160.728683  
## iter 80 value 160.031753  
## iter 90 value 159.878492  
## iter 100 value 158.884413  
## final value 158.884413   
## stopped after 100 iterations  
## # weights: 57  
## initial value 406.394195   
## iter 10 value 215.219622  
## iter 20 value 198.361282  
## iter 30 value 168.730159  
## iter 40 value 163.376999  
## iter 50 value 162.501822  
## iter 60 value 161.923927  
## iter 70 value 161.668683  
## iter 80 value 161.628506  
## iter 90 value 159.760133  
## iter 100 value 158.875765  
## final value 158.875765   
## stopped after 100 iterations  
## # weights: 71  
## initial value 242.790859   
## iter 10 value 206.680054  
## iter 20 value 178.400363  
## iter 30 value 166.671256  
## iter 40 value 162.124454  
## iter 50 value 160.517783  
## iter 60 value 157.272935  
## iter 70 value 156.484169  
## iter 80 value 155.931207  
## iter 90 value 155.701111  
## iter 100 value 155.536580  
## final value 155.536580   
## stopped after 100 iterations  
## # weights: 85  
## initial value 465.738686   
## iter 10 value 238.477709  
## iter 20 value 220.805419  
## iter 30 value 204.359170  
## iter 40 value 177.047673  
## iter 50 value 165.891999  
## iter 60 value 163.636612  
## iter 70 value 160.081299  
## iter 80 value 158.317931  
## iter 90 value 158.108343  
## iter 100 value 158.016720  
## final value 158.016720   
## stopped after 100 iterations  
## # weights: 99  
## initial value 651.755269   
## iter 10 value 212.082083  
## iter 20 value 183.545817  
## iter 30 value 166.205749  
## iter 40 value 160.018858  
## iter 50 value 156.936009  
## iter 60 value 156.027809  
## iter 70 value 155.620327  
## iter 80 value 155.490216  
## iter 90 value 155.193962  
## iter 100 value 154.882826  
## final value 154.882826   
## stopped after 100 iterations  
## # weights: 113  
## initial value 389.446389   
## iter 10 value 212.511466  
## iter 20 value 174.839754  
## iter 30 value 170.766159  
## iter 40 value 162.852137  
## iter 50 value 159.661198  
## iter 60 value 158.678118  
## iter 70 value 157.306694  
## iter 80 value 155.001669  
## iter 90 value 154.124011  
## iter 100 value 153.537592  
## final value 153.537592   
## stopped after 100 iterations  
## # weights: 127  
## initial value 427.683581   
## iter 10 value 207.276882  
## iter 20 value 179.548945  
## iter 30 value 165.194196  
## iter 40 value 162.328672  
## iter 50 value 161.883434  
## iter 60 value 159.598189  
## iter 70 value 156.743804  
## iter 80 value 155.301129  
## iter 90 value 152.524254  
## iter 100 value 152.217647  
## final value 152.217647   
## stopped after 100 iterations  
## # weights: 141  
## initial value 1269.533474   
## iter 10 value 249.574326  
## iter 20 value 215.481591  
## iter 30 value 194.385526  
## iter 40 value 174.095280  
## iter 50 value 167.186739  
## iter 60 value 159.775413  
## iter 70 value 157.302815  
## iter 80 value 156.520044  
## iter 90 value 155.606363  
## iter 100 value 154.606494  
## final value 154.606494   
## stopped after 100 iterations  
## # weights: 155  
## initial value 528.330902   
## iter 10 value 215.200103  
## iter 20 value 193.172321  
## iter 30 value 164.942827  
## iter 40 value 159.615630  
## iter 50 value 155.484552  
## iter 60 value 153.412342  
## iter 70 value 152.973723  
## iter 80 value 152.577650  
## iter 90 value 151.540758  
## iter 100 value 150.830185  
## final value 150.830185   
## stopped after 100 iterations  
## # weights: 169  
## initial value 344.911403   
## iter 10 value 218.377798  
## iter 20 value 199.884709  
## iter 30 value 177.928949  
## iter 40 value 164.808342  
## iter 50 value 162.103255  
## iter 60 value 159.461732  
## iter 70 value 156.721894  
## iter 80 value 154.201097  
## iter 90 value 153.173781  
## iter 100 value 152.501765  
## final value 152.501765   
## stopped after 100 iterations  
## # weights: 15  
## initial value 488.223580   
## iter 10 value 218.363782  
## iter 20 value 191.156264  
## iter 30 value 169.971392  
## iter 40 value 168.740228  
## iter 50 value 168.731892  
## final value 168.731855   
## converged  
## # weights: 29  
## initial value 728.883068   
## iter 10 value 221.258021  
## iter 20 value 216.126596  
## iter 30 value 207.880370  
## iter 40 value 170.001110  
## iter 50 value 167.531601  
## iter 60 value 166.619508  
## iter 70 value 166.334072  
## iter 80 value 166.081440  
## final value 166.081307   
## converged  
## # weights: 43  
## initial value 284.267582   
## iter 10 value 215.638958  
## iter 20 value 205.385667  
## iter 30 value 172.016651  
## iter 40 value 165.532408  
## iter 50 value 163.897350  
## iter 60 value 163.564606  
## iter 70 value 163.322601  
## final value 163.261586   
## converged  
## # weights: 57  
## initial value 451.127663   
## iter 10 value 229.777800  
## iter 20 value 199.616576  
## iter 30 value 178.436515  
## iter 40 value 168.165302  
## iter 50 value 166.750492  
## iter 60 value 165.585393  
## iter 70 value 164.690687  
## iter 80 value 164.228212  
## iter 90 value 163.844653  
## iter 100 value 163.633766  
## final value 163.633766   
## stopped after 100 iterations  
## # weights: 71  
## initial value 484.173177   
## iter 10 value 220.534437  
## iter 20 value 210.484289  
## iter 30 value 186.088102  
## iter 40 value 171.163891  
## iter 50 value 167.927586  
## iter 60 value 165.622963  
## iter 70 value 164.924976  
## iter 80 value 164.460585  
## iter 90 value 164.224333  
## iter 100 value 164.091715  
## final value 164.091715   
## stopped after 100 iterations  
## # weights: 85  
## initial value 277.369291   
## iter 10 value 217.316070  
## iter 20 value 211.128479  
## iter 30 value 184.497235  
## iter 40 value 170.532558  
## iter 50 value 166.495164  
## iter 60 value 165.083142  
## iter 70 value 163.377148  
## iter 80 value 162.017202  
## iter 90 value 161.781306  
## iter 100 value 161.399954  
## final value 161.399954   
## stopped after 100 iterations  
## # weights: 99  
## initial value 498.689842   
## iter 10 value 227.390307  
## iter 20 value 193.382705  
## iter 30 value 176.287779  
## iter 40 value 169.890268  
## iter 50 value 167.615836  
## iter 60 value 166.075292  
## iter 70 value 164.336610  
## iter 80 value 162.962709  
## iter 90 value 162.197561  
## iter 100 value 161.356642  
## final value 161.356642   
## stopped after 100 iterations  
## # weights: 113  
## initial value 819.028617   
## iter 10 value 211.776095  
## iter 20 value 183.997750  
## iter 30 value 169.346757  
## iter 40 value 166.324424  
## iter 50 value 165.384557  
## iter 60 value 164.385654  
## iter 70 value 163.357068  
## iter 80 value 162.598510  
## iter 90 value 162.357787  
## iter 100 value 161.946570  
## final value 161.946570   
## stopped after 100 iterations  
## # weights: 127  
## initial value 404.562089   
## iter 10 value 217.437121  
## iter 20 value 199.637362  
## iter 30 value 171.932536  
## iter 40 value 168.495604  
## iter 50 value 167.076950  
## iter 60 value 165.830068  
## iter 70 value 164.251005  
## iter 80 value 163.290496  
## iter 90 value 162.715872  
## iter 100 value 162.191397  
## final value 162.191397   
## stopped after 100 iterations  
## # weights: 141  
## initial value 683.653541   
## iter 10 value 215.797741  
## iter 20 value 196.187853  
## iter 30 value 174.056523  
## iter 40 value 167.566506  
## iter 50 value 164.908133  
## iter 60 value 163.925039  
## iter 70 value 163.295705  
## iter 80 value 162.479206  
## iter 90 value 161.810816  
## iter 100 value 160.998116  
## final value 160.998116   
## stopped after 100 iterations  
## # weights: 155  
## initial value 333.621082   
## iter 10 value 211.318595  
## iter 20 value 184.274353  
## iter 30 value 173.593533  
## iter 40 value 165.403945  
## iter 50 value 163.515323  
## iter 60 value 162.089625  
## iter 70 value 161.799749  
## iter 80 value 161.692313  
## iter 90 value 161.530112  
## iter 100 value 161.126922  
## final value 161.126922   
## stopped after 100 iterations  
## # weights: 169  
## initial value 258.388108   
## iter 10 value 201.932911  
## iter 20 value 176.258897  
## iter 30 value 165.634809  
## iter 40 value 163.645941  
## iter 50 value 162.578626  
## iter 60 value 162.112157  
## iter 70 value 161.549044  
## iter 80 value 160.903267  
## iter 90 value 159.774483  
## iter 100 value 159.374714  
## final value 159.374714   
## stopped after 100 iterations  
## # weights: 15  
## initial value 424.196489   
## iter 10 value 217.426707  
## iter 20 value 174.212697  
## iter 30 value 171.707830  
## final value 171.704600   
## converged  
## # weights: 29  
## initial value 407.133676   
## iter 10 value 218.795668  
## iter 20 value 209.431631  
## iter 30 value 184.782563  
## iter 40 value 170.614658  
## iter 50 value 169.677663  
## iter 60 value 168.997098  
## iter 70 value 168.976929  
## final value 168.976809   
## converged  
## # weights: 43  
## initial value 358.918615   
## iter 10 value 216.828361  
## iter 20 value 190.692713  
## iter 30 value 171.387253  
## iter 40 value 170.177410  
## iter 50 value 169.867219  
## iter 60 value 169.841320  
## iter 70 value 169.839403  
## iter 80 value 169.809122  
## iter 90 value 169.666909  
## iter 100 value 168.798577  
## final value 168.798577   
## stopped after 100 iterations  
## # weights: 57  
## initial value 1041.070921   
## iter 10 value 255.342733  
## iter 20 value 215.804092  
## iter 30 value 195.414241  
## iter 40 value 175.120938  
## iter 50 value 172.944845  
## iter 60 value 169.087551  
## iter 70 value 168.369650  
## iter 80 value 168.192011  
## iter 90 value 168.023874  
## iter 100 value 167.858341  
## final value 167.858341   
## stopped after 100 iterations  
## # weights: 71  
## initial value 1182.221649   
## iter 10 value 253.186665  
## iter 20 value 204.738193  
## iter 30 value 174.109805  
## iter 40 value 171.174300  
## iter 50 value 170.003550  
## iter 60 value 168.793433  
## iter 70 value 167.024546  
## iter 80 value 166.249317  
## iter 90 value 166.027616  
## iter 100 value 165.966505  
## final value 165.966505   
## stopped after 100 iterations  
## # weights: 85  
## initial value 319.621430   
## iter 10 value 213.768683  
## iter 20 value 184.931323  
## iter 30 value 169.875901  
## iter 40 value 167.968165  
## iter 50 value 167.221734  
## iter 60 value 166.766413  
## iter 70 value 166.531345  
## iter 80 value 166.216294  
## iter 90 value 166.144123  
## iter 100 value 166.080158  
## final value 166.080158   
## stopped after 100 iterations  
## # weights: 99  
## initial value 449.765874   
## iter 10 value 217.197497  
## iter 20 value 195.658705  
## iter 30 value 173.374902  
## iter 40 value 169.617690  
## iter 50 value 168.886083  
## iter 60 value 167.923429  
## iter 70 value 166.675660  
## iter 80 value 165.845378  
## iter 90 value 165.375672  
## iter 100 value 165.328795  
## final value 165.328795   
## stopped after 100 iterations  
## # weights: 113  
## initial value 842.503453   
## iter 10 value 217.425076  
## iter 20 value 203.577190  
## iter 30 value 182.965657  
## iter 40 value 173.324780  
## iter 50 value 170.605147  
## iter 60 value 169.330976  
## iter 70 value 168.699652  
## iter 80 value 167.609381  
## iter 90 value 166.959093  
## iter 100 value 166.640961  
## final value 166.640961   
## stopped after 100 iterations  
## # weights: 127  
## initial value 1156.079010   
## iter 10 value 218.933921  
## iter 20 value 212.723721  
## iter 30 value 193.183241  
## iter 40 value 174.909519  
## iter 50 value 171.205263  
## iter 60 value 168.773627  
## iter 70 value 167.561135  
## iter 80 value 167.040168  
## iter 90 value 166.333794  
## iter 100 value 165.995140  
## final value 165.995140   
## stopped after 100 iterations  
## # weights: 141  
## initial value 276.641959   
## iter 10 value 217.809225  
## iter 20 value 207.606316  
## iter 30 value 176.342441  
## iter 40 value 168.590169  
## iter 50 value 167.413622  
## iter 60 value 166.769630  
## iter 70 value 166.221744  
## iter 80 value 165.773617  
## iter 90 value 165.525987  
## iter 100 value 165.383120  
## final value 165.383120   
## stopped after 100 iterations  
## # weights: 155  
## initial value 396.080855   
## iter 10 value 218.657597  
## iter 20 value 199.820758  
## iter 30 value 175.294762  
## iter 40 value 170.352004  
## iter 50 value 169.202208  
## iter 60 value 167.930055  
## iter 70 value 166.518350  
## iter 80 value 165.613080  
## iter 90 value 165.026212  
## iter 100 value 164.810756  
## final value 164.810756   
## stopped after 100 iterations  
## # weights: 169  
## initial value 572.655063   
## iter 10 value 218.411655  
## iter 20 value 196.593312  
## iter 30 value 180.021623  
## iter 40 value 172.119641  
## iter 50 value 167.581290  
## iter 60 value 166.420000  
## iter 70 value 166.036275  
## iter 80 value 165.512002  
## iter 90 value 165.189363  
## iter 100 value 164.880976  
## final value 164.880976   
## stopped after 100 iterations  
## # weights: 15  
## initial value 580.985665   
## iter 10 value 218.024801  
## iter 20 value 210.533461  
## iter 30 value 184.413694  
## iter 40 value 168.580692  
## iter 50 value 166.927970  
## iter 60 value 162.631016  
## iter 70 value 162.127252  
## final value 162.123239   
## converged  
## # weights: 29  
## initial value 552.755571   
## iter 10 value 219.572723  
## iter 20 value 216.042689  
## iter 30 value 187.735855  
## iter 40 value 168.063295  
## iter 50 value 165.413319  
## iter 60 value 162.718899  
## iter 70 value 158.867013  
## iter 80 value 155.448789  
## iter 90 value 153.959239  
## iter 100 value 153.937605  
## final value 153.937605   
## stopped after 100 iterations  
## # weights: 43  
## initial value 410.777054   
## iter 10 value 201.640672  
## iter 20 value 166.769162  
## iter 30 value 160.720072  
## iter 40 value 158.514784  
## iter 50 value 154.256156  
## iter 60 value 147.478725  
## iter 70 value 146.855022  
## iter 80 value 146.723035  
## final value 146.722005   
## converged  
## # weights: 57  
## initial value 956.456657   
## iter 10 value 209.375384  
## iter 20 value 190.717497  
## iter 30 value 163.064382  
## iter 40 value 160.927118  
## iter 50 value 153.361989  
## iter 60 value 150.154885  
## iter 70 value 147.984757  
## iter 80 value 146.112358  
## iter 90 value 144.467203  
## iter 100 value 143.137552  
## final value 143.137552   
## stopped after 100 iterations  
## # weights: 71  
## initial value 704.009476   
## iter 10 value 222.923475  
## iter 20 value 211.191792  
## iter 30 value 181.988637  
## iter 40 value 161.956335  
## iter 50 value 156.640786  
## iter 60 value 151.735114  
## iter 70 value 148.043398  
## iter 80 value 145.077352  
## iter 90 value 144.157156  
## iter 100 value 143.812186  
## final value 143.812186   
## stopped after 100 iterations  
## # weights: 85  
## initial value 281.832157   
## iter 10 value 211.224916  
## iter 20 value 168.357864  
## iter 30 value 161.643648  
## iter 40 value 156.679625  
## iter 50 value 149.906685  
## iter 60 value 143.768429  
## iter 70 value 141.889332  
## iter 80 value 139.491904  
## iter 90 value 136.824057  
## iter 100 value 135.599831  
## final value 135.599831   
## stopped after 100 iterations  
## # weights: 99  
## initial value 505.572550   
## iter 10 value 223.588706  
## iter 20 value 184.730735  
## iter 30 value 162.649795  
## iter 40 value 159.325130  
## iter 50 value 156.710177  
## iter 60 value 152.811638  
## iter 70 value 149.266089  
## iter 80 value 143.924783  
## iter 90 value 139.931884  
## iter 100 value 134.941226  
## final value 134.941226   
## stopped after 100 iterations  
## # weights: 113  
## initial value 669.541848   
## iter 10 value 232.333210  
## iter 20 value 191.414373  
## iter 30 value 164.386955  
## iter 40 value 158.330414  
## iter 50 value 154.707557  
## iter 60 value 148.825752  
## iter 70 value 145.081539  
## iter 80 value 141.773722  
## iter 90 value 138.099331  
## iter 100 value 136.385964  
## final value 136.385964   
## stopped after 100 iterations  
## # weights: 127  
## initial value 342.461892   
## iter 10 value 195.148105  
## iter 20 value 172.136169  
## iter 30 value 160.301279  
## iter 40 value 152.012129  
## iter 50 value 146.085032  
## iter 60 value 141.338303  
## iter 70 value 135.813966  
## iter 80 value 129.338245  
## iter 90 value 127.225255  
## iter 100 value 126.104616  
## final value 126.104616   
## stopped after 100 iterations  
## # weights: 141  
## initial value 465.306316   
## iter 10 value 199.031168  
## iter 20 value 177.997198  
## iter 30 value 162.502803  
## iter 40 value 149.795048  
## iter 50 value 143.397954  
## iter 60 value 136.859094  
## iter 70 value 132.428239  
## iter 80 value 127.945889  
## iter 90 value 125.644804  
## iter 100 value 122.765024  
## final value 122.765024   
## stopped after 100 iterations  
## # weights: 155  
## initial value 387.510258   
## iter 10 value 217.507194  
## iter 20 value 190.435483  
## iter 30 value 165.235059  
## iter 40 value 162.967735  
## iter 50 value 157.340062  
## iter 60 value 150.278595  
## iter 70 value 145.745549  
## iter 80 value 142.692481  
## iter 90 value 139.647530  
## iter 100 value 134.772855  
## final value 134.772855   
## stopped after 100 iterations  
## # weights: 169  
## initial value 324.694807   
## iter 10 value 217.463481  
## iter 20 value 209.313431  
## iter 30 value 190.242023  
## iter 40 value 166.379654  
## iter 50 value 156.250673  
## iter 60 value 150.144343  
## iter 70 value 142.258996  
## iter 80 value 134.371906  
## iter 90 value 126.783276  
## iter 100 value 121.578982  
## final value 121.578982   
## stopped after 100 iterations  
## # weights: 15  
## initial value 352.952616   
## iter 10 value 216.050464  
## iter 20 value 177.411890  
## iter 30 value 166.815499  
## iter 40 value 166.031771  
## iter 50 value 166.013825  
## final value 166.013607   
## converged  
## # weights: 29  
## initial value 375.369530   
## iter 10 value 218.241407  
## iter 20 value 205.120594  
## iter 30 value 170.280053  
## iter 40 value 165.338985  
## iter 50 value 162.999903  
## iter 60 value 160.695907  
## iter 70 value 160.632983  
## final value 160.632849   
## converged  
## # weights: 43  
## initial value 355.223475   
## iter 10 value 221.432611  
## iter 20 value 185.340817  
## iter 30 value 166.675815  
## iter 40 value 165.734136  
## iter 50 value 162.768564  
## iter 60 value 160.367386  
## iter 70 value 158.725742  
## iter 80 value 157.525509  
## iter 90 value 157.329687  
## final value 157.313670   
## converged  
## # weights: 57  
## initial value 672.464858   
## iter 10 value 225.041355  
## iter 20 value 182.739326  
## iter 30 value 167.573985  
## iter 40 value 164.236459  
## iter 50 value 162.017855  
## iter 60 value 161.368080  
## iter 70 value 161.178482  
## iter 80 value 161.130491  
## iter 90 value 161.101200  
## iter 100 value 160.785447  
## final value 160.785447   
## stopped after 100 iterations  
## # weights: 71  
## initial value 258.059127   
## iter 10 value 215.906725  
## iter 20 value 198.076144  
## iter 30 value 168.534505  
## iter 40 value 161.242923  
## iter 50 value 159.474454  
## iter 60 value 154.442498  
## iter 70 value 149.193534  
## iter 80 value 148.237471  
## iter 90 value 147.704526  
## iter 100 value 146.395073  
## final value 146.395073   
## stopped after 100 iterations  
## # weights: 85  
## initial value 366.916802   
## iter 10 value 220.872722  
## iter 20 value 181.193621  
## iter 30 value 169.648159  
## iter 40 value 166.362972  
## iter 50 value 161.786766  
## iter 60 value 158.909548  
## iter 70 value 153.851450  
## iter 80 value 153.013407  
## iter 90 value 151.963437  
## iter 100 value 151.822051  
## final value 151.822051   
## stopped after 100 iterations  
## # weights: 99  
## initial value 458.243495   
## iter 10 value 226.547267  
## iter 20 value 215.556954  
## iter 30 value 201.990743  
## iter 40 value 172.989433  
## iter 50 value 164.522110  
## iter 60 value 157.361423  
## iter 70 value 154.579817  
## iter 80 value 151.869088  
## iter 90 value 149.602184  
## iter 100 value 147.461767  
## final value 147.461767   
## stopped after 100 iterations  
## # weights: 113  
## initial value 380.820278   
## iter 10 value 209.346441  
## iter 20 value 168.979210  
## iter 30 value 165.569008  
## iter 40 value 161.544594  
## iter 50 value 159.455506  
## iter 60 value 157.859341  
## iter 70 value 154.188662  
## iter 80 value 150.716191  
## iter 90 value 149.446799  
## iter 100 value 148.711953  
## final value 148.711953   
## stopped after 100 iterations  
## # weights: 127  
## initial value 727.943713   
## iter 10 value 215.573748  
## iter 20 value 199.384242  
## iter 30 value 173.080818  
## iter 40 value 161.999756  
## iter 50 value 158.021400  
## iter 60 value 157.103501  
## iter 70 value 156.484272  
## iter 80 value 154.412737  
## iter 90 value 149.565911  
## iter 100 value 148.593387  
## final value 148.593387   
## stopped after 100 iterations  
## # weights: 141  
## initial value 639.694989   
## iter 10 value 212.994497  
## iter 20 value 182.663196  
## iter 30 value 167.442813  
## iter 40 value 161.276205  
## iter 50 value 159.410569  
## iter 60 value 156.925280  
## iter 70 value 155.739998  
## iter 80 value 151.408429  
## iter 90 value 149.406756  
## iter 100 value 148.093991  
## final value 148.093991   
## stopped after 100 iterations  
## # weights: 155  
## initial value 368.276157   
## iter 10 value 214.110583  
## iter 20 value 188.668722  
## iter 30 value 164.565207  
## iter 40 value 161.357430  
## iter 50 value 158.530820  
## iter 60 value 155.937377  
## iter 70 value 152.824031  
## iter 80 value 148.474495  
## iter 90 value 144.773819  
## iter 100 value 143.605801  
## final value 143.605801   
## stopped after 100 iterations  
## # weights: 169  
## initial value 747.013028   
## iter 10 value 216.423053  
## iter 20 value 189.437540  
## iter 30 value 165.922219  
## iter 40 value 161.938047  
## iter 50 value 157.396856  
## iter 60 value 154.550654  
## iter 70 value 151.460965  
## iter 80 value 147.255911  
## iter 90 value 146.040320  
## iter 100 value 145.261214  
## final value 145.261214   
## stopped after 100 iterations  
## # weights: 15  
## initial value 527.114977   
## iter 10 value 217.864617  
## iter 20 value 208.543392  
## iter 30 value 172.479242  
## iter 40 value 169.618436  
## iter 50 value 169.468040  
## iter 50 value 169.468040  
## final value 169.468040   
## converged  
## # weights: 29  
## initial value 449.368332   
## iter 10 value 218.622827  
## iter 20 value 215.249288  
## iter 30 value 197.370715  
## iter 40 value 177.228820  
## iter 50 value 173.598513  
## iter 60 value 170.262976  
## iter 70 value 169.285084  
## iter 80 value 167.431560  
## iter 90 value 167.298945  
## iter 100 value 167.290013  
## final value 167.290013   
## stopped after 100 iterations  
## # weights: 43  
## initial value 236.074369   
## iter 10 value 210.509286  
## iter 20 value 186.202835  
## iter 30 value 168.923904  
## iter 40 value 167.499041  
## iter 50 value 166.402046  
## iter 60 value 166.128465  
## iter 70 value 165.735980  
## iter 80 value 164.610064  
## iter 90 value 163.356492  
## iter 100 value 163.125692  
## final value 163.125692   
## stopped after 100 iterations  
## # weights: 57  
## initial value 551.955633   
## iter 10 value 231.444710  
## iter 20 value 213.526423  
## iter 30 value 194.629476  
## iter 40 value 174.671983  
## iter 50 value 166.487824  
## iter 60 value 163.317102  
## iter 70 value 162.735563  
## iter 80 value 161.842673  
## iter 90 value 159.902928  
## iter 100 value 159.347590  
## final value 159.347590   
## stopped after 100 iterations  
## # weights: 71  
## initial value 447.175373   
## iter 10 value 198.947689  
## iter 20 value 174.733022  
## iter 30 value 168.543592  
## iter 40 value 165.345626  
## iter 50 value 163.240768  
## iter 60 value 161.243474  
## iter 70 value 159.374167  
## iter 80 value 158.313329  
## iter 90 value 158.265177  
## iter 100 value 158.257469  
## final value 158.257469   
## stopped after 100 iterations  
## # weights: 85  
## initial value 299.395951   
## iter 10 value 215.008538  
## iter 20 value 191.902117  
## iter 30 value 169.207793  
## iter 40 value 166.167224  
## iter 50 value 164.135704  
## iter 60 value 163.555712  
## iter 70 value 161.980334  
## iter 80 value 158.320293  
## iter 90 value 157.841658  
## iter 100 value 157.346750  
## final value 157.346750   
## stopped after 100 iterations  
## # weights: 99  
## initial value 513.312747   
## iter 10 value 213.825525  
## iter 20 value 183.475236  
## iter 30 value 170.565420  
## iter 40 value 167.862480  
## iter 50 value 166.938372  
## iter 60 value 164.838417  
## iter 70 value 163.393566  
## iter 80 value 161.490351  
## iter 90 value 160.076746  
## iter 100 value 158.486232  
## final value 158.486232   
## stopped after 100 iterations  
## # weights: 113  
## initial value 229.329268   
## iter 10 value 216.433363  
## iter 20 value 200.465192  
## iter 30 value 181.177364  
## iter 40 value 167.545448  
## iter 50 value 165.326077  
## iter 60 value 161.536975  
## iter 70 value 158.413862  
## iter 80 value 156.856547  
## iter 90 value 156.566619  
## iter 100 value 156.005539  
## final value 156.005539   
## stopped after 100 iterations  
## # weights: 127  
## initial value 391.933381   
## iter 10 value 206.588384  
## iter 20 value 183.195306  
## iter 30 value 169.288599  
## iter 40 value 167.806356  
## iter 50 value 166.190568  
## iter 60 value 163.957621  
## iter 70 value 163.417272  
## iter 80 value 160.560496  
## iter 90 value 156.670547  
## iter 100 value 156.143349  
## final value 156.143349   
## stopped after 100 iterations  
## # weights: 141  
## initial value 291.701356   
## iter 10 value 208.170534  
## iter 20 value 192.643856  
## iter 30 value 171.778200  
## iter 40 value 167.854387  
## iter 50 value 164.465568  
## iter 60 value 161.127473  
## iter 70 value 158.919235  
## iter 80 value 157.691196  
## iter 90 value 156.892082  
## iter 100 value 155.599381  
## final value 155.599381   
## stopped after 100 iterations  
## # weights: 155  
## initial value 620.768023   
## iter 10 value 225.095134  
## iter 20 value 194.281852  
## iter 30 value 176.363108  
## iter 40 value 168.339719  
## iter 50 value 165.105248  
## iter 60 value 159.769906  
## iter 70 value 157.680399  
## iter 80 value 156.775790  
## iter 90 value 156.319916  
## iter 100 value 156.099239  
## final value 156.099239   
## stopped after 100 iterations  
## # weights: 169  
## initial value 558.719884   
## iter 10 value 216.263655  
## iter 20 value 204.575128  
## iter 30 value 179.746821  
## iter 40 value 170.415669  
## iter 50 value 167.520592  
## iter 60 value 164.088206  
## iter 70 value 161.596642  
## iter 80 value 158.162478  
## iter 90 value 157.494191  
## iter 100 value 157.260956  
## final value 157.260956   
## stopped after 100 iterations  
## # weights: 15  
## initial value 687.339330   
## iter 10 value 220.656743  
## iter 20 value 198.884497  
## iter 30 value 174.246306  
## iter 40 value 172.618615  
## iter 50 value 172.612856  
## final value 172.612769   
## converged  
## # weights: 29  
## initial value 486.878851   
## iter 10 value 217.474145  
## iter 20 value 206.003338  
## iter 30 value 177.600913  
## iter 40 value 175.293764  
## iter 50 value 172.468853  
## iter 60 value 170.853016  
## iter 70 value 170.745494  
## iter 80 value 170.707215  
## iter 90 value 170.688780  
## final value 170.688726   
## converged  
## # weights: 43  
## initial value 725.864974   
## iter 10 value 220.521384  
## iter 20 value 213.038143  
## iter 30 value 194.510775  
## iter 40 value 177.270477  
## iter 50 value 174.465746  
## iter 60 value 172.796076  
## iter 70 value 171.292018  
## iter 80 value 170.796824  
## iter 90 value 170.405123  
## iter 100 value 170.280371  
## final value 170.280371   
## stopped after 100 iterations  
## # weights: 57  
## initial value 705.617682   
## iter 10 value 234.217807  
## iter 20 value 183.198989  
## iter 30 value 173.224746  
## iter 40 value 169.955243  
## iter 50 value 167.339244  
## iter 60 value 166.474778  
## iter 70 value 166.331655  
## iter 80 value 166.291294  
## final value 166.291214   
## converged  
## # weights: 71  
## initial value 850.490641   
## iter 10 value 256.508863  
## iter 20 value 212.405245  
## iter 30 value 179.238835  
## iter 40 value 172.998776  
## iter 50 value 172.428915  
## iter 60 value 170.684789  
## iter 70 value 169.375640  
## iter 80 value 168.642518  
## iter 90 value 167.650874  
## iter 100 value 166.218899  
## final value 166.218899   
## stopped after 100 iterations  
## # weights: 85  
## initial value 896.994958   
## iter 10 value 229.283582  
## iter 20 value 199.975643  
## iter 30 value 178.761792  
## iter 40 value 169.786539  
## iter 50 value 167.709595  
## iter 60 value 165.832624  
## iter 70 value 164.406998  
## iter 80 value 163.614980  
## iter 90 value 163.287431  
## iter 100 value 163.039667  
## final value 163.039667   
## stopped after 100 iterations  
## # weights: 99  
## initial value 516.300645   
## iter 10 value 214.857302  
## iter 20 value 189.885797  
## iter 30 value 174.350678  
## iter 40 value 171.857239  
## iter 50 value 170.925784  
## iter 60 value 167.826597  
## iter 70 value 167.454999  
## iter 80 value 167.204988  
## iter 90 value 165.923160  
## iter 100 value 163.248322  
## final value 163.248322   
## stopped after 100 iterations  
## # weights: 113  
## initial value 974.060661   
## iter 10 value 225.268320  
## iter 20 value 216.266198  
## iter 30 value 178.505465  
## iter 40 value 172.268706  
## iter 50 value 168.763732  
## iter 60 value 167.206736  
## iter 70 value 164.575477  
## iter 80 value 163.750730  
## iter 90 value 163.619961  
## iter 100 value 163.510538  
## final value 163.510538   
## stopped after 100 iterations  
## # weights: 127  
## initial value 297.171195   
## iter 10 value 220.039314  
## iter 20 value 186.527314  
## iter 30 value 176.438982  
## iter 40 value 170.178863  
## iter 50 value 168.974482  
## iter 60 value 168.239595  
## iter 70 value 166.540597  
## iter 80 value 165.236901  
## iter 90 value 164.827591  
## iter 100 value 163.934527  
## final value 163.934527   
## stopped after 100 iterations  
## # weights: 141  
## initial value 370.691207   
## iter 10 value 217.168541  
## iter 20 value 200.271137  
## iter 30 value 174.321525  
## iter 40 value 168.528762  
## iter 50 value 166.402461  
## iter 60 value 165.137475  
## iter 70 value 163.829916  
## iter 80 value 163.356735  
## iter 90 value 162.964827  
## iter 100 value 162.566524  
## final value 162.566524   
## stopped after 100 iterations  
## # weights: 155  
## initial value 696.402898   
## iter 10 value 212.998567  
## iter 20 value 192.313923  
## iter 30 value 173.413175  
## iter 40 value 171.141624  
## iter 50 value 168.976296  
## iter 60 value 167.235610  
## iter 70 value 165.202103  
## iter 80 value 163.312759  
## iter 90 value 162.852113  
## iter 100 value 162.364366  
## final value 162.364366   
## stopped after 100 iterations  
## # weights: 169  
## initial value 336.636424   
## iter 10 value 219.482063  
## iter 20 value 214.895027  
## iter 30 value 193.594003  
## iter 40 value 173.874336  
## iter 50 value 168.684101  
## iter 60 value 167.559724  
## iter 70 value 166.480547  
## iter 80 value 165.270287  
## iter 90 value 164.629769  
## iter 100 value 164.118217  
## final value 164.118217   
## stopped after 100 iterations  
## # weights: 15  
## initial value 353.311807   
## iter 10 value 218.161794  
## iter 20 value 215.536165  
## iter 30 value 190.637408  
## iter 40 value 175.718105  
## iter 50 value 175.506999  
## final value 175.506997   
## converged  
## # weights: 29  
## initial value 445.716090   
## iter 10 value 216.437262  
## iter 20 value 189.277983  
## iter 30 value 175.035787  
## iter 40 value 173.814669  
## iter 50 value 173.651275  
## final value 173.651136   
## converged  
## # weights: 43  
## initial value 228.029952   
## iter 10 value 213.845217  
## iter 20 value 179.704535  
## iter 30 value 174.349684  
## iter 40 value 173.978993  
## iter 50 value 173.715039  
## iter 60 value 172.180621  
## iter 70 value 171.362206  
## iter 80 value 171.256688  
## final value 171.255951   
## converged  
## # weights: 57  
## initial value 234.163725   
## iter 10 value 207.718563  
## iter 20 value 183.201242  
## iter 30 value 176.753828  
## iter 40 value 175.183557  
## iter 50 value 174.580277  
## iter 60 value 174.179314  
## iter 70 value 173.566101  
## iter 80 value 171.665861  
## iter 90 value 171.240351  
## iter 100 value 171.149290  
## final value 171.149290   
## stopped after 100 iterations  
## # weights: 71  
## initial value 299.124071   
## iter 10 value 205.992379  
## iter 20 value 177.994544  
## iter 30 value 174.636837  
## iter 40 value 173.632319  
## iter 50 value 172.235854  
## iter 60 value 171.587492  
## iter 70 value 171.431129  
## iter 80 value 170.281426  
## iter 90 value 170.119583  
## iter 100 value 170.065394  
## final value 170.065394   
## stopped after 100 iterations  
## # weights: 85  
## initial value 592.706845   
## iter 10 value 210.325249  
## iter 20 value 193.542701  
## iter 30 value 178.699316  
## iter 40 value 174.034134  
## iter 50 value 173.253696  
## iter 60 value 172.620319  
## iter 70 value 171.217720  
## iter 80 value 170.796197  
## iter 90 value 170.445763  
## iter 100 value 169.947559  
## final value 169.947559   
## stopped after 100 iterations  
## # weights: 99  
## initial value 245.580866   
## iter 10 value 213.929026  
## iter 20 value 189.796141  
## iter 30 value 177.014003  
## iter 40 value 174.219533  
## iter 50 value 173.040519  
## iter 60 value 171.775679  
## iter 70 value 170.519344  
## iter 80 value 168.835806  
## iter 90 value 168.398670  
## iter 100 value 168.299296  
## final value 168.299296   
## stopped after 100 iterations  
## # weights: 113  
## initial value 296.376122   
## iter 10 value 213.774862  
## iter 20 value 205.623646  
## iter 30 value 185.345006  
## iter 40 value 173.637896  
## iter 50 value 171.938101  
## iter 60 value 171.235094  
## iter 70 value 171.004769  
## iter 80 value 170.963855  
## iter 90 value 170.935564  
## iter 100 value 170.922997  
## final value 170.922997   
## stopped after 100 iterations  
## # weights: 127  
## initial value 310.401436   
## iter 10 value 216.738846  
## iter 20 value 191.805366  
## iter 30 value 176.967798  
## iter 40 value 173.341114  
## iter 50 value 170.588232  
## iter 60 value 168.869012  
## iter 70 value 168.038733  
## iter 80 value 167.902183  
## iter 90 value 167.844687  
## iter 100 value 167.788816  
## final value 167.788816   
## stopped after 100 iterations  
## # weights: 141  
## initial value 304.334132   
## iter 10 value 219.042110  
## iter 20 value 189.427625  
## iter 30 value 176.791351  
## iter 40 value 174.044697  
## iter 50 value 172.734934  
## iter 60 value 170.952806  
## iter 70 value 170.080310  
## iter 80 value 168.940571  
## iter 90 value 168.335909  
## iter 100 value 167.938474  
## final value 167.938474   
## stopped after 100 iterations  
## # weights: 155  
## initial value 230.543118   
## iter 10 value 196.976642  
## iter 20 value 178.950118  
## iter 30 value 174.883637  
## iter 40 value 173.145487  
## iter 50 value 171.304828  
## iter 60 value 169.888015  
## iter 70 value 169.281962  
## iter 80 value 168.881324  
## iter 90 value 168.274612  
## iter 100 value 167.932178  
## final value 167.932178   
## stopped after 100 iterations  
## # weights: 169  
## initial value 752.612323   
## iter 10 value 218.187012  
## iter 20 value 207.648387  
## iter 30 value 179.147351  
## iter 40 value 176.388099  
## iter 50 value 173.430571  
## iter 60 value 172.025426  
## iter 70 value 170.579186  
## iter 80 value 169.902493  
## iter 90 value 169.066253  
## iter 100 value 168.240628  
## final value 168.240628   
## stopped after 100 iterations  
## # weights: 15  
## initial value 319.694103   
## iter 10 value 219.517777  
## iter 20 value 219.465564  
## iter 30 value 194.295312  
## iter 40 value 165.670262  
## iter 50 value 163.794358  
## final value 163.741773   
## converged  
## # weights: 29  
## initial value 557.561200   
## iter 10 value 215.174196  
## iter 20 value 191.308973  
## iter 30 value 164.813261  
## iter 40 value 160.322600  
## iter 50 value 159.397567  
## iter 60 value 156.763037  
## iter 70 value 156.265235  
## iter 80 value 156.226355  
## final value 156.225296   
## converged  
## # weights: 43  
## initial value 385.206026   
## iter 10 value 221.281699  
## iter 20 value 174.627409  
## iter 30 value 166.248599  
## iter 40 value 163.939304  
## iter 50 value 163.829981  
## iter 60 value 163.716629  
## iter 70 value 160.885084  
## iter 80 value 157.878699  
## iter 90 value 157.312114  
## iter 100 value 156.336452  
## final value 156.336452   
## stopped after 100 iterations  
## # weights: 57  
## initial value 467.803569   
## iter 10 value 218.282398  
## iter 20 value 203.438845  
## iter 30 value 165.082769  
## iter 40 value 157.230139  
## iter 50 value 154.307822  
## iter 60 value 150.334139  
## iter 70 value 147.505625  
## iter 80 value 147.422082  
## iter 90 value 147.403175  
## iter 100 value 147.336938  
## final value 147.336938   
## stopped after 100 iterations  
## # weights: 71  
## initial value 533.472624   
## iter 10 value 218.253845  
## iter 20 value 200.173978  
## iter 30 value 163.820360  
## iter 40 value 158.078582  
## iter 50 value 155.585688  
## iter 60 value 147.792996  
## iter 70 value 141.972333  
## iter 80 value 138.296697  
## iter 90 value 132.863567  
## iter 100 value 131.423234  
## final value 131.423234   
## stopped after 100 iterations  
## # weights: 85  
## initial value 490.001804   
## iter 10 value 219.137826  
## iter 20 value 190.081524  
## iter 30 value 165.722127  
## iter 40 value 158.295546  
## iter 50 value 152.402313  
## iter 60 value 147.977560  
## iter 70 value 141.023314  
## iter 80 value 134.196306  
## iter 90 value 132.922322  
## iter 100 value 131.880387  
## final value 131.880387   
## stopped after 100 iterations  
## # weights: 99  
## initial value 573.875369   
## iter 10 value 215.831601  
## iter 20 value 185.939977  
## iter 30 value 167.017978  
## iter 40 value 152.814976  
## iter 50 value 147.074108  
## iter 60 value 140.833280  
## iter 70 value 136.352552  
## iter 80 value 133.782502  
## iter 90 value 130.876869  
## iter 100 value 129.195595  
## final value 129.195595   
## stopped after 100 iterations  
## # weights: 113  
## initial value 905.854542   
## iter 10 value 227.315732  
## iter 20 value 209.721577  
## iter 30 value 175.636660  
## iter 40 value 155.209076  
## iter 50 value 152.829675  
## iter 60 value 149.207795  
## iter 70 value 145.499483  
## iter 80 value 138.407062  
## iter 90 value 132.823783  
## iter 100 value 129.595671  
## final value 129.595671   
## stopped after 100 iterations  
## # weights: 127  
## initial value 529.612968   
## iter 10 value 209.857476  
## iter 20 value 178.362564  
## iter 30 value 163.970883  
## iter 40 value 149.948626  
## iter 50 value 145.052272  
## iter 60 value 143.152485  
## iter 70 value 139.477838  
## iter 80 value 136.735679  
## iter 90 value 135.469010  
## iter 100 value 134.426543  
## final value 134.426543   
## stopped after 100 iterations  
## # weights: 141  
## initial value 317.877169   
## iter 10 value 204.289251  
## iter 20 value 181.984474  
## iter 30 value 158.924741  
## iter 40 value 149.001695  
## iter 50 value 140.157024  
## iter 60 value 131.068178  
## iter 70 value 128.114684  
## iter 80 value 125.363275  
## iter 90 value 123.514071  
## iter 100 value 122.802157  
## final value 122.802157   
## stopped after 100 iterations  
## # weights: 155  
## initial value 309.035425   
## iter 10 value 215.045593  
## iter 20 value 181.829402  
## iter 30 value 164.853105  
## iter 40 value 157.759578  
## iter 50 value 153.450319  
## iter 60 value 150.891809  
## iter 70 value 147.008555  
## iter 80 value 143.405016  
## iter 90 value 140.824200  
## iter 100 value 138.597625  
## final value 138.597625   
## stopped after 100 iterations  
## # weights: 169  
## initial value 919.363959   
## iter 10 value 219.786292  
## iter 20 value 207.703116  
## iter 30 value 183.898152  
## iter 40 value 160.484215  
## iter 50 value 153.136008  
## iter 60 value 147.114527  
## iter 70 value 141.089091  
## iter 80 value 136.988401  
## iter 90 value 135.464813  
## iter 100 value 133.431159  
## final value 133.431159   
## stopped after 100 iterations  
## # weights: 15  
## initial value 597.613506   
## iter 10 value 216.577347  
## iter 20 value 206.484080  
## iter 30 value 177.290030  
## iter 40 value 167.796533  
## iter 50 value 167.649200  
## final value 167.649180   
## converged  
## # weights: 29  
## initial value 313.808160   
## iter 10 value 198.597810  
## iter 20 value 172.972991  
## iter 30 value 169.931178  
## iter 40 value 168.493678  
## iter 50 value 167.714823  
## iter 60 value 164.887936  
## iter 70 value 162.810140  
## iter 80 value 162.313077  
## iter 90 value 162.288398  
## iter 90 value 162.288398  
## iter 90 value 162.288398  
## final value 162.288398   
## converged  
## # weights: 43  
## initial value 371.193221   
## iter 10 value 232.720006  
## iter 20 value 215.514300  
## iter 30 value 199.656467  
## iter 40 value 173.027894  
## iter 50 value 168.955362  
## iter 60 value 168.670759  
## iter 70 value 168.010369  
## iter 80 value 167.703149  
## iter 90 value 167.025283  
## iter 100 value 165.162165  
## final value 165.162165   
## stopped after 100 iterations  
## # weights: 57  
## initial value 504.235859   
## iter 10 value 206.696366  
## iter 20 value 175.349893  
## iter 30 value 168.024983  
## iter 40 value 164.443904  
## iter 50 value 159.036466  
## iter 60 value 156.997194  
## iter 70 value 156.912424  
## iter 80 value 156.910526  
## final value 156.910166   
## converged  
## # weights: 71  
## initial value 396.757645   
## iter 10 value 217.709871  
## iter 20 value 199.083867  
## iter 30 value 168.856292  
## iter 40 value 165.160085  
## iter 50 value 164.476175  
## iter 60 value 163.866011  
## iter 70 value 162.791562  
## iter 80 value 161.476649  
## iter 90 value 160.335265  
## iter 100 value 159.748362  
## final value 159.748362   
## stopped after 100 iterations  
## # weights: 85  
## initial value 316.024295   
## iter 10 value 220.163904  
## iter 20 value 213.523615  
## iter 30 value 188.814285  
## iter 40 value 168.692427  
## iter 50 value 163.468048  
## iter 60 value 160.661732  
## iter 70 value 157.190106  
## iter 80 value 154.365544  
## iter 90 value 153.225848  
## iter 100 value 152.856639  
## final value 152.856639   
## stopped after 100 iterations  
## # weights: 99  
## initial value 558.636253   
## iter 10 value 211.533583  
## iter 20 value 181.067296  
## iter 30 value 164.414780  
## iter 40 value 160.985341  
## iter 50 value 158.705583  
## iter 60 value 155.548786  
## iter 70 value 154.693459  
## iter 80 value 152.812601  
## iter 90 value 150.748509  
## iter 100 value 148.645754  
## final value 148.645754   
## stopped after 100 iterations  
## # weights: 113  
## initial value 480.271951   
## iter 10 value 208.240425  
## iter 20 value 174.253337  
## iter 30 value 164.560117  
## iter 40 value 159.297069  
## iter 50 value 155.787128  
## iter 60 value 152.567690  
## iter 70 value 150.576435  
## iter 80 value 148.459303  
## iter 90 value 145.096877  
## iter 100 value 143.183728  
## final value 143.183728   
## stopped after 100 iterations  
## # weights: 127  
## initial value 237.142196   
## iter 10 value 201.851323  
## iter 20 value 188.874921  
## iter 30 value 169.419501  
## iter 40 value 161.713619  
## iter 50 value 158.797606  
## iter 60 value 155.007457  
## iter 70 value 150.919509  
## iter 80 value 147.752024  
## iter 90 value 146.443393  
## iter 100 value 145.983212  
## final value 145.983212   
## stopped after 100 iterations  
## # weights: 141  
## initial value 883.831202   
## iter 10 value 246.073634  
## iter 20 value 223.770810  
## iter 30 value 198.474784  
## iter 40 value 181.746569  
## iter 50 value 170.952264  
## iter 60 value 163.047419  
## iter 70 value 156.185402  
## iter 80 value 152.598501  
## iter 90 value 150.840906  
## iter 100 value 147.705587  
## final value 147.705587   
## stopped after 100 iterations  
## # weights: 155  
## initial value 456.322391   
## iter 10 value 211.947084  
## iter 20 value 183.805423  
## iter 30 value 169.280174  
## iter 40 value 159.870097  
## iter 50 value 156.367079  
## iter 60 value 151.713712  
## iter 70 value 149.277046  
## iter 80 value 147.357594  
## iter 90 value 146.407654  
## iter 100 value 144.929377  
## final value 144.929377   
## stopped after 100 iterations  
## # weights: 169  
## initial value 443.320700   
## iter 10 value 217.002343  
## iter 20 value 188.752227  
## iter 30 value 168.757642  
## iter 40 value 162.990568  
## iter 50 value 159.087581  
## iter 60 value 154.742996  
## iter 70 value 149.335260  
## iter 80 value 146.675350  
## iter 90 value 145.896869  
## iter 100 value 144.942096  
## final value 144.942096   
## stopped after 100 iterations  
## # weights: 15  
## initial value 301.260087   
## iter 10 value 195.663656  
## iter 20 value 173.376887  
## iter 30 value 171.162564  
## iter 40 value 171.149029  
## final value 171.148985   
## converged  
## # weights: 29  
## initial value 430.068668   
## iter 10 value 219.882593  
## iter 20 value 212.753240  
## iter 30 value 176.607737  
## iter 40 value 174.447372  
## iter 50 value 173.587269  
## iter 60 value 171.802340  
## iter 70 value 169.761616  
## iter 80 value 169.232940  
## iter 90 value 169.186801  
## final value 169.185676   
## converged  
## # weights: 43  
## initial value 486.415461   
## iter 10 value 221.516318  
## iter 20 value 217.768225  
## iter 30 value 202.228500  
## iter 40 value 173.199904  
## iter 50 value 167.332204  
## iter 60 value 165.879739  
## iter 70 value 164.732235  
## iter 80 value 164.035051  
## iter 90 value 163.839058  
## iter 100 value 163.827440  
## final value 163.827440   
## stopped after 100 iterations  
## # weights: 57  
## initial value 533.982583   
## iter 10 value 206.669411  
## iter 20 value 182.599641  
## iter 30 value 173.081788  
## iter 40 value 171.538219  
## iter 50 value 169.066336  
## iter 60 value 166.850145  
## iter 70 value 165.002503  
## iter 80 value 164.672781  
## iter 90 value 164.353904  
## iter 100 value 164.222036  
## final value 164.222036   
## stopped after 100 iterations  
## # weights: 71  
## initial value 336.634711   
## iter 10 value 219.876225  
## iter 20 value 182.284812  
## iter 30 value 173.771923  
## iter 40 value 170.006756  
## iter 50 value 168.513988  
## iter 60 value 165.574837  
## iter 70 value 164.153410  
## iter 80 value 163.303432  
## iter 90 value 160.437511  
## iter 100 value 159.063660  
## final value 159.063660   
## stopped after 100 iterations  
## # weights: 85  
## initial value 247.451198   
## iter 10 value 222.728508  
## iter 20 value 214.414776  
## iter 30 value 192.553824  
## iter 40 value 171.723564  
## iter 50 value 165.799093  
## iter 60 value 164.262828  
## iter 70 value 162.968317  
## iter 80 value 161.246220  
## iter 90 value 160.672002  
## iter 100 value 160.057860  
## final value 160.057860   
## stopped after 100 iterations  
## # weights: 99  
## initial value 348.248054   
## iter 10 value 214.588328  
## iter 20 value 189.918377  
## iter 30 value 169.360509  
## iter 40 value 166.666114  
## iter 50 value 165.044253  
## iter 60 value 163.179123  
## iter 70 value 162.438866  
## iter 80 value 160.813645  
## iter 90 value 159.858911  
## iter 100 value 159.492475  
## final value 159.492475   
## stopped after 100 iterations  
## # weights: 113  
## initial value 338.239029   
## iter 10 value 213.004831  
## iter 20 value 186.450026  
## iter 30 value 171.114814  
## iter 40 value 166.460370  
## iter 50 value 164.850609  
## iter 60 value 164.067499  
## iter 70 value 163.866118  
## iter 80 value 163.842671  
## iter 90 value 163.733473  
## iter 100 value 163.017706  
## final value 163.017706   
## stopped after 100 iterations  
## # weights: 127  
## initial value 361.290870   
## iter 10 value 217.129819  
## iter 20 value 189.309934  
## iter 30 value 174.292509  
## iter 40 value 165.589649  
## iter 50 value 164.824761  
## iter 60 value 164.296619  
## iter 70 value 162.835209  
## iter 80 value 161.307829  
## iter 90 value 160.166007  
## iter 100 value 159.520785  
## final value 159.520785   
## stopped after 100 iterations  
## # weights: 141  
## initial value 470.226100   
## iter 10 value 219.814071  
## iter 20 value 192.593249  
## iter 30 value 171.806497  
## iter 40 value 166.432696  
## iter 50 value 162.627721  
## iter 60 value 161.230412  
## iter 70 value 159.474780  
## iter 80 value 157.673124  
## iter 90 value 156.705643  
## iter 100 value 156.253372  
## final value 156.253372   
## stopped after 100 iterations  
## # weights: 155  
## initial value 916.045507   
## iter 10 value 251.583965  
## iter 20 value 204.860994  
## iter 30 value 181.817134  
## iter 40 value 172.299341  
## iter 50 value 168.909422  
## iter 60 value 167.480077  
## iter 70 value 164.053921  
## iter 80 value 161.354199  
## iter 90 value 160.504299  
## iter 100 value 160.058851  
## final value 160.058851   
## stopped after 100 iterations  
## # weights: 169  
## initial value 329.369052   
## iter 10 value 219.991550  
## iter 20 value 193.624232  
## iter 30 value 173.773125  
## iter 40 value 169.302314  
## iter 50 value 167.425660  
## iter 60 value 164.371051  
## iter 70 value 159.664195  
## iter 80 value 158.310069  
## iter 90 value 157.495221  
## iter 100 value 156.343907  
## final value 156.343907   
## stopped after 100 iterations  
## # weights: 15  
## initial value 423.878480   
## iter 10 value 219.322217  
## iter 20 value 205.181603  
## iter 30 value 180.222089  
## iter 40 value 180.126666  
## final value 180.126635   
## converged  
## # weights: 29  
## initial value 537.731953   
## iter 10 value 215.599789  
## iter 20 value 179.240143  
## iter 30 value 176.289597  
## iter 40 value 174.338933  
## iter 50 value 174.238374  
## iter 60 value 172.831125  
## iter 70 value 172.285838  
## final value 172.284685   
## converged  
## # weights: 43  
## initial value 240.726784   
## iter 10 value 219.456265  
## iter 20 value 207.914258  
## iter 30 value 175.994939  
## iter 40 value 173.402862  
## iter 50 value 172.099349  
## iter 60 value 170.744598  
## iter 70 value 169.650606  
## iter 80 value 169.356411  
## iter 90 value 169.287384  
## final value 169.286656   
## converged  
## # weights: 57  
## initial value 421.637658   
## iter 10 value 226.918437  
## iter 20 value 212.427404  
## iter 30 value 180.691579  
## iter 40 value 174.426375  
## iter 50 value 174.187943  
## iter 60 value 171.421511  
## iter 70 value 169.463688  
## iter 80 value 169.124521  
## iter 90 value 169.038999  
## iter 100 value 168.504634  
## final value 168.504634   
## stopped after 100 iterations  
## # weights: 71  
## initial value 290.666513   
## iter 10 value 220.638085  
## iter 20 value 193.134669  
## iter 30 value 174.951462  
## iter 40 value 171.930186  
## iter 50 value 170.277705  
## iter 60 value 168.726449  
## iter 70 value 167.119917  
## iter 80 value 166.858601  
## iter 90 value 166.064749  
## iter 100 value 165.724451  
## final value 165.724451   
## stopped after 100 iterations  
## # weights: 85  
## initial value 375.882489   
## iter 10 value 204.549816  
## iter 20 value 183.897789  
## iter 30 value 174.700217  
## iter 40 value 172.921965  
## iter 50 value 171.329926  
## iter 60 value 170.410320  
## iter 70 value 169.460475  
## iter 80 value 168.096124  
## iter 90 value 166.668172  
## iter 100 value 166.004739  
## final value 166.004739   
## stopped after 100 iterations  
## # weights: 99  
## initial value 312.529870   
## iter 10 value 216.008522  
## iter 20 value 191.945959  
## iter 30 value 174.258624  
## iter 40 value 173.922263  
## iter 50 value 173.171168  
## iter 60 value 170.675179  
## iter 70 value 169.206459  
## iter 80 value 168.101606  
## iter 90 value 167.220210  
## iter 100 value 166.920829  
## final value 166.920829   
## stopped after 100 iterations  
## # weights: 113  
## initial value 354.142183   
## iter 10 value 217.298480  
## iter 20 value 202.663791  
## iter 30 value 185.088728  
## iter 40 value 173.578601  
## iter 50 value 171.206215  
## iter 60 value 170.551294  
## iter 70 value 170.310805  
## iter 80 value 170.114990  
## iter 90 value 169.572543  
## iter 100 value 168.990520  
## final value 168.990520   
## stopped after 100 iterations  
## # weights: 127  
## initial value 228.160212   
## iter 10 value 215.491962  
## iter 20 value 184.939777  
## iter 30 value 176.010264  
## iter 40 value 172.434684  
## iter 50 value 169.718752  
## iter 60 value 168.470345  
## iter 70 value 166.351273  
## iter 80 value 165.420884  
## iter 90 value 164.836160  
## iter 100 value 164.496325  
## final value 164.496325   
## stopped after 100 iterations  
## # weights: 141  
## initial value 316.318546   
## iter 10 value 218.060586  
## iter 20 value 210.956353  
## iter 30 value 201.557627  
## iter 40 value 182.339107  
## iter 50 value 174.704255  
## iter 60 value 170.703266  
## iter 70 value 168.917227  
## iter 80 value 167.835857  
## iter 90 value 166.417114  
## iter 100 value 165.582995  
## final value 165.582995   
## stopped after 100 iterations  
## # weights: 155  
## initial value 271.708561   
## iter 10 value 218.687206  
## iter 20 value 188.511519  
## iter 30 value 173.893913  
## iter 40 value 170.618813  
## iter 50 value 169.420583  
## iter 60 value 168.584923  
## iter 70 value 167.828341  
## iter 80 value 166.549352  
## iter 90 value 165.653116  
## iter 100 value 165.120270  
## final value 165.120270   
## stopped after 100 iterations  
## # weights: 169  
## initial value 768.252052   
## iter 10 value 222.706656  
## iter 20 value 203.159148  
## iter 30 value 180.577491  
## iter 40 value 171.784548  
## iter 50 value 170.473227  
## iter 60 value 169.177136  
## iter 70 value 168.190471  
## iter 80 value 167.057716  
## iter 90 value 166.403638  
## iter 100 value 165.866771  
## final value 165.866771   
## stopped after 100 iterations  
## # weights: 15  
## initial value 480.775031   
## iter 10 value 210.997677  
## iter 20 value 179.392612  
## iter 30 value 177.294637  
## iter 40 value 177.276233  
## final value 177.274705   
## converged  
## # weights: 29  
## initial value 313.097588   
## iter 10 value 223.345397  
## iter 20 value 210.950250  
## iter 30 value 182.790245  
## iter 40 value 181.983558  
## iter 50 value 178.235153  
## iter 60 value 176.352702  
## iter 70 value 175.383488  
## iter 80 value 175.165485  
## iter 90 value 175.162686  
## final value 175.162681   
## converged  
## # weights: 43  
## initial value 742.262856   
## iter 10 value 235.164964  
## iter 20 value 214.251026  
## iter 30 value 184.706779  
## iter 40 value 177.453768  
## iter 50 value 175.864380  
## iter 60 value 175.766506  
## iter 70 value 175.693673  
## iter 80 value 175.623446  
## iter 90 value 174.328577  
## iter 100 value 173.202731  
## final value 173.202731   
## stopped after 100 iterations  
## # weights: 57  
## initial value 314.547585   
## iter 10 value 219.574482  
## iter 20 value 210.768596  
## iter 30 value 182.801268  
## iter 40 value 178.269472  
## iter 50 value 177.968558  
## iter 60 value 177.524028  
## iter 70 value 176.902085  
## iter 80 value 175.442066  
## iter 90 value 173.819278  
## iter 100 value 173.623051  
## final value 173.623051   
## stopped after 100 iterations  
## # weights: 71  
## initial value 269.366108   
## iter 10 value 212.252112  
## iter 20 value 183.544100  
## iter 30 value 177.780672  
## iter 40 value 176.239440  
## iter 50 value 175.633698  
## iter 60 value 174.644165  
## iter 70 value 173.998349  
## iter 80 value 173.727937  
## iter 90 value 173.572628  
## iter 100 value 173.456412  
## final value 173.456412   
## stopped after 100 iterations  
## # weights: 85  
## initial value 386.615425   
## iter 10 value 229.129934  
## iter 20 value 191.542010  
## iter 30 value 181.509821  
## iter 40 value 176.308065  
## iter 50 value 174.979618  
## iter 60 value 173.477018  
## iter 70 value 172.582333  
## iter 80 value 172.232521  
## iter 90 value 172.062882  
## iter 100 value 171.814583  
## final value 171.814583   
## stopped after 100 iterations  
## # weights: 99  
## initial value 486.281101   
## iter 10 value 215.231957  
## iter 20 value 196.769108  
## iter 30 value 179.248247  
## iter 40 value 174.364531  
## iter 50 value 173.486697  
## iter 60 value 173.426726  
## iter 70 value 173.376648  
## iter 80 value 173.371436  
## final value 173.371423   
## converged  
## # weights: 113  
## initial value 577.508988   
## iter 10 value 221.817755  
## iter 20 value 205.367527  
## iter 30 value 179.290914  
## iter 40 value 174.561936  
## iter 50 value 173.039446  
## iter 60 value 171.994706  
## iter 70 value 171.482197  
## iter 80 value 171.063778  
## iter 90 value 170.977117  
## iter 100 value 170.834548  
## final value 170.834548   
## stopped after 100 iterations  
## # weights: 127  
## initial value 357.799648   
## iter 10 value 220.209658  
## iter 20 value 201.929807  
## iter 30 value 183.229943  
## iter 40 value 176.438087  
## iter 50 value 174.492283  
## iter 60 value 173.515014  
## iter 70 value 173.212509  
## iter 80 value 172.915292  
## iter 90 value 172.732400  
## iter 100 value 172.432092  
## final value 172.432092   
## stopped after 100 iterations  
## # weights: 141  
## initial value 264.024870   
## iter 10 value 217.939453  
## iter 20 value 187.707957  
## iter 30 value 179.194208  
## iter 40 value 177.423477  
## iter 50 value 175.849893  
## iter 60 value 173.776436  
## iter 70 value 171.171170  
## iter 80 value 170.712621  
## iter 90 value 170.235737  
## iter 100 value 169.910553  
## final value 169.910553   
## stopped after 100 iterations  
## # weights: 155  
## initial value 280.022371   
## iter 10 value 208.763323  
## iter 20 value 183.509272  
## iter 30 value 176.387119  
## iter 40 value 174.157604  
## iter 50 value 172.995403  
## iter 60 value 172.528563  
## iter 70 value 172.057907  
## iter 80 value 171.875397  
## iter 90 value 171.404153  
## iter 100 value 170.863522  
## final value 170.863522   
## stopped after 100 iterations  
## # weights: 169  
## initial value 241.784769   
## iter 10 value 221.198778  
## iter 20 value 201.109095  
## iter 30 value 187.179962  
## iter 40 value 175.099909  
## iter 50 value 173.828077  
## iter 60 value 173.229144  
## iter 70 value 172.417159  
## iter 80 value 171.999225  
## iter 90 value 171.590321  
## iter 100 value 170.906263  
## final value 170.906263   
## stopped after 100 iterations  
## # weights: 15  
## initial value 334.198466   
## iter 10 value 204.979665  
## iter 20 value 162.763032  
## iter 30 value 159.664261  
## iter 40 value 159.234944  
## iter 50 value 159.198679  
## final value 159.198632   
## converged  
## # weights: 29  
## initial value 272.339368   
## iter 10 value 216.379941  
## iter 20 value 181.866617  
## iter 30 value 159.976840  
## iter 40 value 158.508261  
## iter 50 value 158.115963  
## iter 60 value 158.105045  
## iter 70 value 158.078628  
## iter 80 value 157.276932  
## iter 90 value 156.233464  
## iter 100 value 156.168291  
## final value 156.168291   
## stopped after 100 iterations  
## # weights: 43  
## initial value 405.036991   
## iter 10 value 213.387377  
## iter 20 value 172.734392  
## iter 30 value 158.959258  
## iter 40 value 157.534027  
## iter 50 value 157.134594  
## iter 60 value 154.449287  
## iter 70 value 151.407285  
## iter 80 value 151.329948  
## final value 151.329908   
## converged  
## # weights: 57  
## initial value 809.656625   
## iter 10 value 221.930843  
## iter 20 value 206.378119  
## iter 30 value 182.820413  
## iter 40 value 159.113845  
## iter 50 value 154.785812  
## iter 60 value 152.513402  
## iter 70 value 151.128515  
## iter 80 value 148.521632  
## iter 90 value 147.096300  
## iter 100 value 145.262755  
## final value 145.262755   
## stopped after 100 iterations  
## # weights: 71  
## initial value 228.884041   
## iter 10 value 200.471411  
## iter 20 value 166.585664  
## iter 30 value 158.300463  
## iter 40 value 157.160305  
## iter 50 value 154.449881  
## iter 60 value 147.545273  
## iter 70 value 139.665617  
## iter 80 value 134.472079  
## iter 90 value 132.821753  
## iter 100 value 131.477928  
## final value 131.477928   
## stopped after 100 iterations  
## # weights: 85  
## initial value 268.260178   
## iter 10 value 216.679484  
## iter 20 value 192.139797  
## iter 30 value 163.895508  
## iter 40 value 157.991923  
## iter 50 value 152.048975  
## iter 60 value 147.007573  
## iter 70 value 143.837021  
## iter 80 value 142.205930  
## iter 90 value 139.517219  
## iter 100 value 138.065887  
## final value 138.065887   
## stopped after 100 iterations  
## # weights: 99  
## initial value 502.142223   
## iter 10 value 217.657561  
## iter 20 value 186.710877  
## iter 30 value 159.052140  
## iter 40 value 153.725246  
## iter 50 value 146.754325  
## iter 60 value 142.840738  
## iter 70 value 140.701564  
## iter 80 value 139.367285  
## iter 90 value 137.504006  
## iter 100 value 135.116395  
## final value 135.116395   
## stopped after 100 iterations  
## # weights: 113  
## initial value 435.823353   
## iter 10 value 242.495015  
## iter 20 value 170.262127  
## iter 30 value 156.589976  
## iter 40 value 152.782257  
## iter 50 value 150.199315  
## iter 60 value 148.377324  
## iter 70 value 145.295255  
## iter 80 value 138.807175  
## iter 90 value 130.837110  
## iter 100 value 127.619291  
## final value 127.619291   
## stopped after 100 iterations  
## # weights: 127  
## initial value 227.985575   
## iter 10 value 215.698764  
## iter 20 value 207.257411  
## iter 30 value 167.639859  
## iter 40 value 150.658700  
## iter 50 value 143.189889  
## iter 60 value 140.153679  
## iter 70 value 137.424036  
## iter 80 value 135.423777  
## iter 90 value 134.542671  
## iter 100 value 133.688725  
## final value 133.688725   
## stopped after 100 iterations  
## # weights: 141  
## initial value 334.688225   
## iter 10 value 212.794011  
## iter 20 value 176.505585  
## iter 30 value 159.126431  
## iter 40 value 150.689739  
## iter 50 value 145.094991  
## iter 60 value 136.668041  
## iter 70 value 131.721905  
## iter 80 value 130.356814  
## iter 90 value 129.864359  
## iter 100 value 128.703201  
## final value 128.703201   
## stopped after 100 iterations  
## # weights: 155  
## initial value 430.416780   
## iter 10 value 194.076152  
## iter 20 value 167.904242  
## iter 30 value 157.430258  
## iter 40 value 152.819278  
## iter 50 value 150.147962  
## iter 60 value 145.505827  
## iter 70 value 137.408497  
## iter 80 value 128.795965  
## iter 90 value 125.469421  
## iter 100 value 124.157771  
## final value 124.157771   
## stopped after 100 iterations  
## # weights: 169  
## initial value 303.839501   
## iter 10 value 199.615802  
## iter 20 value 164.289502  
## iter 30 value 157.379856  
## iter 40 value 153.299517  
## iter 50 value 147.878977  
## iter 60 value 142.886009  
## iter 70 value 138.754366  
## iter 80 value 134.589991  
## iter 90 value 130.864313  
## iter 100 value 127.099535  
## final value 127.099535   
## stopped after 100 iterations  
## # weights: 15  
## initial value 491.802101   
## iter 10 value 201.839567  
## iter 20 value 165.094283  
## iter 30 value 163.405601  
## iter 40 value 161.756480  
## final value 161.756395   
## converged  
## # weights: 29  
## initial value 296.092177   
## iter 10 value 217.959493  
## iter 20 value 209.885809  
## iter 30 value 175.438173  
## iter 40 value 162.667569  
## iter 50 value 162.043770  
## iter 60 value 161.690134  
## iter 70 value 159.842578  
## iter 80 value 158.141947  
## iter 90 value 157.934287  
## iter 100 value 157.516193  
## final value 157.516193   
## stopped after 100 iterations  
## # weights: 43  
## initial value 570.916776   
## iter 10 value 214.195580  
## iter 20 value 192.492521  
## iter 30 value 161.403104  
## iter 40 value 159.435268  
## iter 50 value 158.592900  
## iter 60 value 158.311957  
## iter 70 value 157.099235  
## iter 80 value 157.080616  
## final value 157.080510   
## converged  
## # weights: 57  
## initial value 297.802428   
## iter 10 value 219.270575  
## iter 20 value 205.234274  
## iter 30 value 171.117684  
## iter 40 value 159.641885  
## iter 50 value 157.479978  
## iter 60 value 155.580902  
## iter 70 value 154.763443  
## iter 80 value 153.690081  
## iter 90 value 153.114292  
## iter 100 value 152.691428  
## final value 152.691428   
## stopped after 100 iterations  
## # weights: 71  
## initial value 474.250389   
## iter 10 value 200.955941  
## iter 20 value 169.316777  
## iter 30 value 161.485558  
## iter 40 value 158.344417  
## iter 50 value 155.227014  
## iter 60 value 154.870323  
## iter 70 value 154.806046  
## iter 80 value 154.740309  
## iter 90 value 154.590963  
## iter 100 value 153.370339  
## final value 153.370339   
## stopped after 100 iterations  
## # weights: 85  
## initial value 499.705427   
## iter 10 value 218.911012  
## iter 20 value 214.424186  
## iter 30 value 181.503285  
## iter 40 value 161.994010  
## iter 50 value 159.245455  
## iter 60 value 156.601149  
## iter 70 value 156.366361  
## iter 80 value 156.254124  
## iter 90 value 156.252337  
## final value 156.252327   
## converged  
## # weights: 99  
## initial value 532.469173   
## iter 10 value 215.784431  
## iter 20 value 188.552536  
## iter 30 value 163.629945  
## iter 40 value 156.291135  
## iter 50 value 153.041300  
## iter 60 value 151.358088  
## iter 70 value 150.448529  
## iter 80 value 150.106270  
## iter 90 value 149.567329  
## iter 100 value 149.423144  
## final value 149.423144   
## stopped after 100 iterations  
## # weights: 113  
## initial value 419.467906   
## iter 10 value 220.124465  
## iter 20 value 182.422632  
## iter 30 value 165.305131  
## iter 40 value 163.147878  
## iter 50 value 160.020846  
## iter 60 value 157.301819  
## iter 70 value 155.156729  
## iter 80 value 151.669209  
## iter 90 value 149.684040  
## iter 100 value 147.999924  
## final value 147.999924   
## stopped after 100 iterations  
## # weights: 127  
## initial value 338.457650   
## iter 10 value 210.114273  
## iter 20 value 165.618401  
## iter 30 value 162.063082  
## iter 40 value 159.287899  
## iter 50 value 155.786434  
## iter 60 value 153.808774  
## iter 70 value 149.792308  
## iter 80 value 145.916474  
## iter 90 value 144.455447  
## iter 100 value 143.669645  
## final value 143.669645   
## stopped after 100 iterations  
## # weights: 141  
## initial value 809.820216   
## iter 10 value 216.816554  
## iter 20 value 199.908944  
## iter 30 value 172.372389  
## iter 40 value 161.223275  
## iter 50 value 155.737276  
## iter 60 value 153.860089  
## iter 70 value 151.854481  
## iter 80 value 148.985767  
## iter 90 value 147.899197  
## iter 100 value 147.033449  
## final value 147.033449   
## stopped after 100 iterations  
## # weights: 155  
## initial value 376.820291   
## iter 10 value 216.488755  
## iter 20 value 199.022875  
## iter 30 value 179.136972  
## iter 40 value 161.044063  
## iter 50 value 156.128214  
## iter 60 value 152.654620  
## iter 70 value 151.388243  
## iter 80 value 149.033546  
## iter 90 value 146.607702  
## iter 100 value 145.469657  
## final value 145.469657   
## stopped after 100 iterations  
## # weights: 169  
## initial value 224.992498   
## iter 10 value 214.729459  
## iter 20 value 186.596105  
## iter 30 value 166.817708  
## iter 40 value 161.297766  
## iter 50 value 156.936099  
## iter 60 value 154.198328  
## iter 70 value 151.639909  
## iter 80 value 149.514151  
## iter 90 value 148.164103  
## iter 100 value 147.135198  
## final value 147.135198   
## stopped after 100 iterations  
## # weights: 15  
## initial value 485.130947   
## iter 10 value 218.179933  
## iter 20 value 200.207964  
## iter 30 value 176.730923  
## iter 40 value 169.897229  
## iter 50 value 169.822023  
## final value 169.821912   
## converged  
## # weights: 29  
## initial value 582.260859   
## iter 10 value 216.654994  
## iter 20 value 192.456339  
## iter 30 value 167.264850  
## iter 40 value 165.473984  
## iter 50 value 165.432215  
## iter 60 value 165.153451  
## iter 70 value 162.723829  
## iter 80 value 162.534509  
## final value 162.534136   
## converged  
## # weights: 43  
## initial value 403.449403   
## iter 10 value 217.202892  
## iter 20 value 171.573732  
## iter 30 value 165.836882  
## iter 40 value 164.428796  
## iter 50 value 163.035617  
## iter 60 value 162.133091  
## iter 70 value 161.010536  
## iter 80 value 159.862031  
## iter 90 value 159.342063  
## iter 100 value 159.276123  
## final value 159.276123   
## stopped after 100 iterations  
## # weights: 57  
## initial value 464.934708   
## iter 10 value 219.787673  
## iter 20 value 211.277853  
## iter 30 value 178.153462  
## iter 40 value 167.974053  
## iter 50 value 165.949632  
## iter 60 value 165.389942  
## iter 70 value 161.563886  
## iter 80 value 158.436823  
## iter 90 value 158.025343  
## iter 100 value 157.948030  
## final value 157.948030   
## stopped after 100 iterations  
## # weights: 71  
## initial value 542.680856   
## iter 10 value 220.148576  
## iter 20 value 197.252646  
## iter 30 value 169.993829  
## iter 40 value 163.556434  
## iter 50 value 162.230078  
## iter 60 value 162.039274  
## iter 70 value 161.994593  
## iter 80 value 161.968695  
## iter 90 value 161.901488  
## iter 100 value 161.422612  
## final value 161.422612   
## stopped after 100 iterations  
## # weights: 85  
## initial value 255.990801   
## iter 10 value 194.741393  
## iter 20 value 170.538193  
## iter 30 value 163.750324  
## iter 40 value 162.349769  
## iter 50 value 161.542354  
## iter 60 value 160.124238  
## iter 70 value 159.366572  
## iter 80 value 157.497477  
## iter 90 value 156.744308  
## iter 100 value 156.195272  
## final value 156.195272   
## stopped after 100 iterations  
## # weights: 99  
## initial value 496.104937   
## iter 10 value 219.769088  
## iter 20 value 200.009723  
## iter 30 value 176.228435  
## iter 40 value 163.354671  
## iter 50 value 160.344728  
## iter 60 value 157.863915  
## iter 70 value 156.821698  
## iter 80 value 156.184131  
## iter 90 value 155.703575  
## iter 100 value 155.619367  
## final value 155.619367   
## stopped after 100 iterations  
## # weights: 113  
## initial value 246.709289   
## iter 10 value 216.872907  
## iter 20 value 188.085588  
## iter 30 value 168.667732  
## iter 40 value 160.504313  
## iter 50 value 158.381795  
## iter 60 value 157.463950  
## iter 70 value 157.004579  
## iter 80 value 156.446119  
## iter 90 value 155.491909  
## iter 100 value 154.850679  
## final value 154.850679   
## stopped after 100 iterations  
## # weights: 127  
## initial value 327.742889   
## iter 10 value 206.581367  
## iter 20 value 187.009557  
## iter 30 value 169.692369  
## iter 40 value 162.362122  
## iter 50 value 161.402267  
## iter 60 value 158.496815  
## iter 70 value 156.933901  
## iter 80 value 155.675128  
## iter 90 value 155.423683  
## iter 100 value 155.058189  
## final value 155.058189   
## stopped after 100 iterations  
## # weights: 141  
## initial value 322.758684   
## iter 10 value 211.125964  
## iter 20 value 178.740771  
## iter 30 value 166.533789  
## iter 40 value 161.882332  
## iter 50 value 160.429951  
## iter 60 value 159.633908  
## iter 70 value 158.073340  
## iter 80 value 157.082754  
## iter 90 value 156.757663  
## iter 100 value 156.426407  
## final value 156.426407   
## stopped after 100 iterations  
## # weights: 155  
## initial value 330.363877   
## iter 10 value 217.272285  
## iter 20 value 206.460269  
## iter 30 value 180.379992  
## iter 40 value 163.115389  
## iter 50 value 160.253003  
## iter 60 value 159.499048  
## iter 70 value 159.007207  
## iter 80 value 157.439686  
## iter 90 value 156.863780  
## iter 100 value 156.356546  
## final value 156.356546   
## stopped after 100 iterations  
## # weights: 169  
## initial value 860.986997   
## iter 10 value 217.624898  
## iter 20 value 193.333571  
## iter 30 value 178.120452  
## iter 40 value 163.012408  
## iter 50 value 158.315759  
## iter 60 value 157.141967  
## iter 70 value 155.084611  
## iter 80 value 154.031829  
## iter 90 value 153.567420  
## iter 100 value 153.180061  
## final value 153.180061   
## stopped after 100 iterations  
## # weights: 15  
## initial value 588.121430   
## iter 10 value 217.612358  
## iter 20 value 192.710573  
## iter 30 value 169.706183  
## iter 40 value 168.747484  
## final value 168.747480   
## converged  
## # weights: 29  
## initial value 455.337229   
## iter 10 value 214.139241  
## iter 20 value 171.864694  
## iter 30 value 167.500156  
## iter 40 value 166.800303  
## final value 166.796032   
## converged  
## # weights: 43  
## initial value 648.850669   
## iter 10 value 219.504255  
## iter 20 value 200.449274  
## iter 30 value 170.439539  
## iter 40 value 166.317561  
## iter 50 value 164.902600  
## iter 60 value 164.608775  
## iter 70 value 164.591024  
## final value 164.590426   
## converged  
## # weights: 57  
## initial value 282.207937   
## iter 10 value 217.682706  
## iter 20 value 214.558758  
## iter 30 value 177.005778  
## iter 40 value 169.387974  
## iter 50 value 166.834562  
## iter 60 value 166.385555  
## iter 70 value 166.344717  
## iter 80 value 166.335219  
## iter 90 value 166.334017  
## final value 166.333715   
## converged  
## # weights: 71  
## initial value 359.546347   
## iter 10 value 226.713437  
## iter 20 value 183.135954  
## iter 30 value 170.017904  
## iter 40 value 166.219787  
## iter 50 value 165.054451  
## iter 60 value 163.802895  
## iter 70 value 163.449680  
## iter 80 value 163.144086  
## iter 90 value 162.942648  
## iter 100 value 162.749732  
## final value 162.749732   
## stopped after 100 iterations  
## # weights: 85  
## initial value 423.898646   
## iter 10 value 218.262840  
## iter 20 value 184.051516  
## iter 30 value 167.612647  
## iter 40 value 166.721984  
## iter 50 value 166.308027  
## iter 60 value 164.030024  
## iter 70 value 163.102227  
## iter 80 value 162.577550  
## iter 90 value 162.272510  
## iter 100 value 161.976248  
## final value 161.976248   
## stopped after 100 iterations  
## # weights: 99  
## initial value 440.581100   
## iter 10 value 187.072917  
## iter 20 value 174.813174  
## iter 30 value 168.605811  
## iter 40 value 167.651940  
## iter 50 value 166.993642  
## iter 60 value 166.277845  
## iter 70 value 165.486634  
## iter 80 value 164.338330  
## iter 90 value 163.634822  
## iter 100 value 163.395613  
## final value 163.395613   
## stopped after 100 iterations  
## # weights: 113  
## initial value 760.287602   
## iter 10 value 214.366611  
## iter 20 value 188.893375  
## iter 30 value 168.597071  
## iter 40 value 165.180362  
## iter 50 value 163.647622  
## iter 60 value 162.428068  
## iter 70 value 162.183321  
## iter 80 value 162.055450  
## iter 90 value 161.963025  
## iter 100 value 161.940298  
## final value 161.940298   
## stopped after 100 iterations  
## # weights: 127  
## initial value 1158.666608   
## iter 10 value 523.974585  
## iter 20 value 263.719854  
## iter 30 value 231.786914  
## iter 40 value 166.967797  
## iter 50 value 164.171735  
## iter 60 value 163.602066  
## iter 70 value 163.370815  
## iter 80 value 163.097586  
## iter 90 value 162.420088  
## iter 100 value 161.694586  
## final value 161.694586   
## stopped after 100 iterations  
## # weights: 141  
## initial value 382.593237   
## iter 10 value 213.316783  
## iter 20 value 190.851570  
## iter 30 value 169.132392  
## iter 40 value 165.715818  
## iter 50 value 164.983626  
## iter 60 value 163.931859  
## iter 70 value 162.977509  
## iter 80 value 162.317799  
## iter 90 value 161.950867  
## iter 100 value 161.743843  
## final value 161.743843   
## stopped after 100 iterations  
## # weights: 155  
## initial value 411.174091   
## iter 10 value 220.968709  
## iter 20 value 196.032966  
## iter 30 value 177.487898  
## iter 40 value 170.733340  
## iter 50 value 167.440118  
## iter 60 value 165.816644  
## iter 70 value 164.833054  
## iter 80 value 164.102146  
## iter 90 value 163.544624  
## iter 100 value 163.194564  
## final value 163.194564   
## stopped after 100 iterations  
## # weights: 169  
## initial value 511.758102   
## iter 10 value 212.361533  
## iter 20 value 180.037053  
## iter 30 value 168.441465  
## iter 40 value 165.749780  
## iter 50 value 164.575672  
## iter 60 value 163.663943  
## iter 70 value 163.132315  
## iter 80 value 162.549111  
## iter 90 value 161.952479  
## iter 100 value 161.527924  
## final value 161.527924   
## stopped after 100 iterations  
## # weights: 15  
## initial value 437.320632   
## iter 10 value 201.982461  
## iter 20 value 172.079335  
## iter 30 value 171.786810  
## final value 171.786722   
## converged  
## # weights: 29  
## initial value 481.934278   
## iter 10 value 217.528523  
## iter 20 value 203.524049  
## iter 30 value 184.328083  
## iter 40 value 178.578012  
## iter 50 value 178.355659  
## iter 60 value 177.629171  
## iter 70 value 175.411155  
## iter 80 value 175.282403  
## iter 80 value 175.282403  
## iter 80 value 175.282403  
## final value 175.282403   
## converged  
## # weights: 43  
## initial value 537.919741   
## iter 10 value 217.734500  
## iter 20 value 206.473930  
## iter 30 value 177.282606  
## iter 40 value 173.422572  
## iter 50 value 171.475170  
## iter 60 value 169.611214  
## iter 70 value 168.645513  
## iter 80 value 168.421835  
## iter 90 value 168.207682  
## iter 100 value 167.997600  
## final value 167.997600   
## stopped after 100 iterations  
## # weights: 57  
## initial value 410.235860   
## iter 10 value 224.151225  
## iter 20 value 207.883891  
## iter 30 value 176.784190  
## iter 40 value 171.351989  
## iter 50 value 169.842810  
## iter 60 value 168.950934  
## iter 70 value 168.361543  
## iter 80 value 168.084038  
## iter 90 value 167.899478  
## iter 100 value 167.208199  
## final value 167.208199   
## stopped after 100 iterations  
## # weights: 71  
## initial value 350.796263   
## iter 10 value 216.727770  
## iter 20 value 208.167101  
## iter 30 value 183.947277  
## iter 40 value 174.727903  
## iter 50 value 172.927998  
## iter 60 value 171.295705  
## iter 70 value 169.618745  
## iter 80 value 168.902190  
## iter 90 value 168.132892  
## iter 100 value 167.807102  
## final value 167.807102   
## stopped after 100 iterations  
## # weights: 85  
## initial value 470.805134   
## iter 10 value 202.893381  
## iter 20 value 173.791787  
## iter 30 value 170.359214  
## iter 40 value 169.729885  
## iter 50 value 168.723411  
## iter 60 value 166.600443  
## iter 70 value 166.192719  
## iter 80 value 166.074870  
## iter 90 value 165.992838  
## iter 100 value 165.947643  
## final value 165.947643   
## stopped after 100 iterations  
## # weights: 99  
## initial value 510.327224   
## iter 10 value 214.471300  
## iter 20 value 187.747256  
## iter 30 value 173.466108  
## iter 40 value 169.371630  
## iter 50 value 167.627774  
## iter 60 value 166.942150  
## iter 70 value 166.596258  
## iter 80 value 166.423185  
## iter 90 value 166.394808  
## iter 100 value 166.390834  
## final value 166.390834   
## stopped after 100 iterations  
## # weights: 113  
## initial value 509.822485   
## iter 10 value 215.429083  
## iter 20 value 182.259409  
## iter 30 value 171.940768  
## iter 40 value 167.949965  
## iter 50 value 166.477305  
## iter 60 value 166.113635  
## iter 70 value 166.050919  
## iter 80 value 165.995175  
## iter 90 value 165.950939  
## iter 100 value 165.835889  
## final value 165.835889   
## stopped after 100 iterations  
## # weights: 127  
## initial value 404.293868   
## iter 10 value 198.390997  
## iter 20 value 179.021024  
## iter 30 value 172.414101  
## iter 40 value 169.239152  
## iter 50 value 166.816065  
## iter 60 value 166.258856  
## iter 70 value 166.113047  
## iter 80 value 165.933620  
## iter 90 value 165.750383  
## iter 100 value 165.532066  
## final value 165.532066   
## stopped after 100 iterations  
## # weights: 141  
## initial value 610.465591   
## iter 10 value 216.415140  
## iter 20 value 191.970619  
## iter 30 value 174.486099  
## iter 40 value 170.120230  
## iter 50 value 168.323086  
## iter 60 value 166.794630  
## iter 70 value 166.347401  
## iter 80 value 166.138942  
## iter 90 value 165.746877  
## iter 100 value 165.357828  
## final value 165.357828   
## stopped after 100 iterations  
## # weights: 155  
## initial value 520.704069   
## iter 10 value 217.949876  
## iter 20 value 199.100293  
## iter 30 value 180.806134  
## iter 40 value 173.695097  
## iter 50 value 170.351469  
## iter 60 value 168.721228  
## iter 70 value 167.248180  
## iter 80 value 166.230035  
## iter 90 value 165.710497  
## iter 100 value 165.322085  
## final value 165.322085   
## stopped after 100 iterations  
## # weights: 169  
## initial value 296.382165   
## iter 10 value 213.392005  
## iter 20 value 202.737818  
## iter 30 value 180.846618  
## iter 40 value 171.111453  
## iter 50 value 167.976151  
## iter 60 value 167.148802  
## iter 70 value 166.765911  
## iter 80 value 166.392828  
## iter 90 value 165.893509  
## iter 100 value 165.677224  
## final value 165.677224   
## stopped after 100 iterations  
## # weights: 15  
## initial value 321.718245   
## iter 10 value 217.226534  
## iter 20 value 190.459512  
## iter 30 value 162.552761  
## iter 40 value 161.066113  
## iter 50 value 161.054964  
## final value 161.054923   
## converged  
## # weights: 29  
## initial value 625.861251   
## iter 10 value 219.026559  
## iter 20 value 215.881002  
## iter 30 value 207.706979  
## iter 40 value 178.577063  
## iter 50 value 156.923302  
## iter 60 value 154.653683  
## iter 70 value 153.566314  
## iter 80 value 153.561217  
## final value 153.561214   
## converged  
## # weights: 43  
## initial value 372.186461   
## iter 10 value 216.066923  
## iter 20 value 176.595588  
## iter 30 value 163.172877  
## iter 40 value 156.668904  
## iter 50 value 153.002283  
## iter 60 value 151.822098  
## iter 70 value 150.451867  
## iter 80 value 149.429989  
## iter 90 value 149.011553  
## final value 149.001235   
## converged  
## # weights: 57  
## initial value 502.118688   
## iter 10 value 215.306274  
## iter 20 value 181.973317  
## iter 30 value 163.795639  
## iter 40 value 160.437146  
## iter 50 value 154.956146  
## iter 60 value 150.553249  
## iter 70 value 148.721226  
## iter 80 value 147.546182  
## iter 90 value 147.349748  
## iter 100 value 147.348237  
## final value 147.348237   
## stopped after 100 iterations  
## # weights: 71  
## initial value 572.941112   
## iter 10 value 208.043707  
## iter 20 value 173.349208  
## iter 30 value 161.192017  
## iter 40 value 156.009469  
## iter 50 value 150.751990  
## iter 60 value 148.835266  
## iter 70 value 148.396837  
## iter 80 value 142.261833  
## iter 90 value 137.216734  
## iter 100 value 135.989828  
## final value 135.989828   
## stopped after 100 iterations  
## # weights: 85  
## initial value 218.361509   
## iter 10 value 209.699513  
## iter 20 value 165.118658  
## iter 30 value 156.806773  
## iter 40 value 151.042427  
## iter 50 value 149.377670  
## iter 60 value 147.839959  
## iter 70 value 143.742450  
## iter 80 value 142.728430  
## iter 90 value 142.545757  
## iter 100 value 141.193016  
## final value 141.193016   
## stopped after 100 iterations  
## # weights: 99  
## initial value 220.512288   
## iter 10 value 208.276282  
## iter 20 value 170.455980  
## iter 30 value 161.825938  
## iter 40 value 161.402242  
## iter 50 value 160.696215  
## iter 60 value 160.062303  
## iter 70 value 159.669454  
## final value 159.665626   
## converged  
## # weights: 113  
## initial value 364.752000   
## iter 10 value 214.882970  
## iter 20 value 188.789025  
## iter 30 value 160.071959  
## iter 40 value 154.860024  
## iter 50 value 148.563129  
## iter 60 value 144.346723  
## iter 70 value 142.962035  
## iter 80 value 135.777416  
## iter 90 value 130.948795  
## iter 100 value 129.630469  
## final value 129.630469   
## stopped after 100 iterations  
## # weights: 127  
## initial value 256.200443   
## iter 10 value 215.631453  
## iter 20 value 181.487649  
## iter 30 value 164.054223  
## iter 40 value 159.641479  
## iter 50 value 153.720367  
## iter 60 value 148.235192  
## iter 70 value 145.233756  
## iter 80 value 144.446267  
## iter 90 value 139.886026  
## iter 100 value 134.832466  
## final value 134.832466   
## stopped after 100 iterations  
## # weights: 141  
## initial value 317.441744   
## iter 10 value 216.728283  
## iter 20 value 192.486490  
## iter 30 value 169.431680  
## iter 40 value 161.778349  
## iter 50 value 156.517650  
## iter 60 value 154.074004  
## iter 70 value 147.553225  
## iter 80 value 140.445657  
## iter 90 value 132.673826  
## iter 100 value 130.112580  
## final value 130.112580   
## stopped after 100 iterations  
## # weights: 155  
## initial value 1240.791940   
## iter 10 value 216.011361  
## iter 20 value 190.200260  
## iter 30 value 162.536868  
## iter 40 value 157.370864  
## iter 50 value 152.468355  
## iter 60 value 148.605942  
## iter 70 value 142.945918  
## iter 80 value 140.136817  
## iter 90 value 134.853958  
## iter 100 value 127.763530  
## final value 127.763530   
## stopped after 100 iterations  
## # weights: 169  
## initial value 291.765311   
## iter 10 value 210.056018  
## iter 20 value 192.074721  
## iter 30 value 171.001422  
## iter 40 value 160.477313  
## iter 50 value 155.152496  
## iter 60 value 146.723658  
## iter 70 value 138.876179  
## iter 80 value 135.268424  
## iter 90 value 133.086713  
## iter 100 value 132.700537  
## final value 132.700537   
## stopped after 100 iterations  
## # weights: 15  
## initial value 451.492197   
## iter 10 value 217.821149  
## iter 20 value 184.553654  
## iter 30 value 165.439434  
## iter 40 value 164.979034  
## final value 164.978291   
## converged  
## # weights: 29  
## initial value 339.521067   
## iter 10 value 216.972826  
## iter 20 value 195.371404  
## iter 30 value 167.709727  
## iter 40 value 166.403970  
## iter 50 value 165.161877  
## iter 60 value 164.046119  
## iter 70 value 161.437616  
## iter 80 value 160.570360  
## iter 90 value 160.539386  
## iter 90 value 160.539386  
## iter 90 value 160.539386  
## final value 160.539386   
## converged  
## # weights: 43  
## initial value 318.670127   
## iter 10 value 209.966818  
## iter 20 value 178.314091  
## iter 30 value 165.240240  
## iter 40 value 161.651093  
## iter 50 value 160.441228  
## iter 60 value 159.537047  
## iter 70 value 159.325058  
## iter 80 value 159.277776  
## final value 159.277773   
## converged  
## # weights: 57  
## initial value 360.801832   
## iter 10 value 214.159503  
## iter 20 value 176.740107  
## iter 30 value 162.438098  
## iter 40 value 156.937177  
## iter 50 value 155.493877  
## iter 60 value 154.881877  
## iter 70 value 154.240675  
## iter 80 value 153.876005  
## iter 90 value 153.357762  
## iter 100 value 153.264483  
## final value 153.264483   
## stopped after 100 iterations  
## # weights: 71  
## initial value 287.001082   
## iter 10 value 215.943737  
## iter 20 value 197.138022  
## iter 30 value 166.612100  
## iter 40 value 161.476825  
## iter 50 value 156.150308  
## iter 60 value 152.798212  
## iter 70 value 152.342672  
## iter 80 value 152.143617  
## iter 90 value 151.275401  
## iter 100 value 150.946478  
## final value 150.946478   
## stopped after 100 iterations  
## # weights: 85  
## initial value 504.122556   
## iter 10 value 212.320784  
## iter 20 value 181.215515  
## iter 30 value 161.417261  
## iter 40 value 156.400707  
## iter 50 value 154.889038  
## iter 60 value 153.307385  
## iter 70 value 152.513968  
## iter 80 value 151.856776  
## iter 90 value 150.340402  
## iter 100 value 149.412050  
## final value 149.412050   
## stopped after 100 iterations  
## # weights: 99  
## initial value 333.302408   
## iter 10 value 215.511493  
## iter 20 value 205.463350  
## iter 30 value 180.298498  
## iter 40 value 163.771751  
## iter 50 value 157.841461  
## iter 60 value 156.474951  
## iter 70 value 154.396938  
## iter 80 value 153.606658  
## iter 90 value 152.564366  
## iter 100 value 151.518928  
## final value 151.518928   
## stopped after 100 iterations  
## # weights: 113  
## initial value 576.630614   
## iter 10 value 287.099725  
## iter 20 value 206.034292  
## iter 30 value 180.116589  
## iter 40 value 168.006131  
## iter 50 value 161.766625  
## iter 60 value 157.313068  
## iter 70 value 155.805111  
## iter 80 value 154.670729  
## iter 90 value 151.807642  
## iter 100 value 149.420536  
## final value 149.420536   
## stopped after 100 iterations  
## # weights: 127  
## initial value 231.683973   
## iter 10 value 210.128748  
## iter 20 value 186.263603  
## iter 30 value 163.136507  
## iter 40 value 159.750877  
## iter 50 value 159.213037  
## iter 60 value 158.453441  
## iter 70 value 155.784407  
## iter 80 value 154.768476  
## iter 90 value 152.561412  
## iter 100 value 151.497344  
## final value 151.497344   
## stopped after 100 iterations  
## # weights: 141  
## initial value 480.160208   
## iter 10 value 215.619575  
## iter 20 value 178.780867  
## iter 30 value 169.922186  
## iter 40 value 163.809345  
## iter 50 value 158.486100  
## iter 60 value 155.815660  
## iter 70 value 154.150098  
## iter 80 value 152.808766  
## iter 90 value 151.320696  
## iter 100 value 149.623919  
## final value 149.623919   
## stopped after 100 iterations  
## # weights: 155  
## initial value 227.779685   
## iter 10 value 214.370261  
## iter 20 value 188.762022  
## iter 30 value 168.393210  
## iter 40 value 159.709633  
## iter 50 value 156.345304  
## iter 60 value 153.638869  
## iter 70 value 152.281805  
## iter 80 value 150.950188  
## iter 90 value 149.536939  
## iter 100 value 148.693225  
## final value 148.693225   
## stopped after 100 iterations  
## # weights: 169  
## initial value 719.961361   
## iter 10 value 217.026022  
## iter 20 value 172.564218  
## iter 30 value 163.395528  
## iter 40 value 160.229977  
## iter 50 value 158.588678  
## iter 60 value 155.200236  
## iter 70 value 151.479211  
## iter 80 value 148.831792  
## iter 90 value 147.537751  
## iter 100 value 146.346858  
## final value 146.346858   
## stopped after 100 iterations  
## # weights: 15  
## initial value 415.377600   
## iter 10 value 218.218590  
## iter 20 value 207.729946  
## iter 30 value 177.777896  
## iter 40 value 168.590804  
## final value 168.511794   
## converged  
## # weights: 29  
## initial value 566.644817   
## iter 10 value 218.981609  
## iter 20 value 184.587989  
## iter 30 value 169.444741  
## iter 40 value 168.869811  
## iter 50 value 168.467817  
## iter 60 value 166.183024  
## iter 70 value 165.696219  
## iter 80 value 165.571953  
## final value 165.571802   
## converged  
## # weights: 43  
## initial value 518.110828   
## iter 10 value 221.493723  
## iter 20 value 210.799742  
## iter 30 value 183.448403  
## iter 40 value 169.087783  
## iter 50 value 164.698002  
## iter 60 value 163.705955  
## iter 70 value 163.000318  
## iter 80 value 162.143809  
## iter 90 value 162.038196  
## iter 100 value 162.025158  
## final value 162.025158   
## stopped after 100 iterations  
## # weights: 57  
## initial value 390.254829   
## iter 10 value 213.776704  
## iter 20 value 176.362704  
## iter 30 value 167.960501  
## iter 40 value 165.689756  
## iter 50 value 164.715663  
## iter 60 value 163.391497  
## iter 70 value 162.978765  
## iter 80 value 162.470683  
## iter 90 value 162.176452  
## iter 100 value 161.096612  
## final value 161.096612   
## stopped after 100 iterations  
## # weights: 71  
## initial value 371.578104   
## iter 10 value 206.310851  
## iter 20 value 171.126652  
## iter 30 value 168.069398  
## iter 40 value 165.772314  
## iter 50 value 164.817485  
## iter 60 value 164.365468  
## iter 70 value 164.252154  
## iter 80 value 163.902255  
## iter 90 value 162.446117  
## iter 100 value 160.913473  
## final value 160.913473   
## stopped after 100 iterations  
## # weights: 85  
## initial value 377.707637   
## iter 10 value 222.195078  
## iter 20 value 175.344537  
## iter 30 value 168.401211  
## iter 40 value 165.576107  
## iter 50 value 164.613009  
## iter 60 value 163.225076  
## iter 70 value 160.683114  
## iter 80 value 159.267902  
## iter 90 value 158.825616  
## iter 100 value 157.472017  
## final value 157.472017   
## stopped after 100 iterations  
## # weights: 99  
## initial value 585.557394   
## iter 10 value 205.424625  
## iter 20 value 177.420174  
## iter 30 value 166.857054  
## iter 40 value 164.625492  
## iter 50 value 162.183707  
## iter 60 value 161.224036  
## iter 70 value 160.849753  
## iter 80 value 160.141645  
## iter 90 value 158.788200  
## iter 100 value 158.354128  
## final value 158.354128   
## stopped after 100 iterations  
## # weights: 113  
## initial value 531.731666   
## iter 10 value 216.936134  
## iter 20 value 192.730303  
## iter 30 value 170.016920  
## iter 40 value 165.924402  
## iter 50 value 164.183250  
## iter 60 value 163.870183  
## iter 70 value 163.408207  
## iter 80 value 162.801154  
## iter 90 value 162.311359  
## iter 100 value 161.063725  
## final value 161.063725   
## stopped after 100 iterations  
## # weights: 127  
## initial value 755.509978   
## iter 10 value 272.928655  
## iter 20 value 211.074172  
## iter 30 value 171.993271  
## iter 40 value 167.154191  
## iter 50 value 166.349132  
## iter 60 value 165.232844  
## iter 70 value 163.960229  
## iter 80 value 161.800800  
## iter 90 value 158.910638  
## iter 100 value 156.446677  
## final value 156.446677   
## stopped after 100 iterations  
## # weights: 141  
## initial value 615.853884   
## iter 10 value 214.527845  
## iter 20 value 190.335705  
## iter 30 value 168.798817  
## iter 40 value 165.310428  
## iter 50 value 163.792690  
## iter 60 value 162.293308  
## iter 70 value 159.807941  
## iter 80 value 157.492094  
## iter 90 value 156.669696  
## iter 100 value 156.034126  
## final value 156.034126   
## stopped after 100 iterations  
## # weights: 155  
## initial value 327.073826   
## iter 10 value 217.665473  
## iter 20 value 213.478035  
## iter 30 value 193.477810  
## iter 40 value 173.503506  
## iter 50 value 166.546193  
## iter 60 value 163.354901  
## iter 70 value 160.708143  
## iter 80 value 158.714175  
## iter 90 value 157.256424  
## iter 100 value 156.536760  
## final value 156.536760   
## stopped after 100 iterations  
## # weights: 169  
## initial value 945.274462   
## iter 10 value 220.073437  
## iter 20 value 210.500128  
## iter 30 value 188.977477  
## iter 40 value 169.676683  
## iter 50 value 164.656835  
## iter 60 value 163.472520  
## iter 70 value 162.704577  
## iter 80 value 162.138953  
## iter 90 value 161.870417  
## iter 100 value 161.697788  
## final value 161.697788   
## stopped after 100 iterations  
## # weights: 15  
## initial value 485.466885   
## iter 10 value 223.974682  
## iter 20 value 215.075974  
## iter 30 value 186.873609  
## iter 40 value 172.830367  
## iter 50 value 171.738524  
## final value 171.738512   
## converged  
## # weights: 29  
## initial value 313.416833   
## iter 10 value 206.711467  
## iter 20 value 173.730519  
## iter 30 value 171.792501  
## iter 40 value 171.739063  
## iter 50 value 171.614810  
## iter 60 value 169.954624  
## iter 70 value 169.455033  
## final value 169.448147   
## converged  
## # weights: 43  
## initial value 298.688806   
## iter 10 value 214.720662  
## iter 20 value 196.791496  
## iter 30 value 169.915947  
## iter 40 value 169.584478  
## iter 50 value 169.523616  
## iter 60 value 169.436068  
## iter 70 value 168.962961  
## iter 80 value 167.645065  
## iter 90 value 167.243045  
## iter 100 value 167.224727  
## final value 167.224727   
## stopped after 100 iterations  
## # weights: 57  
## initial value 455.066156   
## iter 10 value 222.375160  
## iter 20 value 203.892369  
## iter 30 value 177.012420  
## iter 40 value 170.819806  
## iter 50 value 170.020658  
## iter 60 value 168.805529  
## iter 70 value 168.175480  
## iter 80 value 167.841055  
## iter 90 value 167.256679  
## iter 100 value 166.385106  
## final value 166.385106   
## stopped after 100 iterations  
## # weights: 71  
## initial value 344.055260   
## iter 10 value 224.556916  
## iter 20 value 214.073933  
## iter 30 value 190.538956  
## iter 40 value 171.878454  
## iter 50 value 168.456292  
## iter 60 value 167.472923  
## iter 70 value 167.092643  
## iter 80 value 166.860909  
## iter 90 value 166.318013  
## iter 100 value 165.789579  
## final value 165.789579   
## stopped after 100 iterations  
## # weights: 85  
## initial value 558.577315   
## iter 10 value 214.913587  
## iter 20 value 196.830372  
## iter 30 value 174.053193  
## iter 40 value 170.701392  
## iter 50 value 168.632215  
## iter 60 value 167.335907  
## iter 70 value 166.646215  
## iter 80 value 165.721185  
## iter 90 value 165.312896  
## iter 100 value 165.037865  
## final value 165.037865   
## stopped after 100 iterations  
## # weights: 99  
## initial value 250.435675   
## iter 10 value 215.145367  
## iter 20 value 183.588427  
## iter 30 value 172.338212  
## iter 40 value 170.387106  
## iter 50 value 169.260999  
## iter 60 value 168.526627  
## iter 70 value 167.659943  
## iter 80 value 167.327112  
## iter 90 value 167.043403  
## iter 100 value 166.696150  
## final value 166.696150   
## stopped after 100 iterations  
## # weights: 113  
## initial value 290.790369   
## iter 10 value 212.509595  
## iter 20 value 186.540804  
## iter 30 value 172.161317  
## iter 40 value 169.251942  
## iter 50 value 167.044712  
## iter 60 value 165.842794  
## iter 70 value 164.954498  
## iter 80 value 164.419652  
## iter 90 value 164.128841  
## iter 100 value 163.449878  
## final value 163.449878   
## stopped after 100 iterations  
## # weights: 127  
## initial value 738.860667   
## iter 10 value 208.994494  
## iter 20 value 192.515522  
## iter 30 value 176.832943  
## iter 40 value 168.541613  
## iter 50 value 167.784102  
## iter 60 value 165.738424  
## iter 70 value 164.695185  
## iter 80 value 164.073749  
## iter 90 value 163.252933  
## iter 100 value 162.996792  
## final value 162.996792   
## stopped after 100 iterations  
## # weights: 141  
## initial value 414.822578   
## iter 10 value 214.538741  
## iter 20 value 208.268452  
## iter 30 value 187.516931  
## iter 40 value 170.513324  
## iter 50 value 166.941478  
## iter 60 value 166.086999  
## iter 70 value 165.724695  
## iter 80 value 165.436162  
## iter 90 value 164.860221  
## iter 100 value 164.409099  
## final value 164.409099   
## stopped after 100 iterations  
## # weights: 155  
## initial value 274.615295   
## iter 10 value 216.013814  
## iter 20 value 200.489334  
## iter 30 value 188.704232  
## iter 40 value 172.398264  
## iter 50 value 168.422828  
## iter 60 value 167.918622  
## iter 70 value 167.104188  
## iter 80 value 165.780000  
## iter 90 value 165.150178  
## iter 100 value 164.799732  
## final value 164.799732   
## stopped after 100 iterations  
## # weights: 169  
## initial value 628.933877   
## iter 10 value 222.710965  
## iter 20 value 187.255245  
## iter 30 value 173.508126  
## iter 40 value 169.258188  
## iter 50 value 167.727066  
## iter 60 value 167.031792  
## iter 70 value 166.724099  
## iter 80 value 166.039446  
## iter 90 value 165.811259  
## iter 100 value 165.624299  
## final value 165.624299   
## stopped after 100 iterations  
## # weights: 15  
## initial value 252.191613   
## iter 10 value 209.799804  
## iter 20 value 176.967616  
## iter 30 value 174.710314  
## final value 174.706831   
## converged  
## # weights: 29  
## initial value 330.389306   
## iter 10 value 219.740682  
## iter 20 value 200.926715  
## iter 30 value 177.449485  
## iter 40 value 173.277923  
## iter 50 value 173.125897  
## final value 173.123131   
## converged  
## # weights: 43  
## initial value 389.166035   
## iter 10 value 197.008079  
## iter 20 value 176.608916  
## iter 30 value 173.833275  
## iter 40 value 171.977158  
## iter 50 value 170.563362  
## iter 60 value 170.450901  
## iter 70 value 170.449202  
## final value 170.449173   
## converged  
## # weights: 57  
## initial value 371.799933   
## iter 10 value 216.207242  
## iter 20 value 198.519492  
## iter 30 value 178.957502  
## iter 40 value 176.687411  
## iter 50 value 176.663805  
## iter 60 value 176.651820  
## iter 60 value 176.651819  
## iter 60 value 176.651819  
## final value 176.651819   
## converged  
## # weights: 71  
## initial value 609.233024   
## iter 10 value 215.390637  
## iter 20 value 186.422414  
## iter 30 value 177.098231  
## iter 40 value 173.263271  
## iter 50 value 172.044836  
## iter 60 value 171.115495  
## iter 70 value 170.360586  
## iter 80 value 169.696472  
## iter 90 value 169.543704  
## iter 100 value 169.525544  
## final value 169.525544   
## stopped after 100 iterations  
## # weights: 85  
## initial value 485.371842   
## iter 10 value 200.670069  
## iter 20 value 184.007053  
## iter 30 value 175.401303  
## iter 40 value 173.610214  
## iter 50 value 171.951183  
## iter 60 value 171.369597  
## iter 70 value 169.770107  
## iter 80 value 169.520963  
## iter 90 value 169.411973  
## iter 100 value 169.296776  
## final value 169.296776   
## stopped after 100 iterations  
## # weights: 99  
## initial value 284.711817   
## iter 10 value 213.536192  
## iter 20 value 186.665534  
## iter 30 value 176.005126  
## iter 40 value 175.191322  
## iter 50 value 174.804816  
## iter 60 value 173.659621  
## iter 70 value 172.446938  
## iter 80 value 171.136767  
## iter 90 value 169.888542  
## iter 100 value 169.001275  
## final value 169.001275   
## stopped after 100 iterations  
## # weights: 113  
## initial value 516.356743   
## iter 10 value 214.517756  
## iter 20 value 197.460514  
## iter 30 value 181.039953  
## iter 40 value 170.773272  
## iter 50 value 169.754862  
## iter 60 value 169.458963  
## iter 70 value 169.176762  
## iter 80 value 168.766280  
## iter 90 value 168.665682  
## iter 100 value 168.474520  
## final value 168.474520   
## stopped after 100 iterations  
## # weights: 127  
## initial value 364.145517   
## iter 10 value 207.553844  
## iter 20 value 185.001628  
## iter 30 value 177.126988  
## iter 40 value 174.429009  
## iter 50 value 171.376504  
## iter 60 value 170.481871  
## iter 70 value 169.993490  
## iter 80 value 169.214016  
## iter 90 value 168.696910  
## iter 100 value 168.431162  
## final value 168.431162   
## stopped after 100 iterations  
## # weights: 141  
## initial value 394.636728   
## iter 10 value 214.310582  
## iter 20 value 208.480661  
## iter 30 value 191.337390  
## iter 40 value 174.796886  
## iter 50 value 171.429623  
## iter 60 value 169.832717  
## iter 70 value 169.209847  
## iter 80 value 168.639229  
## iter 90 value 168.398129  
## iter 100 value 168.299608  
## final value 168.299608   
## stopped after 100 iterations  
## # weights: 155  
## initial value 283.649798   
## iter 10 value 211.794404  
## iter 20 value 186.643955  
## iter 30 value 176.903760  
## iter 40 value 172.471610  
## iter 50 value 170.171580  
## iter 60 value 169.325270  
## iter 70 value 168.807170  
## iter 80 value 168.355269  
## iter 90 value 167.697939  
## iter 100 value 167.523200  
## final value 167.523200   
## stopped after 100 iterations  
## # weights: 169  
## initial value 613.330859   
## iter 10 value 217.247546  
## iter 20 value 189.165033  
## iter 30 value 177.871171  
## iter 40 value 172.185980  
## iter 50 value 170.701483  
## iter 60 value 170.314658  
## iter 70 value 170.093263  
## iter 80 value 169.553955  
## iter 90 value 168.724186  
## iter 100 value 168.088422  
## final value 168.088422   
## stopped after 100 iterations  
## # weights: 15  
## initial value 465.077739   
## iter 10 value 217.193006  
## iter 20 value 185.837540  
## iter 30 value 158.492342  
## iter 40 value 157.089896  
## iter 50 value 157.064052  
## final value 157.062650   
## converged  
## # weights: 29  
## initial value 508.866020   
## iter 10 value 217.379897  
## iter 20 value 192.556775  
## iter 30 value 161.178070  
## iter 40 value 158.172747  
## iter 50 value 158.108397  
## iter 60 value 158.098224  
## final value 158.098181   
## converged  
## # weights: 43  
## initial value 328.705288   
## iter 10 value 207.176549  
## iter 20 value 168.403286  
## iter 30 value 158.559139  
## iter 40 value 157.969639  
## iter 50 value 156.536311  
## iter 60 value 148.839634  
## iter 70 value 145.511687  
## iter 80 value 144.135776  
## iter 90 value 143.640690  
## iter 100 value 143.541139  
## final value 143.541139   
## stopped after 100 iterations  
## # weights: 57  
## initial value 807.222868   
## iter 10 value 227.063207  
## iter 20 value 210.628140  
## iter 30 value 164.566272  
## iter 40 value 155.301107  
## iter 50 value 151.884291  
## iter 60 value 151.063153  
## iter 70 value 150.826701  
## iter 80 value 149.339461  
## iter 90 value 144.875752  
## iter 100 value 144.305586  
## final value 144.305586   
## stopped after 100 iterations  
## # weights: 71  
## initial value 433.633465   
## iter 10 value 216.789851  
## iter 20 value 190.996604  
## iter 30 value 162.298822  
## iter 40 value 157.613229  
## iter 50 value 151.639456  
## iter 60 value 145.539587  
## iter 70 value 141.266218  
## iter 80 value 139.053405  
## iter 90 value 138.065793  
## iter 100 value 137.760934  
## final value 137.760934   
## stopped after 100 iterations  
## # weights: 85  
## initial value 433.484104   
## iter 10 value 215.983459  
## iter 20 value 210.178496  
## iter 30 value 181.281354  
## iter 40 value 161.898460  
## iter 50 value 155.244897  
## iter 60 value 152.681700  
## iter 70 value 146.062280  
## iter 80 value 142.335296  
## iter 90 value 139.378807  
## iter 100 value 138.915422  
## final value 138.915422   
## stopped after 100 iterations  
## # weights: 99  
## initial value 961.067078   
## iter 10 value 208.447015  
## iter 20 value 173.438035  
## iter 30 value 158.649462  
## iter 40 value 152.143301  
## iter 50 value 150.299569  
## iter 60 value 149.360437  
## iter 70 value 144.579155  
## iter 80 value 141.934293  
## iter 90 value 140.477426  
## iter 100 value 138.870215  
## final value 138.870215   
## stopped after 100 iterations  
## # weights: 113  
## initial value 234.752191   
## iter 10 value 203.935345  
## iter 20 value 164.725219  
## iter 30 value 154.337575  
## iter 40 value 152.352517  
## iter 50 value 144.353892  
## iter 60 value 137.524220  
## iter 70 value 134.385474  
## iter 80 value 131.775696  
## iter 90 value 131.418410  
## iter 100 value 130.463673  
## final value 130.463673   
## stopped after 100 iterations  
## # weights: 127  
## initial value 393.632114   
## iter 10 value 213.216561  
## iter 20 value 197.444101  
## iter 30 value 182.080861  
## iter 40 value 152.830853  
## iter 50 value 149.286932  
## iter 60 value 145.468639  
## iter 70 value 139.280436  
## iter 80 value 134.925228  
## iter 90 value 130.935008  
## iter 100 value 128.150389  
## final value 128.150389   
## stopped after 100 iterations  
## # weights: 141  
## initial value 857.094716   
## iter 10 value 214.498729  
## iter 20 value 204.321256  
## iter 30 value 178.051519  
## iter 40 value 155.888823  
## iter 50 value 148.727584  
## iter 60 value 139.232347  
## iter 70 value 132.317630  
## iter 80 value 128.473758  
## iter 90 value 122.910649  
## iter 100 value 120.708563  
## final value 120.708563   
## stopped after 100 iterations  
## # weights: 155  
## initial value 596.365964   
## iter 10 value 199.265854  
## iter 20 value 168.366366  
## iter 30 value 156.796801  
## iter 40 value 150.038710  
## iter 50 value 145.599503  
## iter 60 value 138.407003  
## iter 70 value 134.292575  
## iter 80 value 128.959455  
## iter 90 value 124.987943  
## iter 100 value 123.141230  
## final value 123.141230   
## stopped after 100 iterations  
## # weights: 169  
## initial value 854.409602   
## iter 10 value 196.751164  
## iter 20 value 166.653470  
## iter 30 value 153.915218  
## iter 40 value 146.831536  
## iter 50 value 144.971297  
## iter 60 value 141.622687  
## iter 70 value 136.349184  
## iter 80 value 131.505409  
## iter 90 value 129.569795  
## iter 100 value 128.335732  
## final value 128.335732   
## stopped after 100 iterations  
## # weights: 15  
## initial value 462.029130   
## iter 10 value 217.826421  
## iter 20 value 198.619761  
## iter 30 value 166.548651  
## iter 40 value 164.689056  
## iter 50 value 164.642066  
## final value 164.641768   
## converged  
## # weights: 29  
## initial value 330.066498   
## iter 10 value 216.650969  
## iter 20 value 196.067560  
## iter 30 value 169.188307  
## iter 40 value 163.623411  
## iter 50 value 161.209684  
## iter 60 value 160.404714  
## iter 70 value 160.368647  
## iter 80 value 160.364386  
## final value 160.363919   
## converged  
## # weights: 43  
## initial value 406.857235   
## iter 10 value 217.701059  
## iter 20 value 177.467656  
## iter 30 value 161.574377  
## iter 40 value 159.308297  
## iter 50 value 158.844182  
## iter 60 value 158.104603  
## iter 70 value 155.042014  
## iter 80 value 153.623188  
## iter 90 value 153.179201  
## iter 100 value 152.742607  
## final value 152.742607   
## stopped after 100 iterations  
## # weights: 57  
## initial value 550.946176   
## iter 10 value 232.726776  
## iter 20 value 182.541833  
## iter 30 value 164.370341  
## iter 40 value 161.745057  
## iter 50 value 160.260523  
## iter 60 value 157.812038  
## iter 70 value 156.309551  
## iter 80 value 155.424785  
## iter 90 value 152.202476  
## iter 100 value 151.660017  
## final value 151.660017   
## stopped after 100 iterations  
## # weights: 71  
## initial value 582.406472   
## iter 10 value 234.060881  
## iter 20 value 195.100203  
## iter 30 value 162.458017  
## iter 40 value 157.562668  
## iter 50 value 156.845887  
## iter 60 value 156.588447  
## iter 70 value 156.405374  
## iter 80 value 154.331497  
## iter 90 value 153.042455  
## iter 100 value 150.992259  
## final value 150.992259   
## stopped after 100 iterations  
## # weights: 85  
## initial value 288.877633   
## iter 10 value 216.673540  
## iter 20 value 194.931609  
## iter 30 value 165.905970  
## iter 40 value 157.883048  
## iter 50 value 152.405978  
## iter 60 value 150.339297  
## iter 70 value 147.763028  
## iter 80 value 146.041629  
## iter 90 value 144.669562  
## iter 100 value 144.310227  
## final value 144.310227   
## stopped after 100 iterations  
## # weights: 99  
## initial value 555.437416   
## iter 10 value 205.730280  
## iter 20 value 174.107321  
## iter 30 value 165.837781  
## iter 40 value 163.171673  
## iter 50 value 162.195090  
## iter 60 value 161.976722  
## iter 70 value 161.928692  
## iter 80 value 161.832653  
## iter 90 value 161.531998  
## iter 100 value 160.025273  
## final value 160.025273   
## stopped after 100 iterations  
## # weights: 113  
## initial value 574.295194   
## iter 10 value 214.054216  
## iter 20 value 182.448644  
## iter 30 value 164.021343  
## iter 40 value 158.005116  
## iter 50 value 154.066369  
## iter 60 value 152.778339  
## iter 70 value 151.624737  
## iter 80 value 150.332714  
## iter 90 value 149.196977  
## iter 100 value 148.427863  
## final value 148.427863   
## stopped after 100 iterations  
## # weights: 127  
## initial value 219.816559   
## iter 10 value 198.873691  
## iter 20 value 165.026925  
## iter 30 value 155.276637  
## iter 40 value 153.176229  
## iter 50 value 152.326170  
## iter 60 value 150.149232  
## iter 70 value 146.135556  
## iter 80 value 144.678461  
## iter 90 value 143.836129  
## iter 100 value 142.973420  
## final value 142.973420   
## stopped after 100 iterations  
## # weights: 141  
## initial value 595.730483   
## iter 10 value 213.664661  
## iter 20 value 193.533933  
## iter 30 value 170.444084  
## iter 40 value 157.962847  
## iter 50 value 152.945284  
## iter 60 value 149.644566  
## iter 70 value 146.765120  
## iter 80 value 143.760905  
## iter 90 value 142.021541  
## iter 100 value 140.321352  
## final value 140.321352   
## stopped after 100 iterations  
## # weights: 155  
## initial value 590.818575   
## iter 10 value 216.945549  
## iter 20 value 206.151832  
## iter 30 value 182.079831  
## iter 40 value 160.804061  
## iter 50 value 156.546115  
## iter 60 value 153.197120  
## iter 70 value 152.429985  
## iter 80 value 148.826027  
## iter 90 value 144.933973  
## iter 100 value 142.481172  
## final value 142.481172   
## stopped after 100 iterations  
## # weights: 169  
## initial value 943.528720   
## iter 10 value 206.365912  
## iter 20 value 176.811864  
## iter 30 value 161.345223  
## iter 40 value 153.656393  
## iter 50 value 150.111960  
## iter 60 value 146.898673  
## iter 70 value 144.933450  
## iter 80 value 144.230524  
## iter 90 value 143.971313  
## iter 100 value 143.826884  
## final value 143.826884   
## stopped after 100 iterations  
## # weights: 15  
## initial value 296.365778   
## iter 10 value 216.717396  
## iter 20 value 210.619102  
## iter 30 value 168.902064  
## iter 40 value 164.777559  
## iter 50 value 164.739069  
## final value 164.738909   
## converged  
## # weights: 29  
## initial value 463.114886   
## iter 10 value 214.590474  
## iter 20 value 171.259633  
## iter 30 value 164.630280  
## iter 40 value 163.229751  
## iter 50 value 162.319856  
## final value 162.295956   
## converged  
## # weights: 43  
## initial value 556.922720   
## iter 10 value 250.978893  
## iter 20 value 213.845314  
## iter 30 value 176.186386  
## iter 40 value 166.818473  
## iter 50 value 166.507079  
## final value 166.507069   
## converged  
## # weights: 57  
## initial value 402.605534   
## iter 10 value 218.451748  
## iter 20 value 212.347427  
## iter 30 value 173.769822  
## iter 40 value 166.725310  
## iter 50 value 165.288314  
## iter 60 value 165.004868  
## iter 70 value 164.960382  
## iter 80 value 164.743692  
## final value 164.741877   
## converged  
## # weights: 71  
## initial value 291.124961   
## iter 10 value 200.133460  
## iter 20 value 166.851833  
## iter 30 value 164.122063  
## iter 40 value 162.863247  
## iter 50 value 162.495520  
## iter 60 value 162.117903  
## iter 70 value 160.720716  
## iter 80 value 159.419667  
## iter 90 value 158.943042  
## iter 100 value 158.510180  
## final value 158.510180   
## stopped after 100 iterations  
## # weights: 85  
## initial value 706.117485   
## iter 10 value 236.821163  
## iter 20 value 218.717753  
## iter 30 value 202.752633  
## iter 40 value 171.711047  
## iter 50 value 161.481841  
## iter 60 value 159.898993  
## iter 70 value 159.412425  
## iter 80 value 158.155761  
## iter 90 value 157.508235  
## iter 100 value 157.369939  
## final value 157.369939   
## stopped after 100 iterations  
## # weights: 99  
## initial value 590.279037   
## iter 10 value 216.802415  
## iter 20 value 202.213944  
## iter 30 value 178.054891  
## iter 40 value 164.279168  
## iter 50 value 160.473260  
## iter 60 value 159.308006  
## iter 70 value 158.939218  
## iter 80 value 158.466837  
## iter 90 value 158.380223  
## iter 100 value 158.316344  
## final value 158.316344   
## stopped after 100 iterations  
## # weights: 113  
## initial value 576.151575   
## iter 10 value 205.097788  
## iter 20 value 174.120532  
## iter 30 value 166.218129  
## iter 40 value 163.121429  
## iter 50 value 162.098502  
## iter 60 value 160.308353  
## iter 70 value 159.001928  
## iter 80 value 157.278616  
## iter 90 value 156.218072  
## iter 100 value 155.679920  
## final value 155.679920   
## stopped after 100 iterations  
## # weights: 127  
## initial value 416.004436   
## iter 10 value 215.160811  
## iter 20 value 190.280151  
## iter 30 value 168.763448  
## iter 40 value 163.198201  
## iter 50 value 160.039224  
## iter 60 value 159.274561  
## iter 70 value 159.082507  
## iter 80 value 158.189953  
## iter 90 value 156.461887  
## iter 100 value 154.967944  
## final value 154.967944   
## stopped after 100 iterations  
## # weights: 141  
## initial value 421.079013   
## iter 10 value 220.958647  
## iter 20 value 210.210977  
## iter 30 value 175.757018  
## iter 40 value 165.417806  
## iter 50 value 162.036433  
## iter 60 value 160.663693  
## iter 70 value 159.673815  
## iter 80 value 158.631728  
## iter 90 value 158.390500  
## iter 100 value 158.015910  
## final value 158.015910   
## stopped after 100 iterations  
## # weights: 155  
## initial value 489.479219   
## iter 10 value 214.304095  
## iter 20 value 201.189229  
## iter 30 value 173.398446  
## iter 40 value 164.639783  
## iter 50 value 160.550658  
## iter 60 value 157.966903  
## iter 70 value 156.835381  
## iter 80 value 155.178731  
## iter 90 value 153.843326  
## iter 100 value 153.195221  
## final value 153.195221   
## stopped after 100 iterations  
## # weights: 169  
## initial value 371.271028   
## iter 10 value 209.617383  
## iter 20 value 176.908387  
## iter 30 value 165.356259  
## iter 40 value 162.509756  
## iter 50 value 158.876763  
## iter 60 value 157.156586  
## iter 70 value 155.489357  
## iter 80 value 154.338548  
## iter 90 value 153.575758  
## iter 100 value 153.185316  
## final value 153.185316   
## stopped after 100 iterations  
## # weights: 15  
## initial value 732.731739   
## iter 10 value 220.689727  
## iter 20 value 216.240020  
## iter 30 value 187.372489  
## iter 40 value 168.784316  
## iter 50 value 168.063325  
## final value 168.063064   
## converged  
## # weights: 29  
## initial value 537.184671   
## iter 10 value 219.377643  
## iter 20 value 201.273643  
## iter 30 value 170.190054  
## iter 40 value 168.142367  
## iter 50 value 166.842865  
## iter 60 value 166.282222  
## iter 70 value 166.279952  
## iter 70 value 166.279952  
## iter 70 value 166.279952  
## final value 166.279952   
## converged  
## # weights: 43  
## initial value 625.719117   
## iter 10 value 219.358662  
## iter 20 value 172.632315  
## iter 30 value 169.241046  
## iter 40 value 168.058364  
## iter 50 value 166.387487  
## iter 60 value 166.291531  
## iter 70 value 166.278500  
## iter 80 value 166.050304  
## iter 90 value 164.782566  
## iter 100 value 164.591150  
## final value 164.591150   
## stopped after 100 iterations  
## # weights: 57  
## initial value 379.015757   
## iter 10 value 216.661535  
## iter 20 value 199.902355  
## iter 30 value 168.958022  
## iter 40 value 166.429276  
## iter 50 value 165.581574  
## iter 60 value 164.457552  
## iter 70 value 164.270740  
## iter 80 value 164.245232  
## iter 90 value 164.233018  
## final value 164.232483   
## converged  
## # weights: 71  
## initial value 425.827415   
## iter 10 value 212.648088  
## iter 20 value 201.009417  
## iter 30 value 170.922989  
## iter 40 value 166.236432  
## iter 50 value 164.683627  
## iter 60 value 163.815508  
## iter 70 value 163.499939  
## iter 80 value 163.140961  
## iter 90 value 161.812498  
## iter 100 value 161.020208  
## final value 161.020208   
## stopped after 100 iterations  
## # weights: 85  
## initial value 387.729510   
## iter 10 value 219.846850  
## iter 20 value 196.525035  
## iter 30 value 173.820526  
## iter 40 value 169.147996  
## iter 50 value 167.729915  
## iter 60 value 166.281432  
## iter 70 value 165.351756  
## iter 80 value 165.203999  
## iter 90 value 164.981211  
## iter 100 value 164.891954  
## final value 164.891954   
## stopped after 100 iterations  
## # weights: 99  
## initial value 303.871013   
## iter 10 value 212.899045  
## iter 20 value 178.213885  
## iter 30 value 169.504129  
## iter 40 value 167.026660  
## iter 50 value 166.312774  
## iter 60 value 166.039325  
## iter 70 value 165.301358  
## iter 80 value 164.844500  
## iter 90 value 164.608848  
## iter 100 value 164.301997  
## final value 164.301997   
## stopped after 100 iterations  
## # weights: 113  
## initial value 224.067502   
## iter 10 value 196.358016  
## iter 20 value 175.823119  
## iter 30 value 167.233030  
## iter 40 value 164.278398  
## iter 50 value 163.741125  
## iter 60 value 163.454318  
## iter 70 value 163.206657  
## iter 80 value 162.787720  
## iter 90 value 161.806151  
## iter 100 value 161.518736  
## final value 161.518736   
## stopped after 100 iterations  
## # weights: 127  
## initial value 920.136328   
## iter 10 value 215.365442  
## iter 20 value 191.190279  
## iter 30 value 175.224586  
## iter 40 value 165.060068  
## iter 50 value 162.550021  
## iter 60 value 161.537825  
## iter 70 value 161.238842  
## iter 80 value 161.069652  
## iter 90 value 160.546193  
## iter 100 value 159.945801  
## final value 159.945801   
## stopped after 100 iterations  
## # weights: 141  
## initial value 1146.384260   
## iter 10 value 217.572621  
## iter 20 value 205.371789  
## iter 30 value 181.003391  
## iter 40 value 167.127758  
## iter 50 value 163.585934  
## iter 60 value 162.422283  
## iter 70 value 161.742654  
## iter 80 value 161.203722  
## iter 90 value 160.887129  
## iter 100 value 160.165106  
## final value 160.165106   
## stopped after 100 iterations  
## # weights: 155  
## initial value 267.120382   
## iter 10 value 190.252260  
## iter 20 value 174.584300  
## iter 30 value 169.702907  
## iter 40 value 167.166125  
## iter 50 value 165.880613  
## iter 60 value 164.659275  
## iter 70 value 163.785961  
## iter 80 value 163.238365  
## iter 90 value 162.821507  
## iter 100 value 162.582565  
## final value 162.582565   
## stopped after 100 iterations  
## # weights: 169  
## initial value 784.389448   
## iter 10 value 215.885297  
## iter 20 value 201.093758  
## iter 30 value 175.104720  
## iter 40 value 167.572302  
## iter 50 value 164.901027  
## iter 60 value 163.814783  
## iter 70 value 162.611037  
## iter 80 value 161.862026  
## iter 90 value 160.929339  
## iter 100 value 160.085189  
## final value 160.085189   
## stopped after 100 iterations  
## # weights: 15  
## initial value 327.798644   
## iter 10 value 213.611308  
## iter 20 value 182.596489  
## iter 30 value 171.137764  
## final value 171.124960   
## converged  
## # weights: 29  
## initial value 731.559070   
## iter 10 value 231.853228  
## iter 20 value 218.295701  
## iter 30 value 207.509300  
## iter 40 value 173.002134  
## iter 50 value 171.300553  
## iter 60 value 170.587036  
## iter 70 value 169.913214  
## iter 80 value 169.752889  
## final value 169.746578   
## converged  
## # weights: 43  
## initial value 324.932621   
## iter 10 value 219.917118  
## iter 20 value 207.512464  
## iter 30 value 174.264066  
## iter 40 value 171.485424  
## iter 50 value 169.694594  
## iter 60 value 169.432582  
## iter 70 value 169.404984  
## iter 80 value 169.389951  
## final value 169.389923   
## converged  
## # weights: 57  
## initial value 449.962082   
## iter 10 value 207.647083  
## iter 20 value 182.019226  
## iter 30 value 169.839802  
## iter 40 value 168.491834  
## iter 50 value 167.852807  
## iter 60 value 167.287757  
## iter 70 value 167.078494  
## iter 80 value 166.997986  
## iter 90 value 166.976749  
## final value 166.976524   
## converged  
## # weights: 71  
## initial value 294.398515   
## iter 10 value 216.089057  
## iter 20 value 200.913348  
## iter 30 value 171.070530  
## iter 40 value 169.609496  
## iter 50 value 168.609492  
## iter 60 value 167.996382  
## iter 70 value 167.766185  
## iter 80 value 167.588862  
## iter 90 value 167.550132  
## iter 100 value 167.506934  
## final value 167.506934   
## stopped after 100 iterations  
## # weights: 85  
## initial value 319.225866   
## iter 10 value 219.909597  
## iter 20 value 207.052459  
## iter 30 value 190.523269  
## iter 40 value 173.766811  
## iter 50 value 170.355539  
## iter 60 value 168.060364  
## iter 70 value 167.455469  
## iter 80 value 166.755644  
## iter 90 value 166.160173  
## iter 100 value 165.288818  
## final value 165.288818   
## stopped after 100 iterations  
## # weights: 99  
## initial value 518.957844   
## iter 10 value 214.012468  
## iter 20 value 203.883906  
## iter 30 value 177.119659  
## iter 40 value 168.669682  
## iter 50 value 167.533812  
## iter 60 value 166.481824  
## iter 70 value 165.710150  
## iter 80 value 165.249367  
## iter 90 value 165.042533  
## iter 100 value 164.995549  
## final value 164.995549   
## stopped after 100 iterations  
## # weights: 113  
## initial value 333.339327   
## iter 10 value 217.627210  
## iter 20 value 202.082993  
## iter 30 value 173.211375  
## iter 40 value 170.602635  
## iter 50 value 169.407850  
## iter 60 value 168.675959  
## iter 70 value 167.605839  
## iter 80 value 167.205526  
## iter 90 value 166.964807  
## iter 100 value 166.700417  
## final value 166.700417   
## stopped after 100 iterations  
## # weights: 127  
## initial value 268.104552   
## iter 10 value 201.396216  
## iter 20 value 177.799237  
## iter 30 value 171.755351  
## iter 40 value 169.760963  
## iter 50 value 167.599288  
## iter 60 value 166.559271  
## iter 70 value 166.390080  
## iter 80 value 166.239240  
## iter 90 value 166.073360  
## iter 100 value 165.897907  
## final value 165.897907   
## stopped after 100 iterations  
## # weights: 141  
## initial value 686.184598   
## iter 10 value 216.229461  
## iter 20 value 205.690913  
## iter 30 value 176.570303  
## iter 40 value 170.622583  
## iter 50 value 169.672991  
## iter 60 value 168.508740  
## iter 70 value 166.818701  
## iter 80 value 165.767967  
## iter 90 value 165.387522  
## iter 100 value 165.197673  
## final value 165.197673   
## stopped after 100 iterations  
## # weights: 155  
## initial value 252.973887   
## iter 10 value 219.669218  
## iter 20 value 194.161055  
## iter 30 value 174.601196  
## iter 40 value 168.356790  
## iter 50 value 166.934650  
## iter 60 value 166.472181  
## iter 70 value 165.880467  
## iter 80 value 165.516365  
## iter 90 value 165.345151  
## iter 100 value 165.214358  
## final value 165.214358   
## stopped after 100 iterations  
## # weights: 169  
## initial value 280.302554   
## iter 10 value 214.072839  
## iter 20 value 205.247900  
## iter 30 value 185.156101  
## iter 40 value 174.192192  
## iter 50 value 170.778107  
## iter 60 value 168.336482  
## iter 70 value 167.051134  
## iter 80 value 166.689414  
## iter 90 value 166.369301  
## iter 100 value 166.078469  
## final value 166.078469   
## stopped after 100 iterations  
## # weights: 43  
## initial value 657.146367   
## iter 10 value 243.128606  
## iter 20 value 225.624120  
## iter 30 value 193.776293  
## iter 40 value 190.408616  
## iter 50 value 190.023195  
## iter 60 value 188.562338  
## iter 70 value 187.688895  
## iter 80 value 187.318386  
## iter 90 value 185.700419  
## iter 100 value 184.396974  
## final value 184.396974   
## stopped after 100 iterations

end\_time = Sys.time()  
end\_time-start\_time

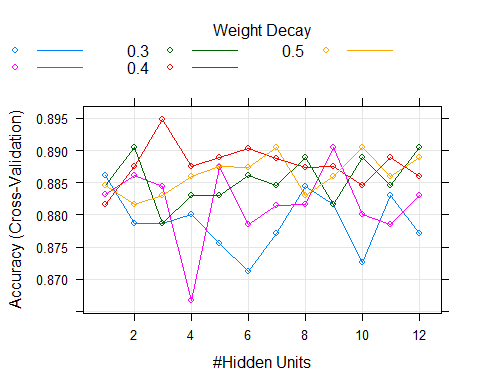
## Time difference of 2.017503 mins

nnetFit

## Neural Network   
##   
## 675 samples  
## 8 predictor  
## 2 classes: 'No', 'Yes'   
##   
## No pre-processing  
## Resampling: Cross-Validated (10 fold)   
## Summary of sample sizes: 608, 607, 609, 607, 607, 607, ...   
## Resampling results across tuning parameters:  
##   
## size decay Accuracy Kappa   
## 1 0.1 0.8860996 0.27539625  
## 1 0.2 0.8831358 0.22036659  
## 1 0.3 0.8845844 0.22534382  
## 1 0.4 0.8816206 0.14826022  
## 1 0.5 0.8845166 0.09792188  
## 2 0.1 0.8787027 0.25329093  
## 2 0.2 0.8860770 0.27185003  
## 2 0.3 0.8904442 0.29598161  
## 2 0.4 0.8875030 0.22689293  
## 2 0.5 0.8816206 0.15700247  
## 3 0.1 0.8786801 0.28183426  
## 3 0.2 0.8844075 0.24703470  
## 3 0.3 0.8785903 0.18794283  
## 3 0.4 0.8949005 0.28788565  
## 3 0.5 0.8830021 0.19698072  
## 4 0.1 0.8799957 0.28779952  
## 4 0.2 0.8666707 0.15904604  
## 4 0.3 0.8830686 0.22322191  
## 4 0.4 0.8875476 0.24893356  
## 4 0.5 0.8860105 0.21959854  
## 5 0.1 0.8755155 0.31125940  
## 5 0.2 0.8874365 0.29680374  
## 5 0.3 0.8829575 0.22313579  
## 5 0.4 0.8889290 0.26914682  
## 5 0.5 0.8874584 0.22295588  
## 6 0.1 0.8711935 0.26710464  
## 6 0.2 0.8785451 0.28890704  
## 6 0.3 0.8860544 0.24860541  
## 6 0.4 0.8903770 0.24680890  
## 6 0.5 0.8873919 0.23103368  
## 7 0.1 0.8770306 0.30882802  
## 7 0.2 0.8813978 0.29192330  
## 7 0.3 0.8846283 0.27941158  
## 7 0.4 0.8888399 0.23786104  
## 7 0.5 0.8904442 0.25263367  
## 8 0.1 0.8843609 0.33477159  
## 8 0.2 0.8815987 0.29075640  
## 8 0.3 0.8889290 0.28568542  
## 8 0.4 0.8874365 0.22248295  
## 8 0.5 0.8829582 0.22313061  
## 9 0.1 0.8816433 0.29552031  
## 9 0.2 0.8904661 0.35672777  
## 9 0.3 0.8815535 0.23687079  
## 9 0.4 0.8874804 0.22796206  
## 9 0.5 0.8859878 0.21869945  
## 10 0.1 0.8725297 0.28805453  
## 10 0.2 0.8799937 0.27960364  
## 10 0.3 0.8889955 0.29035643  
## 10 0.4 0.8845173 0.22129700  
## 10 0.5 0.8904216 0.25027616  
## 11 0.1 0.8830467 0.34919531  
## 11 0.2 0.8785677 0.26510164  
## 11 0.3 0.8845399 0.29368294  
## 11 0.4 0.8889064 0.24480784  
## 11 0.5 0.8859659 0.24019654  
## 12 0.1 0.8770978 0.30171758  
## 12 0.2 0.8830014 0.33013358  
## 12 0.3 0.8905107 0.30408495  
## 12 0.4 0.8859878 0.26201434  
## 12 0.5 0.8889064 0.22917786  
##   
## Accuracy was used to select the optimal model using the largest value.  
## The final values used for the model were size = 3 and decay = 0.4.

Plot

plot(nnetFit)

 ##Task 5 Use your model from Task 4 to develop predictions on the training set. Use caret’s confusionMatrix function to evaluate the model quality. Comment on the model quality. 90% accurate, p-value is not less than .05

predNet2 = predict(nnetFit, parole)

Confusion matrix

confusionMatrix(predNet2, parole$violator, positive = "Yes")

## Confusion Matrix and Statistics  
##   
## Reference  
## Prediction No Yes  
## No 588 58  
## Yes 9 20  
##   
## Accuracy : 0.9007   
## 95% CI : (0.8757, 0.9222)  
## No Information Rate : 0.8844   
## P-Value [Acc > NIR] : 0.1013   
##   
## Kappa : 0.332   
## Mcnemar's Test P-Value : 4.515e-09   
##   
## Sensitivity : 0.25641   
## Specificity : 0.98492   
## Pos Pred Value : 0.68966   
## Neg Pred Value : 0.91022   
## Prevalence : 0.11556   
## Detection Rate : 0.02963   
## Detection Prevalence : 0.04296   
## Balanced Accuracy : 0.62067   
##   
## 'Positive' Class : Yes   
##

## Task 6

Use your model from Task 2 to develop predictions on the testing set. Use the confusionMatrix command to assess and comment on the quality of the model. 92% accurate, the p-value is not less than 0.05

predNetBasic\_test2 = predict(nnetBasic, newdata = test)

Confusion matrix

confusionMatrix(predNetBasic\_test2, test$violator, positive = "Yes")

## Confusion Matrix and Statistics  
##   
## Reference  
## Prediction No Yes  
## No 177 14  
## Yes 2 9  
##   
## Accuracy : 0.9208   
## 95% CI : (0.8746, 0.954)  
## No Information Rate : 0.8861   
## P-Value [Acc > NIR] : 0.06986   
##   
## Kappa : 0.492   
## Mcnemar's Test P-Value : 0.00596   
##   
## Sensitivity : 0.39130   
## Specificity : 0.98883   
## Pos Pred Value : 0.81818   
## Neg Pred Value : 0.92670   
## Prevalence : 0.11386   
## Detection Rate : 0.04455   
## Detection Prevalence : 0.05446   
## Balanced Accuracy : 0.69007   
##   
## 'Positive' Class : Yes   
##

## Task 7

Use your model from Task 4 to develop predictions on the testing set. Use the confusionMatrix command to assess and comment on the quality of the model. 89% accurate and the p-value is not less than .05.

predNet\_test2 = predict(nnetFit, newdata = test)

Confusion matrix

confusionMatrix(predNet\_test2, test$violator, positive = "Yes")

## Confusion Matrix and Statistics  
##   
## Reference  
## Prediction No Yes  
## No 177 19  
## Yes 2 4  
##   
## Accuracy : 0.896   
## 95% CI : (0.8455, 0.9345)  
## No Information Rate : 0.8861   
## P-Value [Acc > NIR] : 0.3796524   
##   
## Kappa : 0.2401   
## Mcnemar's Test P-Value : 0.0004803   
##   
## Sensitivity : 0.1739   
## Specificity : 0.9888   
## Pos Pred Value : 0.6667   
## Neg Pred Value : 0.9031   
## Prevalence : 0.1139   
## Detection Rate : 0.0198   
## Detection Prevalence : 0.0297   
## Balanced Accuracy : 0.5814   
##   
## 'Positive' Class : Yes   
##

## Task 8

Comment on whether there appears to be overﬁtting in one or both of your models from Tasks 2 and 4. The 92% accuracy from task 6 may be an overfitting.