

MIS 64037 - Assignment 3

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ADVANCED DATA MINING & PREDICTIVE ANALYTICS INDIVIDUAL ASSIGNMENT 3

Part A

QA1

Support Vector Machine is a supervised learning models with associated learning algorithms that analyze data for classification and regression analysis. An SVM outputs a map of the sorted data with the margins between the two as far apart as possible.

The difference between a hard margin and a soft margin in SVMs lies in the separability of the data. If the data is linearly separable, we go for a hard margin. It will only be feasible if this is the case. If we cannot find a linear classifier, we need to be more lenient and allow a few data points into the model. This will label them as misclassified. In this case, a soft margin SVM is appropriate.

Sometimes, the data is linearly separable and the margin is too small that the model becomes prone to overfitting or being sensitive to outliers. Soft margins provide a trade-off between the margin and the number of mistakes or margin violations on the training data. Also, in this case, we choose a larger margin by using soft margin SVM to help the model generalize better. On the other hand, a soft margin allows misclassification to happen by relaxing the hard constraints of a SVM. We use soft margins when a linear border is not usable. And we could also use them to increase the generality of the classification model.

QA2

The cost parameter C decides how much an SVM should be allowed to move with the data. We aim for a smooth decision surface for a low cost, and for a higher cost, we look to classify more points correctly. And then, C becomes the penalty parameter of the error term. It controls the trade-off between smooth decision boundaries and classifying the training points correctly.

If the values of C are very small, the margin increases, making it the soft margin. As the value of C increases, the margin decreases, making it the hard margin. A large value of C can cause overfitting; therefore, we need to select the correct value using hyperparameter tuning.

For example, if we modify the optimization problem to optimize both the fit of the data line and penalize the number of samples inside the margin. Simultaneously, where C defines the weight of how many samples inside the margin contribute to the overall error.

Consequently, you can adjust how soft your large margin classification should be with C . Say if C is low, samples within the margin are penalized less than when C is high. When C is large, the SVM tries to minimize the number of misclassified samples due to the high penalty, so the decision boundary has a small margin. Because of this, each misclassified sample has a different penalty. It is directly proportional to the distance to the decision limit. Also, when C is 0, samples within the margin are not penalized. This is one of the extreme cases where large margins defeat classification. Infinite C has another extreme possibility for hard margins.

QA3

This perceptron will not activate as the result is -2.14, which is less than the activation threshold. $0.8 * 0.1 = 0.08$ $11.1 * (-0.2) = -2.22$ $0.08 + (-2.22) = -2.14$

And -2.14 is less than 2.8

QA4

Alpha is a parameter for regularization, also called the penalty term, that combats overfitting by constraining the size of the weights. The learning rate sets how the change weights as a function of the inputs (x) and outputs (y) and the target variable.

The higher the alpha, i.e., the learning rate, the faster the weight changes occur. A lower alpha will result in smoother changes in weight—the optimal learning rate results in the fastest convergence of the algorithm. The good idea is to start with a high learning rate to adapt fast and then reduce the learning rate to fine-tune it.

Part B

Building SVM and neural network regression models

```
library(ISLR)

## Warning: package 'ISLR' was built under R version 4.2.1

library(dplyr)

##
## Attaching package: 'dplyr'

## The following objects are masked from 'package:stats':
##
##   filter, lag
```

```
## The following objects are masked from 'package:base':
##
## intersect, setdiff, setequal, union

library(glmnet)

## Warning: package 'glmnet' was built under R version 4.2.1

## Loading required package: Matrix

## Loaded glmnet 4.1-4

library(caret)

## Warning: package 'caret' was built under R version 4.2.1

## Loading required package: ggplot2

## Warning: package 'ggplot2' was built under R version 4.2.1

## Loading required package: lattice

## Warning: package 'lattice' was built under R version 4.2.1

library(kernlab)

##
## Attaching package: 'kernlab'

## The following object is masked from 'package:ggplot2':
##
## alpha

Carseats_Filtered <- Carseats %>% select("Sales", "Price", "Advertising", "Population", "Age", "Income", "Education")
```

QB1

Build a linear SVM regression model to predict Sales. What is the R-squared of the model?

```
trainctrl <- trainControl(method = "repeatedcv", number = 10, repeats = 3)
set.seed(123)
svm_linearrm <- train(Sales~., data = Carseats_Filtered, method = "svmLinear"
,
                      trControl=trainctrl,
                      preprocess = c("center", "scale"),
                      tuneLength = 10)

svm_linearrm

## Support Vector Machines with Linear Kernel
##
## 400 samples
```

```
## 6 predictor
##
## Pre-processing: centered (6), scaled (6)
## Resampling: Cross-Validated (10 fold, repeated 3 times)
## Summary of sample sizes: 359, 360, 360, 360, 361, 360, ...
## Resampling results:
##
##      RMSE      Rsquared   MAE
##  2.275042  0.3666477  1.819992
##
## Tuning parameter 'C' was held constant at a value of 1
```

For this model, we add a train control to add cross validation to the model

And the R^2 of the model is 0.367.

QB2

Customize the search grid by checking the models performance for C parameter of 0.1, 5, 1 and 10 using 2 repeats of 5-fold cross validation.

```
grid <- expand.grid(C = c(0.1, 0.5, 1, 10))
trainctrlm2 <- trainControl(method = "repeatedcv", number = 5, repeats = 2)
svm_linear_grid <- train(Sales~., data = Carseats_Filtered, method = "svmLinear",
                        trControl=trainctrlm2,
                        preProcess = c("center", "scale"),
                        tuneGrid = grid,
                        tuneLength = 10)

svm_linear_grid

## Support Vector Machines with Linear Kernel
##
## 400 samples
## 6 predictor
##
## Pre-processing: centered (6), scaled (6)
## Resampling: Cross-Validated (5 fold, repeated 2 times)
## Summary of sample sizes: 321, 319, 320, 320, 320, 320, ...
## Resampling results across tuning parameters:
##
##      C      RMSE      Rsquared   MAE
##  0.1  2.263592  0.3646433  1.822032
##  0.5  2.262020  0.3657604  1.817412
##  1.0  2.261871  0.3660007  1.817556
## 10.0  2.261846  0.3659543  1.817335
##
## RMSE was used to select the optimal model using the smallest value.
## The final value used for the model was C = 10.
```

For this step we add a search grid at the desired points. Also, we need to increase the value of C to which the change in decreases. The difference between 1 and 10 is much less than between 0.1 and 0.5. With this, we can see that 0.5 is the best value for C.

QB3

Train a neural network model to predict Sales

```
set.seed(123)
numberfolds <- trainControl(method = 'LOOCV', verboseIter = FALSE)
nn_cars <- train(Sales~., data = Carseats_Filtered, method = "nnet",
                 preProcess = c("center", "scale"),
                 trControl = numberfolds)

## # weights:  9
## initial  value 22035.572902
## final  value 19990.920100
## converged
## # weights: 25
## initial  value 23014.793228
## final  value 19990.920100
## converged
## # weights: 41
## initial  value 22974.817124
## final  value 19990.920100
## converged
## # weights:  9
## initial  value 22376.180174
## iter 10 value 19997.478739
## final  value 19996.428870
## converged
## # weights: 25
## initial  value 21934.022453
## iter 10 value 19996.443399
## iter 20 value 19994.896688
## final  value 19994.895086
## converged
## # weights: 41
## initial  value 23355.606041
## iter 10 value 19995.950296
## iter 20 value 19994.235887
## iter 20 value 19994.235761
## iter 20 value 19994.235755
## final  value 19994.235755
## converged
## # weights:  9
## initial  value 23799.670620
## iter 10 value 19998.327219
## iter 20 value 19991.005498
```

```
## iter 20 value 19991.005464
## final value 19991.005464
## converged
## # weights: 25
## initial value 22641.298364
## iter 10 value 20004.741480
## iter 20 value 19991.079450
## iter 30 value 19990.933366
## iter 30 value 19990.933366
## iter 30 value 19990.933366
## final value 19990.933366
## converged
## # weights: 41
## initial value 23449.717036
## iter 10 value 20008.249738
## iter 20 value 19991.119897
## final value 19990.932026
## converged
## # weights: 9
## initial value 22031.783588
## final value 19958.721700
## converged
## # weights: 25
## initial value 22556.852529
## final value 19958.721700
## converged
## # weights: 41
## initial value 21958.382852
## final value 19958.721700
## converged
## # weights: 9
## initial value 22272.915578
## iter 10 value 19964.467651
## final value 19964.229888
## converged
## # weights: 25
## initial value 22769.883767
## iter 10 value 19964.250073
## iter 20 value 19962.696658
## final value 19962.696280
## converged
## # weights: 41
## initial value 21466.357721
## iter 10 value 19972.667840
## iter 20 value 19962.038413
## final value 19962.037066
## converged
## # weights: 9
## initial value 21952.823269
## iter 10 value 19968.403210
```

```
## iter 20 value 19958.833320
## iter 20 value 19958.833276
## final value 19958.833276
## converged
## # weights: 25
## initial value 22342.102379
## iter 10 value 19973.135282
## iter 20 value 19958.887877
## final value 19958.737239
## converged
## # weights: 41
## initial value 22208.700601
## iter 10 value 19979.989750
## iter 20 value 19958.966904
## final value 19958.733638
## converged
## # weights: 9
## initial value 23321.063658
## final value 19981.086500
## converged
## # weights: 25
## initial value 22000.972447
## final value 19981.086500
## converged
## # weights: 41
## initial value 23456.768394
## final value 19981.086500
## converged
## # weights: 9
## initial value 23419.594230
## iter 10 value 19988.055612
## final value 19986.595082
## converged
## # weights: 25
## initial value 22956.335708
## iter 10 value 19987.002514
## iter 20 value 19985.061556
## iter 20 value 19985.061392
## iter 20 value 19985.061335
## final value 19985.061335
## converged
## # weights: 41
## initial value 23166.445851
## iter 10 value 19989.902522
## iter 20 value 19984.402539
## final value 19984.402067
## converged
## # weights: 9
## initial value 21866.742980
## iter 10 value 19989.901050
```

```
## iter 20 value 19981.188125
## iter 20 value 19981.188084
## final value 19981.188084
## converged
## # weights: 25
## initial value 21836.767288
## iter 10 value 19992.012298
## iter 20 value 19981.212466
## final value 19981.098887
## converged
## # weights: 41
## initial value 24662.490407
## iter 10 value 19987.401175
## iter 20 value 19981.159303
## final value 19981.102878
## converged
## # weights: 9
## initial value 23369.834984
## final value 20022.210100
## converged
## # weights: 25
## initial value 23313.113857
## final value 20022.210100
## converged
## # weights: 41
## initial value 22166.439882
## final value 20022.210100
## converged
## # weights: 9
## initial value 22838.946953
## iter 10 value 20027.798132
## final value 20027.719636
## converged
## # weights: 25
## initial value 22031.617185
## iter 10 value 20026.554607
## final value 20026.185528
## converged
## # weights: 41
## initial value 21975.533187
## iter 10 value 20026.910272
## iter 20 value 20025.526248
## iter 20 value 20025.526140
## iter 20 value 20025.526130
## final value 20025.526130
## converged
## # weights: 9
## initial value 21900.765686
## iter 10 value 20030.326616
## iter 20 value 20022.303677
```



```
## iter 20 value 20022.303640
## final value 20022.303640
## converged
## # weights: 25
## initial value 22123.485148
## iter 10 value 20037.022212
## iter 20 value 20022.380872
## final value 20022.222845
## converged
## # weights: 41
## initial value 23058.588785
## iter 10 value 20043.806620
## iter 20 value 20022.459091
## final value 20022.222329
## converged
## # weights: 9
## initial value 23187.522250
## final value 20053.247600
## converged
## # weights: 25
## initial value 21506.307266
## final value 20053.247600
## converged
## # weights: 41
## initial value 22693.374102
## final value 20053.247600
## converged
## # weights: 9
## initial value 21679.332854
## iter 10 value 20059.056874
## final value 20058.758383
## converged
## # weights: 25
## initial value 22176.660800
## iter 10 value 20058.097159
## final value 20057.223875
## converged
## # weights: 41
## initial value 22452.140808
## iter 10 value 20057.212011
## final value 20056.564313
## converged
## # weights: 9
## initial value 22206.722415
## iter 10 value 20062.560706
## iter 20 value 20053.354973
## iter 20 value 20053.354930
## final value 20053.354930
## converged
## # weights: 25
```

```
## initial value 23338.398633
## iter 10 value 20068.068002
## iter 20 value 20053.418468
## final value 20053.263257
## converged
## # weights: 41
## initial value 22159.722189
## iter 10 value 20071.155287
## iter 20 value 20053.454062
## final value 20053.257335
## converged
## # weights: 9
## initial value 22038.038286
## final value 19966.934000
## converged
## # weights: 25
## initial value 23757.077573
## final value 19966.934000
## converged
## # weights: 41
## initial value 23215.483179
## final value 19966.934000
## converged
## # weights: 9
## initial value 21522.660042
## iter 10 value 19972.683997
## final value 19972.442334
## converged
## # weights: 25
## initial value 22788.352983
## iter 10 value 19971.759957
## final value 19970.908694
## converged
## # weights: 41
## initial value 22061.696220
## iter 10 value 19984.252833
## iter 20 value 19970.251907
## final value 19970.249422
## converged
## # weights: 9
## initial value 23546.583006
## iter 10 value 19975.676532
## iter 20 value 19967.034795
## iter 20 value 19967.034754
## final value 19967.034754
## converged
## # weights: 25
## initial value 22091.991878
## iter 10 value 19980.730210
## iter 20 value 19967.093059
```

```
## final value 19966.946807
## converged
## # weights: 41
## initial value 23791.442106
## iter 10 value 19980.888975
## iter 20 value 19967.094890
## final value 19966.947162
## converged
## # weights: 9
## initial value 22565.980790
## final value 20031.473200
## converged
## # weights: 25
## initial value 23790.701932
## final value 20031.473200
## converged
## # weights: 41
## initial value 22968.792145
## final value 20031.473200
## converged
## # weights: 9
## initial value 22566.262170
## iter 10 value 20037.494154
## final value 20036.983028
## converged
## # weights: 25
## initial value 23889.315415
## iter 10 value 20035.958723
## final value 20035.448817
## converged
## # weights: 41
## initial value 22383.132344
## iter 10 value 20047.338505
## iter 20 value 20034.798976
## final value 20034.789404
## converged
## # weights: 9
## initial value 21668.390181
## iter 10 value 20038.179732
## iter 20 value 20031.550521
## iter 20 value 20031.550490
## final value 20031.550490
## converged
## # weights: 25
## initial value 21719.120438
## iter 10 value 20042.344699
## iter 20 value 20031.598540
## final value 20031.486826
## converged
## # weights: 41
```

```
## initial value 21642.392418
## iter 10 value 20044.201324
## iter 20 value 20031.619945
## final value 20031.483119
## converged
## # weights: 9
## initial value 23326.954697
## final value 19945.447600
## converged
## # weights: 25
## initial value 22336.204596
## final value 19945.447600
## converged
## # weights: 41
## initial value 21729.625174
## final value 19945.447600
## converged
## # weights: 9
## initial value 23709.152049
## iter 10 value 19952.187057
## final value 19950.955493
## converged
## # weights: 25
## initial value 21742.145460
## iter 10 value 19956.543899
## iter 20 value 19949.422413
## final value 19949.421972
## converged
## # weights: 41
## initial value 24110.465517
## iter 10 value 19951.868343
## iter 20 value 19948.763385
## final value 19948.762742
## converged
## # weights: 9
## initial value 22223.627841
## iter 10 value 19955.503751
## iter 20 value 19945.563540
## iter 20 value 19945.563493
## final value 19945.563493
## converged
## # weights: 25
## initial value 21424.582965
## iter 10 value 19954.795541
## iter 20 value 19945.555374
## final value 19945.459839
## converged
## # weights: 41
## initial value 21391.962721
## iter 10 value 19956.817058
```

```
## iter 20 value 19945.578681
## final value 19945.456925
## converged
## # weights: 9
## initial value 22343.987187
## final value 20032.478500
## converged
## # weights: 25
## initial value 22677.945180
## final value 20032.478500
## converged
## # weights: 41
## initial value 24235.100638
## final value 20032.478500
## converged
## # weights: 9
## initial value 22155.122387
## iter 10 value 20039.095885
## final value 20037.988361
## converged
## # weights: 25
## initial value 22404.666575
## iter 10 value 20038.789607
## iter 20 value 20036.454424
## final value 20036.454133
## converged
## # weights: 41
## initial value 21764.804328
## iter 10 value 20050.384327
## iter 20 value 20035.796299
## final value 20035.794745
## converged
## # weights: 9
## initial value 23084.711255
## iter 10 value 20042.894355
## iter 20 value 20032.598587
## iter 20 value 20032.598539
## final value 20032.598539
## converged
## # weights: 25
## initial value 21211.860605
## iter 10 value 20039.291727
## iter 20 value 20032.557051
## final value 20032.489382
## converged
## # weights: 41
## initial value 23025.828518
## iter 10 value 20049.967113
## iter 20 value 20032.680130
## final value 20032.488386
```

```
## converged
## # weights: 9
## initial value 22639.589637
## final value 20049.554000
## converged
## # weights: 25
## initial value 23793.869339
## final value 20049.554000
## converged
## # weights: 41
## initial value 22118.343895
## final value 20049.554000
## converged
## # weights: 9
## initial value 21961.892957
## iter 10 value 20055.406259
## final value 20055.064610
## converged
## # weights: 25
## initial value 23699.386193
## iter 10 value 20054.693780
## final value 20053.530221
## converged
## # weights: 41
## initial value 22567.812415
## iter 10 value 20054.191651
## iter 20 value 20052.870773
## iter 20 value 20052.870659
## iter 20 value 20052.870653
## final value 20052.870653
## converged
## # weights: 9
## initial value 23718.042013
## iter 10 value 20058.428377
## iter 20 value 20049.656315
## iter 20 value 20049.656274
## final value 20049.656274
## converged
## # weights: 25
## initial value 21952.098594
## iter 10 value 20060.105961
## iter 20 value 20049.675656
## final value 20049.567001
## converged
## # weights: 41
## initial value 22920.266250
## iter 10 value 20070.034896
## iter 20 value 20049.790129
## final value 20049.565670
## converged
```

```
## # weights: 9
## initial value 23288.451506
## final value 19999.010000
## converged
## # weights: 25
## initial value 23264.155616
## final value 19999.010000
## converged
## # weights: 41
## initial value 24003.384208
## final value 19999.010000
## converged
## # weights: 9
## initial value 23008.749351
## iter 10 value 20004.704513
## final value 20004.518955
## converged
## # weights: 25
## initial value 23479.532586
## iter 10 value 20004.089047
## iter 20 value 20002.985638
## final value 20002.985067
## converged
## # weights: 41
## initial value 23426.327509
## iter 10 value 20017.447102
## iter 20 value 20002.326510
## final value 20002.325810
## converged
## # weights: 9
## initial value 21879.308896
## iter 10 value 20008.092603
## iter 20 value 19999.114715
## iter 20 value 19999.114673
## final value 19999.114673
## converged
## # weights: 25
## initial value 22271.164220
## iter 10 value 20012.541253
## iter 20 value 19999.166005
## final value 19999.024075
## converged
## # weights: 41
## initial value 23043.626147
## iter 10 value 20017.921677
## iter 20 value 19999.228037
## final value 19999.021292
## converged
## # weights: 9
## initial value 22228.410261
```

```
## final value 19943.048500
## converged
## # weights: 25
## initial value 22753.731719
## final value 19943.048500
## converged
## # weights: 41
## initial value 22509.577196
## final value 19943.048500
## converged
## # weights: 9
## initial value 23255.334968
## iter 10 value 19949.449222
## final value 19948.556438
## converged
## # weights: 25
## initial value 21789.914873
## iter 10 value 19947.657123
## final value 19947.022948
## converged
## # weights: 41
## initial value 22571.265624
## iter 10 value 19947.910815
## final value 19946.363809
## converged
## # weights: 9
## initial value 21888.333497
## iter 10 value 19952.710061
## iter 20 value 19943.159890
## iter 20 value 19943.159846
## final value 19943.159846
## converged
## # weights: 25
## initial value 22194.245747
## iter 10 value 19955.103142
## iter 20 value 19943.187481
## final value 19943.063201
## converged
## # weights: 41
## initial value 22107.238731
## iter 10 value 19960.784147
## iter 20 value 19943.252978
## final value 19943.058517
## converged
## # weights: 9
## initial value 21898.033023
## final value 20054.289700
## converged
## # weights: 25
## initial value 23096.480040
```



```
## final value 20054.289700
## converged
## # weights: 41
## initial value 23570.800926
## final value 20054.289700
## converged
## # weights: 9
## initial value 23555.060844
## iter 10 value 20060.583066
## final value 20059.800632
## converged
## # weights: 25
## initial value 22202.894771
## iter 10 value 20060.070195
## final value 20058.266188
## converged
## # weights: 41
## initial value 23171.003142
## iter 10 value 20058.726022
## iter 20 value 20057.606596
## iter 20 value 20057.606538
## iter 20 value 20057.606533
## final value 20057.606533
## converged
## # weights: 9
## initial value 22413.907624
## iter 10 value 20063.729962
## iter 20 value 20054.398539
## iter 20 value 20054.398495
## final value 20054.398495
## converged
## # weights: 25
## initial value 22736.678933
## iter 10 value 20067.808482
## iter 20 value 20054.445561
## final value 20054.303116
## converged
## # weights: 41
## initial value 22093.691469
## iter 10 value 20073.502720
## iter 20 value 20054.511211
## final value 20054.300225
## converged
## # weights: 9
## initial value 21992.045113
## final value 19963.968500
## converged
## # weights: 25
## initial value 22101.381029
## final value 19963.968500
```

```
## converged
## # weights: 41
## initial value 21389.339460
## final value 19963.968500
## converged
## # weights: 9
## initial value 21818.610480
## iter 10 value 19970.064168
## final value 19969.476770
## converged
## # weights: 25
## initial value 22056.706665
## iter 10 value 19969.537584
## iter 20 value 19967.943322
## iter 20 value 19967.943181
## iter 20 value 19967.943154
## final value 19967.943154
## converged
## # weights: 41
## initial value 21672.716698
## iter 10 value 19969.154704
## final value 19967.284040
## converged
## # weights: 9
## initial value 22233.290654
## iter 10 value 19974.492066
## iter 20 value 19964.089828
## iter 20 value 19964.089780
## final value 19964.089780
## converged
## # weights: 25
## initial value 22505.220407
## iter 10 value 19977.461950
## iter 20 value 19964.124069
## final value 19963.987870
## converged
## # weights: 41
## initial value 22670.986000
## iter 10 value 19979.880024
## iter 20 value 19964.151947
## final value 19963.979315
## converged
## # weights: 9
## initial value 21975.386042
## final value 19959.741200
## converged
## # weights: 25
## initial value 23006.250762
## final value 19959.741200
## converged
```

```
## # weights: 41
## initial value 22995.799675
## final value 19959.741200
## converged
## # weights: 9
## initial value 22907.330537
## iter 10 value 19966.494039
## final value 19965.249367
## converged
## # weights: 25
## initial value 21973.963912
## iter 10 value 19964.892445
## final value 19963.715741
## converged
## # weights: 41
## initial value 22668.687703
## iter 10 value 19977.159806
## iter 20 value 19963.057285
## final value 19963.056522
## converged
## # weights: 9
## initial value 22057.805600
## iter 10 value 19968.519620
## iter 20 value 19959.842408
## iter 20 value 19959.842368
## final value 19959.842368
## converged
## # weights: 25
## initial value 22914.366282
## iter 10 value 19974.851172
## iter 20 value 19959.915406
## final value 19959.753102
## converged
## # weights: 41
## initial value 22936.942396
## iter 10 value 19979.876486
## iter 20 value 19959.973344
## final value 19959.754195
## converged
## # weights: 9
## initial value 23873.366655
## final value 20003.726000
## converged
## # weights: 25
## initial value 22644.191146
## final value 20003.726000
## converged
## # weights: 41
## initial value 21913.983897
## final value 20003.726000
```

```
## converged
## # weights: 9
## initial value 22780.770158
## iter 10 value 20010.667148
## final value 20009.234924
## converged
## # weights: 25
## initial value 23143.360791
## iter 10 value 20008.800901
## final value 20007.700958
## converged
## # weights: 41
## initial value 23480.915135
## iter 10 value 20020.411869
## iter 20 value 20007.042313
## final value 20007.041675
## converged
## # weights: 9
## initial value 23536.828391
## iter 10 value 20013.920535
## iter 20 value 20003.843535
## iter 20 value 20003.843488
## final value 20003.843488
## converged
## # weights: 25
## initial value 22875.948160
## iter 10 value 20018.284699
## iter 20 value 20003.893850
## final value 20003.743273
## converged
## # weights: 41
## initial value 22865.057724
## iter 10 value 20025.570563
## iter 20 value 20003.977851
## final value 20003.736974
## converged
## # weights: 9
## initial value 22608.751095
## final value 20019.873700
## converged
## # weights: 25
## initial value 22040.445425
## final value 20019.873700
## converged
## # weights: 41
## initial value 23203.242046
## final value 20019.873700
## converged
## # weights: 9
## initial value 23741.819360
```

```
## iter 10 value 20025.821828
## final value 20025.383153
## converged
## # weights: 25
## initial value 22770.799078
## iter 10 value 20025.648376
## final value 20023.849108
## converged
## # weights: 41
## initial value 22499.091195
## iter 10 value 20037.995285
## iter 20 value 20023.190624
## final value 20023.189702
## converged
## # weights: 9
## initial value 22597.593713
## iter 10 value 20032.019299
## iter 20 value 20020.013729
## iter 20 value 20020.013673
## final value 20020.013673
## converged
## # weights: 25
## initial value 22833.698837
## iter 10 value 20033.851743
## iter 20 value 20020.034856
## final value 20019.888702
## converged
## # weights: 41
## initial value 22404.099853
## iter 10 value 20038.189526
## iter 20 value 20020.084867
## final value 20019.884666
## converged
## # weights: 9
## initial value 22178.705358
## final value 19935.706000
## converged
## # weights: 25
## initial value 21707.580946
## final value 19935.706000
## converged
## # weights: 41
## initial value 23927.148973
## final value 19935.706000
## converged
## # weights: 9
## initial value 22476.384366
## iter 10 value 19943.378350
## final value 19941.213712
## converged
```

```
## # weights: 25
## initial value 23377.198114
## iter 10 value 19940.383122
## final value 19939.680278
## converged
## # weights: 41
## initial value 22014.743546
## iter 10 value 19948.751378
## iter 20 value 19939.022427
## final value 19939.021081
## converged
## # weights: 9
## initial value 21493.537391
## iter 10 value 19942.467334
## iter 20 value 19935.783953
## iter 20 value 19935.783922
## final value 19935.783922
## converged
## # weights: 25
## initial value 23274.627544
## iter 10 value 19949.588999
## iter 20 value 19935.866060
## final value 19935.722059
## converged
## # weights: 41
## initial value 21558.147650
## iter 10 value 19951.471894
## iter 20 value 19935.887768
## final value 19935.716117
## converged
## # weights: 9
## initial value 22974.633584
## final value 19896.502000
## converged
## # weights: 25
## initial value 23331.481575
## final value 19896.502000
## converged
## # weights: 41
## initial value 22060.187673
## final value 19896.502000
## converged
## # weights: 9
## initial value 22413.772622
## iter 10 value 19902.028716
## final value 19902.009297
## converged
## # weights: 25
## initial value 22734.222152
## iter 10 value 19901.594426
```

```
## final value 19900.476070
## converged
## # weights: 41
## initial value 21439.248488
## iter 10 value 19901.206026
## final value 19899.816900
## converged
## # weights: 9
## initial value 21766.975843
## iter 10 value 19906.132489
## iter 20 value 19896.613032
## iter 20 value 19896.612988
## final value 19896.612988
## converged
## # weights: 25
## initial value 22539.301866
## iter 10 value 19911.676522
## iter 20 value 19896.676950
## final value 19896.517398
## converged
## # weights: 41
## initial value 21924.576692
## iter 10 value 19914.603636
## iter 20 value 19896.710698
## final value 19896.511684
## converged
## # weights: 9
## initial value 23262.402777
## final value 20003.417200
## converged
## # weights: 25
## initial value 22904.226802
## final value 20003.417200
## converged
## # weights: 41
## initial value 22937.565584
## final value 20003.417200
## converged
## # weights: 9
## initial value 22791.178083
## iter 10 value 20009.837353
## final value 20008.926241
## converged
## # weights: 25
## initial value 23391.319995
## iter 10 value 20009.672719
## final value 20007.392346
## converged
## # weights: 41
## initial value 21762.501824
```

```
## iter 10 value 20008.259397
## iter 20 value 20006.733137
## iter 20 value 20006.733011
## iter 20 value 20006.733000
## final value 20006.733000
## converged
## # weights: 9
## initial value 21489.189147
## iter 10 value 20010.139890
## iter 20 value 20003.494707
## iter 20 value 20003.494676
## final value 20003.494676
## converged
## # weights: 25
## initial value 22937.743724
## iter 10 value 20018.417937
## iter 20 value 20003.590147
## final value 20003.434036
## converged
## # weights: 41
## initial value 21540.733046
## iter 10 value 20016.455599
## iter 20 value 20003.567523
## final value 20003.427361
## converged
## # weights: 9
## initial value 21703.466149
## final value 20033.902000
## converged
## # weights: 25
## initial value 23111.503359
## final value 20033.902000
## converged
## # weights: 41
## initial value 22168.963825
## final value 20033.902000
## converged
## # weights: 9
## initial value 23160.694705
## iter 10 value 20060.598102
## iter 20 value 20039.606710
## final value 20039.411916
## converged
## # weights: 25
## initial value 22881.871293
## iter 10 value 20039.006493
## iter 20 value 20037.889361
## final value 20037.877679
## converged
## # weights: 41
```



```
## initial value 23099.660881
## iter 10 value 20052.935483
## iter 20 value 20037.223344
## final value 20037.218309
## converged
## # weights: 9
## initial value 22759.121628
## iter 10 value 20045.604401
## iter 20 value 20034.036919
## iter 20 value 20034.036866
## final value 20034.036866
## converged
## # weights: 25
## initial value 23021.777630
## iter 10 value 20049.072868
## iter 20 value 20034.076908
## final value 20033.913590
## converged
## # weights: 41
## initial value 21672.280746
## iter 10 value 20047.863073
## iter 20 value 20034.062960
## final value 20033.912428
## converged
## # weights: 9
## initial value 21973.404259
## final value 19939.293200
## converged
## # weights: 25
## initial value 21524.265846
## final value 19939.293200
## converged
## # weights: 41
## initial value 21250.409746
## final value 19939.293200
## converged
## # weights: 9
## initial value 23365.175725
## iter 10 value 19945.173737
## final value 19944.800962
## converged
## # weights: 25
## initial value 22248.369119
## iter 10 value 19944.310723
## final value 19943.267481
## converged
## # weights: 41
## initial value 23018.789556
## iter 10 value 19944.203499
## iter 20 value 19942.608390
```

```
## iter 20 value 19942.608292
## iter 20 value 19942.608270
## final value 19942.608270
## converged
## # weights: 9
## initial value 22645.216694
## iter 10 value 19949.389876
## iter 20 value 19939.409607
## iter 20 value 19939.409560
## final value 19939.409560
## converged
## # weights: 25
## initial value 22890.003699
## iter 10 value 19953.134706
## iter 20 value 19939.452782
## final value 19939.304428
## converged
## # weights: 41
## initial value 22938.147461
## iter 10 value 19959.231641
## iter 20 value 19939.523075
## final value 19939.305289
## converged
## # weights: 9
## initial value 23260.483100
## final value 20046.523700
## converged
## # weights: 25
## initial value 23023.812409
## final value 20046.523700
## converged
## # weights: 41
## initial value 23434.079860
## final value 20046.523700
## converged
## # weights: 9
## initial value 22604.362949
## iter 10 value 20052.288164
## final value 20052.034136
## converged
## # weights: 25
## initial value 23322.343644
## iter 10 value 20051.181968
## final value 20050.499763
## converged
## # weights: 41
## initial value 22054.691765
## iter 10 value 20061.172467
## iter 20 value 20049.843702
## final value 20049.840245
```

```
## converged
## # weights: 9
## initial value 23118.678324
## iter 10 value 20057.512992
## iter 20 value 20046.650398
## iter 20 value 20046.650347
## final value 20046.650347
## converged
## # weights: 25
## initial value 22178.848090
## iter 10 value 20060.001145
## iter 20 value 20046.679084
## final value 20046.537319
## converged
## # weights: 41
## initial value 22949.175563
## iter 10 value 20067.268076
## iter 20 value 20046.762866
## final value 20046.534204
## converged
## # weights: 9
## initial value 22785.567241
## final value 20039.453200
## converged
## # weights: 25
## initial value 21951.300329
## final value 20039.453200
## converged
## # weights: 41
## initial value 22807.175433
## final value 20039.453200
## converged
## # weights: 9
## initial value 23942.594320
## iter 10 value 20045.555981
## final value 20044.963332
## converged
## # weights: 25
## initial value 22098.301142
## iter 10 value 20043.933757
## final value 20043.429072
## converged
## # weights: 41
## initial value 22575.942213
## iter 10 value 20044.322948
## iter 20 value 20042.769852
## iter 20 value 20042.769684
## iter 20 value 20042.769615
## final value 20042.769615
## converged
```

```
## # weights: 9
## initial value 22544.110866
## iter 10 value 20050.100359
## iter 20 value 20039.575953
## iter 20 value 20039.575904
## final value 20039.575904
## converged
## # weights: 25
## initial value 21571.647084
## iter 10 value 20048.698494
## iter 20 value 20039.559791
## final value 20039.465689
## converged
## # weights: 41
## initial value 22965.754370
## iter 10 value 20061.477742
## iter 20 value 20039.707126
## final value 20039.462985
## converged
## # weights: 9
## initial value 23936.572885
## final value 19979.630500
## converged
## # weights: 25
## initial value 23960.953117
## final value 19979.630500
## converged
## # weights: 41
## initial value 22167.181130
## final value 19979.630500
## converged
## # weights: 9
## initial value 22618.797065
## iter 10 value 19985.515893
## final value 19985.139069
## converged
## # weights: 25
## initial value 22677.385649
## iter 10 value 19987.028555
## iter 20 value 19983.605967
## final value 19983.605335
## converged
## # weights: 41
## initial value 22073.812568
## iter 10 value 19984.529710
## iter 20 value 19982.946362
## final value 19982.946032
## converged
## # weights: 9
## initial value 23373.564054
```

```
## iter 10 value 19989.316168
## iter 20 value 19979.742168
## iter 20 value 19979.742123
## final value 19979.742123
## converged
## # weights: 25
## initial value 22155.786421
## iter 10 value 19993.296275
## iter 20 value 19979.788056
## final value 19979.643677
## converged
## # weights: 41
## initial value 21958.315165
## iter 10 value 19995.621868
## iter 20 value 19979.814868
## iter 30 value 19979.640149
## iter 30 value 19979.640148
## iter 30 value 19979.640145
## final value 19979.640145
## converged
## # weights: 9
## initial value 22891.794292
## final value 19869.960100
## converged
## # weights: 25
## initial value 23624.616230
## final value 19869.960100
## converged
## # weights: 41
## initial value 23844.730427
## final value 19869.960100
## converged
## # weights: 9
## initial value 22587.990817
## iter 10 value 19875.567263
## final value 19875.466887
## converged
## # weights: 25
## initial value 22063.870329
## iter 10 value 19875.073817
## iter 20 value 19873.934284
## final value 19873.933742
## converged
## # weights: 41
## initial value 23357.933921
## iter 10 value 19877.527741
## iter 20 value 19873.275195
## final value 19873.274696
## converged
## # weights: 9
```

```
## initial value 23009.736729
## iter 10 value 19880.070557
## iter 20 value 19870.076666
## iter 20 value 19870.076619
## final value 19870.076619
## converged
## # weights: 25
## initial value 22640.631515
## iter 10 value 19885.369209
## iter 20 value 19870.137755
## final value 19869.972245
## converged
## # weights: 41
## initial value 22493.695844
## iter 10 value 19893.542160
## iter 20 value 19870.231983
## final value 19869.970975
## converged
## # weights: 9
## initial value 22247.448869
## final value 20009.441200
## converged
## # weights: 25
## initial value 23072.341506
## final value 20009.441200
## converged
## # weights: 41
## initial value 22882.646499
## final value 20009.441200
## converged
## # weights: 9
## initial value 23129.047751
## iter 10 value 20015.163869
## final value 20014.950394
## converged
## # weights: 25
## initial value 21329.965180
## iter 10 value 20014.731443
## iter 20 value 20013.417418
## final value 20013.416490
## converged
## # weights: 41
## initial value 23414.396108
## iter 10 value 20026.149259
## iter 20 value 20012.757425
## iter 20 value 20012.757228
## iter 20 value 20012.757174
## final value 20012.757174
## converged
## # weights: 9
```

```
## initial value 22659.562316
## iter 10 value 20018.989607
## iter 20 value 20009.551286
## iter 20 value 20009.551242
## final value 20009.551242
## converged
## # weights: 25
## initial value 22077.286751
## iter 10 value 20021.811481
## iter 20 value 20009.583820
## final value 20009.456410
## converged
## # weights: 41
## initial value 22174.087791
## iter 10 value 20028.294714
## iter 20 value 20009.658566
## final value 20009.451355
## converged
## # weights: 9
## initial value 22389.818613
## final value 20044.937200
## converged
## # weights: 25
## initial value 22589.470877
## final value 20044.937200
## converged
## # weights: 41
## initial value 23694.806293
## final value 20044.937200
## converged
## # weights: 9
## initial value 21816.660975
## iter 10 value 20051.710041
## final value 20050.447540
## converged
## # weights: 25
## initial value 22058.071885
## iter 10 value 20053.327726
## iter 20 value 20048.913338
## iter 20 value 20048.913197
## iter 20 value 20048.913196
## final value 20048.913196
## converged
## # weights: 41
## initial value 23548.322337
## iter 10 value 20049.349893
## iter 20 value 20048.253759
## iter 20 value 20048.253680
## iter 20 value 20048.253653
## final value 20048.253653
```

```
## converged
## # weights: 9
## initial value 23138.565185
## iter 10 value 20055.095084
## iter 20 value 20045.054312
## iter 20 value 20045.054266
## final value 20045.054266
## converged
## # weights: 25
## initial value 22156.846513
## iter 10 value 20058.976215
## iter 20 value 20045.099059
## final value 20044.950002
## converged
## # weights: 41
## initial value 23462.289262
## iter 10 value 20063.254644
## iter 20 value 20045.148386
## final value 20044.948400
## converged
## # weights: 9
## initial value 22099.866530
## final value 20059.210000
## converged
## # weights: 25
## initial value 22720.220623
## final value 20059.210000
## converged
## # weights: 41
## initial value 22453.594329
## final value 20059.210000
## converged
## # weights: 9
## initial value 23832.206166
## iter 10 value 20065.115466
## final value 20064.721166
## converged
## # weights: 25
## initial value 22844.196179
## iter 10 value 20063.880578
## final value 20063.186554
## converged
## # weights: 41
## initial value 22889.358124
## iter 10 value 20063.553263
## final value 20062.526999
## converged
## # weights: 9
## initial value 21618.333123
## iter 10 value 20065.580342
```



```
## iter 20 value 20059.283445
## iter 20 value 20059.283416
## final value 20059.283416
## converged
## # weights: 25
## initial value 22128.429744
## iter 10 value 20071.628103
## iter 20 value 20059.353171
## final value 20059.225047
## converged
## # weights: 41
## initial value 23232.734714
## iter 10 value 20080.924209
## iter 20 value 20059.460348
## final value 20059.222411
## converged
## # weights: 9
## initial value 22391.965900
## final value 20016.794000
## converged
## # weights: 25
## initial value 22112.607074
## final value 20016.794000
## converged
## # weights: 41
## initial value 22673.249250
## final value 20016.794000
## converged
## # weights: 9
## initial value 23484.485593
## iter 10 value 20022.648970
## final value 20022.303377
## converged
## # weights: 25
## initial value 22171.427743
## iter 10 value 20023.336906
## final value 20020.769325
## converged
## # weights: 41
## initial value 23729.304277
## iter 10 value 20021.137293
## final value 20020.109979
## converged
## # weights: 9
## initial value 23757.242466
## iter 10 value 20025.285649
## iter 20 value 20016.891902
## iter 20 value 20016.891863
## final value 20016.891863
## converged
```

```
## # weights: 25
## initial value 23106.248306
## iter 10 value 20031.476295
## iter 20 value 20016.963275
## final value 20016.811050
## converged
## # weights: 41
## initial value 22566.100171
## iter 10 value 20036.651890
## iter 20 value 20017.022946
## final value 20016.809654
## converged
## # weights: 9
## initial value 23408.648625
## final value 19905.667600
## converged
## # weights: 25
## initial value 23947.422412
## final value 19905.667600
## converged
## # weights: 41
## initial value 21206.619056
## final value 19905.667600
## converged
## # weights: 9
## initial value 22055.350140
## iter 10 value 19911.301267
## final value 19911.174997
## converged
## # weights: 25
## initial value 22128.926509
## iter 10 value 19911.056645
## final value 19909.641696
## converged
## # weights: 41
## initial value 21819.849133
## iter 10 value 19910.370660
## iter 20 value 19908.982576
## iter 20 value 19908.982543
## iter 20 value 19908.982532
## final value 19908.982532
## converged
## # weights: 9
## initial value 22282.438121
## iter 10 value 19915.029304
## iter 20 value 19905.775533
## iter 20 value 19905.775490
## final value 19905.775490
## converged
## # weights: 25
```

```
## initial value 23264.386170
## iter 10 value 19920.511315
## iter 20 value 19905.838736
## final value 19905.685786
## converged
## # weights: 41
## initial value 21849.736780
## iter 10 value 19919.081948
## iter 20 value 19905.822257
## final value 19905.677288
## converged
## # weights: 9
## initial value 23357.966337
## final value 20010.607600
## converged
## # weights: 25
## initial value 22334.717746
## final value 20010.607600
## converged
## # weights: 41
## initial value 22400.435714
## final value 20010.607600
## converged
## # weights: 9
## initial value 22663.347974
## iter 10 value 20017.593318
## final value 20016.116821
## converged
## # weights: 25
## initial value 22202.385816
## iter 10 value 20015.557287
## final value 20014.582805
## converged
## # weights: 41
## initial value 22058.500651
## iter 10 value 20026.221374
## iter 20 value 20013.923966
## final value 20013.923527
## converged
## # weights: 9
## initial value 22163.547657
## iter 10 value 20021.484615
## iter 20 value 20010.733003
## iter 20 value 20010.732953
## final value 20010.732953
## converged
## # weights: 25
## initial value 22945.644175
## iter 10 value 20025.430907
## iter 20 value 20010.778501
```

```
## final value 20010.619238
## converged
## # weights: 41
## initial value 21997.881851
## iter 10 value 20027.978466
## iter 20 value 20010.807872
## final value 20010.618074
## converged
## # weights: 9
## initial value 21962.900293
## final value 20036.130100
## converged
## # weights: 25
## initial value 22353.087771
## final value 20036.130100
## converged
## # weights: 41
## initial value 22136.932321
## final value 20036.130100
## converged
## # weights: 9
## initial value 22570.085798
## iter 10 value 20115.110871
## iter 20 value 20042.116233
## final value 20041.640098
## converged
## # weights: 25
## initial value 22064.441819
## iter 10 value 20041.153165
## final value 20040.105906
## converged
## # weights: 41
## initial value 22027.618766
## iter 10 value 20051.315572
## iter 20 value 20039.446991
## final value 20039.446364
## converged
## # weights: 9
## initial value 23137.583393
## iter 10 value 20047.452677
## iter 20 value 20036.260640
## iter 20 value 20036.260588
## final value 20036.260588
## converged
## # weights: 25
## initial value 22308.915928
## iter 10 value 20049.678444
## iter 20 value 20036.286302
## final value 20036.144148
## converged
```

```
## # weights: 41
## initial value 23758.704100
## iter 10 value 20050.481223
## iter 20 value 20036.295557
## final value 20036.141637
## converged
## # weights: 9
## initial value 23746.114720
## final value 20002.797200
## converged
## # weights: 25
## initial value 23021.619099
## final value 20002.797200
## converged
## # weights: 41
## initial value 22472.850092
## final value 20002.797200
## converged
## # weights: 9
## initial value 23391.524510
## iter 10 value 20010.335245
## iter 20 value 20008.306474
## iter 20 value 20008.306368
## final value 20008.306368
## converged
## # weights: 25
## initial value 23810.626134
## iter 10 value 20008.766778
## iter 20 value 20006.772570
## final value 20006.772268
## converged
## # weights: 41
## initial value 21834.375995
## iter 10 value 20010.140792
## iter 20 value 20006.114361
## final value 20006.112994
## converged
## # weights: 9
## initial value 22164.305726
## iter 10 value 20013.291805
## iter 20 value 20002.918195
## iter 20 value 20002.918146
## final value 20002.918146
## converged
## # weights: 25
## initial value 22392.479128
## iter 10 value 20017.848131
## iter 20 value 20002.970725
## final value 20002.809016
## converged
```

```
## # weights: 41
## initial value 21727.926274
## iter 10 value 20017.431221
## iter 20 value 20002.965919
## final value 20002.807026
## converged
## # weights: 9
## initial value 22751.950498
## final value 20060.381200
## converged
## # weights: 25
## initial value 22028.550753
## final value 20060.381200
## converged
## # weights: 41
## initial value 24442.717322
## final value 20060.381200
## converged
## # weights: 9
## initial value 22348.099568
## iter 10 value 20068.078929
## final value 20065.892617
## converged
## # weights: 25
## initial value 22150.049423
## iter 10 value 20065.069844
## final value 20064.357904
## converged
## # weights: 41
## initial value 23461.521325
## iter 10 value 20076.220843
## iter 20 value 20063.698446
## iter 20 value 20063.698339
## iter 20 value 20063.698330
## final value 20063.698330
## converged
## # weights: 9
## initial value 22335.247917
## iter 10 value 20070.927354
## iter 20 value 20060.502789
## iter 20 value 20060.502740
## final value 20060.502740
## converged
## # weights: 25
## initial value 22279.656117
## iter 10 value 20074.559651
## iter 20 value 20060.544666
## final value 20060.397545
## converged
## # weights: 41
```

```
## initial value 23715.992992
## iter 10 value 20076.986796
## iter 20 value 20060.572649
## final value 20060.392610
## converged
## # weights: 9
## initial value 21746.465008
## final value 19961.765200
## converged
## # weights: 25
## initial value 22388.477283
## final value 19961.765200
## converged
## # weights: 41
## initial value 23066.756950
## final value 19961.765200
## converged
## # weights: 9
## initial value 22573.552284
## iter 10 value 19969.157061
## final value 19967.273445
## converged
## # weights: 25
## initial value 21920.982270
## iter 10 value 19966.746517
## final value 19965.739842
## converged
## # weights: 41
## initial value 22454.660479
## iter 10 value 19966.765449
## iter 20 value 19965.080616
## iter 20 value 19965.080573
## iter 20 value 19965.080566
## final value 19965.080566
## converged
## # weights: 9
## initial value 21556.366245
## iter 10 value 19969.381577
## iter 20 value 19961.853011
## iter 20 value 19961.852976
## final value 19961.852976
## converged
## # weights: 25
## initial value 22037.897078
## iter 10 value 19975.672093
## iter 20 value 19961.925536
## final value 19961.777523
## converged
## # weights: 41
## initial value 22684.408539
```

```
## iter 10 value 19983.218738
## iter 20 value 19962.012542
## final value 19961.774441
## converged
## # weights: 9
## initial value 23873.706556
## final value 20000.918000
## converged
## # weights: 25
## initial value 22856.613048
## final value 20000.918000
## converged
## # weights: 41
## initial value 23450.155446
## final value 20000.918000
## converged
## # weights: 9
## initial value 22867.687590
## iter 10 value 20007.283277
## final value 20006.426969
## converged
## # weights: 25
## initial value 22675.868834
## iter 10 value 20006.085980
## final value 20004.893109
## converged
## # weights: 41
## initial value 22981.889972
## iter 10 value 20005.119607
## final value 20004.233684
## converged
## # weights: 9
## initial value 22947.011316
## iter 10 value 20011.943280
## iter 20 value 20001.045113
## iter 20 value 20001.045062
## final value 20001.045062
## converged
## # weights: 25
## initial value 22865.447271
## iter 10 value 20015.479785
## iter 20 value 20001.085886
## final value 20000.937061
## converged
## # weights: 41
## initial value 22690.967926
## iter 10 value 20020.374084
## iter 20 value 20001.142313
## final value 20000.932459
## converged
```



```
## # weights: 9
## initial value 22881.934142
## final value 20047.567600
## converged
## # weights: 25
## initial value 23824.623184
## final value 20047.567600
## converged
## # weights: 41
## initial value 21852.454427
## final value 20047.567600
## converged
## # weights: 9
## initial value 22107.798378
## iter 10 value 20053.774023
## final value 20053.078062
## converged
## # weights: 25
## initial value 22959.973759
## iter 10 value 20053.635659
## final value 20051.543650
## converged
## # weights: 41
## initial value 22586.311716
## iter 10 value 20052.213250
## iter 20 value 20050.884325
## iter 20 value 20050.884158
## iter 20 value 20050.884136
## final value 20050.884136
## converged
## # weights: 9
## initial value 22583.055695
## iter 10 value 20057.806844
## iter 20 value 20047.685650
## iter 20 value 20047.685603
## final value 20047.685603
## converged
## # weights: 25
## initial value 23099.282130
## iter 10 value 20065.016592
## iter 20 value 20047.768773
## final value 20047.583117
## converged
## # weights: 41
## initial value 22672.940433
## iter 10 value 20068.538640
## iter 20 value 20047.809380
## final value 20047.578068
## converged
## # weights: 9
```

```
## initial value 22065.405370
## final value 20031.922000
## converged
## # weights: 25
## initial value 22074.097792
## final value 20031.922000
## converged
## # weights: 41
## initial value 24099.011219
## final value 20031.922000
## converged
## # weights: 9
## initial value 22325.486710
## iter 10 value 20040.029041
## final value 20037.431844
## converged
## # weights: 25
## initial value 22908.645935
## iter 10 value 20036.915394
## final value 20035.897657
## converged
## # weights: 41
## initial value 22539.325225
## iter 10 value 20049.162540
## iter 20 value 20035.240255
## final value 20035.238276
## converged
## # weights: 9
## initial value 23500.552771
## iter 10 value 20040.796182
## iter 20 value 20032.024312
## iter 20 value 20032.024271
## final value 20032.024271
## converged
## # weights: 25
## initial value 23866.004543
## iter 10 value 20043.061163
## iter 20 value 20032.050426
## final value 20031.941242
## converged
## # weights: 41
## initial value 22522.053623
## iter 10 value 20050.914898
## iter 20 value 20032.140973
## final value 20031.934709
## converged
## # weights: 9
## initial value 23889.742421
## final value 20058.152500
## converged
```

```
## # weights: 25
## initial value 23296.241912
## final value 20058.152500
## converged
## # weights: 41
## initial value 23515.188940
## final value 20058.152500
## converged
## # weights: 9
## initial value 22503.276050
## iter 10 value 20064.041288
## final value 20063.663668
## converged
## # weights: 25
## initial value 22725.948388
## iter 10 value 20062.852235
## final value 20062.129113
## converged
## # weights: 41
## initial value 22332.500285
## iter 10 value 20073.134909
## iter 20 value 20061.469982
## final value 20061.469469
## converged
## # weights: 9
## initial value 22200.067028
## iter 10 value 20067.558284
## iter 20 value 20058.260941
## iter 20 value 20058.260898
## final value 20058.260898
## converged
## # weights: 25
## initial value 23488.937301
## iter 10 value 20072.129918
## iter 20 value 20058.313649
## final value 20058.171518
## converged
## # weights: 41
## initial value 23619.092463
## iter 10 value 20075.514316
## iter 20 value 20058.352668
## final value 20058.163173
## converged
## # weights: 9
## initial value 22621.986957
## final value 20062.025200
## converged
## # weights: 25
## initial value 22920.982135
## final value 20062.025200
```

```
## converged
## # weights: 41
## initial value 22795.517348
## final value 20062.025200
## converged
## # weights: 9
## initial value 23833.518414
## iter 10 value 20068.425904
## final value 20067.536879
## converged
## # weights: 25
## initial value 22143.620065
## iter 10 value 20066.495164
## final value 20066.002131
## converged
## # weights: 41
## initial value 22979.847811
## iter 10 value 20065.880053
## iter 20 value 20065.342972
## final value 20065.342512
## converged
## # weights: 9
## initial value 23022.174484
## iter 10 value 20073.595651
## iter 20 value 20062.158598
## iter 20 value 20062.158545
## final value 20062.158545
## converged
## # weights: 25
## initial value 23649.149773
## iter 10 value 20074.019176
## iter 20 value 20062.163481
## final value 20062.040941
## converged
## # weights: 41
## initial value 21873.984307
## iter 10 value 20077.276628
## iter 20 value 20062.201037
## iter 30 value 20062.034462
## iter 30 value 20062.034461
## iter 30 value 20062.034459
## final value 20062.034459
## converged
## # weights: 9
## initial value 22428.344557
## final value 20014.728500
## converged
## # weights: 25
## initial value 24169.596353
## final value 20014.728500
```

```
## converged
## # weights: 41
## initial value 22987.615210
## final value 20014.728500
## converged
## # weights: 9
## initial value 21893.134115
## iter 10 value 20022.039455
## final value 20020.237787
## converged
## # weights: 25
## initial value 21983.745958
## iter 10 value 20019.528171
## final value 20018.703782
## converged
## # weights: 41
## initial value 22167.655636
## iter 10 value 20020.590699
## iter 20 value 20018.044432
## iter 20 value 20018.044361
## iter 20 value 20018.044354
## final value 20018.044354
## converged
## # weights: 9
## initial value 22445.673893
## iter 10 value 20026.319789
## iter 20 value 20014.862138
## iter 20 value 20014.862085
## final value 20014.862085
## converged
## # weights: 25
## initial value 21536.949594
## iter 10 value 20023.355379
## iter 20 value 20014.827961
## final value 20014.740916
## converged
## # weights: 41
## initial value 21519.241978
## iter 10 value 20024.287590
## iter 20 value 20014.838709
## final value 20014.737702
## converged
## # weights: 9
## initial value 22435.695794
## final value 19974.245200
## converged
## # weights: 25
## initial value 23972.708104
## final value 19974.245200
## converged
```

```
## # weights: 41
## initial value 21512.060182
## final value 19974.245200
## converged
## # weights: 9
## initial value 23343.623598
## iter 10 value 19981.177922
## iter 20 value 19979.762511
## final value 19979.753773
## converged
## # weights: 25
## initial value 23305.918733
## iter 10 value 19980.190091
## final value 19978.219934
## converged
## # weights: 41
## initial value 22734.793673
## iter 10 value 19990.181336
## final value 19977.560706
## converged
## # weights: 9
## initial value 22575.228492
## iter 10 value 19985.973139
## iter 20 value 19974.380414
## iter 20 value 19974.380360
## final value 19974.380360
## converged
## # weights: 25
## initial value 21809.195825
## iter 10 value 19985.804143
## iter 20 value 19974.378466
## final value 19974.258524
## converged
## # weights: 41
## initial value 23394.438093
## iter 10 value 19993.519299
## iter 20 value 19974.467415
## final value 19974.256111
## converged
## # weights: 9
## initial value 23933.302948
## final value 20053.435700
## converged
## # weights: 25
## initial value 23517.782223
## final value 20053.435700
## converged
## # weights: 41
## initial value 23029.860228
## final value 20053.435700
```

```
## converged
## # weights: 9
## initial value 23533.143853
## iter 10 value 20062.297296
## final value 20058.946520
## converged
## # weights: 25
## initial value 22504.755271
## iter 10 value 20058.498191
## final value 20057.411982
## converged
## # weights: 41
## initial value 22180.958635
## iter 10 value 20063.626481
## iter 20 value 20056.754110
## final value 20056.752506
## converged
## # weights: 9
## initial value 22680.136330
## iter 10 value 20064.229229
## iter 20 value 20053.560141
## iter 20 value 20053.560091
## final value 20053.560091
## converged
## # weights: 25
## initial value 23428.708778
## iter 10 value 20066.710342
## iter 20 value 20053.588746
## final value 20053.454083
## converged
## # weights: 41
## initial value 22460.319280
## iter 10 value 20073.259965
## iter 20 value 20053.664258
## final value 20053.445593
## converged
## # weights: 9
## initial value 22673.308669
## final value 20053.184500
## converged
## # weights: 25
## initial value 22685.074206
## final value 20053.184500
## converged
## # weights: 41
## initial value 22684.181830
## final value 20053.184500
## converged
## # weights: 9
## initial value 23676.996729
```

```
## iter 10 value 20071.437331
## iter 20 value 20058.708863
## final value 20058.695277
## converged
## # weights: 25
## initial value 22860.372247
## iter 10 value 20058.362746
## final value 20057.160819
## converged
## # weights: 41
## initial value 21671.876422
## iter 10 value 20070.892452
## iter 20 value 20056.510725
## final value 20056.501201
## converged
## # weights: 9
## initial value 23150.308980
## iter 10 value 20064.427274
## iter 20 value 20053.314120
## iter 20 value 20053.314069
## final value 20053.314069
## converged
## # weights: 25
## initial value 23382.290131
## iter 10 value 20065.983499
## iter 20 value 20053.332062
## final value 20053.197970
## converged
## # weights: 41
## initial value 23678.232705
## iter 10 value 20070.136588
## iter 20 value 20053.379944
## final value 20053.197688
## converged
## # weights: 9
## initial value 23312.165101
## final value 20050.496500
## converged
## # weights: 25
## initial value 23024.373785
## final value 20050.496500
## converged
## # weights: 41
## initial value 23107.123848
## final value 20050.496500
## converged
## # weights: 9
## initial value 23629.556916
## iter 10 value 20066.791615
## iter 20 value 20056.007376
```



```
## iter 20 value 20056.007190
## final value 20056.007190
## converged
## # weights: 25
## initial value 23449.760031
## iter 10 value 20056.023607
## final value 20054.472703
## converged
## # weights: 41
## initial value 23880.122383
## iter 10 value 20055.020654
## final value 20053.813189
## converged
## # weights: 9
## initial value 23740.929021
## iter 10 value 20059.166770
## iter 20 value 20050.596461
## iter 20 value 20050.596421
## final value 20050.596421
## converged
## # weights: 25
## initial value 22136.053025
## iter 10 value 20064.127363
## iter 20 value 20050.653653
## final value 20050.513224
## converged
## # weights: 41
## initial value 22474.270934
## iter 10 value 20068.302996
## iter 20 value 20050.701795
## final value 20050.509347
## converged
## # weights: 9
## initial value 23233.033730
## final value 19932.296500
## converged
## # weights: 25
## initial value 21679.750327
## final value 19932.296500
## converged
## # weights: 41
## initial value 22245.590019
## final value 19932.296500
## converged
## # weights: 9
## initial value 22506.849399
## iter 10 value 19938.098962
## final value 19937.804307
## converged
## # weights: 25
```

```
## initial value 23161.816519
## iter 10 value 19937.179981
## final value 19936.270922
## converged
## # weights: 41
## initial value 21840.488792
## iter 10 value 19937.384155
## iter 20 value 19935.611990
## iter 20 value 19935.611846
## iter 20 value 19935.611789
## final value 19935.611789
## converged
## # weights: 9
## initial value 23471.144864
## iter 10 value 19942.529277
## iter 20 value 19932.414476
## iter 20 value 19932.414429
## final value 19932.414429
## converged
## # weights: 25
## initial value 22723.945416
## iter 10 value 19945.905466
## iter 20 value 19932.453401
## final value 19932.313734
## converged
## # weights: 41
## initial value 21437.492202
## iter 10 value 19946.518403
## iter 20 value 19932.460467
## final value 19932.306208
## converged
## # weights: 9
## initial value 22167.194137
## final value 20051.745700
## converged
## # weights: 25
## initial value 24023.804164
## final value 20051.745700
## converged
## # weights: 41
## initial value 22503.950410
## final value 20051.745700
## converged
## # weights: 9
## initial value 23061.867504
## iter 10 value 20057.845047
## final value 20057.256374
## converged
## # weights: 25
## initial value 22827.043781
```

```
## iter 10 value 20056.466597
## final value 20055.722036
## converged
## # weights: 41
## initial value 23237.854894
## iter 10 value 20056.528035
## iter 20 value 20055.062522
## iter 20 value 20055.062381
## iter 20 value 20055.062364
## final value 20055.062364
## converged
## # weights: 9
## initial value 23633.365780
## iter 10 value 20062.039913
## iter 20 value 20051.864384
## iter 20 value 20051.864337
## final value 20051.864337
## converged
## # weights: 25
## initial value 22830.347772
## iter 10 value 20067.925585
## iter 20 value 20051.932241
## final value 20051.757535
## converged
## # weights: 41
## initial value 21828.947754
## iter 10 value 20064.625286
## iter 20 value 20051.894192
## final value 20051.755800
## converged
## # weights: 9
## initial value 23381.764070
## final value 20054.702000
## converged
## # weights: 25
## initial value 21545.847658
## final value 20054.702000
## converged
## # weights: 41
## initial value 23376.871139
## final value 20054.702000
## converged
## # weights: 9
## initial value 23833.124964
## iter 10 value 20061.004796
## final value 20060.212886
## converged
## # weights: 25
## initial value 22633.606800
## iter 10 value 20059.830402
```

```
## final value 20058.678351
## converged
## # weights: 41
## initial value 22551.801793
## iter 10 value 20077.683468
## iter 20 value 20058.022207
## final value 20058.018831
## converged
## # weights: 9
## initial value 22805.127932
## iter 10 value 20066.605133
## iter 20 value 20054.839234
## iter 20 value 20054.839179
## final value 20054.839179
## converged
## # weights: 25
## initial value 23368.075305
## iter 10 value 20067.724001
## iter 20 value 20054.852133
## final value 20054.715741
## converged
## # weights: 41
## initial value 22690.785762
## iter 10 value 20071.420436
## iter 20 value 20054.894750
## final value 20054.711350
## converged
## # weights: 9
## initial value 23147.978040
## final value 19970.818000
## converged
## # weights: 25
## initial value 22020.962574
## final value 19970.818000
## converged
## # weights: 41
## initial value 22728.553898
## final value 19970.818000
## converged
## # weights: 9
## initial value 21905.553190
## iter 10 value 19977.051211
## final value 19976.326230
## converged
## # weights: 25
## initial value 23306.549692
## iter 10 value 19975.553406
## final value 19974.792519
## converged
## # weights: 41
```

```
## initial value 21765.972572
## iter 10 value 19975.646603
## iter 20 value 19974.133402
## iter 20 value 19974.133254
## iter 20 value 19974.133238
## final value 19974.133238
## converged
## # weights: 9
## initial value 22288.463454
## iter 10 value 19980.147557
## iter 20 value 19970.925562
## iter 20 value 19970.925519
## final value 19970.925519
## converged
## # weights: 25
## initial value 23720.359886
## iter 10 value 19983.866718
## iter 20 value 19970.968441
## final value 19970.833749
## converged
## # weights: 41
## initial value 23364.236213
## iter 10 value 19987.084392
## iter 20 value 19971.005539
## final value 19970.828767
## converged
## # weights: 9
## initial value 24084.916704
## final value 20062.993700
## converged
## # weights: 25
## initial value 23474.707400
## final value 20062.993700
## converged
## # weights: 41
## initial value 23966.897874
## final value 20062.993700
## converged
## # weights: 9
## initial value 23323.518078
## iter 10 value 20070.634315
## final value 20068.505471
## converged
## # weights: 25
## initial value 22483.902903
## iter 10 value 20069.559372
## iter 20 value 20066.970976
## final value 20066.970594
## converged
## # weights: 41
```

```
## initial value 23231.796276
## iter 10 value 20083.619813
## iter 20 value 20066.392639
## final value 20066.310960
## converged
## # weights: 9
## initial value 23135.920496
## iter 10 value 20075.047387
## iter 20 value 20063.132670
## iter 20 value 20063.132614
## final value 20063.132614
## converged
## # weights: 25
## initial value 22035.367166
## iter 10 value 20076.798908
## iter 20 value 20063.152863
## iter 30 value 20063.007538
## iter 30 value 20063.007506
## iter 30 value 20063.007501
## final value 20063.007501
## converged
## # weights: 41
## initial value 23243.952882
## iter 10 value 20083.659238
## iter 20 value 20063.231957
## final value 20063.005973
## converged
## # weights: 9
## initial value 23288.149704
## final value 20051.473700
## converged
## # weights: 25
## initial value 23193.647524
## final value 20051.473700
## converged
## # weights: 41
## initial value 21794.099509
## final value 20051.473700
## converged
## # weights: 9
## initial value 22240.998213
## iter 10 value 20057.651765
## final value 20056.984399
## converged
## # weights: 25
## initial value 22761.434470
## iter 10 value 20056.661720
## final value 20055.449964
## converged
## # weights: 41
```

```
## initial value 22538.701965
## iter 10 value 20056.070697
## final value 20054.790381
## converged
## # weights: 9
## initial value 22111.072377
## iter 10 value 20061.134795
## iter 20 value 20051.585085
## iter 20 value 20051.585040
## final value 20051.585040
## converged
## # weights: 25
## initial value 22377.547533
## iter 10 value 20066.392244
## iter 20 value 20051.645699
## final value 20051.490913
## converged
## # weights: 41
## initial value 22294.479887
## iter 10 value 20068.984337
## iter 20 value 20051.675584
## final value 20051.483975
## converged
## # weights: 9
## initial value 22371.417072
## final value 20015.422000
## converged
## # weights: 25
## initial value 22027.848397
## final value 20015.422000
## converged
## # weights: 41
## initial value 22849.496846
## final value 20015.422000
## converged
## # weights: 9
## initial value 22376.329968
## iter 10 value 20046.001326
## iter 20 value 20021.014931
## final value 20020.931329
## converged
## # weights: 25
## initial value 23036.683999
## iter 10 value 20020.070991
## final value 20019.397289
## converged
## # weights: 41
## initial value 23276.484192
## iter 10 value 20019.238922
## final value 20018.737967
```

```
## converged
## # weights: 9
## initial value 23120.421107
## iter 10 value 20025.789688
## iter 20 value 20015.541531
## iter 20 value 20015.541484
## final value 20015.541484
## converged
## # weights: 25
## initial value 23089.732575
## iter 10 value 20027.932868
## iter 20 value 20015.566240
## final value 20015.436213
## converged
## # weights: 41
## initial value 23475.909846
## iter 10 value 20033.382132
## iter 20 value 20015.629066
## final value 20015.439824
## converged
## # weights: 9
## initial value 21689.527526
## final value 20028.123700
## converged
## # weights: 25
## initial value 23753.734074
## final value 20028.123700
## converged
## # weights: 41
## initial value 22900.201708
## final value 20028.123700
## converged
## # weights: 9
## initial value 22621.044039
## iter 10 value 20036.469462
## final value 20033.633415
## converged
## # weights: 25
## initial value 22545.686404
## iter 10 value 20033.007846
## final value 20032.099261
## converged
## # weights: 41
## initial value 22747.231253
## iter 10 value 20033.937682
## iter 20 value 20031.439897
## iter 20 value 20031.439826
## iter 20 value 20031.439811
## final value 20031.439811
## converged
```



```
## # weights: 9
## initial value 23110.779476
## iter 10 value 20039.268160
## iter 20 value 20028.252187
## iter 20 value 20028.252135
## final value 20028.252135
## converged
## # weights: 25
## initial value 23959.069898
## iter 10 value 20037.974413
## iter 20 value 20028.237271
## final value 20028.146562
## converged
## # weights: 41
## initial value 22304.765849
## iter 10 value 20047.926215
## iter 20 value 20028.352007
## final value 20028.134146
## converged
## # weights: 9
## initial value 22934.086577
## final value 20047.960100
## converged
## # weights: 25
## initial value 22695.095899
## final value 20047.960100
## converged
## # weights: 41
## initial value 24207.875270
## final value 20047.960100
## converged
## # weights: 9
## initial value 22450.764749
## iter 10 value 20055.160055
## final value 20053.470612
## converged
## # weights: 25
## initial value 23137.751803
## iter 10 value 20064.806888
## iter 20 value 20051.956971
## final value 20051.936189
## converged
## # weights: 41
## initial value 22647.106467
## iter 10 value 20057.567891
## iter 20 value 20051.277868
## final value 20051.276676
## converged
## # weights: 9
## initial value 22781.864815
```

```
## iter 10 value 20059.022222
## iter 20 value 20048.087638
## iter 20 value 20048.087587
## final value 20048.087587
## converged
## # weights: 25
## initial value 22485.350809
## iter 10 value 20061.537133
## iter 20 value 20048.116633
## final value 20047.972738
## converged
## # weights: 41
## initial value 22956.580837
## iter 10 value 20064.860050
## iter 20 value 20048.154943
## final value 20047.972200
## converged
## # weights: 9
## initial value 23384.534469
## final value 20028.947600
## converged
## # weights: 25
## initial value 22553.952784
## final value 20028.947600
## converged
## # weights: 41
## initial value 24220.010479
## final value 20028.947600
## converged
## # weights: 9
## initial value 22824.598533
## iter 10 value 20034.701339
## final value 20034.457312
## converged
## # weights: 25
## initial value 22092.472358
## iter 10 value 20034.413887
## final value 20032.923150
## converged
## # weights: 41
## initial value 22672.901763
## iter 10 value 20051.282744
## iter 20 value 20032.269391
## final value 20032.263709
## converged
## # weights: 9
## initial value 23383.490120
## iter 10 value 20038.435377
## iter 20 value 20029.056987
## iter 20 value 20029.056943
```

```
## final value 20029.056943
## converged
## # weights: 25
## initial value 22595.773034
## iter 10 value 20045.690665
## iter 20 value 20029.140634
## final value 20028.960486
## converged
## # weights: 41
## initial value 23378.999884
## iter 10 value 20047.049797
## iter 20 value 20029.156304
## final value 20028.958166
## converged
## # weights: 9
## initial value 22598.237568
## final value 19944.142000
## converged
## # weights: 25
## initial value 22701.401919
## final value 19944.142000
## converged
## # weights: 41
## initial value 22782.305960
## final value 19944.142000
## converged
## # weights: 9
## initial value 23345.382286
## iter 10 value 19950.316761
## final value 19949.649913
## converged
## # weights: 25
## initial value 21811.813195
## iter 10 value 19949.343833
## final value 19948.116425
## converged
## # weights: 41
## initial value 21284.939716
## iter 10 value 19955.810609
## iter 20 value 19947.457906
## final value 19947.457192
## converged
## # weights: 9
## initial value 21727.628457
## iter 10 value 19952.165570
## iter 20 value 19944.234505
## iter 20 value 19944.234468
## final value 19944.234468
## converged
## # weights: 25
```

```
## initial value 22852.865248
## iter 10 value 19958.173892
## iter 20 value 19944.303777
## final value 19944.153316
## converged
## # weights: 41
## initial value 22957.356025
## iter 10 value 19963.276892
## iter 20 value 19944.362610
## final value 19944.154968
## converged
## # weights: 9
## initial value 22986.011725
## final value 20063.162000
## converged
## # weights: 25
## initial value 23566.032682
## final value 20063.162000
## converged
## # weights: 41
## initial value 23925.653683
## final value 20063.162000
## converged
## # weights: 9
## initial value 23268.401431
## iter 10 value 20069.964675
## final value 20068.674098
## converged
## # weights: 25
## initial value 23095.610637
## iter 10 value 20068.389917
## final value 20067.139213
## converged
## # weights: 41
## initial value 22054.067035
## iter 10 value 20067.250403
## final value 20066.479582
## converged
## # weights: 9
## initial value 22227.622490
## iter 10 value 20073.438884
## iter 20 value 20063.280484
## iter 20 value 20063.280437
## final value 20063.280437
## converged
## # weights: 25
## initial value 23250.063582
## iter 10 value 20076.396172
## iter 20 value 20063.314580
## final value 20063.174349
```

```
## converged
## # weights: 41
## initial value 22297.742389
## iter 10 value 20083.839476
## iter 20 value 20063.400395
## final value 20063.171642
## converged
## # weights: 9
## initial value 23647.351773
## final value 20043.633700
## converged
## # weights: 25
## initial value 23636.969171
## final value 20043.633700
## converged
## # weights: 41
## initial value 22429.555248
## final value 20043.633700
## converged
## # weights: 9
## initial value 22041.354169
## iter 10 value 20049.516477
## final value 20049.143943
## converged
## # weights: 25
## initial value 23026.884317
## iter 10 value 20048.607136
## final value 20047.609744
## converged
## # weights: 41
## initial value 22780.833573
## iter 10 value 20048.289762
## iter 20 value 20046.950468
## final value 20046.950073
## converged
## # weights: 9
## initial value 22484.667843
## iter 10 value 20053.252023
## iter 20 value 20043.744592
## iter 20 value 20043.744547
## final value 20043.744547
## converged
## # weights: 25
## initial value 24268.193389
## iter 10 value 20052.722971
## iter 20 value 20043.738492
## final value 20043.654001
## converged
## # weights: 41
## initial value 23414.142790
```

```
## iter 10 value 20061.729691
## iter 20 value 20043.842333
## final value 20043.644141
## converged
## # weights: 9
## initial value 22630.828025
## final value 20045.446000
## converged
## # weights: 25
## initial value 22073.771417
## final value 20045.446000
## converged
## # weights: 41
## initial value 22270.888983
## final value 20045.446000
## converged
## # weights: 9
## initial value 22202.533443
## iter 10 value 20052.458895
## final value 20050.956392
## converged
## # weights: 25
## initial value 23335.348016
## iter 10 value 20050.569195
## final value 20049.422035
## converged
## # weights: 41
## initial value 22220.134717
## iter 10 value 20049.771707
## iter 20 value 20048.762702
## iter 20 value 20048.762550
## iter 20 value 20048.762514
## final value 20048.762514
## converged
## # weights: 9
## initial value 22396.226590
## iter 10 value 20055.940559
## iter 20 value 20045.566994
## iter 20 value 20045.566946
## final value 20045.566946
## converged
## # weights: 25
## initial value 23176.193710
## iter 10 value 20060.638874
## iter 20 value 20045.621162
## final value 20045.458849
## converged
## # weights: 41
## initial value 22742.496938
## iter 10 value 20064.454265
```

```
## iter 20 value 20045.665150
## final value 20045.456751
## converged
## # weights: 9
## initial value 22003.003700
## final value 20009.587700
## converged
## # weights: 25
## initial value 23309.455955
## final value 20009.587700
## converged
## # weights: 41
## initial value 23485.901501
## final value 20009.587700
## converged
## # weights: 9
## initial value 22866.004159
## iter 10 value 20017.656096
## final value 20015.096892
## converged
## # weights: 25
## initial value 21830.060500
## iter 10 value 20015.248684
## final value 20013.562946
## converged
## # weights: 41
## initial value 22489.341207
## iter 10 value 20026.532393
## iter 20 value 20012.904433
## final value 20012.903640
## converged
## # weights: 9
## initial value 22646.104517
## iter 10 value 20020.613840
## iter 20 value 20009.714823
## iter 20 value 20009.714772
## final value 20009.714772
## converged
## # weights: 25
## initial value 23636.819940
## iter 10 value 20021.173508
## iter 20 value 20009.721275
## final value 20009.609971
## converged
## # weights: 41
## initial value 22238.532720
## iter 10 value 20027.419966
## iter 20 value 20009.793292
## final value 20009.599678
## converged
```

```
## # weights: 9
## initial value 21824.565617
## final value 20023.227700
## converged
## # weights: 25
## initial value 22140.744265
## final value 20023.227700
## converged
## # weights: 41
## initial value 24225.051153
## final value 20023.227700
## converged
## # weights: 9
## initial value 22921.005359
## iter 10 value 20051.035798
## iter 20 value 20028.737541
## iter 20 value 20028.737347
## final value 20028.737347
## converged
## # weights: 25
## initial value 22196.438516
## iter 10 value 20028.008562
## final value 20027.203191
## converged
## # weights: 41
## initial value 22651.878525
## iter 10 value 20029.275334
## final value 20026.543834
## converged
## # weights: 9
## initial value 21689.806800
## iter 10 value 20030.215566
## iter 20 value 20023.308265
## iter 20 value 20023.308232
## final value 20023.308232
## converged
## # weights: 25
## initial value 23192.182456
## iter 10 value 20036.119864
## iter 20 value 20023.376337
## final value 20023.243539
## converged
## # weights: 41
## initial value 24279.754996
## iter 10 value 20033.149232
## iter 20 value 20023.342087
## final value 20023.241342
## converged
## # weights: 9
## initial value 23438.550122
```



```
## final value 20062.497700
## converged
## # weights: 25
## initial value 23334.469848
## final value 20062.497700
## converged
## # weights: 41
## initial value 21978.300670
## final value 20062.497700
## converged
## # weights: 9
## initial value 23738.538574
## iter 10 value 20069.155839
## final value 20068.009579
## converged
## # weights: 25
## initial value 22413.750882
## iter 10 value 20066.574545
## final value 20066.474855
## converged
## # weights: 41
## initial value 22644.974096
## iter 10 value 20066.018422
## final value 20065.815137
## converged
## # weights: 9
## initial value 22120.182350
## iter 10 value 20071.199765
## iter 20 value 20062.598028
## iter 20 value 20062.597988
## final value 20062.597988
## converged
## # weights: 25
## initial value 23134.881851
## iter 10 value 20078.675353
## iter 20 value 20062.684216
## final value 20062.514237
## converged
## # weights: 41
## initial value 22682.288188
## iter 10 value 20079.961452
## iter 20 value 20062.699043
## final value 20062.507806
## converged
## # weights: 9
## initial value 23977.392348
## final value 20007.369200
## converged
## # weights: 25
## initial value 21812.436730
```

```
## final value 20007.369200
## converged
## # weights: 41
## initial value 23537.846874
## final value 20007.369200
## converged
## # weights: 9
## initial value 22037.847619
## iter 10 value 20013.717370
## final value 20012.878347
## converged
## # weights: 25
## initial value 22729.702215
## iter 10 value 20012.772454
## final value 20011.344386
## converged
## # weights: 41
## initial value 21483.588185
## iter 10 value 20023.704611
## iter 20 value 20010.688374
## final value 20010.685066
## converged
## # weights: 9
## initial value 23412.649397
## iter 10 value 20017.744336
## iter 20 value 20007.488817
## iter 20 value 20007.488769
## final value 20007.488769
## converged
## # weights: 25
## initial value 21668.078878
## iter 10 value 20017.739883
## iter 20 value 20007.488766
## final value 20007.381115
## converged
## # weights: 41
## initial value 22500.897427
## iter 10 value 20026.420311
## iter 20 value 20007.588844
## final value 20007.379440
## converged
## # weights: 9
## initial value 23014.978823
## final value 20016.930100
## converged
## # weights: 25
## initial value 22266.491056
## final value 20016.930100
## converged
## # weights: 41
```

```
## initial value 22219.635084
## final value 20016.930100
## converged
## # weights: 9
## initial value 23034.116871
## iter 10 value 20023.332112
## final value 20022.439476
## converged
## # weights: 25
## initial value 22564.179872
## iter 10 value 20021.461301
## iter 20 value 20020.908181
## final value 20020.905411
## converged
## # weights: 41
## initial value 21370.724752
## iter 10 value 20023.917941
## iter 20 value 20020.247825
## final value 20020.246086
## converged
## # weights: 9
## initial value 23774.630226
## iter 10 value 20024.781367
## iter 20 value 20017.020619
## iter 20 value 20017.020583
## final value 20017.020583
## converged
## # weights: 25
## initial value 22297.454431
## iter 10 value 20032.203894
## iter 20 value 20017.106195
## final value 20016.945624
## converged
## # weights: 41
## initial value 23230.995869
## iter 10 value 20036.456165
## iter 20 value 20017.155220
## final value 20016.940328
## converged
## # weights: 9
## initial value 23014.506858
## final value 20047.960100
## converged
## # weights: 25
## initial value 23088.109084
## final value 20047.960100
## converged
## # weights: 41
## initial value 23543.794084
## final value 20047.960100
```

```
## converged
## # weights: 9
## initial value 22034.674819
## iter 10 value 20054.134244
## final value 20053.470632
## converged
## # weights: 25
## initial value 23745.454307
## iter 10 value 20053.822115
## final value 20051.936277
## converged
## # weights: 41
## initial value 23978.777720
## iter 10 value 20063.209533
## iter 20 value 20051.278708
## final value 20051.276702
## converged
## # weights: 9
## initial value 22332.467592
## iter 10 value 20058.513524
## iter 20 value 20048.081773
## iter 20 value 20048.081724
## final value 20048.081724
## converged
## # weights: 25
## initial value 23299.595542
## iter 10 value 20063.083656
## iter 20 value 20048.134463
## final value 20047.974242
## converged
## # weights: 41
## initial value 23085.444448
## iter 10 value 20064.789427
## iter 20 value 20048.154129
## iter 30 value 20047.970314
## iter 30 value 20047.970313
## iter 30 value 20047.970313
## final value 20047.970313
## converged
## # weights: 9
## initial value 21921.390246
## final value 20001.547600
## converged
## # weights: 25
## initial value 22297.657982
## final value 20001.547600
## converged
## # weights: 41
## initial value 21448.733024
## final value 20001.547600
```

```
## converged
## # weights: 9
## initial value 21638.413519
## iter 10 value 20007.419766
## final value 20007.056604
## converged
## # weights: 25
## initial value 21979.621607
## iter 10 value 20008.233213
## iter 20 value 20005.522941
## final value 20005.522675
## converged
## # weights: 41
## initial value 21226.402343
## iter 10 value 20006.197757
## final value 20004.863340
## converged
## # weights: 9
## initial value 23487.117013
## iter 10 value 20010.911916
## iter 20 value 20001.655563
## iter 20 value 20001.655520
## final value 20001.655520
## converged
## # weights: 25
## initial value 22939.592731
## iter 10 value 20017.446503
## iter 20 value 20001.730902
## final value 20001.568907
## converged
## # weights: 41
## initial value 21932.954193
## iter 10 value 20020.628174
## iter 20 value 20001.767584
## final value 20001.557670
## converged
## # weights: 9
## initial value 22311.989261
## final value 19999.010000
## converged
## # weights: 25
## initial value 21289.298430
## final value 19999.010000
## converged
## # weights: 41
## initial value 22408.211658
## final value 19999.010000
## converged
## # weights: 9
## initial value 21901.983141
```

```
## iter 10 value 20005.273624
## final value 20004.518976
## converged
## # weights: 25
## initial value 23257.106628
## iter 10 value 20003.193243
## final value 20002.985122
## converged
## # weights: 41
## initial value 23741.344956
## iter 10 value 20010.377984
## iter 20 value 20002.330392
## final value 20002.325727
## converged
## # weights: 9
## initial value 23006.604417
## iter 10 value 20010.694364
## iter 20 value 19999.144712
## iter 20 value 19999.144658
## final value 19999.144658
## converged
## # weights: 25
## initial value 23348.291659
## iter 10 value 20013.043006
## iter 20 value 19999.171790
## final value 19999.029374
## converged
## # weights: 41
## initial value 21877.503556
## iter 10 value 20016.559934
## iter 20 value 19999.212337
## final value 19999.019750
## converged
## # weights: 9
## initial value 22575.300121
## final value 19909.658000
## converged
## # weights: 25
## initial value 22103.957414
## final value 19909.658000
## converged
## # weights: 41
## initial value 22991.686711
## final value 19909.658000
## converged
## # weights: 9
## initial value 22869.117040
## iter 10 value 19916.784104
## final value 19915.165302
## converged
```

```
## # weights: 25
## initial value 21851.115066
## iter 10 value 19916.189265
## iter 20 value 19913.632105
## iter 20 value 19913.632015
## iter 20 value 19913.631987
## final value 19913.631987
## converged
## # weights: 41
## initial value 23029.076417
## iter 10 value 19914.318250
## iter 20 value 19912.973026
## iter 20 value 19912.972854
## iter 20 value 19912.972832
## final value 19912.972832
## converged
## # weights: 9
## initial value 22440.547060
## iter 10 value 19920.162327
## iter 20 value 19909.779107
## iter 20 value 19909.779058
## final value 19909.779058
## converged
## # weights: 25
## initial value 22103.822385
## iter 10 value 19922.964486
## iter 20 value 19909.811413
## final value 19909.673072
## converged
## # weights: 41
## initial value 23579.319260
## iter 10 value 19925.432584
## iter 20 value 19909.839869
## final value 19909.670359
## converged
## # weights: 9
## initial value 22777.009706
## final value 20014.310000
## converged
## # weights: 25
## initial value 23165.794294
## final value 20014.310000
## converged
## # weights: 41
## initial value 22745.024195
## final value 20014.310000
## converged
## # weights: 9
## initial value 22917.226729
## iter 10 value 20094.339580
```

```
## iter 20 value 20019.946084
## final value 20019.819316
## converged
## # weights: 25
## initial value 21948.502624
## iter 10 value 20019.107653
## final value 20018.285524
## converged
## # weights: 41
## initial value 22361.557236
## iter 10 value 20017.771452
## final value 20017.625999
## converged
## # weights: 9
## initial value 22324.812799
## iter 10 value 20024.568337
## iter 20 value 20014.428271
## iter 20 value 20014.428223
## final value 20014.428223
## converged
## # weights: 25
## initial value 22612.181795
## iter 10 value 20029.823760
## iter 20 value 20014.488861
## final value 20014.326049
## converged
## # weights: 41
## initial value 23545.361232
## iter 10 value 20030.381486
## iter 20 value 20014.495292
## final value 20014.321442
## converged
## # weights: 9
## initial value 22752.122370
## final value 19991.598500
## converged
## # weights: 25
## initial value 22187.107708
## final value 19991.598500
## converged
## # weights: 41
## initial value 23320.764465
## final value 19991.598500
## converged
## # weights: 9
## initial value 23002.704817
## iter 10 value 20000.794233
## iter 20 value 19997.107341
## iter 20 value 19997.107331
## final value 19997.107331
```



```
## converged
## # weights: 25
## initial value 22783.447198
## iter 10 value 20009.777283
## iter 20 value 19995.590439
## final value 19995.573460
## converged
## # weights: 41
## initial value 23658.534954
## iter 10 value 19997.859223
## iter 20 value 19994.915644
## final value 19994.914193
## converged
## # weights: 9
## initial value 23255.152077
## iter 10 value 20000.955671
## iter 20 value 19991.706381
## iter 20 value 19991.706338
## final value 19991.706338
## converged
## # weights: 25
## initial value 23564.324889
## iter 10 value 20004.137715
## iter 20 value 19991.743067
## final value 19991.622773
## converged
## # weights: 41
## initial value 21992.302813
## iter 10 value 20006.376189
## iter 20 value 19991.768875
## iter 30 value 19991.607257
## iter 30 value 19991.607257
## iter 30 value 19991.607257
## final value 19991.607257
## converged
## # weights: 9
## initial value 23691.203068
## final value 20032.920100
## converged
## # weights: 25
## initial value 21535.432668
## final value 20032.920100
## converged
## # weights: 41
## initial value 21780.440812
## final value 20032.920100
## converged
## # weights: 9
## initial value 22862.843193
## iter 10 value 20039.041271
```

```
## final value 20038.429973
## converged
## # weights: 25
## initial value 24313.826308
## iter 10 value 20037.805037
## final value 20036.895866
## converged
## # weights: 41
## initial value 22103.000115
## iter 10 value 20037.111698
## final value 20036.236287
## converged
## # weights: 9
## initial value 23516.277004
## iter 10 value 20041.833014
## iter 20 value 20033.022859
## iter 20 value 20033.022818
## final value 20033.022818
## converged
## # weights: 25
## initial value 23046.993500
## iter 10 value 20049.914888
## iter 20 value 20033.116037
## final value 20032.934862
## converged
## # weights: 41
## initial value 23956.876790
## iter 10 value 20045.350005
## iter 20 value 20033.063407
## final value 20032.932072
## converged
## # weights: 9
## initial value 22240.727455
## final value 20042.739700
## converged
## # weights: 25
## initial value 21562.497874
## final value 20042.739700
## converged
## # weights: 41
## initial value 23798.923114
## final value 20042.739700
## converged
## # weights: 9
## initial value 23597.278379
## iter 10 value 20051.000231
## final value 20048.249934
## converged
## # weights: 25
## initial value 23326.406568
```

```
## iter 10 value 20047.156826
## iter 20 value 20046.734050
## final value 20046.715599
## converged
## # weights: 41
## initial value 22141.029321
## iter 10 value 20048.995598
## iter 20 value 20046.056540
## final value 20046.056107
## converged
## # weights: 9
## initial value 23855.221508
## iter 10 value 20051.339999
## iter 20 value 20042.838855
## iter 20 value 20042.838815
## final value 20042.838815
## converged
## # weights: 25
## initial value 23665.323928
## iter 10 value 20054.602449
## iter 20 value 20042.876468
## final value 20042.756487
## converged
## # weights: 41
## initial value 22364.214416
## iter 10 value 20062.024052
## iter 20 value 20042.962033
## final value 20042.750104
## converged
## # weights: 9
## initial value 21766.451852
## final value 19928.378000
## converged
## # weights: 25
## initial value 22324.353317
## final value 19928.378000
## converged
## # weights: 41
## initial value 21281.349330
## final value 19928.378000
## converged
## # weights: 9
## initial value 22907.804992
## iter 10 value 19936.084236
## final value 19933.885725
## converged
## # weights: 25
## initial value 22965.730280
## iter 10 value 19941.320604
## iter 20 value 19932.352715
```

```
## final value 19932.352316
## converged
## # weights: 41
## initial value 21271.438161
## iter 10 value 19932.056193
## final value 19931.693110
## converged
## # weights: 9
## initial value 22307.284233
## iter 10 value 19938.699146
## iter 20 value 19928.496995
## iter 20 value 19928.496947
## final value 19928.496947
## converged
## # weights: 25
## initial value 21763.691676
## iter 10 value 19940.166906
## iter 20 value 19928.513917
## final value 19928.388987
## converged
## # weights: 41
## initial value 24356.140777
## iter 10 value 19936.793483
## iter 20 value 19928.475024
## final value 19928.393830
## converged
## # weights: 9
## initial value 22065.509706
## final value 20036.130100
## converged
## # weights: 25
## initial value 21352.961615
## final value 20036.130100
## converged
## # weights: 41
## initial value 21908.563283
## final value 20036.130100
## converged
## # weights: 9
## initial value 23469.156798
## iter 10 value 20042.245510
## final value 20041.640100
## converged
## # weights: 25
## initial value 23174.433615
## iter 10 value 20040.961563
## final value 20040.105889
## converged
## # weights: 41
## initial value 23385.501008
```

```
## iter 10 value 20040.611484
## iter 20 value 20039.446575
## iter 20 value 20039.446432
## iter 20 value 20039.446386
## final value 20039.446386
## converged
## # weights: 9
## initial value 22130.328731
## iter 10 value 20045.175931
## iter 20 value 20036.234391
## iter 20 value 20036.234350
## final value 20036.234350
## converged
## # weights: 25
## initial value 22766.054683
## iter 10 value 20051.427645
## iter 20 value 20036.306469
## final value 20036.142638
## converged
## # weights: 41
## initial value 22305.776067
## iter 10 value 20052.026501
## iter 20 value 20036.313373
## final value 20036.140690
## converged
## # weights: 9
## initial value 21892.396918
## final value 20006.167600
## converged
## # weights: 25
## initial value 22855.553438
## final value 20006.167600
## converged
## # weights: 41
## initial value 24022.252916
## final value 20006.167600
## converged
## # weights: 9
## initial value 23015.735851
## iter 10 value 20012.079169
## final value 20011.676672
## converged
## # weights: 25
## initial value 24208.908269
## iter 10 value 20011.237642
## final value 20010.142711
## converged
## # weights: 41
## initial value 22494.808740
## iter 10 value 20013.084254
```

```
## iter 20 value 20009.685404
## final value 20009.483428
## converged
## # weights: 9
## initial value 23424.721067
## iter 10 value 20015.331641
## iter 20 value 20006.273254
## iter 20 value 20006.273212
## final value 20006.273212
## converged
## # weights: 25
## initial value 23507.290531
## iter 10 value 20019.997027
## iter 20 value 20006.327042
## final value 20006.190486
## converged
## # weights: 41
## initial value 21709.172619
## iter 10 value 20019.009791
## iter 20 value 20006.315660
## final value 20006.177640
## converged
## # weights: 9
## initial value 23226.832197
## final value 19970.240500
## converged
## # weights: 25
## initial value 24116.269517
## final value 19970.240500
## converged
## # weights: 41
## initial value 21391.170527
## final value 19970.240500
## converged
## # weights: 9
## initial value 23451.632698
## iter 10 value 19977.087781
## final value 19975.748888
## converged
## # weights: 25
## initial value 21849.737127
## iter 10 value 19975.318031
## final value 19974.215261
## converged
## # weights: 41
## initial value 22563.294768
## iter 10 value 19975.032021
## final value 19973.555986
## converged
## # weights: 9
```

```
## initial value 23198.582087
## iter 10 value 19980.140303
## iter 20 value 19970.354637
## iter 20 value 19970.354591
## final value 19970.354591
## converged
## # weights: 25
## initial value 21774.314028
## iter 10 value 19982.121865
## iter 20 value 19970.377483
## final value 19970.254039
## converged
## # weights: 41
## initial value 23545.807310
## iter 10 value 19988.439462
## iter 20 value 19970.450320
## final value 19970.255269
## converged
## # weights: 9
## initial value 22911.422463
## final value 20018.280100
## converged
## # weights: 25
## initial value 22384.088696
## final value 20018.280100
## converged
## # weights: 41
## initial value 22199.340930
## final value 20018.280100
## converged
## # weights: 9
## initial value 21735.295291
## iter 10 value 20024.321761
## final value 20023.789518
## converged
## # weights: 25
## initial value 21728.177424
## iter 10 value 20023.910044
## final value 20022.255468
## converged
## # weights: 41
## initial value 21726.418825
## iter 10 value 20036.371109
## iter 20 value 20021.596421
## iter 20 value 20021.596236
## iter 20 value 20021.596159
## final value 20021.596159
## converged
## # weights: 9
## initial value 22244.116843
```

```
## iter 10 value 20027.503821
## iter 20 value 20018.386442
## iter 20 value 20018.386400
## final value 20018.386400
## converged
## # weights: 25
## initial value 23086.043381
## iter 10 value 20035.094406
## iter 20 value 20018.473956
## final value 20018.293217
## converged
## # weights: 41
## initial value 21639.648016
## iter 10 value 20030.618288
## iter 20 value 20018.422350
## final value 20018.289445
## converged
## # weights: 9
## initial value 23509.503819
## final value 20051.405200
## converged
## # weights: 25
## initial value 22791.101572
## final value 20051.405200
## converged
## # weights: 41
## initial value 23170.516713
## final value 20051.405200
## converged
## # weights: 9
## initial value 23376.720625
## iter 10 value 20057.580381
## final value 20056.915944
## converged
## # weights: 25
## initial value 22943.847107
## iter 10 value 20063.989980
## iter 20 value 20055.385961
## final value 20055.381509
## converged
## # weights: 41
## initial value 22327.878123
## iter 10 value 20056.373084
## iter 20 value 20054.722049
## iter 20 value 20054.721939
## iter 20 value 20054.721924
## final value 20054.721924
## converged
## # weights: 9
## initial value 21963.569278
```



```
## iter 10 value 20060.466227
## iter 20 value 20051.509667
## iter 20 value 20051.509625
## final value 20051.509625
## converged
## # weights: 25
## initial value 21457.895842
## iter 10 value 20060.123473
## iter 20 value 20051.505715
## final value 20051.417017
## converged
## # weights: 41
## initial value 23972.796486
## iter 10 value 20064.449079
## iter 20 value 20051.555586
## final value 20051.420681
## converged
## # weights: 9
## initial value 21851.697507
## final value 19996.910500
## converged
## # weights: 25
## initial value 22325.562863
## final value 19996.910500
## converged
## # weights: 41
## initial value 22589.751694
## final value 19996.910500
## converged
## # weights: 9
## initial value 22933.914846
## iter 10 value 20004.657099
## final value 20002.419403
## converged
## # weights: 25
## initial value 23390.751637
## iter 10 value 20001.911197
## final value 20000.885544
## converged
## # weights: 41
## initial value 21911.438775
## iter 10 value 20002.839349
## iter 20 value 20000.226445
## iter 20 value 20000.226292
## iter 20 value 20000.226221
## final value 20000.226221
## converged
## # weights: 9
## initial value 22327.033970
## iter 10 value 20007.339557
```

```
## iter 20 value 19997.030739
## iter 20 value 19997.030691
## final value 19997.030691
## converged
## # weights: 25
## initial value 22214.465790
## iter 10 value 20010.497524
## iter 20 value 19997.067148
## final value 19996.923486
## converged
## # weights: 41
## initial value 23129.303634
## iter 10 value 20014.338081
## iter 20 value 19997.111426
## final value 19996.922036
## converged
## # weights: 9
## initial value 22065.849504
## final value 20014.030000
## converged
## # weights: 25
## initial value 23436.126106
## final value 20014.030000
## converged
## # weights: 41
## initial value 23832.655320
## final value 20014.030000
## converged
## # weights: 9
## initial value 23572.007951
## iter 10 value 20020.006296
## final value 20019.539285
## converged
## # weights: 25
## initial value 22746.754102
## iter 10 value 20020.753764
## iter 20 value 20018.005546
## iter 20 value 20018.005422
## iter 20 value 20018.005354
## final value 20018.005354
## converged
## # weights: 41
## initial value 23166.411528
## iter 10 value 20018.119857
## final value 20017.345912
## converged
## # weights: 9
## initial value 22429.971221
## iter 10 value 20024.400523
## iter 20 value 20014.149564
```

```
## iter 20 value 20014.149516
## final value 20014.149516
## converged
## # weights: 25
## initial value 23290.307128
## iter 10 value 20027.783557
## iter 20 value 20014.188568
## final value 20014.045257
## converged
## # weights: 41
## initial value 22757.985160
## iter 10 value 20031.706520
## iter 20 value 20014.233796
## final value 20014.040689
## converged
## # weights: 9
## initial value 22562.696379
## final value 20020.659700
## converged
## # weights: 25
## initial value 23976.793625
## final value 20020.659700
## converged
## # weights: 41
## initial value 22911.507257
## final value 20020.659700
## converged
## # weights: 9
## initial value 21783.909762
## iter 10 value 20027.816940
## final value 20026.169153
## converged
## # weights: 25
## initial value 21786.321839
## iter 10 value 20026.813071
## final value 20024.635100
## converged
## # weights: 41
## initial value 21902.816533
## iter 10 value 20035.888594
## iter 20 value 20023.982246
## final value 20023.975661
## converged
## # weights: 9
## initial value 23599.866211
## iter 10 value 20029.750027
## iter 20 value 20020.764504
## iter 20 value 20020.764462
## final value 20020.764462
## converged
```

```
## # weights: 25
## initial value 22710.997407
## iter 10 value 20036.815328
## iter 20 value 20020.845962
## final value 20020.671527
## converged
## # weights: 41
## initial value 22172.691130
## iter 10 value 20034.918022
## iter 20 value 20020.824087
## final value 20020.669355
## converged
## # weights: 9
## initial value 23152.657591
## final value 19950.385700
## converged
## # weights: 25
## initial value 22305.162980
## final value 19950.385700
## converged
## # weights: 41
## initial value 22667.974053
## final value 19950.385700
## converged
## # weights: 9
## initial value 22718.493772
## iter 10 value 19956.405374
## final value 19955.893617
## converged
## # weights: 25
## initial value 21721.409253
## iter 10 value 19957.076095
## final value 19954.360092
## converged
## # weights: 41
## initial value 23289.438328
## iter 10 value 19955.762368
## iter 20 value 19953.701004
## iter 20 value 19953.700878
## iter 20 value 19953.700857
## final value 19953.700857
## converged
## # weights: 9
## initial value 22328.137587
## iter 10 value 19960.709714
## iter 20 value 19950.504728
## iter 20 value 19950.504680
## final value 19950.504680
## converged
## # weights: 25
```

```
## initial value 22859.241200
## iter 10 value 19963.825580
## iter 20 value 19950.540651
## final value 19950.402945
## converged
## # weights: 41
## initial value 22362.331520
## iter 10 value 19967.503388
## iter 20 value 19950.583054
## final value 19950.396829
## converged
## # weights: 9
## initial value 22211.574259
## final value 20051.473700
## converged
## # weights: 25
## initial value 23444.600013
## final value 20051.473700
## converged
## # weights: 41
## initial value 23252.349879
## final value 20051.473700
## converged
## # weights: 9
## initial value 22800.377866
## iter 10 value 20057.516112
## final value 20056.984314
## converged
## # weights: 25
## initial value 23948.764442
## iter 10 value 20065.631654
## iter 20 value 20055.454789
## final value 20055.449847
## converged
## # weights: 41
## initial value 22665.540007
## iter 10 value 20056.024311
## iter 20 value 20054.790502
## iter 20 value 20054.790327
## iter 20 value 20054.790327
## final value 20054.790327
## converged
## # weights: 9
## initial value 23016.308970
## iter 10 value 20062.970992
## iter 20 value 20051.606255
## iter 20 value 20051.606202
## final value 20051.606202
## converged
## # weights: 25
```

```
## initial value 23520.652750
## iter 10 value 20064.596269
## iter 20 value 20051.624993
## final value 20051.488093
## converged
## # weights: 41
## initial value 22145.096606
## iter 10 value 20069.048912
## iter 20 value 20051.676328
## final value 20051.484420
## converged
## # weights: 9
## initial value 23388.650878
## final value 20061.657200
## converged
## # weights: 25
## initial value 23106.468002
## final value 20061.657200
## converged
## # weights: 41
## initial value 24085.211049
## final value 20061.657200
## converged
## # weights: 9
## initial value 22815.337320
## iter 10 value 20067.309909
## final value 20067.168768
## converged
## # weights: 25
## initial value 22777.626919
## iter 10 value 20066.239794
## final value 20065.634049
## converged
## # weights: 41
## initial value 24042.641808
## iter 10 value 20078.097195
## iter 20 value 20064.976081
## final value 20064.974359
## converged
## # weights: 9
## initial value 22275.899537
## iter 10 value 20072.320706
## iter 20 value 20061.780142
## iter 20 value 20061.780093
## final value 20061.780093
## converged
## # weights: 25
## initial value 23417.912157
## iter 10 value 20076.047970
## iter 20 value 20061.823114
```

```
## final value 20061.672301
## converged
## # weights: 41
## initial value 22183.301226
## iter 10 value 20081.281600
## iter 20 value 20061.883454
## final value 20061.666181
## converged
## # weights: 9
## initial value 22219.002592
## final value 20007.369200
## converged
## # weights: 25
## initial value 22757.545671
## final value 20007.369200
## converged
## # weights: 41
## initial value 22640.375914
## final value 20007.369200
## converged
## # weights: 9
## initial value 23133.627551
## iter 10 value 20012.994983
## final value 20012.878349
## converged
## # weights: 25
## initial value 22628.991996
## iter 10 value 20013.324441
## iter 20 value 20011.347066
## final value 20011.344369
## converged
## # weights: 41
## initial value 23937.906451
## iter 10 value 20011.899856
## iter 20 value 20010.685032
## iter 20 value 20010.684988
## iter 20 value 20010.684986
## final value 20010.684986
## converged
## # weights: 9
## initial value 23548.273644
## iter 10 value 20016.596430
## iter 20 value 20007.475583
## iter 20 value 20007.475540
## final value 20007.475540
## converged
## # weights: 25
## initial value 22791.182186
## iter 10 value 20024.238896
## iter 20 value 20007.563694
```

```
## final value 20007.386134
## converged
## # weights: 41
## initial value 21235.223605
## iter 10 value 20015.995067
## iter 20 value 20007.468649
## final value 20007.378152
## converged
## # weights: 9
## initial value 23106.736086
## final value 20003.880100
## converged
## # weights: 25
## initial value 23374.678870
## final value 20003.880100
## converged
## # weights: 41
## initial value 23311.577177
## final value 20003.880100
## converged
## # weights: 9
## initial value 23141.842677
## iter 10 value 20009.644383
## final value 20009.389117
## converged
## # weights: 25
## initial value 22824.760391
## iter 10 value 20013.728589
## iter 20 value 20007.856571
## final value 20007.855165
## converged
## # weights: 41
## initial value 23524.065316
## iter 10 value 20014.825573
## iter 20 value 20007.196633
## final value 20007.195824
## converged
## # weights: 9
## initial value 22234.962890
## iter 10 value 20013.041282
## iter 20 value 20003.985721
## iter 20 value 20003.985679
## final value 20003.985679
## converged
## # weights: 25
## initial value 22046.795368
## iter 10 value 20019.827605
## iter 20 value 20004.063962
## final value 20003.893859
## converged
```



```
## # weights: 41
## initial value 23336.318290
## iter 10 value 20021.005953
## iter 20 value 20004.077548
## final value 20003.891379
## converged
## # weights: 9
## initial value 22973.743848
## final value 19948.680100
## converged
## # weights: 25
## initial value 22521.834492
## final value 19948.680100
## converged
## # weights: 41
## initial value 23003.623989
## final value 19948.680100
## converged
## # weights: 9
## initial value 23547.594953
## iter 10 value 19955.869119
## final value 19954.187977
## converged
## # weights: 25
## initial value 22768.311373
## iter 10 value 19970.474909
## iter 20 value 19952.662369
## final value 19952.654406
## converged
## # weights: 41
## initial value 23357.038570
## iter 10 value 19954.382303
## iter 20 value 19951.995383
## iter 20 value 19951.995262
## iter 20 value 19951.995251
## final value 19951.995251
## converged
## # weights: 9
## initial value 22115.527822
## iter 10 value 19958.545391
## iter 20 value 19948.793839
## iter 20 value 19948.793794
## final value 19948.793794
## converged
## # weights: 25
## initial value 23696.724669
## iter 10 value 19960.341338
## iter 20 value 19948.814545
## final value 19948.697171
## converged
```

```
## # weights: 41
## initial value 23494.647682
## iter 10 value 19966.676142
## iter 20 value 19948.887580
## final value 19948.692826
## converged
## # weights: 9
## initial value 23619.444581
## final value 20032.256500
## converged
## # weights: 25
## initial value 23184.077878
## final value 20032.256500
## converged
## # weights: 41
## initial value 23223.479695
## final value 20032.256500
## converged
## # weights: 9
## initial value 22465.249843
## iter 10 value 20040.221342
## final value 20037.766361
## converged
## # weights: 25
## initial value 22312.332098
## iter 10 value 20037.192689
## final value 20036.232127
## converged
## # weights: 41
## initial value 21663.300803
## iter 10 value 20037.408571
## iter 20 value 20035.573342
## final value 20035.572731
## converged
## # weights: 9
## initial value 22778.142117
## iter 10 value 20043.480623
## iter 20 value 20032.385905
## iter 20 value 20032.385854
## final value 20032.385854
## converged
## # weights: 25
## initial value 21356.464645
## iter 10 value 20039.804237
## iter 20 value 20032.343519
## final value 20032.267386
## converged
## # weights: 41
## initial value 21537.398219
## iter 10 value 20044.913687
```

```
## iter 20 value 20032.402427
## final value 20032.266465
## converged
## # weights: 9
## initial value 22811.343848
## final value 20014.867600
## converged
## # weights: 25
## initial value 22639.139092
## final value 20014.867600
## converged
## # weights: 41
## initial value 21065.137305
## final value 20014.867600
## converged
## # weights: 9
## initial value 22874.242018
## iter 10 value 20020.735088
## final value 20020.376929
## converged
## # weights: 25
## initial value 22916.153046
## iter 10 value 20028.892562
## iter 20 value 20018.881032
## final value 20018.842922
## converged
## # weights: 41
## initial value 20938.535165
## iter 10 value 20027.366235
## iter 20 value 20018.183581
## iter 20 value 20018.183523
## iter 20 value 20018.183508
## final value 20018.183508
## converged
## # weights: 9
## initial value 21738.025770
## iter 10 value 20022.299166
## iter 20 value 20014.953280
## iter 20 value 20014.953246
## final value 20014.953246
## converged
## # weights: 25
## initial value 21838.115991
## iter 10 value 20026.923413
## iter 20 value 20015.006594
## final value 20014.878958
## converged
## # weights: 41
## initial value 22459.792694
## iter 10 value 20035.125141
```

```
## iter 20 value 20015.101154
## final value 20014.878023
## converged
## # weights: 9
## initial value 21823.031753
## final value 20044.421200
## converged
## # weights: 25
## initial value 24176.035649
## final value 20044.421200
## converged
## # weights: 41
## initial value 24061.004311
## final value 20044.421200
## converged
## # weights: 9
## initial value 21705.401024
## iter 10 value 20050.206774
## final value 20049.931538
## converged
## # weights: 25
## initial value 21587.875311
## iter 10 value 20052.868876
## iter 20 value 20048.398096
## final value 20048.397265
## converged
## # weights: 41
## initial value 22825.769770
## iter 10 value 20064.290894
## iter 20 value 20047.738432
## final value 20047.737708
## converged
## # weights: 9
## initial value 21717.145476
## iter 10 value 20051.577181
## iter 20 value 20044.503703
## iter 20 value 20044.503670
## final value 20044.503670
## converged
## # weights: 25
## initial value 23703.361652
## iter 10 value 20057.567084
## iter 20 value 20044.572762
## final value 20044.441048
## converged
## # weights: 41
## initial value 22383.982161
## iter 10 value 20063.888254
## iter 20 value 20044.645640
## final value 20044.431237
```

```
## converged
## # weights: 9
## initial value 21831.106914
## final value 20048.654000
## converged
## # weights: 25
## initial value 23360.939135
## final value 20048.654000
## converged
## # weights: 41
## initial value 22343.154922
## final value 20048.654000
## converged
## # weights: 9
## initial value 22087.390797
## iter 10 value 20057.979601
## final value 20054.164524
## converged
## # weights: 25
## initial value 23298.044789
## iter 10 value 20054.544950
## iter 20 value 20052.630166
## iter 20 value 20052.630126
## iter 20 value 20052.630120
## final value 20052.630120
## converged
## # weights: 41
## initial value 21715.256491
## iter 10 value 20052.826486
## final value 20051.970582
## converged
## # weights: 9
## initial value 22247.218449
## iter 10 value 20058.196378
## iter 20 value 20048.764016
## iter 20 value 20048.763972
## final value 20048.763972
## converged
## # weights: 25
## initial value 23255.778606
## iter 10 value 20063.281480
## iter 20 value 20048.822643
## final value 20048.668585
## converged
## # weights: 41
## initial value 22246.865088
## iter 10 value 20066.721734
## iter 20 value 20048.862307
## final value 20048.665637
## converged
```

```
## # weights: 9
## initial value 22127.972853
## final value 20050.709200
## converged
## # weights: 25
## initial value 23217.503861
## final value 20050.709200
## converged
## # weights: 41
## initial value 22119.980819
## final value 20050.709200
## converged
## # weights: 9
## initial value 21978.291846
## iter 10 value 20056.702525
## final value 20056.219788
## converged
## # weights: 25
## initial value 22903.635509
## iter 10 value 20055.379459
## final value 20054.685425
## converged
## # weights: 41
## initial value 22461.948048
## iter 10 value 20060.750313
## iter 20 value 20054.026407
## final value 20054.025828
## converged
## # weights: 9
## initial value 21574.348795
## iter 10 value 20057.706879
## iter 20 value 20050.789878
## iter 20 value 20050.789845
## final value 20050.789845
## converged
## # weights: 25
## initial value 23525.998898
## iter 10 value 20064.986139
## iter 20 value 20050.873802
## final value 20050.727659
## converged
## # weights: 41
## initial value 23556.491897
## iter 10 value 20066.879378
## iter 20 value 20050.895629
## final value 20050.720586
## converged
## # weights: 9
## initial value 21583.027278
## final value 20001.390500
```

```
## converged
## # weights: 25
## initial value 23761.537025
## final value 20001.390500
## converged
## # weights: 41
## initial value 23456.824062
## final value 20001.390500
## converged
## # weights: 9
## initial value 23594.267102
## iter 10 value 20007.517204
## final value 20006.899483
## converged
## # weights: 25
## initial value 22884.451665
## iter 10 value 20010.036568
## iter 20 value 20005.365576
## iter 20 value 20005.365529
## iter 20 value 20005.365527
## final value 20005.365527
## converged
## # weights: 41
## initial value 21923.916677
## iter 10 value 20017.116608
## iter 20 value 20004.706723
## final value 20004.706249
## converged
## # weights: 9
## initial value 23513.985700
## iter 10 value 20011.508929
## iter 20 value 20001.507158
## iter 20 value 20001.507111
## final value 20001.507111
## converged
## # weights: 25
## initial value 21917.892412
## iter 10 value 20013.695815
## iter 20 value 20001.532371
## final value 20001.403554
## converged
## # weights: 41
## initial value 22223.597403
## iter 10 value 20019.880431
## iter 20 value 20001.603674
## final value 20001.400491
## converged
## # weights: 9
## initial value 21838.292754
## final value 20008.558000
```

```
## converged
## # weights: 25
## initial value 22998.665491
## final value 20008.558000
## converged
## # weights: 41
## initial value 21996.709296
## final value 20008.558000
## converged
## # weights: 9
## initial value 23362.026636
## iter 10 value 20014.129565
## final value 20014.067170
## converged
## # weights: 25
## initial value 23672.239298
## iter 10 value 20013.594149
## final value 20012.533177
## converged
## # weights: 41
## initial value 22087.723740
## iter 10 value 20025.609095
## iter 20 value 20011.913198
## final value 20011.873830
## converged
## # weights: 9
## initial value 22491.810367
## iter 10 value 20018.540260
## iter 20 value 20008.673088
## iter 20 value 20008.673042
## final value 20008.673042
## converged
## # weights: 25
## initial value 22165.309128
## iter 10 value 20024.337123
## iter 20 value 20008.739921
## final value 20008.571245
## converged
## # weights: 41
## initial value 22516.684611
## iter 10 value 20027.302564
## iter 20 value 20008.774110
## final value 20008.568919
## converged
## # weights: 9
## initial value 21998.706314
## final value 20042.193700
## converged
## # weights: 25
## initial value 22499.670822
```



```
## final value 20042.193700
## converged
## # weights: 41
## initial value 21446.296193
## final value 20042.193700
## converged
## # weights: 9
## initial value 22657.149937
## iter 10 value 20050.102040
## final value 20047.703950
## converged
## # weights: 25
## initial value 23800.709664
## iter 10 value 20049.517597
## iter 20 value 20046.170117
## final value 20046.169648
## converged
## # weights: 41
## initial value 22570.421070
## iter 10 value 20057.659044
## iter 20 value 20045.511889
## final value 20045.510130
## converged
## # weights: 9
## initial value 22440.761549
## iter 10 value 20053.159027
## iter 20 value 20042.320122
## iter 20 value 20042.320071
## final value 20042.320071
## converged
## # weights: 25
## initial value 21602.680557
## iter 10 value 20052.627238
## iter 20 value 20042.313991
## final value 20042.204906
## converged
## # weights: 41
## initial value 22667.938253
## iter 10 value 20063.128926
## iter 20 value 20042.435067
## final value 20042.203380
## converged
## # weights: 9
## initial value 22992.735316
## final value 19991.259700
## converged
## # weights: 25
## initial value 22574.261483
## final value 19991.259700
## converged
```

```
## # weights: 41
## initial value 24540.630644
## final value 19991.259700
## converged
## # weights: 9
## initial value 22806.819024
## iter 10 value 19998.876220
## final value 19996.768366
## converged
## # weights: 25
## initial value 21941.385784
## iter 10 value 19995.573162
## final value 19995.234524
## converged
## # weights: 41
## initial value 22707.456285
## iter 10 value 19995.213217
## final value 19994.575219
## converged
## # weights: 9
## initial value 21736.801041
## iter 10 value 19999.441929
## iter 20 value 19991.354035
## iter 20 value 19991.353997
## final value 19991.353997
## converged
## # weights: 25
## initial value 22513.668385
## iter 10 value 20005.066945
## iter 20 value 19991.418887
## final value 19991.275493
## converged
## # weights: 41
## initial value 22930.660880
## iter 10 value 20010.255042
## iter 20 value 19991.478701
## final value 19991.270872
## converged
## # weights: 9
## initial value 23273.470153
## final value 20021.567600
## converged
## # weights: 25
## initial value 21928.487177
## final value 20021.567600
## converged
## # weights: 41
## initial value 23609.843902
## final value 20021.567600
## converged
```

```
## # weights: 9
## initial value 22312.299954
## iter 10 value 20028.671879
## final value 20027.077118
## converged
## # weights: 25
## initial value 22530.272061
## iter 10 value 20026.159340
## final value 20025.543043
## converged
## # weights: 41
## initial value 24263.760672
## iter 10 value 20036.365375
## iter 20 value 20024.884811
## final value 20024.883604
## converged
## # weights: 9
## initial value 22620.341305
## iter 10 value 20031.333435
## iter 20 value 20021.680192
## iter 20 value 20021.680147
## final value 20021.680147
## converged
## # weights: 25
## initial value 21543.359321
## iter 10 value 20031.075635
## iter 20 value 20021.677220
## final value 20021.579608
## converged
## # weights: 41
## initial value 23384.754526
## iter 10 value 20038.594539
## iter 20 value 20021.763907
## final value 20021.578335
## converged
## # weights: 9
## initial value 23161.281147
## final value 19931.150000
## converged
## # weights: 25
## initial value 22234.544394
## final value 19931.150000
## converged
## # weights: 41
## initial value 21851.506459
## final value 19931.150000
## converged
## # weights: 9
## initial value 22019.659384
## iter 10 value 19937.789479
```

```
## final value 19936.657745
## converged
## # weights: 25
## initial value 24078.701359
## iter 10 value 19938.727638
## iter 20 value 19935.124542
## iter 20 value 19935.124396
## iter 20 value 19935.124368
## final value 19935.124368
## converged
## # weights: 41
## initial value 22519.830865
## iter 10 value 19938.919400
## iter 20 value 19934.465528
## final value 19934.465117
## converged
## # weights: 9
## initial value 22727.306729
## iter 10 value 19942.079156
## iter 20 value 19931.276005
## iter 20 value 19931.275954
## final value 19931.275954
## converged
## # weights: 25
## initial value 22321.961999
## iter 10 value 19945.368760
## iter 20 value 19931.313931
## final value 19931.160871
## converged
## # weights: 41
## initial value 23044.470473
## iter 10 value 19947.160085
## iter 20 value 19931.334584
## final value 19931.162087
## converged
## # weights: 9
## initial value 21883.965448
## final value 20048.115700
## converged
## # weights: 25
## initial value 23069.953967
## final value 20048.115700
## converged
## # weights: 41
## initial value 23329.576153
## final value 20048.115700
## converged
## # weights: 9
## initial value 21770.514929
## iter 10 value 20054.962738
```

```
## final value 20053.626196
## converged
## # weights: 25
## initial value 23326.567637
## iter 10 value 20052.888959
## final value 20052.091881
## converged
## # weights: 41
## initial value 21789.302366
## iter 10 value 20052.423857
## iter 20 value 20051.432410
## iter 20 value 20051.432274
## iter 20 value 20051.432253
## final value 20051.432253
## converged
## # weights: 9
## initial value 23011.601256
## iter 10 value 20057.893445
## iter 20 value 20048.228430
## iter 20 value 20048.228385
## final value 20048.228385
## converged
## # weights: 25
## initial value 23294.595186
## iter 10 value 20064.134508
## iter 20 value 20048.300384
## final value 20048.128269
## converged
## # weights: 41
## initial value 22611.920051
## iter 10 value 20065.475225
## iter 20 value 20048.315842
## final value 20048.126302
## converged
## # weights: 9
## initial value 22201.650170
## final value 20053.498000
## converged
## # weights: 25
## initial value 22366.034186
## final value 20053.498000
## converged
## # weights: 41
## initial value 23111.836674
## final value 20053.498000
## converged
## # weights: 9
## initial value 21488.808219
## iter 10 value 20059.061114
## final value 20059.008762
```

```
## converged
## # weights: 25
## initial value 22504.595569
## iter 10 value 20058.768000
## final value 20057.474382
## converged
## # weights: 41
## initial value 21507.695764
## iter 10 value 20068.526969
## iter 20 value 20056.874825
## final value 20056.814826
## converged
## # weights: 9
## initial value 23174.118194
## iter 10 value 20063.103135
## iter 20 value 20053.608740
## iter 20 value 20053.608695
## final value 20053.608695
## converged
## # weights: 25
## initial value 22364.270944
## iter 10 value 20067.523351
## iter 20 value 20053.659701
## final value 20053.512358
## converged
## # weights: 41
## initial value 21643.317321
## iter 10 value 20065.583784
## iter 20 value 20053.637340
## final value 20053.506659
## converged
## # weights: 9
## initial value 22611.348982
## final value 20036.130100
## converged
## # weights: 25
## initial value 22158.058055
## final value 20036.130100
## converged
## # weights: 41
## initial value 23730.024770
## final value 20036.130100
## converged
## # weights: 9
## initial value 23839.313549
## iter 10 value 20043.866984
## final value 20041.640082
## converged
## # weights: 25
## initial value 22827.559412
```

```
## iter 10 value 20042.702605
## final value 20040.105837
## converged
## # weights: 41
## initial value 23145.064650
## iter 10 value 20040.209675
## final value 20039.446357
## converged
## # weights: 9
## initial value 22547.772391
## iter 10 value 20046.476525
## iter 20 value 20036.249386
## iter 20 value 20036.249338
## final value 20036.249338
## converged
## # weights: 25
## initial value 23079.531017
## iter 10 value 20052.881427
## iter 20 value 20036.323230
## final value 20036.141744
## converged
## # weights: 41
## initial value 21301.242753
## iter 10 value 20046.241830
## iter 20 value 20036.246680
## final value 20036.139892
## converged
## # weights: 9
## initial value 22871.318646
## final value 20044.680100
## converged
## # weights: 25
## initial value 22551.147149
## final value 20044.680100
## converged
## # weights: 41
## initial value 22006.742754
## final value 20044.680100
## converged
## # weights: 9
## initial value 22647.121827
## iter 10 value 20053.843664
## final value 20050.190523
## converged
## # weights: 25
## initial value 22211.651862
## iter 10 value 20049.567352
## final value 20048.656126
## converged
## # weights: 41
```

```
## initial value 22322.653381
## iter 10 value 20048.578577
## final value 20047.996601
## converged
## # weights: 9
## initial value 22088.360680
## iter 10 value 20054.653084
## iter 20 value 20044.795081
## iter 20 value 20044.795035
## final value 20044.795035
## converged
## # weights: 25
## initial value 24102.918495
## iter 10 value 20055.036346
## iter 20 value 20044.799499
## final value 20044.697194
## converged
## # weights: 41
## initial value 21934.394872
## iter 10 value 20060.722431
## iter 20 value 20044.865055
## iter 30 value 20044.689814
## iter 30 value 20044.689814
## iter 30 value 20044.689813
## final value 20044.689813
## converged
## # weights: 9
## initial value 23083.401870
## final value 20046.605200
## converged
## # weights: 25
## initial value 22419.748385
## final value 20046.605200
## converged
## # weights: 41
## initial value 22600.206607
## final value 20046.605200
## converged
## # weights: 9
## initial value 21990.205433
## iter 10 value 20053.181721
## final value 20052.115630
## converged
## # weights: 25
## initial value 22195.846091
## iter 10 value 20051.330886
## final value 20050.581223
## converged
## # weights: 41
## initial value 22336.133405
```



```
## iter 10 value 20051.150733
## iter 20 value 20049.922066
## final value 20049.921704
## converged
## # weights: 9
## initial value 23859.968359
## iter 10 value 20055.468628
## iter 20 value 20046.707388
## iter 20 value 20046.707348
## final value 20046.707348
## converged
## # weights: 25
## initial value 23251.229015
## iter 10 value 20061.336835
## iter 20 value 20046.775044
## final value 20046.618776
## converged
## # weights: 41
## initial value 22866.640003
## iter 10 value 20067.116549
## iter 20 value 20046.841680
## final value 20046.614687
## converged
## # weights: 9
## initial value 22302.117618
## final value 20050.065700
## converged
## # weights: 25
## initial value 24185.117462
## final value 20050.065700
## converged
## # weights: 41
## initial value 22929.020370
## final value 20050.065700
## converged
## # weights: 9
## initial value 22268.454351
## iter 10 value 20056.705988
## final value 20055.576331
## converged
## # weights: 25
## initial value 23682.722385
## iter 10 value 20064.625183
## iter 20 value 20054.043933
## final value 20054.041874
## converged
## # weights: 41
## initial value 23000.253576
## iter 10 value 20059.598710
## iter 20 value 20053.383829
```

```
## final value 20053.382349
## converged
## # weights: 9
## initial value 23279.067057
## iter 10 value 20059.548759
## iter 20 value 20050.175032
## iter 20 value 20050.174988
## final value 20050.174988
## converged
## # weights: 25
## initial value 21775.930727
## iter 10 value 20062.427829
## iter 20 value 20050.208226
## final value 20050.078813
## converged
## # weights: 41
## initial value 23003.509150
## iter 10 value 20070.182903
## iter 20 value 20050.297636
## final value 20050.076182
## converged
## # weights: 9
## initial value 22704.429526
## final value 20042.467600
## converged
## # weights: 25
## initial value 23104.892000
## final value 20042.467600
## converged
## # weights: 41
## initial value 22708.007521
## final value 20042.467600
## converged
## # weights: 9
## initial value 22663.770763
## iter 10 value 20048.200587
## final value 20047.977792
## converged
## # weights: 25
## initial value 21935.624072
## iter 10 value 20047.285962
## final value 20046.443525
## converged
## # weights: 41
## initial value 24662.274921
## iter 10 value 20058.008004
## iter 20 value 20045.784336
## final value 20045.783938
## converged
## # weights: 9
```

```
## initial value 22570.786925
## iter 10 value 20053.189083
## iter 20 value 20042.591210
## iter 20 value 20042.591161
## final value 20042.591161
## converged
## # weights: 25
## initial value 22584.372220
## iter 10 value 20058.464952
## iter 20 value 20042.652037
## final value 20042.481630
## converged
## # weights: 41
## initial value 22714.868080
## iter 10 value 20061.056052
## iter 20 value 20042.681910
## final value 20042.478484
## converged
## # weights: 9
## initial value 22940.884290
## final value 20062.464500
## converged
## # weights: 25
## initial value 21788.582088
## final value 20062.464500
## converged
## # weights: 41
## initial value 21945.302055
## final value 20062.464500
## converged
## # weights: 9
## initial value 22660.090270
## iter 10 value 20068.434427
## final value 20067.977118
## converged
## # weights: 25
## initial value 22655.826785
## iter 10 value 20066.653318
## final value 20066.442213
## converged
## # weights: 41
## initial value 21645.330134
## iter 10 value 20067.666620
## iter 20 value 20065.783076
## final value 20065.782430
## converged
## # weights: 9
## initial value 23036.317738
## iter 10 value 20074.223844
## iter 20 value 20062.600076
```

```
## iter 20 value 20062.600022
## final value 20062.600022
## converged
## # weights: 25
## initial value 22507.579945
## iter 10 value 20077.710618
## iter 20 value 20062.640276
## final value 20062.477605
## converged
## # weights: 41
## initial value 23377.355869
## iter 10 value 20079.385799
## iter 20 value 20062.659589
## final value 20062.475769
## converged
## # weights: 9
## initial value 23756.758364
## final value 20006.167600
## converged
## # weights: 25
## initial value 23079.026662
## final value 20006.167600
## converged
## # weights: 41
## initial value 22209.982353
## final value 20006.167600
## converged
## # weights: 9
## initial value 23863.672033
## iter 10 value 20012.276985
## final value 20011.676702
## converged
## # weights: 25
## initial value 22402.326001
## iter 10 value 20018.115235
## iter 20 value 20010.149765
## final value 20010.142773
## converged
## # weights: 41
## initial value 22603.819974
## iter 10 value 20010.107309
## final value 20009.483411
## converged
## # weights: 9
## initial value 22886.651100
## iter 10 value 20015.850525
## iter 20 value 20006.279237
## iter 20 value 20006.279192
## final value 20006.279192
## converged
```

```
## # weights: 25
## initial value 22366.991717
## iter 10 value 20019.168663
## iter 20 value 20006.317492
## final value 20006.184066
## converged
## # weights: 41
## initial value 22708.871204
## iter 10 value 20025.791089
## iter 20 value 20006.393843
## final value 20006.178664
## converged
## # weights: 9
## initial value 23710.037181
## final value 20057.069200
## converged
## # weights: 25
## initial value 22588.951085
## final value 20057.069200
## converged
## # weights: 41
## initial value 21910.115568
## final value 20057.069200
## converged
## # weights: 9
## initial value 23759.406086
## iter 10 value 20063.509825
## final value 20062.580233
## converged
## # weights: 25
## initial value 23256.805119
## iter 10 value 20061.513293
## final value 20061.045681
## converged
## # weights: 41
## initial value 23297.331457
## iter 10 value 20065.070325
## iter 20 value 20060.386343
## iter 20 value 20060.386168
## iter 20 value 20060.386112
## final value 20060.386112
## converged
## # weights: 9
## initial value 21901.084829
## iter 10 value 20065.275567
## iter 20 value 20057.163813
## iter 20 value 20057.163775
## final value 20057.163775
## converged
## # weights: 25
```

```
## initial value 21669.900586
## iter 10 value 20067.276953
## iter 20 value 20057.186887
## final value 20057.082270
## converged
## # weights: 41
## initial value 22283.674155
## iter 10 value 20075.188627
## iter 20 value 20057.278103
## final value 20057.078906
## converged
## # weights: 9
## initial value 22186.300495
## final value 19999.489700
## converged
## # weights: 25
## initial value 24258.535246
## final value 19999.489700
## converged
## # weights: 41
## initial value 23461.236571
## final value 19999.489700
## converged
## # weights: 9
## initial value 21947.160983
## iter 10 value 20005.169775
## final value 20004.998645
## converged
## # weights: 25
## initial value 22104.811347
## iter 10 value 20004.181597
## final value 20003.464737
## converged
## # weights: 41
## initial value 23210.315980
## iter 10 value 20011.801030
## iter 20 value 20002.809890
## final value 20002.805427
## converged
## # weights: 9
## initial value 23063.883963
## iter 10 value 20010.529484
## iter 20 value 19999.616980
## iter 20 value 19999.616929
## final value 19999.616929
## converged
## # weights: 25
## initial value 22867.247263
## iter 10 value 20014.072490
## iter 20 value 19999.657828
```

```
## final value 19999.501274
## converged
## # weights: 41
## initial value 21503.128904
## iter 10 value 20012.176734
## iter 20 value 19999.635972
## final value 19999.498987
## converged
## # weights: 9
## initial value 23215.170418
## final value 19999.170100
## converged
## # weights: 25
## initial value 22034.050891
## final value 19999.170100
## converged
## # weights: 41
## initial value 22692.053069
## final value 19999.170100
## converged
## # weights: 9
## initial value 23120.080313
## iter 10 value 20009.818612
## iter 20 value 20004.679438
## final value 20004.679055
## converged
## # weights: 25
## initial value 22943.517623
## iter 10 value 20003.972988
## final value 20003.145210
## converged
## # weights: 41
## initial value 23114.195947
## iter 10 value 20015.877777
## iter 20 value 20002.497764
## final value 20002.485802
## converged
## # weights: 9
## initial value 22527.765060
## iter 10 value 20008.850036
## iter 20 value 19999.281702
## iter 20 value 19999.281657
## final value 19999.281657
## converged
## # weights: 25
## initial value 21402.375985
## iter 10 value 20007.884160
## iter 20 value 19999.270566
## final value 19999.181548
## converged
```

```
## # weights: 41
## initial value 22359.714880
## iter 10 value 20021.678104
## iter 20 value 19999.429600
## final value 19999.181327
## converged
## # weights: 9
## initial value 23086.047190
## final value 20031.585700
## converged
## # weights: 25
## initial value 22328.482916
## final value 20031.585700
## converged
## # weights: 41
## initial value 22092.895679
## final value 20031.585700
## converged
## # weights: 9
## initial value 22803.546904
## iter 10 value 20038.928369
## final value 20037.095535
## converged
## # weights: 25
## initial value 21431.898697
## iter 10 value 20036.617958
## final value 20035.561360
## converged
## # weights: 41
## initial value 23943.575730
## iter 10 value 20048.396189
## iter 20 value 20034.902969
## final value 20034.901962
## converged
## # weights: 9
## initial value 22070.989817
## iter 10 value 20041.449688
## iter 20 value 20031.699424
## iter 20 value 20031.699379
## final value 20031.699379
## converged
## # weights: 25
## initial value 22525.702258
## iter 10 value 20047.460484
## iter 20 value 20031.768724
## final value 20031.598085
## converged
## # weights: 41
## initial value 22162.778991
## iter 10 value 20048.994902
```



```
## iter 20 value 20031.786414
## final value 20031.595263
## converged
## # weights: 9
## initial value 23629.290955
## final value 20031.021200
## converged
## # weights: 25
## initial value 22819.408497
## final value 20031.021200
## converged
## # weights: 41
## initial value 22008.614272
## final value 20031.021200
## converged
## # weights: 9
## initial value 24060.153265
## iter 10 value 20036.969005
## final value 20036.531022
## converged
## # weights: 25
## initial value 22060.317985
## iter 10 value 20035.723124
## final value 20034.996872
## converged
## # weights: 41
## initial value 23382.331399
## iter 10 value 20037.500959
## iter 20 value 20034.339714
## final value 20034.337502
## converged
## # weights: 9
## initial value 23762.493831
## iter 10 value 20039.801608
## iter 20 value 20031.122431
## iter 20 value 20031.122391
## final value 20031.122391
## converged
## # weights: 25
## initial value 21716.566996
## iter 10 value 20042.470956
## iter 20 value 20031.153207
## final value 20031.032882
## converged
## # weights: 41
## initial value 22190.356259
## iter 10 value 20051.009543
## iter 20 value 20031.251650
## final value 20031.030568
## converged
```

```
## # weights: 9
## initial value 21858.244976
## final value 20038.070000
## converged
## # weights: 25
## initial value 22462.276205
## final value 20038.070000
## converged
## # weights: 41
## initial value 23330.399629
## final value 20038.070000
## converged
## # weights: 9
## initial value 22067.599566
## iter 10 value 20043.664039
## final value 20043.580047
## converged
## # weights: 25
## initial value 21912.119421
## iter 10 value 20043.559913
## final value 20042.045767
## converged
## # weights: 41
## initial value 22931.708550
## iter 10 value 20046.882851
## iter 20 value 20041.387523
## final value 20041.386461
## converged
## # weights: 9
## initial value 23289.968154
## iter 10 value 20049.548247
## iter 20 value 20038.202335
## iter 20 value 20038.202282
## final value 20038.202282
## converged
## # weights: 25
## initial value 23487.590080
## iter 10 value 20052.778819
## iter 20 value 20038.239581
## final value 20038.083717
## converged
## # weights: 41
## initial value 22435.627045
## iter 10 value 20055.991585
## iter 20 value 20038.276622
## final value 20038.080991
## converged
## # weights: 9
## initial value 22883.918966
## final value 19994.114000
```

```
## converged
## # weights: 25
## initial value 22530.824738
## final value 19994.114000
## converged
## # weights: 41
## initial value 23199.380378
## final value 19994.114000
## converged
## # weights: 9
## initial value 21602.817986
## iter 10 value 19999.720179
## final value 19999.622836
## converged
## # weights: 25
## initial value 22275.887396
## iter 10 value 19998.769587
## final value 19998.089033
## converged
## # weights: 41
## initial value 23665.965137
## iter 10 value 20008.562737
## iter 20 value 19997.432026
## final value 19997.429721
## converged
## # weights: 9
## initial value 21898.495635
## iter 10 value 20003.365805
## iter 20 value 19994.220666
## iter 20 value 19994.220623
## final value 19994.220623
## converged
## # weights: 25
## initial value 22860.094067
## iter 10 value 20008.447695
## iter 20 value 19994.279256
## final value 19994.126736
## converged
## # weights: 41
## initial value 21885.930521
## iter 10 value 20007.862821
## iter 20 value 19994.272513
## final value 19994.124715
## converged
## # weights: 9
## initial value 22334.556081
## final value 20006.318500
## converged
## # weights: 25
## initial value 22755.439902
```

```
## final value 20006.318500
## converged
## # weights: 41
## initial value 22113.136570
## final value 20006.318500
## converged
## # weights: 9
## initial value 23694.926400
## iter 10 value 20012.149898
## final value 20011.827571
## converged
## # weights: 25
## initial value 22086.283431
## iter 10 value 20012.680143
## final value 20010.293692
## converged
## # weights: 41
## initial value 22351.639208
## iter 10 value 20017.101202
## iter 20 value 20009.636775
## final value 20009.634264
## converged
## # weights: 9
## initial value 22145.398867
## iter 10 value 20015.214303
## iter 20 value 20006.421062
## iter 20 value 20006.421021
## final value 20006.421021
## converged
## # weights: 25
## initial value 23585.616564
## iter 10 value 20019.489460
## iter 20 value 20006.470351
## final value 20006.332313
## converged
## # weights: 41
## initial value 23308.055358
## iter 10 value 20026.700533
## iter 20 value 20006.553489
## final value 20006.330103
## converged
## # weights: 9
## initial value 23176.164152
## final value 20046.523700
## converged
## # weights: 25
## initial value 22978.864713
## final value 20046.523700
## converged
## # weights: 41
```

```
## initial value 22101.117678
## final value 20046.523700
## converged
## # weights: 9
## initial value 21830.933089
## iter 10 value 20052.475559
## final value 20052.034202
## converged
## # weights: 25
## initial value 22555.195949
## iter 10 value 20051.570397
## final value 20050.499849
## converged
## # weights: 41
## initial value 23063.709049
## iter 10 value 20052.303650
## iter 20 value 20049.840694
## final value 20049.840245
## converged
## # weights: 9
## initial value 22283.171597
## iter 10 value 20056.084356
## iter 20 value 20046.633927
## iter 20 value 20046.633883
## final value 20046.633883
## converged
## # weights: 25
## initial value 21883.922145
## iter 10 value 20059.469884
## iter 20 value 20046.672959
## final value 20046.534681
## converged
## # weights: 41
## initial value 22652.979590
## iter 10 value 20065.048926
## iter 20 value 20046.737281
## final value 20046.534220
## converged
## # weights: 9
## initial value 21847.348593
## final value 20002.330100
## converged
## # weights: 25
## initial value 23353.159142
## final value 20002.330100
## converged
## # weights: 41
## initial value 22121.201881
## final value 20002.330100
## converged
```

```
## # weights: 9
## initial value 23123.821741
## iter 10 value 20009.622030
## final value 20007.839096
## converged
## # weights: 25
## initial value 22183.288063
## iter 10 value 20007.423197
## final value 20006.305214
## converged
## # weights: 41
## initial value 22751.540182
## iter 10 value 20006.913314
## iter 20 value 20005.645911
## iter 20 value 20005.645837
## iter 20 value 20005.645816
## final value 20005.645816
## converged
## # weights: 9
## initial value 22880.044645
## iter 10 value 20013.230912
## iter 20 value 20002.455778
## iter 20 value 20002.455728
## final value 20002.455728
## converged
## # weights: 25
## initial value 23233.981862
## iter 10 value 20016.294104
## iter 20 value 20002.491094
## final value 20002.342497
## converged
## # weights: 41
## initial value 24481.076931
## iter 10 value 20010.681752
## iter 20 value 20002.426388
## final value 20002.345264
## converged
## # weights: 9
## initial value 23380.901434
## final value 20020.005200
## converged
## # weights: 25
## initial value 23205.932354
## final value 20020.005200
## converged
## # weights: 41
## initial value 23280.530770
## final value 20020.005200
## converged
## # weights: 9
```

```
## initial value 22101.104179
## iter 10 value 20025.518972
## final value 20025.514854
## converged
## # weights: 25
## initial value 22060.577964
## iter 10 value 20027.471268
## iter 20 value 20023.983155
## final value 20023.980643
## converged
## # weights: 41
## initial value 23409.221287
## iter 10 value 20025.853581
## iter 20 value 20023.321551
## final value 20023.321181
## converged
## # weights: 9
## initial value 21624.551331
## iter 10 value 20027.997451
## iter 20 value 20020.097344
## iter 20 value 20020.097308
## final value 20020.097308
## converged
## # weights: 25
## initial value 22190.613098
## iter 10 value 20032.186049
## iter 20 value 20020.145636
## final value 20020.017659
## converged
## # weights: 41
## initial value 22806.150030
## iter 10 value 20037.858315
## iter 20 value 20020.211032
## final value 20020.015465
## converged
## # weights: 9
## initial value 22653.814007
## final value 20022.593200
## converged
## # weights: 25
## initial value 21923.053614
## final value 20022.593200
## converged
## # weights: 41
## initial value 22816.602540
## final value 20022.593200
## converged
## # weights: 9
## initial value 22217.503373
## iter 10 value 20029.408839
```

```
## final value 20028.102748
## converged
## # weights: 25
## initial value 23872.956333
## iter 10 value 20028.230673
## final value 20026.568718
## converged
## # weights: 41
## initial value 23086.229592
## iter 10 value 20028.320268
## iter 20 value 20025.909526
## iter 20 value 20025.909336
## iter 20 value 20025.909294
## final value 20025.909294
## converged
## # weights: 9
## initial value 23248.701617
## iter 10 value 20032.468594
## iter 20 value 20022.707056
## iter 20 value 20022.707010
## final value 20022.707010
## converged
## # weights: 25
## initial value 22681.548576
## iter 10 value 20038.900260
## iter 20 value 20022.781208
## final value 20022.604503
## converged
## # weights: 41
## initial value 22991.944214
## iter 10 value 20045.135873
## iter 20 value 20022.853099
## final value 20022.604517
## converged
## # weights: 9
## initial value 22642.236584
## final value 20028.713200
## converged
## # weights: 25
## initial value 22123.113330
## final value 20028.713200
## converged
## # weights: 41
## initial value 23036.771567
## final value 20028.713200
## converged
## # weights: 9
## initial value 22854.651466
## iter 10 value 20036.578310
## iter 20 value 20034.222977
```



```
## iter 20 value 20034.222968
## final value 20034.222968
## converged
## # weights: 25
## initial value 22142.866084
## iter 10 value 20033.456870
## final value 20032.688800
## converged
## # weights: 41
## initial value 22549.843715
## iter 10 value 20032.344869
## final value 20032.029341
## converged
## # weights: 9
## initial value 23136.282455
## iter 10 value 20039.852804
## iter 20 value 20028.841631
## iter 20 value 20028.841580
## final value 20028.841580
## converged
## # weights: 25
## initial value 24175.121417
## iter 10 value 20038.133067
## iter 20 value 20028.821804
## final value 20028.735859
## converged
## # weights: 41
## initial value 22216.244914
## iter 10 value 20045.174862
## iter 20 value 20028.902990
## final value 20028.722245
## converged
## # weights: 9
## initial value 22541.294164
## final value 19949.321200
## converged
## # weights: 25
## initial value 23473.439998
## final value 19949.321200
## converged
## # weights: 41
## initial value 22301.210073
## final value 19949.321200
## converged
## # weights: 9
## initial value 23286.183243
## iter 10 value 19955.236554
## final value 19954.829267
## converged
## # weights: 25
```

```
## initial value 21753.401153
## iter 10 value 19954.280852
## final value 19953.295762
## converged
## # weights: 41
## initial value 21326.314485
## iter 10 value 19963.222990
## iter 20 value 19952.636863
## iter 20 value 19952.636674
## iter 20 value 19952.636606
## final value 19952.636606
## converged
## # weights: 9
## initial value 23063.698792
## iter 10 value 19960.371533
## iter 20 value 19949.448602
## iter 20 value 19949.448551
## final value 19949.448551
## converged
## # weights: 25
## initial value 22906.665669
## iter 10 value 19962.682964
## iter 20 value 19949.475251
## final value 19949.332540
## converged
## # weights: 41
## initial value 22469.563888
## iter 10 value 19968.208102
## iter 20 value 19949.538951
## final value 19949.332640
## converged
## # weights: 9
## initial value 22552.189231
## final value 20028.595700
## converged
## # weights: 25
## initial value 21907.562153
## final value 20028.595700
## converged
## # weights: 41
## initial value 23087.969567
## final value 20028.595700
## converged
## # weights: 9
## initial value 22328.844634
## iter 10 value 20036.436520
## final value 20034.105432
## converged
## # weights: 25
## initial value 22355.362912
```

```
## iter 10 value 20033.283575
## final value 20032.571321
## converged
## # weights: 41
## initial value 22856.403157
## iter 10 value 20045.924581
## iter 20 value 20031.912370
## final value 20031.911890
## converged
## # weights: 9
## initial value 22398.410435
## iter 10 value 20037.936765
## iter 20 value 20028.703395
## iter 20 value 20028.703352
## final value 20028.703352
## converged
## # weights: 25
## initial value 22644.719457
## iter 10 value 20043.629631
## iter 20 value 20028.769029
## final value 20028.611443
## converged
## # weights: 41
## initial value 22200.674185
## iter 10 value 20045.569219
## iter 20 value 20028.791391
## final value 20028.606935
## converged
## # weights: 9
## initial value 22023.359725
## final value 20011.474000
## converged
## # weights: 25
## initial value 21123.786717
## final value 20011.474000
## converged
## # weights: 41
## initial value 21576.307877
## final value 20011.474000
## converged
## # weights: 9
## initial value 23621.908713
## iter 10 value 20018.125884
## final value 20016.983192
## converged
## # weights: 25
## initial value 23559.095233
## iter 10 value 20016.433073
## final value 20015.449271
## converged
```

```
## # weights: 41
## initial value 23601.587208
## iter 10 value 20026.552487
## iter 20 value 20014.790330
## final value 20014.789846
## converged
## # weights: 9
## initial value 22699.513506
## iter 10 value 20022.142586
## iter 20 value 20011.597000
## iter 20 value 20011.596951
## final value 20011.596951
## converged
## # weights: 25
## initial value 22213.552891
## iter 10 value 20023.857144
## iter 20 value 20011.616768
## final value 20011.484961
## converged
## # weights: 41
## initial value 22883.658474
## iter 10 value 20030.057613
## iter 20 value 20011.688254
## final value 20011.486402
## converged
## # weights: 9
## initial value 22229.277975
## final value 20001.233200
## converged
## # weights: 25
## initial value 21543.553735
## final value 20001.233200
## converged
## # weights: 41
## initial value 21990.993433
## final value 20001.233200
## converged
## # weights: 9
## initial value 23449.804024
## iter 10 value 20008.718667
## final value 20006.742157
## converged
## # weights: 25
## initial value 22797.970386
## iter 10 value 20006.675640
## iter 20 value 20005.208329
## iter 20 value 20005.208257
## iter 20 value 20005.208250
## final value 20005.208250
## converged
```

```
## # weights: 41
## initial value 22804.557186
## iter 10 value 20005.416001
## final value 20004.548911
## converged
## # weights: 9
## initial value 23000.778455
## iter 10 value 20010.789093
## iter 20 value 20001.343372
## iter 20 value 20001.343328
## final value 20001.343328
## converged
## # weights: 25
## initial value 23101.405042
## iter 10 value 20016.716179
## iter 20 value 20001.411707
## final value 20001.245247
## converged
## # weights: 41
## initial value 24687.307399
## iter 10 value 20007.467373
## iter 20 value 20001.305075
## final value 20001.254539
## converged
## # weights: 9
## initial value 23527.154481
## final value 19993.614500
## converged
## # weights: 25
## initial value 23623.838619
## final value 19993.614500
## converged
## # weights: 41
## initial value 23937.091484
## final value 19993.614500
## converged
## # weights: 9
## initial value 21800.861868
## iter 10 value 19999.440898
## final value 19999.123310
## converged
## # weights: 25
## initial value 22170.545076
## iter 10 value 19998.321350
## final value 19997.589450
## converged
## # weights: 41
## initial value 23345.989941
## iter 10 value 19999.199826
## iter 20 value 19996.956082
```

```
## final value 19996.930130
## converged
## # weights: 9
## initial value 22844.377017
## iter 10 value 20004.194378
## iter 20 value 19993.736478
## iter 20 value 19993.736429
## final value 19993.736429
## converged
## # weights: 25
## initial value 22346.175670
## iter 10 value 20006.982322
## iter 20 value 19993.768620
## final value 19993.626579
## converged
## # weights: 41
## initial value 23479.415337
## iter 10 value 20010.518310
## iter 20 value 19993.809388
## final value 19993.627007
## converged
## # weights: 9
## initial value 22084.247061
## final value 19957.697200
## converged
## # weights: 25
## initial value 23984.950067
## final value 19957.697200
## converged
## # weights: 41
## initial value 22953.269284
## final value 19957.697200
## converged
## # weights: 9
## initial value 23028.871845
## iter 10 value 19964.732245
## final value 19963.205139
## converged
## # weights: 25
## initial value 23168.091678
## iter 10 value 19962.819089
## final value 19961.671478
## converged
## # weights: 41
## initial value 22243.366685
## iter 10 value 19961.313088
## final value 19961.012253
## converged
## # weights: 9
## initial value 21872.909120
```

```
## iter 10 value 19966.285307
## iter 20 value 19957.796214
## iter 20 value 19957.796175
## final value 19957.796175
## converged
## # weights: 25
## initial value 23151.046763
## iter 10 value 19971.262910
## iter 20 value 19957.853602
## final value 19957.709189
## converged
## # weights: 41
## initial value 20931.008258
## iter 10 value 19964.961745
## iter 20 value 19957.780955
## final value 19957.706060
## converged
## # weights: 9
## initial value 23252.470387
## final value 20032.699700
## converged
## # weights: 25
## initial value 22569.996223
## final value 20032.699700
## converged
## # weights: 41
## initial value 23456.268806
## final value 20032.699700
## converged
## # weights: 9
## initial value 23866.325444
## iter 10 value 20038.554023
## final value 20038.209573
## converged
## # weights: 25
## initial value 21942.704929
## iter 10 value 20037.756576
## final value 20036.675424
## converged
## # weights: 41
## initial value 22881.331282
## iter 10 value 20036.838699
## final value 20036.015968
## converged
## # weights: 9
## initial value 23108.250812
## iter 10 value 20042.432882
## iter 20 value 20032.811916
## iter 20 value 20032.811871
## final value 20032.811871
```

```
## converged
## # weights: 25
## initial value 22883.158382
## iter 10 value 20046.347382
## iter 20 value 20032.857047
## final value 20032.714317
## converged
## # weights: 41
## initial value 23608.108513
## iter 10 value 20049.205408
## iter 20 value 20032.889998
## final value 20032.711909
## converged
## # weights: 9
## initial value 22637.773961
## final value 20047.488500
## converged
## # weights: 25
## initial value 23674.729331
## final value 20047.488500
## converged
## # weights: 41
## initial value 22992.669369
## final value 20047.488500
## converged
## # weights: 9
## initial value 22925.002993
## iter 10 value 20053.171687
## final value 20052.998975
## converged
## # weights: 25
## initial value 21803.530972
## iter 10 value 20053.226002
## iter 20 value 20051.465010
## final value 20051.464587
## converged
## # weights: 41
## initial value 22372.647099
## iter 10 value 20057.569527
## iter 20 value 20050.821793
## final value 20050.805113
## converged
## # weights: 9
## initial value 23232.133960
## iter 10 value 20058.007258
## iter 20 value 20047.609773
## iter 20 value 20047.609725
## final value 20047.609725
## converged
## # weights: 25
```



```
## initial value 23416.436903
## iter 10 value 20060.473277
## iter 20 value 20047.638204
## final value 20047.501074
## converged
## # weights: 41
## initial value 23622.238073
## iter 10 value 20063.873013
## iter 20 value 20047.677401
## final value 20047.501127
## converged
## # weights: 9
## initial value 22926.733382
## final value 20051.129200
## converged
## # weights: 25
## initial value 23306.229452
## final value 20051.129200
## converged
## # weights: 41
## initial value 23373.599677
## final value 20051.129200
## converged
## # weights: 9
## initial value 23537.368627
## iter 10 value 20056.994511
## final value 20056.639843
## converged
## # weights: 25
## initial value 22699.860052
## iter 10 value 20055.872491
## final value 20055.105427
## converged
## # weights: 41
## initial value 23197.576206
## iter 10 value 20057.091003
## final value 20054.445886
## converged
## # weights: 9
## initial value 22508.054445
## iter 10 value 20062.767134
## iter 20 value 20051.263376
## iter 20 value 20051.263323
## final value 20051.263323
## converged
## # weights: 25
## initial value 21865.073348
## iter 10 value 20064.755915
## iter 20 value 20051.286305
## final value 20051.141452
```

```
## converged
## # weights: 41
## initial value 22830.232297
## iter 10 value 20073.692461
## iter 20 value 20051.389337
## final value 20051.140983
## converged
## # weights: 9
## initial value 21822.632159
## final value 20008.262000
## converged
## # weights: 25
## initial value 21940.189578
## final value 20008.262000
## converged
## # weights: 41
## initial value 21579.092982
## final value 20008.262000
## converged
## # weights: 9
## initial value 21897.454369
## iter 10 value 20014.042240
## final value 20013.771149
## converged
## # weights: 25
## initial value 21176.903103
## iter 10 value 20014.086128
## final value 20012.237268
## converged
## # weights: 41
## initial value 23061.401022
## iter 10 value 20013.590983
## final value 20011.577826
## converged
## # weights: 9
## initial value 21937.215709
## iter 10 value 20017.092658
## iter 20 value 20008.363811
## iter 20 value 20008.363770
## final value 20008.363770
## converged
## # weights: 25
## initial value 23099.710935
## iter 10 value 20020.549138
## iter 20 value 20008.403661
## final value 20008.274912
## converged
## # weights: 41
## initial value 22845.126457
## iter 10 value 20025.971670
```

```
## iter 20 value 20008.466179
## final value 20008.271392
## converged
## # weights: 9
## initial value 23055.886305
## final value 20032.920100
## converged
## # weights: 25
## initial value 21571.120482
## final value 20032.920100
## converged
## # weights: 41
## initial value 22075.696103
## final value 20032.920100
## converged
## # weights: 9
## initial value 22112.373759
## iter 10 value 20038.744744
## final value 20038.429979
## converged
## # weights: 25
## initial value 22316.663613
## iter 10 value 20037.863682
## final value 20036.895813
## converged
## # weights: 41
## initial value 22960.499523
## iter 10 value 20049.096467
## iter 20 value 20036.236922
## final value 20036.236377
## converged
## # weights: 9
## initial value 21808.583430
## iter 10 value 20040.503829
## iter 20 value 20033.007534
## iter 20 value 20033.007499
## final value 20033.007499
## converged
## # weights: 25
## initial value 22534.145811
## iter 10 value 20046.578371
## iter 20 value 20033.077569
## final value 20032.932325
## converged
## # weights: 41
## initial value 23004.142884
## iter 10 value 20052.763736
## iter 20 value 20033.148882
## final value 20032.930745
## converged
```

```
## # weights: 9
## initial value 22159.483389
## final value 19990.238500
## converged
## # weights: 25
## initial value 23428.495692
## final value 19990.238500
## converged
## # weights: 41
## initial value 23377.489567
## final value 19990.238500
## converged
## # weights: 9
## initial value 21669.369226
## iter 10 value 19996.047098
## final value 19995.747170
## converged
## # weights: 25
## initial value 23121.646600
## iter 10 value 19999.183647
## iter 20 value 19994.213584
## iter 20 value 19994.213393
## iter 20 value 19994.213378
## final value 19994.213378
## converged
## # weights: 41
## initial value 23841.879834
## iter 10 value 19994.427784
## iter 20 value 19993.554410
## iter 20 value 19993.554215
## iter 20 value 19993.554210
## final value 19993.554210
## converged
## # weights: 9
## initial value 23069.257819
## iter 10 value 20000.346288
## iter 20 value 19990.355035
## iter 20 value 19990.354988
## final value 19990.354988
## converged
## # weights: 25
## initial value 23145.009734
## iter 10 value 20004.076553
## iter 20 value 19990.398042
## final value 19990.253456
## converged
## # weights: 41
## initial value 23813.658458
## iter 10 value 20005.507052
## iter 20 value 19990.414534
```

```
## final value 19990.252144
## converged
## # weights: 9
## initial value 22702.243721
## final value 20019.345700
## converged
## # weights: 25
## initial value 24069.773144
## final value 20019.345700
## converged
## # weights: 41
## initial value 22689.352042
## final value 20019.345700
## converged
## # weights: 9
## initial value 22053.485700
## iter 10 value 20025.169046
## final value 20024.855154
## converged
## # weights: 25
## initial value 23600.274582
## iter 10 value 20024.639722
## final value 20023.321162
## converged
## # weights: 41
## initial value 21632.950017
## iter 10 value 20029.625109
## final value 20022.661761
## converged
## # weights: 9
## initial value 22746.055598
## iter 10 value 20031.206208
## iter 20 value 20019.482442
## iter 20 value 20019.482388
## final value 20019.482388
## converged
## # weights: 25
## initial value 22466.922459
## iter 10 value 20032.273809
## iter 20 value 20019.494751
## final value 20019.359133
## converged
## # weights: 41
## initial value 23957.830877
## iter 10 value 20032.010359
## iter 20 value 20019.491714
## final value 20019.358255
## converged
## # weights: 9
## initial value 23856.380027
```

```
## final value 20056.041200
## converged
## # weights: 25
## initial value 22604.124439
## final value 20056.041200
## converged
## # weights: 41
## initial value 24765.467073
## final value 20056.041200
## converged
## # weights: 9
## initial value 23213.622396
## iter 10 value 20062.165218
## final value 20061.552284
## converged
## # weights: 25
## initial value 23365.084092
## iter 10 value 20060.785452
## final value 20060.017782
## converged
## # weights: 41
## initial value 23094.099017
## iter 10 value 20060.698462
## iter 20 value 20059.358338
## iter 20 value 20059.358186
## iter 20 value 20059.358159
## final value 20059.358159
## converged
## # weights: 9
## initial value 22772.669984
## iter 10 value 20068.068506
## iter 20 value 20056.179865
## iter 20 value 20056.179810
## final value 20056.179810
## converged
## # weights: 25
## initial value 23062.472814
## iter 10 value 20069.386416
## iter 20 value 20056.195060
## final value 20056.057363
## converged
## # weights: 41
## initial value 23164.973442
## iter 10 value 20076.558668
## iter 20 value 20056.277750
## final value 20056.050855
## converged
## # weights: 9
## initial value 22504.760136
## final value 20033.576500
```

```
## converged
## # weights: 25
## initial value 22244.571092
## final value 20033.576500
## converged
## # weights: 41
## initial value 22153.205250
## final value 20033.576500
## converged
## # weights: 9
## initial value 22260.256513
## iter 10 value 20039.590137
## final value 20039.086371
## converged
## # weights: 25
## initial value 23010.138283
## iter 10 value 20038.210765
## final value 20037.552164
## converged
## # weights: 41
## initial value 23997.068615
## iter 10 value 20039.143279
## final value 20036.893196
## converged
## # weights: 9
## initial value 22195.627443
## iter 10 value 20043.475385
## iter 20 value 20033.690626
## iter 20 value 20033.690581
## final value 20033.690581
## converged
## # weights: 25
## initial value 21433.190577
## iter 10 value 20041.779929
## iter 20 value 20033.671079
## final value 20033.588239
## converged
## # weights: 41
## initial value 22827.464110
## iter 10 value 20053.519410
## iter 20 value 20033.806426
## final value 20033.586594
## converged
## # weights: 9
## initial value 21858.557599
## final value 20045.781200
## converged
## # weights: 25
## initial value 22022.940301
## final value 20045.781200
```

```
## converged
## # weights: 41
## initial value 22925.960503
## final value 20045.781200
## converged
## # weights: 9
## initial value 21950.842529
## iter 10 value 20052.827797
## final value 20051.291570
## converged
## # weights: 25
## initial value 21464.685014
## iter 10 value 20050.575536
## final value 20049.757185
## converged
## # weights: 41
## initial value 22778.802348
## iter 10 value 20054.781453
## iter 20 value 20049.098820
## final value 20049.097698
## converged
## # weights: 9
## initial value 23579.018250
## iter 10 value 20054.689467
## iter 20 value 20045.883905
## iter 20 value 20045.883864
## final value 20045.883864
## converged
## # weights: 25
## initial value 23132.015678
## iter 10 value 20061.781273
## iter 20 value 20045.965668
## final value 20045.793671
## converged
## # weights: 41
## initial value 24102.176243
## iter 10 value 20058.554151
## iter 20 value 20045.928462
## final value 20045.796778
## converged
## # weights: 9
## initial value 23446.472760
## final value 20032.699700
## converged
## # weights: 25
## initial value 22392.360345
## final value 20032.699700
## converged
## # weights: 41
## initial value 23113.616737
```



```
## final value 20032.699700
## converged
## # weights: 9
## initial value 23269.687259
## iter 10 value 20041.443404
## final value 20038.209561
## converged
## # weights: 25
## initial value 22335.820099
## iter 10 value 20036.891241
## final value 20036.675329
## converged
## # weights: 41
## initial value 21591.900673
## iter 10 value 20037.332167
## iter 20 value 20036.016194
## iter 20 value 20036.016022
## iter 20 value 20036.015958
## final value 20036.015958
## converged
## # weights: 9
## initial value 21748.858424
## iter 10 value 20040.018166
## iter 20 value 20032.784076
## iter 20 value 20032.784042
## final value 20032.784042
## converged
## # weights: 25
## initial value 22066.338752
## iter 10 value 20046.970183
## iter 20 value 20032.864227
## final value 20032.710346
## converged
## # weights: 41
## initial value 22286.708429
## iter 10 value 20051.940734
## iter 20 value 20032.921534
## final value 20032.712195
## converged
## # weights: 9
## initial value 23033.569808
## final value 19977.237200
## converged
## # weights: 25
## initial value 22059.700628
## final value 19977.237200
## converged
## # weights: 41
## initial value 22503.058851
## final value 19977.237200
```

```
## converged
## # weights: 9
## initial value 22668.605234
## iter 10 value 19982.797761
## final value 19982.745719
## converged
## # weights: 25
## initial value 22757.880380
## iter 10 value 19982.298762
## final value 19981.211990
## converged
## # weights: 41
## initial value 21472.831822
## iter 10 value 19990.115239
## iter 20 value 19980.860388
## final value 19980.552897
## converged
## # weights: 9
## initial value 23030.491054
## iter 10 value 19987.142115
## iter 20 value 19977.351396
## iter 20 value 19977.351350
## final value 19977.351350
## converged
## # weights: 25
## initial value 21668.608921
## iter 10 value 19988.355345
## iter 20 value 19977.365383
## final value 19977.248673
## converged
## # weights: 41
## initial value 23681.355974
## iter 10 value 19994.284480
## iter 20 value 19977.433742
## final value 19977.248796
## converged
## # weights: 9
## initial value 23662.318228
## final value 19935.480100
## converged
## # weights: 25
## initial value 20888.345139
## final value 19935.480100
## converged
## # weights: 41
## initial value 23389.336889
## final value 19935.480100
## converged
## # weights: 9
## initial value 22112.539839
```

```
## iter 10 value 19942.110270
## final value 19940.987933
## converged
## # weights: 25
## initial value 23279.360092
## iter 10 value 19940.182331
## final value 19939.454482
## converged
## # weights: 41
## initial value 21731.262287
## iter 10 value 19939.422223
## final value 19938.795348
## converged
## # weights: 9
## initial value 23153.293546
## iter 10 value 19944.784384
## iter 20 value 19935.587371
## iter 20 value 19935.587328
## final value 19935.587328
## converged
## # weights: 25
## initial value 21685.800627
## iter 10 value 19947.855948
## iter 20 value 19935.622784
## final value 19935.492289
## converged
## # weights: 41
## initial value 22725.117177
## iter 10 value 19954.338266
## iter 20 value 19935.697520
## final value 19935.491464
## converged
## # weights: 9
## initial value 22228.765614
## final value 20037.869200
## converged
## # weights: 25
## initial value 23896.503890
## final value 20037.869200
## converged
## # weights: 41
## initial value 22707.662533
## final value 20037.869200
## converged
## # weights: 9
## initial value 22278.002950
## iter 10 value 20048.004811
## final value 20043.379256
## converged
## # weights: 25
```

```
## initial value 23129.060296
## iter 10 value 20042.952568
## final value 20041.844979
## converged
## # weights: 41
## initial value 22870.273953
## iter 10 value 20041.889301
## final value 20041.185537
## converged
## # weights: 9
## initial value 22512.989808
## iter 10 value 20048.961549
## iter 20 value 20037.997086
## iter 20 value 20037.997035
## final value 20037.997035
## converged
## # weights: 25
## initial value 22805.119682
## iter 10 value 20052.474644
## iter 20 value 20038.037589
## final value 20037.882297
## converged
## # weights: 41
## initial value 23025.934830
## iter 10 value 20055.567338
## iter 20 value 20038.073246
## final value 20037.879542
## converged
## # weights: 9
## initial value 22475.708219
## final value 20032.589200
## converged
## # weights: 25
## initial value 22420.966721
## final value 20032.589200
## converged
## # weights: 41
## initial value 22878.168558
## final value 20032.589200
## converged
## # weights: 9
## initial value 21993.059015
## iter 10 value 20038.259231
## final value 20038.099068
## converged
## # weights: 25
## initial value 22125.938282
## iter 10 value 20037.164455
## final value 20036.564942
## converged
```

```
## # weights: 41
## initial value 23684.979888
## iter 10 value 20036.752418
## final value 20035.905431
## converged
## # weights: 9
## initial value 22716.048326
## iter 10 value 20043.903377
## iter 20 value 20032.719644
## iter 20 value 20032.719591
## final value 20032.719591
## converged
## # weights: 25
## initial value 21904.501745
## iter 10 value 20044.960699
## iter 20 value 20032.731834
## final value 20032.602253
## converged
## # weights: 41
## initial value 22118.618159
## iter 10 value 20051.479723
## iter 20 value 20032.806993
## final value 20032.599084
## converged
## # weights: 9
## initial value 22218.938118
## final value 20021.696500
## converged
## # weights: 25
## initial value 21728.781965
## final value 20021.696500
## converged
## # weights: 41
## initial value 22286.415741
## final value 20021.696500
## converged
## # weights: 9
## initial value 22266.387991
## iter 10 value 20028.650501
## final value 20027.206012
## converged
## # weights: 25
## initial value 22275.120994
## iter 10 value 20028.038816
## iter 20 value 20025.672283
## final value 20025.671924
## converged
## # weights: 41
## initial value 22452.131733
## iter 10 value 20026.040502
```

```
## final value 20025.012503
## converged
## # weights: 9
## initial value 21788.803199
## iter 10 value 20029.094912
## iter 20 value 20021.781798
## iter 20 value 20021.781764
## final value 20021.781764
## converged
## # weights: 25
## initial value 22513.958726
## iter 10 value 20036.263939
## iter 20 value 20021.864451
## final value 20021.709648
## converged
## # weights: 41
## initial value 23871.978635
## iter 10 value 20036.060129
## iter 20 value 20021.862101
## final value 20021.710316
## converged
## # weights: 9
## initial value 23881.080350
## final value 20062.949200
## converged
## # weights: 25
## initial value 21965.110317
## final value 20062.949200
## converged
## # weights: 41
## initial value 24473.605192
## final value 20062.949200
## converged
## # weights: 9
## initial value 22560.161246
## iter 10 value 20068.692384
## final value 20068.461393
## converged
## # weights: 25
## initial value 23416.251752
## iter 10 value 20079.267296
## iter 20 value 20066.937310
## final value 20066.926441
## converged
## # weights: 41
## initial value 23967.715402
## iter 10 value 20078.039271
## iter 20 value 20066.267982
## final value 20066.266723
## converged
```

```
## # weights: 9
## initial value 23508.408393
## iter 10 value 20073.446563
## iter 20 value 20063.070226
## iter 20 value 20063.070178
## final value 20063.070178
## converged
## # weights: 25
## initial value 21412.647730
## iter 10 value 20071.055651
## iter 20 value 20063.042661
## final value 20062.959918
## converged
## # weights: 41
## initial value 22190.652395
## iter 10 value 20080.471442
## iter 20 value 20063.151218
## final value 20062.959693
## converged
## # weights: 9
## initial value 22131.830662
## final value 19997.722000
## converged
## # weights: 25
## initial value 23049.096748
## final value 19997.722000
## converged
## # weights: 41
## initial value 21232.774944
## final value 19997.722000
## converged
## # weights: 9
## initial value 22084.636164
## iter 10 value 20003.438840
## final value 20003.230893
## converged
## # weights: 25
## initial value 23342.757436
## iter 10 value 20006.340918
## iter 20 value 20001.697449
## final value 20001.697031
## converged
## # weights: 41
## initial value 23406.121223
## iter 10 value 20014.106186
## iter 20 value 20001.049691
## final value 20001.037824
## converged
## # weights: 9
## initial value 22166.169133
```

```
## iter 10 value 20008.123232
## iter 20 value 19997.841918
## iter 20 value 19997.841870
## final value 19997.841870
## converged
## # weights: 25
## initial value 22585.339504
## iter 10 value 20011.585288
## iter 20 value 19997.881833
## final value 19997.733080
## converged
## # weights: 41
## initial value 23407.617954
## iter 10 value 20013.368666
## iter 20 value 19997.902394
## final value 19997.736290
## converged
## # weights: 9
## initial value 22209.435954
## final value 20002.797200
## converged
## # weights: 25
## initial value 21526.053795
## final value 20002.797200
## converged
## # weights: 41
## initial value 21619.930393
## final value 20002.797200
## converged
## # weights: 9
## initial value 21945.466979
## iter 10 value 20009.223969
## final value 20008.306237
## converged
## # weights: 25
## initial value 23528.400632
## iter 10 value 20007.739807
## final value 20006.772314
## converged
## # weights: 41
## initial value 23461.379192
## iter 10 value 20007.256002
## final value 20006.113025
## converged
## # weights: 9
## initial value 21969.950337
## iter 10 value 20012.432513
## iter 20 value 20002.908288
## iter 20 value 20002.908243
## final value 20002.908243
```



```
## converged
## # weights: 25
## initial value 23248.607681
## iter 10 value 20016.742939
## iter 20 value 20002.957983
## final value 20002.811674
## converged
## # weights: 41
## initial value 21799.098302
## iter 10 value 20017.796196
## iter 20 value 20002.970127
## final value 20002.807152
## converged
## # weights: 9
## initial value 23931.073648
## final value 20054.760100
## converged
## # weights: 25
## initial value 23929.849599
## final value 20054.760100
## converged
## # weights: 41
## initial value 22540.008067
## final value 20054.760100
## converged
## # weights: 9
## initial value 22144.664154
## iter 10 value 20061.503413
## final value 20060.270988
## converged
## # weights: 25
## initial value 23875.230459
## iter 10 value 20059.723460
## final value 20058.736499
## converged
## # weights: 41
## initial value 23197.955822
## iter 10 value 20059.186726
## final value 20058.076875
## converged
## # weights: 9
## initial value 22868.911132
## iter 10 value 20065.674453
## iter 20 value 20054.885934
## iter 20 value 20054.885884
## final value 20054.885884
## converged
## # weights: 25
## initial value 22157.175556
## iter 10 value 20067.203710
```

```
## iter 20 value 20054.903565
## final value 20054.772845
## converged
## # weights: 41
## initial value 23797.558179
## iter 10 value 20070.457824
## iter 20 value 20054.941082
## final value 20054.777025
## converged
## # weights: 9
## initial value 21754.723017
## final value 19972.730000
## converged
## # weights: 25
## initial value 23164.486134
## final value 19972.730000
## converged
## # weights: 41
## initial value 23309.391826
## final value 19972.730000
## converged
## # weights: 9
## initial value 22448.472102
## iter 10 value 19978.984108
## final value 19978.238387
## converged
## # weights: 25
## initial value 22467.948405
## iter 10 value 19977.339389
## final value 19976.704693
## converged
## # weights: 41
## initial value 23654.171046
## iter 10 value 19988.053919
## iter 20 value 19976.051063
## final value 19976.045428
## converged
## # weights: 9
## initial value 23097.800936
## iter 10 value 19983.404745
## iter 20 value 19972.853071
## iter 20 value 19972.853022
## final value 19972.853022
## converged
## # weights: 25
## initial value 21809.470063
## iter 10 value 19985.856100
## iter 20 value 19972.881334
## final value 19972.741700
## converged
```

```
## # weights: 41
## initial value 23135.285879
## iter 10 value 19991.573501
## iter 20 value 19972.947251
## final value 19972.747468
## converged
## # weights: 9
## initial value 23303.688496
## final value 20020.136500
## converged
## # weights: 25
## initial value 23436.438802
## final value 20020.136500
## converged
## # weights: 41
## initial value 22263.386273
## final value 20020.136500
## converged
## # weights: 9
## initial value 22509.666338
## iter 10 value 20031.852698
## iter 20 value 20025.647131
## final value 20025.646057
## converged
## # weights: 25
## initial value 22496.113078
## iter 10 value 20024.963669
## final value 20024.111918
## converged
## # weights: 41
## initial value 23095.151320
## iter 10 value 20031.807497
## iter 20 value 20023.452774
## iter 20 value 20023.452616
## iter 20 value 20023.452583
## final value 20023.452583
## converged
## # weights: 9
## initial value 22885.826394
## iter 10 value 20031.509473
## iter 20 value 20020.267621
## iter 20 value 20020.267569
## final value 20020.267569
## converged
## # weights: 25
## initial value 22706.277588
## iter 10 value 20036.714615
## iter 20 value 20020.327633
## final value 20020.155741
## converged
```

```
## # weights: 41
## initial value 23052.710265
## iter 10 value 20038.314722
## iter 20 value 20020.346081
## final value 20020.149845
## converged
## # weights: 9
## initial value 23089.150423
## final value 19953.339700
## converged
## # weights: 25
## initial value 23587.587120
## final value 19953.339700
## converged
## # weights: 41
## initial value 22388.807563
## final value 19953.339700
## converged
## # weights: 9
## initial value 22959.499243
## iter 10 value 19959.193696
## final value 19958.847818
## converged
## # weights: 25
## initial value 23388.794148
## iter 10 value 19960.104203
## iter 20 value 19957.314522
## iter 20 value 19957.314345
## iter 20 value 19957.314329
## final value 19957.314329
## converged
## # weights: 41
## initial value 22924.238815
## iter 10 value 19957.934968
## iter 20 value 19956.655230
## iter 20 value 19956.655059
## iter 20 value 19956.655030
## final value 19956.655030
## converged
## # weights: 9
## initial value 22935.302832
## iter 10 value 19963.040145
## iter 20 value 19953.451539
## iter 20 value 19953.451494
## final value 19953.451494
## converged
## # weights: 25
## initial value 21049.298711
## iter 10 value 19959.602093
## iter 20 value 19953.411900
```

```
## final value 19953.350245
## converged
## # weights: 41
## initial value 22963.655525
## iter 10 value 19974.896665
## iter 20 value 19953.588235
## final value 19953.351037
## converged
## # weights: 9
## initial value 22718.791472
## final value 19973.110000
## converged
## # weights: 25
## initial value 22775.317126
## final value 19973.110000
## converged
## # weights: 41
## initial value 22572.063437
## final value 19973.110000
## converged
## # weights: 9
## initial value 21685.730650
## iter 10 value 19981.322383
## final value 19978.618399
## converged
## # weights: 25
## initial value 21963.711714
## iter 10 value 19977.206610
## final value 19977.084685
## converged
## # weights: 41
## initial value 22399.991832
## iter 10 value 19978.772501
## iter 20 value 19976.429719
## final value 19976.425464
## converged
## # weights: 9
## initial value 23576.528016
## iter 10 value 19981.523556
## iter 20 value 19973.207002
## iter 20 value 19973.206963
## final value 19973.206963
## converged
## # weights: 25
## initial value 23740.989212
## iter 10 value 19985.710616
## iter 20 value 19973.255275
## final value 19973.125862
## converged
## # weights: 41
```

```
## initial value 21700.191718
## iter 10 value 19987.348730
## iter 20 value 19973.274161
## final value 19973.119827
## converged
## # weights: 9
## initial value 22902.290392
## final value 19967.717200
## converged
## # weights: 25
## initial value 24293.849514
## final value 19967.717200
## converged
## # weights: 41
## initial value 24252.236040
## final value 19967.717200
## converged
## # weights: 9
## initial value 23107.142138
## iter 10 value 19974.288818
## final value 19973.225496
## converged
## # weights: 25
## initial value 22926.672209
## iter 10 value 19972.127494
## iter 20 value 19971.691984
## iter 20 value 19971.691891
## iter 20 value 19971.691851
## final value 19971.691851
## converged
## # weights: 41
## initial value 22206.427681
## iter 10 value 19973.823543
## iter 20 value 19971.032824
## final value 19971.032559
## converged
## # weights: 9
## initial value 23446.622465
## iter 10 value 19977.434672
## iter 20 value 19967.829235
## iter 20 value 19967.829190
## final value 19967.829190
## converged
## # weights: 25
## initial value 23054.171897
## iter 10 value 19981.844754
## iter 20 value 19967.880080
## final value 19967.734272
## converged
## # weights: 41
```

```
## initial value 21554.514538
## iter 10 value 19981.506040
## iter 20 value 19967.876174
## final value 19967.726817
## converged
## # weights: 9
## initial value 23838.470407
## final value 20019.080500
## converged
## # weights: 25
## initial value 23511.352586
## final value 20019.080500
## converged
## # weights: 41
## initial value 23166.595070
## final value 20019.080500
## converged
## # weights: 9
## initial value 23705.471589
## iter 10 value 20024.929582
## final value 20024.589938
## converged
## # weights: 25
## initial value 21703.920157
## iter 10 value 20024.006987
## final value 20023.055939
## converged
## # weights: 41
## initial value 21390.603019
## iter 10 value 20032.731592
## iter 20 value 20022.397499
## final value 20022.396466
## converged
## # weights: 9
## initial value 22267.734400
## iter 10 value 20030.034991
## iter 20 value 20019.206797
## iter 20 value 20019.206746
## final value 20019.206746
## converged
## # weights: 25
## initial value 22311.828931
## iter 10 value 20031.764305
## iter 20 value 20019.226734
## final value 20019.091445
## converged
## # weights: 41
## initial value 22277.997867
## iter 10 value 20036.906731
## iter 20 value 20019.286022
```

```
## final value 20019.090099
## converged
## # weights: 9
## initial value 23252.407751
## final value 20038.865200
## converged
## # weights: 25
## initial value 22579.244452
## final value 20038.865200
## converged
## # weights: 41
## initial value 21951.960967
## final value 20038.865200
## converged
## # weights: 9
## initial value 22214.373678
## iter 10 value 20045.684241
## final value 20044.375336
## converged
## # weights: 25
## initial value 21854.263057
## iter 10 value 20043.291836
## final value 20042.841068
## converged
## # weights: 41
## initial value 21590.535674
## iter 10 value 20054.425428
## iter 20 value 20042.181746
## iter 20 value 20042.181631
## iter 20 value 20042.181586
## final value 20042.181586
## converged
## # weights: 9
## initial value 22820.060842
## iter 10 value 20050.777775
## iter 20 value 20039.002543
## iter 20 value 20039.002488
## final value 20039.002488
## converged
## # weights: 25
## initial value 23621.461591
## iter 10 value 20053.324830
## iter 20 value 20039.031908
## final value 20038.881020
## converged
## # weights: 41
## initial value 23403.389516
## iter 10 value 20056.795723
## iter 20 value 20039.071925
## final value 20038.877447
```



```
## converged
## # weights: 9
## initial value 23117.277871
## final value 20028.478000
## converged
## # weights: 25
## initial value 21409.285526
## final value 20028.478000
## converged
## # weights: 41
## initial value 22828.415196
## final value 20028.478000
## converged
## # weights: 9
## initial value 22715.502177
## iter 10 value 20054.761521
## iter 20 value 20034.107921
## final value 20033.987726
## converged
## # weights: 25
## initial value 22635.609922
## iter 10 value 20033.348057
## final value 20032.453614
## converged
## # weights: 41
## initial value 23878.345777
## iter 10 value 20033.017706
## final value 20031.794178
## converged
## # weights: 9
## initial value 22798.346967
## iter 10 value 20040.132446
## iter 20 value 20028.612367
## iter 20 value 20028.612313
## final value 20028.612313
## converged
## # weights: 25
## initial value 22988.246304
## iter 10 value 20042.557972
## iter 20 value 20028.640331
## final value 20028.495499
## converged
## # weights: 41
## initial value 24958.296824
## iter 10 value 20032.260881
## iter 20 value 20028.521667
## iter 30 value 20028.493047
## iter 30 value 20028.492858
## iter 30 value 20028.492809
## final value 20028.492809
```

```
## converged
## # weights: 9
## initial value 23411.774994
## final value 20018.146000
## converged
## # weights: 25
## initial value 22893.693164
## final value 20018.146000
## converged
## # weights: 41
## initial value 21562.586144
## final value 20018.146000
## converged
## # weights: 9
## initial value 21891.046215
## iter 10 value 20025.806323
## final value 20023.655405
## converged
## # weights: 25
## initial value 22232.637851
## iter 10 value 20023.455457
## final value 20022.121361
## converged
## # weights: 41
## initial value 24270.623348
## iter 10 value 20034.685853
## iter 20 value 20021.462743
## final value 20021.462012
## converged
## # weights: 9
## initial value 23162.542238
## iter 10 value 20029.687285
## iter 20 value 20018.279062
## iter 20 value 20018.279009
## final value 20018.279009
## converged
## # weights: 25
## initial value 22649.171510
## iter 10 value 20034.129461
## iter 20 value 20018.330277
## final value 20018.158571
## converged
## # weights: 41
## initial value 22008.348327
## iter 10 value 20035.221074
## iter 20 value 20018.342862
## final value 20018.156678
## converged
## # weights: 9
## initial value 22078.599388
```

```
## final value 20021.050000
## converged
## # weights: 25
## initial value 22552.159757
## final value 20021.050000
## converged
## # weights: 41
## initial value 23115.398906
## final value 20021.050000
## converged
## # weights: 9
## initial value 22374.795728
## iter 10 value 20027.698046
## final value 20026.559401
## converged
## # weights: 25
## initial value 22245.647372
## iter 10 value 20025.953640
## final value 20025.025272
## converged
## # weights: 41
## initial value 23481.397685
## iter 10 value 20025.852258
## iter 20 value 20024.365990
## iter 20 value 20024.365922
## iter 20 value 20024.365915
## final value 20024.365915
## converged
## # weights: 9
## initial value 21856.447907
## iter 10 value 20029.241712
## iter 20 value 20021.144444
## iter 20 value 20021.144406
## final value 20021.144406
## converged
## # weights: 25
## initial value 23128.991472
## iter 10 value 20033.446181
## iter 20 value 20021.192918
## final value 20021.066431
## converged
## # weights: 41
## initial value 23125.979542
## iter 10 value 20040.354036
## iter 20 value 20021.272560
## final value 20021.065050
## converged
## # weights: 9
## initial value 22941.274251
## final value 19978.346000
```

```
## converged
## # weights: 25
## initial value 21824.561194
## final value 19978.346000
## converged
## # weights: 41
## initial value 22653.742758
## final value 19978.346000
## converged
## # weights: 9
## initial value 22017.526484
## iter 10 value 19985.210979
## final value 19983.854535
## converged
## # weights: 25
## initial value 22288.995061
## iter 10 value 19983.131926
## final value 19982.320802
## converged
## # weights: 41
## initial value 23315.821578
## iter 10 value 19988.621426
## iter 20 value 19981.661944
## final value 19981.661526
## converged
## # weights: 9
## initial value 22253.386021
## iter 10 value 19989.523174
## iter 20 value 19978.474864
## iter 20 value 19978.474812
## final value 19978.474812
## converged
## # weights: 25
## initial value 22932.253280
## iter 10 value 19991.819404
## iter 20 value 19978.501338
## final value 19978.360959
## converged
## # weights: 41
## initial value 22294.411000
## iter 10 value 19998.956607
## iter 20 value 19978.583624
## final value 19978.355015
## converged
## # weights: 9
## initial value 22334.688252
## final value 19930.229200
## converged
## # weights: 25
## initial value 22325.218096
```

```
## final value 19930.229200
## converged
## # weights: 41
## initial value 22198.131523
## final value 19930.229200
## converged
## # weights: 9
## initial value 22330.320645
## iter 10 value 19954.948426
## final value 19935.736853
## converged
## # weights: 25
## initial value 21802.711836
## iter 10 value 19935.138158
## final value 19934.203454
## converged
## # weights: 41
## initial value 21881.812957
## iter 10 value 19935.428010
## final value 19933.544311
## converged
## # weights: 9
## initial value 21441.532355
## iter 10 value 19937.613693
## iter 20 value 19930.314337
## iter 20 value 19930.314303
## final value 19930.314303
## converged
## # weights: 25
## initial value 22586.207331
## iter 10 value 19945.501565
## iter 20 value 19930.405278
## final value 19930.241785
## converged
## # weights: 41
## initial value 22403.542841
## iter 10 value 19948.444485
## iter 20 value 19930.439208
## final value 19930.241688
## converged
## # weights: 9
## initial value 22219.593328
## final value 19993.947700
## converged
## # weights: 25
## initial value 23041.318996
## final value 19993.947700
## converged
## # weights: 41
## initial value 22692.736485
```

```
## final value 19993.947700
## converged
## # weights: 9
## initial value 22716.974107
## iter 10 value 20000.080311
## final value 19999.456539
## converged
## # weights: 25
## initial value 21817.887817
## iter 10 value 19998.487106
## final value 19997.922667
## converged
## # weights: 41
## initial value 21562.770772
## iter 10 value 19998.688578
## iter 20 value 19997.263480
## iter 20 value 19997.263359
## iter 20 value 19997.263336
## final value 19997.263336
## converged
## # weights: 9
## initial value 22675.281217
## iter 10 value 20004.037721
## iter 20 value 19994.064030
## iter 20 value 19994.063983
## final value 19994.063983
## converged
## # weights: 25
## initial value 23353.684810
## iter 10 value 20007.611637
## iter 20 value 19994.105234
## final value 19993.960972
## converged
## # weights: 41
## initial value 24158.397721
## iter 10 value 20004.302689
## iter 20 value 19994.067085
## final value 19993.960937
## converged
## # weights: 9
## initial value 23517.043992
## final value 20049.701200
## converged
## # weights: 25
## initial value 22137.528368
## final value 20049.701200
## converged
## # weights: 41
## initial value 23304.970861
## final value 20049.701200
```

```
## converged
## # weights: 9
## initial value 22119.678872
## iter 10 value 20059.052213
## final value 20055.211764
## converged
## # weights: 25
## initial value 23656.334032
## iter 10 value 20055.236409
## final value 20053.677301
## converged
## # weights: 41
## initial value 21804.885310
## iter 10 value 20056.197623
## iter 20 value 20053.018357
## final value 20053.017795
## converged
## # weights: 9
## initial value 23016.812061
## iter 10 value 20060.217784
## iter 20 value 20049.822448
## iter 20 value 20049.822399
## final value 20049.822399
## converged
## # weights: 25
## initial value 21869.901284
## iter 10 value 20061.372478
## iter 20 value 20049.835761
## final value 20049.714163
## converged
## # weights: 41
## initial value 21721.919203
## iter 10 value 20064.985645
## iter 20 value 20049.877418
## final value 20049.710818
## converged
## # weights: 9
## initial value 22349.322178
## final value 20059.445200
## converged
## # weights: 25
## initial value 23506.287800
## final value 20059.445200
## converged
## # weights: 41
## initial value 22733.057454
## final value 20059.445200
## converged
## # weights: 9
## initial value 22098.425969
```

```
## iter 10 value 20065.231784
## final value 20064.956618
## converged
## # weights: 25
## initial value 22539.614520
## iter 10 value 20063.759794
## final value 20063.422032
## converged
## # weights: 41
## initial value 21848.756144
## iter 10 value 20063.504791
## final value 20062.762396
## converged
## # weights: 9
## initial value 22467.784763
## iter 10 value 20069.535355
## iter 20 value 20059.561532
## iter 20 value 20059.561485
## final value 20059.561485
## converged
## # weights: 25
## initial value 21909.105994
## iter 10 value 20071.908177
## iter 20 value 20059.588888
## final value 20059.458159
## converged
## # weights: 41
## initial value 23281.010340
## iter 10 value 20075.608872
## iter 20 value 20059.631554
## final value 20059.455507
## converged
## # weights: 9
## initial value 22915.779177
## final value 20056.253200
## converged
## # weights: 25
## initial value 22139.873306
## final value 20056.253200
## converged
## # weights: 41
## initial value 23043.831064
## final value 20056.253200
## converged
## # weights: 9
## initial value 22515.667076
## iter 10 value 20062.403160
## final value 20061.764265
## converged
## # weights: 25
```



```
## initial value 23617.319565
## iter 10 value 20064.017021
## final value 20060.229875
## converged
## # weights: 41
## initial value 22819.958509
## iter 10 value 20061.881345
## iter 20 value 20059.570779
## final value 20059.570169
## converged
## # weights: 9
## initial value 23666.544998
## iter 10 value 20064.637191
## iter 20 value 20056.349861
## iter 20 value 20056.349822
## final value 20056.349822
## converged
## # weights: 25
## initial value 23481.367983
## iter 10 value 20071.669429
## iter 20 value 20056.430937
## final value 20056.273807
## converged
## # weights: 41
## initial value 22966.575247
## iter 10 value 20076.107144
## iter 20 value 20056.482100
## final value 20056.263188
## converged
## # weights: 9
## initial value 22784.884497
## final value 20041.267700
## converged
## # weights: 25
## initial value 22428.013409
## final value 20041.267700
## converged
## # weights: 41
## initial value 23533.240218
## final value 20041.267700
## converged
## # weights: 9
## initial value 22153.497831
## iter 10 value 20051.066668
## final value 20046.777872
## converged
## # weights: 25
## initial value 23932.512194
## iter 10 value 20047.080719
## iter 20 value 20045.243671
```

```
## iter 20 value 20045.243604
## iter 20 value 20045.243582
## final value 20045.243582
## converged
## # weights: 41
## initial value 21431.275194
## iter 10 value 20056.917676
## iter 20 value 20044.584265
## iter 20 value 20044.584143
## iter 20 value 20044.584102
## final value 20044.584102
## converged
## # weights: 9
## initial value 22241.467597
## iter 10 value 20051.944845
## iter 20 value 20041.390799
## iter 20 value 20041.390750
## final value 20041.390750
## converged
## # weights: 25
## initial value 21963.510016
## iter 10 value 20053.416021
## iter 20 value 20041.407761
## final value 20041.279512
## converged
## # weights: 41
## initial value 23624.399804
## iter 10 value 20060.135624
## iter 20 value 20041.485232
## final value 20041.279315
## converged
## # weights: 9
## initial value 23215.585057
## final value 20011.041700
## converged
## # weights: 25
## initial value 22062.278820
## final value 20011.041700
## converged
## # weights: 41
## initial value 23457.547469
## final value 20011.041700
## converged
## # weights: 9
## initial value 22129.363750
## iter 10 value 20018.537645
## final value 20016.550907
## converged
## # weights: 25
## initial value 21155.686713
```

```
## iter 10 value 20015.447144
## final value 20015.016896
## converged
## # weights: 41
## initial value 23213.564431
## iter 10 value 20016.269441
## iter 20 value 20014.357805
## iter 20 value 20014.357611
## iter 20 value 20014.357587
## final value 20014.357587
## converged
## # weights: 9
## initial value 22490.571864
## iter 10 value 20021.218985
## iter 20 value 20011.159036
## iter 20 value 20011.158989
## final value 20011.158989
## converged
## # weights: 25
## initial value 22628.982750
## iter 10 value 20027.664279
## iter 20 value 20011.233345
## final value 20011.053686
## converged
## # weights: 41
## initial value 22379.657378
## iter 10 value 20027.380010
## iter 20 value 20011.230068
## iter 30 value 20011.051598
## iter 30 value 20011.051598
## iter 30 value 20011.051597
## final value 20011.051597
## converged
## # weights: 9
## initial value 22332.927874
## final value 20062.773200
## converged
## # weights: 25
## initial value 21821.099273
## final value 20062.773200
## converged
## # weights: 41
## initial value 23544.555675
## final value 20062.773200
## converged
## # weights: 9
## initial value 23202.597588
## iter 10 value 20068.721708
## final value 20068.285648
## converged
```

```
## # weights: 25
## initial value 23347.903956
## iter 10 value 20068.048835
## final value 20066.750722
## converged
## # weights: 41
## initial value 22430.665354
## iter 10 value 20072.649012
## iter 20 value 20066.321546
## final value 20066.090942
## converged
## # weights: 9
## initial value 22848.906105
## iter 10 value 20074.026201
## iter 20 value 20062.902938
## iter 20 value 20062.902886
## final value 20062.902886
## converged
## # weights: 25
## initial value 23504.943663
## iter 10 value 20076.960558
## iter 20 value 20062.936769
## final value 20062.790608
## converged
## # weights: 41
## initial value 22403.852337
## iter 10 value 20079.034506
## iter 20 value 20062.960680
## final value 20062.783616
## converged
## # weights: 9
## initial value 22823.330335
## final value 20030.566000
## converged
## # weights: 25
## initial value 21672.789342
## final value 20030.566000
## converged
## # weights: 41
## initial value 22441.354881
## final value 20030.566000
## converged
## # weights: 9
## initial value 22174.806607
## iter 10 value 20036.249133
## final value 20036.075791
## converged
## # weights: 25
## initial value 22626.348157
## iter 10 value 20036.767246
```

```
## iter 20 value 20034.541838
## iter 20 value 20034.541694
## iter 20 value 20034.541666
## final value 20034.541666
## converged
## # weights: 41
## initial value 23406.798400
## iter 10 value 20045.825570
## iter 20 value 20034.150054
## final value 20033.882169
## converged
## # weights: 9
## initial value 23593.616745
## iter 10 value 20039.902524
## iter 20 value 20030.673643
## iter 20 value 20030.673600
## final value 20030.673600
## converged
## # weights: 25
## initial value 22129.334095
## iter 10 value 20044.516051
## iter 20 value 20030.726833
## final value 20030.577384
## converged
## # weights: 41
## initial value 24223.108753
## iter 10 value 20040.159949
## iter 20 value 20030.676611
## final value 20030.580200
## converged
## # weights: 9
## initial value 22752.418743
## final value 20030.566000
## converged
## # weights: 25
## initial value 21626.038492
## final value 20030.566000
## converged
## # weights: 41
## initial value 22820.832287
## final value 20030.566000
## converged
## # weights: 9
## initial value 23553.943071
## iter 10 value 20037.495259
## iter 20 value 20036.075797
## iter 20 value 20036.075790
## final value 20036.075790
## converged
## # weights: 25
```

```
## initial value 22996.923922
## iter 10 value 20034.663082
## final value 20034.541594
## converged
## # weights: 41
## initial value 22888.254578
## iter 10 value 20047.536633
## iter 20 value 20033.883703
## final value 20033.882183
## converged
## # weights: 9
## initial value 21733.994714
## iter 10 value 20037.915494
## iter 20 value 20030.650734
## iter 20 value 20030.650700
## final value 20030.650700
## converged
## # weights: 25
## initial value 21641.494275
## iter 10 value 20040.929458
## iter 20 value 20030.685483
## final value 20030.579093
## converged
## # weights: 41
## initial value 23935.281828
## iter 10 value 20045.604748
## iter 20 value 20030.739385
## final value 20030.581329
## converged
## # weights: 9
## initial value 22908.953513
## final value 20023.480100
## converged
## # weights: 25
## initial value 22662.977902
## final value 20023.480100
## converged
## # weights: 41
## initial value 21497.426031
## final value 20023.480100
## converged
## # weights: 9
## initial value 22503.479733
## iter 10 value 20052.731709
## iter 20 value 20028.993012
## final value 20028.989678
## converged
## # weights: 25
## initial value 23399.734246
## iter 10 value 20028.791220
```

```
## iter 20 value 20027.455634
## iter 20 value 20027.455566
## iter 20 value 20027.455557
## final value 20027.455557
## converged
## # weights: 41
## initial value 24184.939251
## iter 10 value 20028.456538
## iter 20 value 20026.796281
## iter 20 value 20026.796158
## iter 20 value 20026.796145
## final value 20026.796145
## converged
## # weights: 9
## initial value 22431.249038
## iter 10 value 20032.718141
## iter 20 value 20023.586607
## iter 20 value 20023.586565
## final value 20023.586565
## converged
## # weights: 25
## initial value 22291.727595
## iter 10 value 20039.486074
## iter 20 value 20023.664636
## final value 20023.491773
## converged
## # weights: 41
## initial value 22109.986196
## iter 10 value 20041.112608
## iter 20 value 20023.683389
## final value 20023.489777
## converged
## # weights: 9
## initial value 23131.385610
## final value 19953.339700
## converged
## # weights: 25
## initial value 22766.179194
## final value 19953.339700
## converged
## # weights: 41
## initial value 22561.757471
## final value 19953.339700
## converged
## # weights: 9
## initial value 22596.703387
## iter 10 value 19959.522323
## final value 19958.847776
## converged
## # weights: 25
```

```
## initial value 23057.355077
## iter 10 value 19964.274849
## iter 20 value 19957.316489
## final value 19957.314212
## converged
## # weights: 41
## initial value 22914.864499
## iter 10 value 19971.161292
## iter 20 value 19956.775930
## final value 19956.655011
## converged
## # weights: 9
## initial value 22516.350778
## iter 10 value 19963.505568
## iter 20 value 19953.456904
## iter 20 value 19953.456858
## final value 19953.456858
## converged
## # weights: 25
## initial value 23799.694529
## iter 10 value 19964.680092
## iter 20 value 19953.470446
## final value 19953.354322
## converged
## # weights: 41
## initial value 21646.760081
## iter 10 value 19966.748248
## iter 20 value 19953.494290
## final value 19953.348750
## converged
## # weights: 9
## initial value 23064.288043
## final value 20014.030000
## converged
## # weights: 25
## initial value 22945.983280
## final value 20014.030000
## converged
## # weights: 41
## initial value 21737.862171
## final value 20014.030000
## converged
## # weights: 9
## initial value 22298.550079
## iter 10 value 20020.716944
## final value 20019.539302
## converged
## # weights: 25
## initial value 23062.667781
## iter 10 value 20018.199564
```



```
## final value 20018.005258
## converged
## # weights: 41
## initial value 22226.922228
## iter 10 value 20017.929463
## final value 20017.345869
## converged
## # weights: 9
## initial value 21748.496984
## iter 10 value 20021.200785
## iter 20 value 20014.112674
## iter 20 value 20014.112640
## final value 20014.112640
## converged
## # weights: 25
## initial value 21987.669788
## iter 10 value 20025.945039
## iter 20 value 20014.167371
## final value 20014.042448
## converged
## # weights: 41
## initial value 22753.255013
## iter 10 value 20033.867843
## iter 20 value 20014.258715
## final value 20014.040756
## converged
## # weights: 9
## initial value 22930.411924
## final value 19931.150000
## converged
## # weights: 25
## initial value 22547.458154
## final value 19931.150000
## converged
## # weights: 41
## initial value 22736.648200
## final value 19931.150000
## converged
## # weights: 9
## initial value 23515.525934
## iter 10 value 19937.340880
## final value 19936.657787
## converged
## # weights: 25
## initial value 22348.107767
## iter 10 value 19935.826947
## final value 19935.124469
## converged
## # weights: 41
## initial value 21764.196370
```

```
## iter 10 value 19936.812414
## iter 20 value 19934.465297
## iter 20 value 19934.465218
## iter 20 value 19934.465195
## final value 19934.465195
## converged
## # weights: 9
## initial value 22618.456782
## iter 10 value 19942.333956
## iter 20 value 19931.278942
## iter 20 value 19931.278891
## final value 19931.278891
## converged
## # weights: 25
## initial value 22574.011175
## iter 10 value 19946.323603
## iter 20 value 19931.324940
## final value 19931.164272
## converged
## # weights: 41
## initial value 22034.782191
## iter 10 value 19950.814223
## iter 20 value 19931.376713
## final value 19931.159594
## converged
## # weights: 9
## initial value 22046.776886
## final value 19998.689200
## converged
## # weights: 25
## initial value 23898.053328
## final value 19998.689200
## converged
## # weights: 41
## initial value 22251.549497
## final value 19998.689200
## converged
## # weights: 9
## initial value 23381.250426
## iter 10 value 20006.303338
## final value 20004.198150
## converged
## # weights: 25
## initial value 23117.838305
## iter 10 value 20003.977081
## final value 20002.664318
## converged
## # weights: 41
## initial value 23377.803457
## iter 10 value 20008.798074
```

```
## iter 20 value 20002.005717
## final value 20002.004980
## converged
## # weights: 9
## initial value 22848.642138
## iter 10 value 20008.831158
## iter 20 value 19998.806129
## iter 20 value 19998.806082
## final value 19998.806082
## converged
## # weights: 25
## initial value 22823.147718
## iter 10 value 20016.540977
## iter 20 value 19998.895017
## final value 19998.703490
## converged
## # weights: 41
## initial value 23465.773590
## iter 10 value 20012.935267
## iter 20 value 19998.853446
## final value 19998.700352
## converged
## # weights: 9
## initial value 22772.182858
## final value 20034.225700
## converged
## # weights: 25
## initial value 22768.508361
## final value 20034.225700
## converged
## # weights: 41
## initial value 21909.925216
## final value 20034.225700
## converged
## # weights: 9
## initial value 23442.853281
## iter 10 value 20041.917589
## final value 20039.735634
## converged
## # weights: 25
## initial value 23233.200418
## iter 10 value 20039.179262
## final value 20038.201614
## converged
## # weights: 41
## initial value 21496.445653
## iter 10 value 20045.623049
## iter 20 value 20037.542581
## final value 20037.541984
## converged
```

```
## # weights: 9
## initial value 23210.802540
## iter 10 value 20043.646132
## iter 20 value 20034.334310
## iter 20 value 20034.334267
## final value 20034.334267
## converged
## # weights: 25
## initial value 22835.749442
## iter 10 value 20049.836003
## iter 20 value 20034.405675
## final value 20034.238056
## converged
## # weights: 41
## initial value 23343.414910
## iter 10 value 20054.067016
## iter 20 value 20034.454455
## final value 20034.236713
## converged
## # weights: 9
## initial value 22043.099310
## final value 20062.170100
## converged
## # weights: 25
## initial value 24175.975423
## final value 20062.170100
## converged
## # weights: 41
## initial value 23296.951460
## final value 20062.170100
## converged
## # weights: 9
## initial value 24044.728225
## iter 10 value 20068.335520
## final value 20067.683116
## converged
## # weights: 25
## initial value 21529.409318
## iter 10 value 20067.195868
## final value 20066.148283
## converged
## # weights: 41
## initial value 23341.520286
## iter 10 value 20075.957743
## iter 20 value 20065.488623
## iter 20 value 20065.488516
## iter 20 value 20065.488488
## final value 20065.488488
## converged
## # weights: 9
```

```
## initial value 22956.011853
## iter 10 value 20072.745015
## iter 20 value 20062.292020
## iter 20 value 20062.291972
## final value 20062.291972
## converged
## # weights: 25
## initial value 23764.946371
## iter 10 value 20074.342031
## iter 20 value 20062.310433
## final value 20062.185492
## converged
## # weights: 41
## initial value 23749.381753
## iter 10 value 20077.792884
## iter 20 value 20062.350218
## final value 20062.184938
## converged
## # weights: 9
## initial value 22197.034971
## final value 20020.398500
## converged
## # weights: 25
## initial value 21911.513758
## final value 20020.398500
## converged
## # weights: 41
## initial value 21893.150925
## final value 20020.398500
## converged
## # weights: 9
## initial value 23016.969152
## iter 10 value 20026.423309
## final value 20025.907982
## converged
## # weights: 25
## initial value 22277.994089
## iter 10 value 20025.365359
## final value 20024.373879
## converged
## # weights: 41
## initial value 23657.714905
## iter 10 value 20024.934823
## iter 20 value 20023.714596
## iter 20 value 20023.714487
## iter 20 value 20023.714477
## final value 20023.714477
## converged
## # weights: 9
## initial value 22234.693618
```

```
## iter 10 value 20029.599644
## iter 20 value 20020.504582
## iter 20 value 20020.504540
## final value 20020.504540
## converged
## # weights: 25
## initial value 23870.120111
## iter 10 value 20031.858565
## iter 20 value 20020.530626
## final value 20020.414595
## converged
## # weights: 41
## initial value 22591.057974
## iter 10 value 20038.867939
## iter 20 value 20020.611438
## final value 20020.409236
## converged
## # weights: 9
## initial value 22715.854993
## final value 20041.918000
## converged
## # weights: 25
## initial value 23270.712626
## final value 20041.918000
## converged
## # weights: 41
## initial value 23078.086325
## final value 20041.918000
## converged
## # weights: 9
## initial value 21593.390992
## iter 10 value 20048.507822
## final value 20047.428222
## converged
## # weights: 25
## initial value 23055.497043
## iter 10 value 20046.228725
## final value 20045.893896
## converged
## # weights: 41
## initial value 22112.219771
## iter 10 value 20052.402251
## iter 20 value 20045.240210
## final value 20045.234418
## converged
## # weights: 9
## initial value 23065.034586
## iter 10 value 20051.491805
## iter 20 value 20042.028378
## iter 20 value 20042.028334
```

```
## final value 20042.028334
## converged
## # weights: 25
## initial value 22852.589682
## iter 10 value 20057.007619
## iter 20 value 20042.091971
## final value 20041.935730
## converged
## # weights: 41
## initial value 22676.709788
## iter 10 value 20059.807415
## iter 20 value 20042.124251
## final value 20041.927631
## converged
## # weights: 9
## initial value 22463.681027
## final value 19973.299700
## converged
## # weights: 25
## initial value 23799.456841
## final value 19973.299700
## converged
## # weights: 41
## initial value 22334.282047
## final value 19973.299700
## converged
## # weights: 9
## initial value 23410.855740
## iter 10 value 19979.885970
## final value 19978.808133
## converged
## # weights: 25
## initial value 21923.569617
## iter 10 value 19977.874872
## final value 19977.274529
## converged
## # weights: 41
## initial value 23341.967124
## iter 10 value 19977.480908
## iter 20 value 19976.615246
## iter 20 value 19976.615173
## iter 20 value 19976.615146
## final value 19976.615146
## converged
## # weights: 9
## initial value 21904.799636
## iter 10 value 19982.173065
## iter 20 value 19973.402003
## iter 20 value 19973.401962
## final value 19973.401962
```

```
## converged
## # weights: 25
## initial value 22931.288726
## iter 10 value 19987.569040
## iter 20 value 19973.464214
## final value 19973.313794
## converged
## # weights: 41
## initial value 23092.566882
## iter 10 value 19992.864978
## iter 20 value 19973.525272
## final value 19973.312032
## converged
## # weights: 9
## initial value 22043.690716
## final value 19969.854500
## converged
## # weights: 25
## initial value 23061.107983
## final value 19969.854500
## converged
## # weights: 41
## initial value 23112.762681
## final value 19969.854500
## converged
## # weights: 9
## initial value 22378.380202
## iter 10 value 19976.124767
## final value 19975.362902
## converged
## # weights: 25
## initial value 21693.282130
## iter 10 value 19974.813306
## final value 19973.829214
## converged
## # weights: 41
## initial value 22883.817126
## iter 10 value 19979.768157
## iter 20 value 19973.170566
## final value 19973.169941
## converged
## # weights: 9
## initial value 23139.032724
## iter 10 value 19981.485396
## iter 20 value 19969.988595
## iter 20 value 19969.988541
## final value 19969.988541
## converged
## # weights: 25
## initial value 21919.498306
```



```
## iter 10 value 19982.240024
## iter 20 value 19969.997295
## final value 19969.866168
## converged
## # weights: 41
## initial value 22258.478459
## iter 10 value 19988.580455
## iter 20 value 19970.070396
## final value 19969.863974
## converged
## # weights: 9
## initial value 23763.508290
## final value 20017.201700
## converged
## # weights: 25
## initial value 23722.045000
## final value 20017.201700
## converged
## # weights: 41
## initial value 21758.205141
## final value 20017.201700
## converged
## # weights: 9
## initial value 23510.161486
## iter 10 value 20022.876964
## final value 20022.711046
## converged
## # weights: 25
## initial value 22231.237934
## iter 10 value 20022.264570
## final value 20021.176983
## converged
## # weights: 41
## initial value 23193.875851
## iter 10 value 20032.996333
## iter 20 value 20020.518118
## final value 20020.517613
## converged
## # weights: 9
## initial value 22340.942599
## iter 10 value 20026.378020
## iter 20 value 20017.307496
## iter 20 value 20017.307453
## final value 20017.307453
## converged
## # weights: 25
## initial value 23138.103607
## iter 10 value 20033.082727
## iter 20 value 20017.384796
## final value 20017.219994
```

```
## converged
## # weights: 41
## initial value 22293.960168
## iter 10 value 20033.000124
## iter 20 value 20017.383843
## final value 20017.213051
## converged
## # weights: 9
## initial value 22755.332932
## final value 20047.646500
## converged
## # weights: 25
## initial value 22636.353568
## final value 20047.646500
## converged
## # weights: 41
## initial value 22331.159988
## final value 20047.646500
## converged
## # weights: 9
## initial value 21858.560137
## iter 10 value 20054.697329
## final value 20053.156983
## converged
## # weights: 25
## initial value 21794.048059
## iter 10 value 20053.557616
## iter 20 value 20051.622967
## final value 20051.622561
## converged
## # weights: 41
## initial value 24090.984860
## iter 10 value 20054.838706
## iter 20 value 20050.964628
## final value 20050.963078
## converged
## # weights: 9
## initial value 22322.769415
## iter 10 value 20057.585842
## iter 20 value 20047.761093
## iter 20 value 20047.761047
## final value 20047.761047
## converged
## # weights: 25
## initial value 22092.903720
## iter 10 value 20062.146669
## iter 20 value 20047.813676
## final value 20047.659461
## converged
## # weights: 41
```

```
## initial value 23497.737199
## iter 10 value 20065.225925
## iter 20 value 20047.849177
## final value 20047.659152
## converged
## # weights: 9
## initial value 22922.459562
## final value 20021.825200
## converged
## # weights: 25
## initial value 24074.297978
## final value 20021.825200
## converged
## # weights: 41
## initial value 22508.346719
## final value 20021.825200
## converged
## # weights: 9
## initial value 22959.105342
## iter 10 value 20027.685027
## final value 20027.334725
## converged
## # weights: 25
## initial value 23415.846272
## iter 10 value 20027.336931
## iter 20 value 20025.800799
## iter 20 value 20025.800635
## iter 20 value 20025.800618
## final value 20025.800618
## converged
## # weights: 41
## initial value 22877.640800
## iter 10 value 20026.007775
## final value 20025.141209
## converged
## # weights: 9
## initial value 23761.524243
## iter 10 value 20030.783993
## iter 20 value 20021.928488
## iter 20 value 20021.928447
## final value 20021.928447
## converged
## # weights: 25
## initial value 22192.293268
## iter 10 value 20036.517800
## iter 20 value 20021.994594
## final value 20021.836988
## converged
## # weights: 41
## initial value 22758.941644
```

```
## iter 10 value 20041.899909
## iter 20 value 20022.056646
## final value 20021.835213
## converged
## # weights: 9
## initial value 22119.935141
## final value 20049.182500
## converged
## # weights: 25
## initial value 22246.749243
## final value 20049.182500
## converged
## # weights: 41
## initial value 23016.862330
## final value 20049.182500
## converged
## # weights: 9
## initial value 22260.545321
## iter 10 value 20057.462006
## final value 20054.693043
## converged
## # weights: 25
## initial value 23181.909665
## iter 10 value 20054.515625
## final value 20053.158637
## converged
## # weights: 41
## initial value 22419.238996
## iter 10 value 20053.803817
## iter 20 value 20052.499476
## iter 20 value 20052.499286
## iter 20 value 20052.499200
## final value 20052.499200
## converged
## # weights: 9
## initial value 23174.363660
## iter 10 value 20060.468839
## iter 20 value 20049.312623
## iter 20 value 20049.312571
## final value 20049.312571
## converged
## # weights: 25
## initial value 23296.727254
## iter 10 value 20063.940512
## iter 20 value 20049.352648
## final value 20049.196260
## converged
## # weights: 41
## initial value 21330.578867
## iter 10 value 20057.684243
```

```
## iter 20 value 20049.280518
## final value 20049.191625
## converged
## # weights: 9
## initial value 23242.664153
## final value 20044.507700
## converged
## # weights: 25
## initial value 22310.800118
## final value 20044.507700
## converged
## # weights: 41
## initial value 21056.937082
## final value 20044.507700
## converged
## # weights: 9
## initial value 23624.048880
## iter 10 value 20050.656926
## final value 20050.018031
## converged
## # weights: 25
## initial value 22639.663016
## iter 10 value 20050.555965
## iter 20 value 20048.492126
## final value 20048.483665
## converged
## # weights: 41
## initial value 21945.810270
## iter 10 value 20049.114390
## iter 20 value 20047.824479
## final value 20047.824138
## converged
## # weights: 9
## initial value 23498.045528
## iter 10 value 20055.054734
## iter 20 value 20044.629299
## iter 20 value 20044.629250
## final value 20044.629250
## converged
## # weights: 25
## initial value 22359.214208
## iter 10 value 20057.593228
## iter 20 value 20044.658566
## final value 20044.518384
## converged
## # weights: 41
## initial value 23765.612049
## iter 10 value 20058.849761
## iter 20 value 20044.673053
## final value 20044.524910
```

```
## converged
## # weights: 9
## initial value 22970.757907
## final value 19983.067600
## converged
## # weights: 25
## initial value 22518.601303
## final value 19983.067600
## converged
## # weights: 41
## initial value 22988.368286
## final value 19983.067600
## converged
## # weights: 9
## initial value 23568.843221
## iter 10 value 19989.111480
## final value 19988.576202
## converged
## # weights: 25
## initial value 21995.015287
## iter 10 value 19987.933187
## final value 19987.042478
## converged
## # weights: 41
## initial value 21992.940775
## iter 10 value 19987.170809
## iter 20 value 19986.383318
## iter 20 value 19986.383144
## iter 20 value 19986.383117
## final value 19986.383117
## converged
## # weights: 9
## initial value 23398.269246
## iter 10 value 19991.982694
## iter 20 value 19983.170384
## iter 20 value 19983.170343
## final value 19983.170343
## converged
## # weights: 25
## initial value 23555.150905
## iter 10 value 19993.992064
## iter 20 value 19983.193550
## final value 19983.082383
## converged
## # weights: 41
## initial value 21833.929823
## iter 10 value 19999.237235
## iter 20 value 19983.254023
## final value 19983.077239
## converged
```

```
## # weights: 9
## initial value 22513.948202
## final value 19980.905200
## converged
## # weights: 25
## initial value 22054.918528
## final value 19980.905200
## converged
## # weights: 41
## initial value 23313.005628
## final value 19980.905200
## converged
## # weights: 9
## initial value 23061.523430
## iter 10 value 19990.806577
## final value 19986.413769
## converged
## # weights: 25
## initial value 22414.064698
## iter 10 value 19985.496405
## final value 19984.880024
## converged
## # weights: 41
## initial value 21797.850805
## iter 10 value 19985.943058
## iter 20 value 19984.220829
## iter 20 value 19984.220749
## iter 20 value 19984.220734
## final value 19984.220734
## converged
## # weights: 9
## initial value 23093.939826
## iter 10 value 19992.608351
## iter 20 value 19981.040128
## iter 20 value 19981.040074
## final value 19981.040074
## converged
## # weights: 25
## initial value 21369.475937
## iter 10 value 19988.882168
## iter 20 value 19980.997168
## final value 19980.916037
## converged
## # weights: 41
## initial value 20925.729063
## iter 10 value 19987.411252
## iter 20 value 19980.980210
## final value 19980.914256
## converged
## # weights: 9
```

```
## initial value 22328.884048
## final value 20004.187700
## converged
## # weights: 25
## initial value 22717.891455
## final value 20004.187700
## converged
## # weights: 41
## initial value 22502.401955
## final value 20004.187700
## converged
## # weights: 9
## initial value 21994.476559
## iter 10 value 20010.370226
## final value 20009.696764
## converged
## # weights: 25
## initial value 23216.541707
## iter 10 value 20009.317149
## final value 20008.162821
## converged
## # weights: 41
## initial value 23713.655456
## iter 10 value 20013.855409
## iter 20 value 20007.503743
## iter 20 value 20007.503607
## iter 20 value 20007.503558
## final value 20007.503558
## converged
## # weights: 9
## initial value 22622.195570
## iter 10 value 20015.068421
## iter 20 value 20004.313146
## iter 20 value 20004.313096
## final value 20004.313096
## converged
## # weights: 25
## initial value 21434.530147
## iter 10 value 20013.533027
## iter 20 value 20004.295444
## final value 20004.199660
## converged
## # weights: 41
## initial value 22660.919562
## iter 10 value 20021.504147
## iter 20 value 20004.387345
## final value 20004.199168
## converged
## # weights: 9
## initial value 23168.030966
```



```
## final value 20037.869200
## converged
## # weights: 25
## initial value 23363.555154
## final value 20037.869200
## converged
## # weights: 41
## initial value 21950.299474
## final value 20037.869200
## converged
## # weights: 9
## initial value 22821.256751
## iter 10 value 20043.498107
## final value 20043.379258
## converged
## # weights: 25
## initial value 22181.488711
## iter 10 value 20042.669769
## final value 20041.845028
## converged
## # weights: 41
## initial value 22814.576078
## iter 10 value 20042.213500
## iter 20 value 20041.185628
## iter 20 value 20041.185536
## iter 20 value 20041.185529
## final value 20041.185529
## converged
## # weights: 9
## initial value 22201.382406
## iter 10 value 20048.958154
## iter 20 value 20037.997047
## iter 20 value 20037.996996
## final value 20037.996996
## converged
## # weights: 25
## initial value 22986.550779
## iter 10 value 20051.487779
## iter 20 value 20038.026212
## final value 20037.886052
## converged
## # weights: 41
## initial value 23442.639321
## iter 10 value 20057.527958
## iter 20 value 20038.095850
## final value 20037.880476
## converged
## # weights: 9
## initial value 23314.634155
## final value 20013.185200
```

```
## converged
## # weights: 25
## initial value 21951.154768
## final value 20013.185200
## converged
## # weights: 41
## initial value 22975.197435
## final value 20013.185200
## converged
## # weights: 9
## initial value 22681.044875
## iter 10 value 20021.151828
## final value 20018.694465
## converged
## # weights: 25
## initial value 22472.994629
## iter 10 value 20018.986649
## final value 20017.160429
## converged
## # weights: 41
## initial value 22636.251723
## iter 10 value 20021.021524
## final value 20016.501213
## converged
## # weights: 9
## initial value 22885.618723
## iter 10 value 20024.852598
## iter 20 value 20013.319716
## iter 20 value 20013.319662
## final value 20013.319662
## converged
## # weights: 25
## initial value 21890.206171
## iter 10 value 20026.584665
## iter 20 value 20013.339685
## final value 20013.196803
## converged
## # weights: 41
## initial value 21346.167381
## iter 10 value 20025.035536
## iter 20 value 20013.321825
## final value 20013.194764
## converged
## # weights: 9
## initial value 22809.925453
## final value 19939.738000
## converged
## # weights: 25
## initial value 22483.518344
## final value 19939.738000
```

```
## converged
## # weights: 41
## initial value 24193.581310
## final value 19939.738000
## converged
## # weights: 9
## initial value 22601.180032
## iter 10 value 19945.919347
## final value 19945.245919
## converged
## # weights: 25
## initial value 23752.952548
## iter 10 value 19945.144331
## final value 19943.712571
## converged
## # weights: 41
## initial value 22839.788655
## iter 10 value 19944.199405
## final value 19943.053284
## converged
## # weights: 9
## initial value 22837.158972
## iter 10 value 19950.842590
## iter 20 value 19939.866027
## iter 20 value 19939.865976
## final value 19939.865976
## converged
## # weights: 25
## initial value 22889.585105
## iter 10 value 19956.037184
## iter 20 value 19939.925917
## final value 19939.750672
## converged
## # weights: 41
## initial value 22073.600857
## iter 10 value 19956.776882
## iter 20 value 19939.934445
## final value 19939.748463
## converged
## # weights: 9
## initial value 23407.359918
## final value 20002.486000
## converged
## # weights: 25
## initial value 22911.762025
## final value 20002.486000
## converged
## # weights: 41
## initial value 24510.203030
## final value 20002.486000
```

```
## converged
## # weights: 9
## initial value 22420.038039
## iter 10 value 20011.665147
## final value 20007.995045
## converged
## # weights: 25
## initial value 22659.279186
## iter 10 value 20006.869229
## final value 20006.461127
## converged
## # weights: 41
## initial value 22428.507852
## iter 10 value 20007.221573
## iter 20 value 20005.801994
## iter 20 value 20005.801808
## iter 20 value 20005.801771
## final value 20005.801771
## converged
## # weights: 9
## initial value 23882.255067
## iter 10 value 20010.545078
## iter 20 value 20002.578915
## iter 20 value 20002.578878
## final value 20002.578878
## converged
## # weights: 25
## initial value 23215.870222
## iter 10 value 20017.921034
## iter 20 value 20002.663954
## final value 20002.502125
## converged
## # weights: 41
## initial value 22089.446839
## iter 10 value 20020.596143
## iter 20 value 20002.694796
## final value 20002.495796
## converged
## # weights: 9
## initial value 23609.630513
## final value 20031.021200
## converged
## # weights: 25
## initial value 23954.483991
## final value 20031.021200
## converged
## # weights: 41
## initial value 22828.406912
## final value 20031.021200
## converged
```

```
## # weights: 9
## initial value 22742.776211
## iter 10 value 20036.924683
## final value 20036.530949
## converged
## # weights: 25
## initial value 21843.170255
## iter 10 value 20035.406503
## final value 20034.996807
## converged
## # weights: 41
## initial value 21691.480511
## iter 10 value 20040.783996
## final value 20034.337433
## converged
## # weights: 9
## initial value 23182.818184
## iter 10 value 20041.197250
## iter 20 value 20031.138522
## iter 20 value 20031.138475
## final value 20031.138475
## converged
## # weights: 25
## initial value 22512.054324
## iter 10 value 20046.590783
## iter 20 value 20031.200705
## iter 30 value 20031.035331
## iter 30 value 20031.035154
## iter 30 value 20031.035153
## final value 20031.035153
## converged
## # weights: 41
## initial value 23581.243866
## iter 10 value 20048.785459
## iter 20 value 20031.226008
## final value 20031.033825
## converged
## # weights: 9
## initial value 23436.158367
## final value 20020.136500
## converged
## # weights: 25
## initial value 23104.465921
## final value 20020.136500
## converged
## # weights: 41
## initial value 24441.966075
## final value 20020.136500
## converged
## # weights: 9
```

```
## initial value 22839.975748
## iter 10 value 20046.170971
## iter 20 value 20025.980592
## final value 20025.645971
## converged
## # weights: 25
## initial value 23134.627613
## iter 10 value 20024.628823
## final value 20024.111939
## converged
## # weights: 41
## initial value 23684.693804
## iter 10 value 20037.854609
## iter 20 value 20023.452875
## final value 20023.452515
## converged
## # weights: 9
## initial value 21873.710165
## iter 10 value 20028.185121
## iter 20 value 20020.229294
## iter 20 value 20020.229257
## final value 20020.229257
## converged
## # weights: 25
## initial value 22373.511231
## iter 10 value 20035.326059
## iter 20 value 20020.311624
## final value 20020.147031
## converged
## # weights: 41
## initial value 23078.773881
## iter 10 value 20041.335890
## iter 20 value 20020.380912
## final value 20020.147271
## converged
## # weights: 9
## initial value 22886.200102
## final value 19912.371700
## converged
## # weights: 25
## initial value 21550.002547
## final value 19912.371700
## converged
## # weights: 41
## initial value 22784.417643
## final value 19912.371700
## converged
## # weights: 9
## initial value 21893.744951
## iter 10 value 19920.955411
```

```
## final value 19917.879107
## converged
## # weights: 25
## initial value 22396.439335
## iter 10 value 19917.254318
## final value 19916.345775
## converged
## # weights: 41
## initial value 22443.517865
## iter 10 value 19916.517294
## final value 19915.686729
## converged
## # weights: 9
## initial value 22646.893391
## iter 10 value 19922.187127
## iter 20 value 19912.484864
## iter 20 value 19912.484819
## final value 19912.484819
## converged
## # weights: 25
## initial value 21162.078919
## iter 10 value 19920.256201
## iter 20 value 19912.462602
## final value 19912.382601
## converged
## # weights: 41
## initial value 21341.128499
## iter 10 value 19925.684088
## iter 20 value 19912.525181
## final value 19912.381550
## converged
## # weights: 9
## initial value 22555.966519
## final value 20024.357200
## converged
## # weights: 25
## initial value 22514.821354
## final value 20024.357200
## converged
## # weights: 41
## initial value 23171.381322
## final value 20024.357200
## converged
## # weights: 9
## initial value 23476.989309
## iter 10 value 20031.474640
## final value 20029.866784
## converged
## # weights: 25
## initial value 22603.498248
```

```
## iter 10 value 20040.623754
## iter 20 value 20028.336644
## final value 20028.332643
## converged
## # weights: 41
## initial value 22612.343005
## iter 10 value 20041.841343
## iter 20 value 20027.679211
## final value 20027.673256
## converged
## # weights: 9
## initial value 22142.290572
## iter 10 value 20033.793409
## iter 20 value 20024.465992
## iter 20 value 20024.465949
## final value 20024.465949
## converged
## # weights: 25
## initial value 21555.072944
## iter 10 value 20033.957702
## iter 20 value 20024.467886
## final value 20024.369311
## converged
## # weights: 41
## initial value 22677.938512
## iter 10 value 20045.002486
## iter 20 value 20024.595224
## final value 20024.369083
## converged
## # weights: 9
## initial value 23054.781627
## final value 20052.994000
## converged
## # weights: 25
## initial value 24312.866855
## final value 20052.994000
## converged
## # weights: 41
## initial value 23632.630025
## final value 20052.994000
## converged
## # weights: 9
## initial value 23938.360675
## iter 10 value 20059.170325
## final value 20058.504763
## converged
## # weights: 25
## initial value 22581.459525
## iter 10 value 20060.457344
## iter 20 value 20056.970937
```



```
## final value 20056.970265
## converged
## # weights: 41
## initial value 23185.988734
## iter 10 value 20070.356870
## iter 20 value 20056.319555
## final value 20056.310720
## converged
## # weights: 9
## initial value 23819.595349
## iter 10 value 20060.911956
## iter 20 value 20053.085288
## iter 20 value 20053.085251
## final value 20053.085251
## converged
## # weights: 25
## initial value 22298.570436
## iter 10 value 20067.568423
## iter 20 value 20053.162032
## final value 20053.011229
## converged
## # weights: 41
## initial value 21291.257968
## iter 10 value 20062.684479
## iter 20 value 20053.105724
## final value 20053.005898
## converged
## # weights: 9
## initial value 22494.453466
## final value 20053.560100
## converged
## # weights: 25
## initial value 23707.768275
## final value 20053.560100
## converged
## # weights: 41
## initial value 23381.406408
## final value 20053.560100
## converged
## # weights: 9
## initial value 24139.180243
## iter 10 value 20060.473309
## final value 20059.070974
## converged
## # weights: 25
## initial value 21809.514170
## iter 10 value 20058.590697
## final value 20057.536492
## converged
## # weights: 41
```

```
## initial value 22993.151922
## iter 10 value 20073.641418
## iter 20 value 20056.877780
## final value 20056.876898
## converged
## # weights: 9
## initial value 22463.423268
## iter 10 value 20063.280624
## iter 20 value 20053.672170
## iter 20 value 20053.672125
## final value 20053.672125
## converged
## # weights: 25
## initial value 23423.828344
## iter 10 value 20068.357151
## iter 20 value 20053.730698
## final value 20053.583705
## converged
## # weights: 41
## initial value 23402.530551
## iter 10 value 20070.252677
## iter 20 value 20053.752552
## final value 20053.571471
## converged
## # weights: 9
## initial value 21881.797592
## final value 20060.859700
## converged
## # weights: 25
## initial value 23931.896962
## final value 20060.859700
## converged
## # weights: 41
## initial value 23290.376172
## final value 20060.859700
## converged
## # weights: 9
## initial value 23030.505506
## iter 10 value 20067.684482
## final value 20066.371301
## converged
## # weights: 25
## initial value 22505.613849
## iter 10 value 20069.844085
## iter 20 value 20064.844210
## final value 20064.836665
## converged
## # weights: 41
## initial value 23638.463744
## iter 10 value 20078.556016
```

```
## iter 20 value 20064.177252
## iter 20 value 20064.177096
## iter 20 value 20064.177017
## final value 20064.177017
## converged
## # weights: 9
## initial value 22282.897779
## iter 10 value 20070.192067
## iter 20 value 20060.967295
## iter 20 value 20060.967252
## final value 20060.967252
## converged
## # weights: 25
## initial value 23074.690820
## iter 10 value 20076.043050
## iter 20 value 20061.034752
## final value 20060.874060
## converged
## # weights: 41
## initial value 23032.484596
## iter 10 value 20080.544475
## iter 20 value 20061.086650
## final value 20060.869318
## converged
## # weights: 9
## initial value 23271.295461
## final value 20056.305700
## converged
## # weights: 25
## initial value 22942.431911
## final value 20056.305700
## converged
## # weights: 41
## initial value 24115.058877
## final value 20056.305700
## converged
## # weights: 9
## initial value 23416.060353
## iter 10 value 20063.919179
## final value 20061.816725
## converged
## # weights: 25
## initial value 23100.423117
## iter 10 value 20061.383765
## final value 20060.282174
## converged
## # weights: 41
## initial value 21451.249995
## iter 10 value 20072.903573
## iter 20 value 20059.623735
```

```
## final value 20059.622617
## converged
## # weights: 9
## initial value 23608.330829
## iter 10 value 20065.688524
## iter 20 value 20056.413877
## iter 20 value 20056.413833
## final value 20056.413833
## converged
## # weights: 25
## initial value 24029.310461
## iter 10 value 20066.484707
## iter 20 value 20056.423056
## final value 20056.323138
## converged
## # weights: 41
## initial value 24394.741423
## iter 10 value 20066.380719
## iter 20 value 20056.421857
## final value 20056.320324
## converged
## # weights: 9
## initial value 23237.565188
## final value 20033.793700
## converged
## # weights: 25
## initial value 23894.698687
## final value 20033.793700
## converged
## # weights: 41
## initial value 22567.776648
## final value 20033.793700
## converged
## # weights: 9
## initial value 22270.751367
## iter 10 value 20040.262635
## final value 20039.303613
## converged
## # weights: 25
## initial value 22182.886613
## iter 10 value 20039.226009
## iter 20 value 20037.769793
## final value 20037.769401
## converged
## # weights: 41
## initial value 22941.082466
## iter 10 value 20037.621832
## iter 20 value 20037.110272
## iter 20 value 20037.110129
## iter 20 value 20037.110112
```

```
## final value 20037.110112
## converged
## # weights: 9
## initial value 23354.142543
## iter 10 value 20042.794058
## iter 20 value 20033.897467
## iter 20 value 20033.897426
## final value 20033.897426
## converged
## # weights: 25
## initial value 23313.531677
## iter 10 value 20047.579355
## iter 20 value 20033.952638
## final value 20033.815985
## converged
## # weights: 41
## initial value 23224.486673
## iter 10 value 20054.312131
## iter 20 value 20034.030261
## final value 20033.809280
## converged
## # weights: 9
## initial value 22797.277554
## final value 20042.376500
## converged
## # weights: 25
## initial value 22201.108318
## final value 20042.376500
## converged
## # weights: 41
## initial value 22233.286134
## final value 20042.376500
## converged
## # weights: 9
## initial value 22621.164169
## iter 10 value 20050.494337
## final value 20047.886761
## converged
## # weights: 25
## initial value 21658.014859
## iter 10 value 20047.770706
## iter 20 value 20046.352818
## final value 20046.352465
## converged
## # weights: 41
## initial value 22858.802692
## iter 10 value 20046.099811
## final value 20045.692949
## converged
## # weights: 9
```

```
## initial value 23370.031227
## iter 10 value 20051.730212
## iter 20 value 20042.484341
## iter 20 value 20042.484298
## final value 20042.484298
## converged
## # weights: 25
## initial value 21657.396615
## iter 10 value 20052.067742
## iter 20 value 20042.488232
## final value 20042.389281
## converged
## # weights: 41
## initial value 21717.806861
## iter 10 value 20054.696695
## iter 20 value 20042.518542
## final value 20042.386809
## converged
## # weights: 9
## initial value 21829.739627
## final value 20038.766500
## converged
## # weights: 25
## initial value 21733.859902
## final value 20038.766500
## converged
## # weights: 41
## initial value 23271.102628
## final value 20038.766500
## converged
## # weights: 9
## initial value 22718.194669
## iter 10 value 20070.683489
## iter 20 value 20044.304403
## final value 20044.276605
## converged
## # weights: 25
## initial value 22663.796128
## iter 10 value 20052.152215
## iter 20 value 20042.754410
## final value 20042.742335
## converged
## # weights: 41
## initial value 22188.759755
## iter 10 value 20053.977615
## iter 20 value 20042.084506
## final value 20042.082875
## converged
## # weights: 9
## initial value 23246.169185
```

```
## iter 10 value 20049.648816
## iter 20 value 20038.891965
## iter 20 value 20038.891914
## final value 20038.891914
## converged
## # weights: 25
## initial value 22279.654470
## iter 10 value 20052.487450
## iter 20 value 20038.924692
## final value 20038.783254
## converged
## # weights: 41
## initial value 22458.927877
## iter 10 value 20056.998977
## iter 20 value 20038.976706
## final value 20038.776227
## converged
## # weights: 9
## initial value 21667.008148
## final value 20053.560100
## converged
## # weights: 25
## initial value 21587.742939
## final value 20053.560100
## converged
## # weights: 41
## initial value 22176.419996
## final value 20053.560100
## converged
## # weights: 9
## initial value 23466.227046
## iter 10 value 20059.616494
## final value 20059.070905
## converged
## # weights: 25
## initial value 21475.088350
## iter 10 value 20058.303371
## final value 20057.536449
## converged
## # weights: 41
## initial value 22802.984049
## iter 10 value 20071.280776
## iter 20 value 20056.877764
## final value 20056.876825
## converged
## # weights: 9
## initial value 23202.009531
## iter 10 value 20065.180481
## iter 20 value 20053.694074
## iter 20 value 20053.694020
```

```
## final value 20053.694020
## converged
## # weights: 25
## initial value 23056.114928
## iter 10 value 20066.052850
## iter 20 value 20053.704132
## final value 20053.572766
## converged
## # weights: 41
## initial value 22761.043462
## iter 10 value 20071.257588
## iter 20 value 20053.764138
## final value 20053.570710
## converged
## # weights: 9
## initial value 22248.632337
## final value 20062.067600
## converged
## # weights: 25
## initial value 21855.072699
## final value 20062.067600
## converged
## # weights: 41
## initial value 23218.898019
## final value 20062.067600
## converged
## # weights: 9
## initial value 21973.067863
## iter 10 value 20069.546774
## final value 20067.579249
## converged
## # weights: 25
## initial value 22629.939645
## iter 10 value 20066.333933
## final value 20066.044493
## converged
## # weights: 41
## initial value 23272.993866
## iter 10 value 20066.539139
## final value 20065.384895
## converged
## # weights: 9
## initial value 23736.766419
## iter 10 value 20070.546942
## iter 20 value 20062.165360
## iter 20 value 20062.165321
## final value 20062.165321
## converged
## # weights: 25
## initial value 24242.736570
```



```
## iter 10 value 20070.700500
## iter 20 value 20062.167131
## final value 20062.086419
## converged
## # weights: 41
## initial value 23390.219222
## iter 10 value 20082.650124
## iter 20 value 20062.304900
## final value 20062.082558
## converged
## # weights: 9
## initial value 22248.223468
## final value 20003.262500
## converged
## # weights: 25
## initial value 22888.170651
## final value 20003.262500
## converged
## # weights: 41
## initial value 22911.523470
## final value 20003.262500
## converged
## # weights: 9
## initial value 21916.922763
## iter 10 value 20009.198985
## final value 20008.771525
## converged
## # weights: 25
## initial value 23659.763570
## iter 10 value 20009.917658
## iter 20 value 20007.237949
## final value 20007.237577
## converged
## # weights: 41
## initial value 22471.749023
## iter 10 value 20008.255601
## iter 20 value 20006.578443
## iter 20 value 20006.578306
## iter 20 value 20006.578273
## final value 20006.578273
## converged
## # weights: 9
## initial value 23576.842190
## iter 10 value 20011.434981
## iter 20 value 20003.356722
## iter 20 value 20003.356685
## final value 20003.356685
## converged
## # weights: 25
## initial value 23437.022254
```

```
## iter 10 value 20015.491959
## iter 20 value 20003.403496
## final value 20003.277154
## converged
## # weights: 41
## initial value 22465.823431
## iter 10 value 20021.278521
## iter 20 value 20003.470211
## final value 20003.275175
## converged
## # weights: 9
## initial value 22632.307669
## final value 20041.267700
## converged
## # weights: 25
## initial value 21799.651142
## final value 20041.267700
## converged
## # weights: 41
## initial value 21347.941045
## final value 20041.267700
## converged
## # weights: 9
## initial value 22388.514505
## iter 10 value 20047.090127
## final value 20046.777908
## converged
## # weights: 25
## initial value 22448.489930
## iter 10 value 20048.062550
## iter 20 value 20045.243998
## final value 20045.243611
## converged
## # weights: 41
## initial value 23071.514363
## iter 10 value 20045.454493
## final value 20044.584091
## converged
## # weights: 9
## initial value 23807.430958
## iter 10 value 20048.764577
## iter 20 value 20041.354133
## iter 20 value 20041.354099
## final value 20041.354099
## converged
## # weights: 25
## initial value 21834.794163
## iter 10 value 20054.183588
## iter 20 value 20041.416610
## final value 20041.280224
```

```
## converged
## # weights: 41
## initial value 22605.823214
## iter 10 value 20061.493112
## iter 20 value 20041.500883
## final value 20041.279018
## converged
## # weights: 9
## initial value 22725.321086
## final value 20047.409200
## converged
## # weights: 25
## initial value 23364.617799
## final value 20047.409200
## converged
## # weights: 41
## initial value 22669.807982
## final value 20047.409200
## converged
## # weights: 9
## initial value 22918.486696
## iter 10 value 20073.682833
## iter 20 value 20052.923777
## final value 20052.919737
## converged
## # weights: 25
## initial value 23065.367069
## iter 10 value 20052.066607
## final value 20051.385405
## converged
## # weights: 41
## initial value 22726.090657
## iter 10 value 20052.221508
## iter 20 value 20050.725981
## iter 20 value 20050.725835
## iter 20 value 20050.725795
## final value 20050.725795
## converged
## # weights: 9
## initial value 23430.509555
## iter 10 value 20056.895094
## iter 20 value 20047.518565
## iter 20 value 20047.518521
## final value 20047.518521
## converged
## # weights: 25
## initial value 23554.816532
## iter 10 value 20061.992271
## iter 20 value 20047.577331
## final value 20047.425256
```

```
## converged
## # weights: 41
## initial value 24228.827195
## iter 10 value 20059.268315
## iter 20 value 20047.545926
## final value 20047.424057
## converged
## # weights: 9
## initial value 22478.406756
## final value 20011.474000
## converged
## # weights: 25
## initial value 23996.064738
## final value 20011.474000
## converged
## # weights: 41
## initial value 22501.573045
## final value 20011.474000
## converged
## # weights: 9
## initial value 23339.145902
## iter 10 value 20017.763352
## final value 20016.983243
## converged
## # weights: 25
## initial value 23625.424914
## iter 10 value 20019.064602
## iter 20 value 20015.450142
## final value 20015.449279
## converged
## # weights: 41
## initial value 22830.397926
## iter 10 value 20016.205582
## iter 20 value 20014.789929
## iter 20 value 20014.789868
## iter 20 value 20014.789857
## final value 20014.789857
## converged
## # weights: 9
## initial value 23139.132998
## iter 10 value 20023.487439
## iter 20 value 20011.612506
## iter 20 value 20011.612450
## final value 20011.612450
## converged
## # weights: 25
## initial value 23020.649909
## iter 10 value 20026.217864
## iter 20 value 20011.643985
## final value 20011.487506
```

```
## converged
## # weights: 41
## initial value 22032.097942
## iter 10 value 20026.143368
## iter 20 value 20011.643126
## final value 20011.485677
## converged
## # weights: 9
## initial value 22956.060068
## final value 20017.201700
## converged
## # weights: 25
## initial value 23983.173729
## final value 20017.201700
## converged
## # weights: 41
## initial value 22930.331824
## final value 20017.201700
## converged
## # weights: 9
## initial value 23464.243769
## iter 10 value 20023.407793
## final value 20022.711052
## converged
## # weights: 25
## initial value 22427.858120
## iter 10 value 20021.824167
## final value 20021.177027
## converged
## # weights: 41
## initial value 22108.715081
## iter 10 value 20026.116345
## iter 20 value 20020.520212
## final value 20020.517726
## converged
## # weights: 9
## initial value 22496.273766
## iter 10 value 20027.816815
## iter 20 value 20017.324084
## iter 20 value 20017.324035
## final value 20017.324035
## converged
## # weights: 25
## initial value 22141.747439
## iter 10 value 20029.690607
## iter 20 value 20017.345687
## final value 20017.213158
## converged
## # weights: 41
## initial value 22405.374379
```

```
## iter 10 value 20037.967236
## iter 20 value 20017.441110
## final value 20017.212265
## converged
## # weights: 9
## initial value 22197.248137
## final value 20059.089700
## converged
## # weights: 25
## initial value 21896.129398
## final value 20059.089700
## converged
## # weights: 41
## initial value 21638.907252
## final value 20059.089700
## converged
## # weights: 9
## initial value 22039.832435
## iter 10 value 20067.898815
## final value 20064.600843
## converged
## # weights: 25
## initial value 22832.675797
## iter 10 value 20063.720415
## final value 20063.066294
## converged
## # weights: 41
## initial value 22416.278714
## iter 10 value 20064.619401
## iter 20 value 20062.406793
## iter 20 value 20062.406652
## iter 20 value 20062.406627
## final value 20062.406627
## converged
## # weights: 9
## initial value 21632.888157
## iter 10 value 20066.123083
## iter 20 value 20059.170789
## iter 20 value 20059.170757
## final value 20059.170757
## converged
## # weights: 25
## initial value 21993.188446
## iter 10 value 20070.423909
## iter 20 value 20059.220375
## final value 20059.103869
## converged
## # weights: 41
## initial value 22024.365667
## iter 10 value 20073.763214
```

```
## iter 20 value 20059.258874
## final value 20059.099974
## converged
## # weights: 9
## initial value 23133.061382
## final value 20051.880500
## converged
## # weights: 25
## initial value 22579.719494
## final value 20051.880500
## converged
## # weights: 41
## initial value 21474.536037
## final value 20051.880500
## converged
## # weights: 9
## initial value 22078.661735
## iter 10 value 20058.703007
## final value 20057.391220
## converged
## # weights: 25
## initial value 22381.333649
## iter 10 value 20056.825061
## final value 20055.856857
## converged
## # weights: 41
## initial value 21801.227053
## iter 10 value 20056.874726
## final value 20055.197307
## converged
## # weights: 9
## initial value 21982.157933
## iter 10 value 20060.471414
## iter 20 value 20051.979546
## iter 20 value 20051.979507
## final value 20051.979507
## converged
## # weights: 25
## initial value 21253.157913
## iter 10 value 20059.883452
## iter 20 value 20051.972768
## final value 20051.891770
## converged
## # weights: 41
## initial value 22751.624019
## iter 10 value 20073.469049
## iter 20 value 20052.129399
## final value 20051.894506
## converged
## # weights: 9
```

```
## initial value 23640.596670
## final value 19992.778000
## converged
## # weights: 25
## initial value 22607.662986
## final value 19992.778000
## converged
## # weights: 41
## initial value 23104.766181
## final value 19992.778000
## converged
## # weights: 9
## initial value 22505.978602
## iter 10 value 20000.384263
## final value 19998.286825
## converged
## # weights: 25
## initial value 23720.523018
## iter 10 value 19998.277852
## final value 19996.753014
## converged
## # weights: 41
## initial value 22748.792933
## iter 10 value 20009.233748
## iter 20 value 19996.094363
## final value 19996.093714
## converged
## # weights: 9
## initial value 22999.126887
## iter 10 value 20003.770728
## iter 20 value 19992.904738
## iter 20 value 19992.904687
## final value 19992.904687
## converged
## # weights: 25
## initial value 23985.783420
## iter 10 value 20002.568452
## iter 20 value 19992.890876
## final value 19992.796299
## converged
## # weights: 41
## initial value 21769.864147
## iter 10 value 20007.548415
## iter 20 value 19992.948291
## final value 19992.788018
## converged
## # weights: 9
## initial value 23237.490509
## final value 19941.288500
## converged
```



```
## # weights: 25
## initial value 22881.145537
## final value 19941.288500
## converged
## # weights: 41
## initial value 21988.820651
## final value 19941.288500
## converged
## # weights: 9
## initial value 21594.614160
## iter 10 value 19947.192858
## final value 19946.796417
## converged
## # weights: 25
## initial value 23860.874688
## iter 10 value 19946.590158
## final value 19945.262985
## converged
## # weights: 41
## initial value 21588.003447
## iter 10 value 19946.524756
## iter 20 value 19944.603961
## iter 20 value 19944.603781
## iter 20 value 19944.603746
## final value 19944.603746
## converged
## # weights: 9
## initial value 22441.300421
## iter 10 value 19952.981207
## iter 20 value 19941.423308
## iter 20 value 19941.423254
## final value 19941.423254
## converged
## # weights: 25
## initial value 23376.748508
## iter 10 value 19954.809869
## iter 20 value 19941.444391
## final value 19941.301479
## converged
## # weights: 41
## initial value 23779.781480
## iter 10 value 19956.028587
## iter 20 value 19941.458442
## final value 19941.302848
## converged
## # weights: 9
## initial value 23057.226848
## final value 20010.897200
## converged
## # weights: 25
```

```
## initial value 22093.831205
## final value 20010.897200
## converged
## # weights: 41
## initial value 23241.957934
## final value 20010.897200
## converged
## # weights: 9
## initial value 23627.336631
## iter 10 value 20018.594708
## final value 20016.406419
## converged
## # weights: 25
## initial value 24083.044444
## iter 10 value 20015.309186
## final value 20014.872510
## converged
## # weights: 41
## initial value 22704.396223
## iter 10 value 20015.805080
## final value 20014.213047
## converged
## # weights: 9
## initial value 22035.357217
## iter 10 value 20020.449590
## iter 20 value 20011.007332
## iter 20 value 20011.007288
## final value 20011.007288
## converged
## # weights: 25
## initial value 22497.893925
## iter 10 value 20025.097207
## iter 20 value 20011.060915
## final value 20010.912567
## converged
## # weights: 41
## initial value 21606.741827
## iter 10 value 20023.044386
## iter 20 value 20011.037248
## final value 20010.906964
## converged
## # weights: 9
## initial value 23388.518603
## final value 20048.501200
## converged
## # weights: 25
## initial value 23483.905576
## final value 20048.501200
## converged
## # weights: 41
```

```
## initial value 22844.162075
## final value 20048.501200
## converged
## # weights: 9
## initial value 23684.467426
## iter 10 value 20055.046164
## final value 20054.011712
## converged
## # weights: 25
## initial value 22511.391027
## iter 10 value 20053.792426
## final value 20052.477270
## converged
## # weights: 41
## initial value 23111.579426
## iter 10 value 20070.871396
## iter 20 value 20051.829042
## final value 20051.817766
## converged
## # weights: 9
## initial value 22783.472177
## iter 10 value 20059.578751
## iter 20 value 20048.628915
## iter 20 value 20048.628864
## final value 20048.628864
## converged
## # weights: 25
## initial value 23424.495734
## iter 10 value 20061.407032
## iter 20 value 20048.649994
## final value 20048.518529
## converged
## # weights: 41
## initial value 23299.891510
## iter 10 value 20069.132228
## iter 20 value 20048.739060
## final value 20048.513677
## converged
## # weights: 9
## initial value 23003.305399
## final value 20061.374500
## converged
## # weights: 25
## initial value 22714.214901
## final value 20061.374500
## converged
## # weights: 41
## initial value 22694.098504
## final value 20061.374500
## converged
```

```
## # weights: 9
## initial value 23637.357017
## iter 10 value 20068.042833
## final value 20066.886004
## converged
## # weights: 25
## initial value 23855.472191
## iter 10 value 20067.209800
## iter 20 value 20065.352536
## final value 20065.351281
## converged
## # weights: 41
## initial value 21414.962365
## iter 10 value 20066.480090
## iter 20 value 20064.691832
## iter 20 value 20064.691694
## iter 20 value 20064.691656
## final value 20064.691656
## converged
## # weights: 9
## initial value 22405.177146
## iter 10 value 20071.613346
## iter 20 value 20061.492546
## iter 20 value 20061.492499
## final value 20061.492499
## converged
## # weights: 25
## initial value 21735.842302
## iter 10 value 20071.131794
## iter 20 value 20061.486994
## final value 20061.386634
## converged
## # weights: 41
## initial value 24053.176234
## iter 10 value 20074.010558
## iter 20 value 20061.520184
## final value 20061.389561
## converged
## # weights: 9
## initial value 23001.991659
## final value 20040.797200
## converged
## # weights: 25
## initial value 23464.069833
## final value 20040.797200
## converged
## # weights: 41
## initial value 21503.776485
## final value 20040.797200
## converged
```

```
## # weights: 9
## initial value 23102.808688
## iter 10 value 20048.060985
## final value 20046.307398
## converged
## # weights: 25
## initial value 21511.649877
## iter 10 value 20045.877970
## final value 20044.773128
## converged
## # weights: 41
## initial value 23039.212460
## iter 10 value 20045.441982
## final value 20044.113639
## converged
## # weights: 9
## initial value 23055.577442
## iter 10 value 20051.738892
## iter 20 value 20040.923349
## iter 20 value 20040.923299
## final value 20040.923299
## converged
## # weights: 25
## initial value 21418.659559
## iter 10 value 20048.837096
## iter 20 value 20040.889894
## final value 20040.812646
## converged
## # weights: 41
## initial value 21562.180030
## iter 10 value 20051.832799
## iter 20 value 20040.924432
## final value 20040.806852
## converged
## # weights: 9
## initial value 22584.944605
## final value 20052.014500
## converged
## # weights: 25
## initial value 22215.667796
## final value 20052.014500
## converged
## # weights: 41
## initial value 22635.293384
## final value 20052.014500
## converged
## # weights: 9
## initial value 21986.841977
## iter 10 value 20057.541310
## final value 20057.525258
```

```
## converged
## # weights: 25
## initial value 22172.740240
## iter 10 value 20056.960439
## iter 20 value 20056.014074
## final value 20055.990788
## converged
## # weights: 41
## initial value 22341.311617
## iter 10 value 20055.742518
## final value 20055.331214
## converged
## # weights: 9
## initial value 23107.096809
## iter 10 value 20061.909029
## iter 20 value 20052.128576
## iter 20 value 20052.128531
## final value 20052.128531
## converged
## # weights: 25
## initial value 23075.950537
## iter 10 value 20068.448209
## iter 20 value 20052.203968
## final value 20052.033833
## converged
## # weights: 41
## initial value 23268.503369
## iter 10 value 20070.566117
## iter 20 value 20052.228386
## final value 20052.029028
## converged
## # weights: 9
## initial value 22839.688656
## final value 19987.480100
## converged
## # weights: 25
## initial value 22557.012052
## final value 19987.480100
## converged
## # weights: 41
## initial value 21502.599979
## final value 19987.480100
## converged
## # weights: 9
## initial value 23040.543936
## iter 10 value 19993.334876
## final value 19992.988811
## converged
## # weights: 25
## initial value 23512.904385
```

```
## iter 10 value 19992.317945
## final value 19991.455008
## converged
## # weights: 41
## initial value 22178.128962
## iter 10 value 19992.518079
## final value 19990.795795
## converged
## # weights: 9
## initial value 23049.601787
## iter 10 value 19997.371087
## iter 20 value 19987.594135
## iter 20 value 19987.594090
## final value 19987.594090
## converged
## # weights: 25
## initial value 23163.018711
## iter 10 value 20002.609213
## iter 20 value 19987.654527
## final value 19987.492051
## converged
## # weights: 41
## initial value 23187.413665
## iter 10 value 20007.325455
## iter 20 value 19987.708901
## final value 19987.492689
## converged
## # weights: 9
## initial value 22017.889293
## final value 19970.625700
## converged
## # weights: 25
## initial value 24169.325302
## final value 19970.625700
## converged
## # weights: 41
## initial value 21465.299955
## final value 19970.625700
## converged
## # weights: 9
## initial value 22418.679245
## iter 10 value 19980.390613
## final value 19976.134075
## converged
## # weights: 25
## initial value 22478.099403
## iter 10 value 19975.204996
## final value 19974.600404
## converged
## # weights: 41
```

```
## initial value 22461.794961
## iter 10 value 19978.289389
## iter 20 value 19973.941727
## final value 19973.941156
## converged
## # weights: 9
## initial value 21767.987576
## iter 10 value 19979.113081
## iter 20 value 19970.723553
## iter 20 value 19970.723514
## final value 19970.723514
## converged
## # weights: 25
## initial value 22382.051224
## iter 10 value 19983.343972
## iter 20 value 19970.772332
## final value 19970.640828
## converged
## # weights: 41
## initial value 23549.277024
## iter 10 value 19988.716992
## iter 20 value 19970.834278
## final value 19970.636323
## converged
## # weights: 9
## initial value 22149.020401
## final value 19971.202000
## converged
## # weights: 25
## initial value 22597.929811
## final value 19971.202000
## converged
## # weights: 41
## initial value 20892.866841
## final value 19971.202000
## converged
## # weights: 9
## initial value 23196.368271
## iter 10 value 19977.749057
## final value 19976.710529
## converged
## # weights: 25
## initial value 22716.215802
## iter 10 value 19976.277955
## final value 19975.176727
## converged
## # weights: 41
## initial value 21389.425691
## iter 10 value 19976.933734
## iter 20 value 19974.517574
```



```
## iter 20 value 19974.517472
## iter 20 value 19974.517460
## final value 19974.517460
## converged
## # weights: 9
## initial value 22598.158105
## iter 10 value 19982.463976
## iter 20 value 19971.331842
## iter 20 value 19971.331790
## final value 19971.331790
## converged
## # weights: 25
## initial value 22908.912350
## iter 10 value 19985.714704
## iter 20 value 19971.369320
## final value 19971.214952
## converged
## # weights: 41
## initial value 22881.579674
## iter 10 value 19991.029995
## iter 20 value 19971.430601
## final value 19971.212872
## converged
## # weights: 9
## initial value 22952.930105
## final value 20033.685200
## converged
## # weights: 25
## initial value 22314.080085
## final value 20033.685200
## converged
## # weights: 41
## initial value 22694.132934
## final value 20033.685200
## converged
## # weights: 9
## initial value 22192.902896
## iter 10 value 20039.404397
## final value 20039.195105
## converged
## # weights: 25
## initial value 23308.005954
## iter 10 value 20038.234028
## final value 20037.660893
## converged
## # weights: 41
## initial value 22831.470757
## iter 10 value 20040.357937
## iter 20 value 20037.001944
## final value 20037.001448
```

```
## converged
## # weights: 9
## initial value 21610.290259
## iter 10 value 20041.320732
## iter 20 value 20033.773232
## iter 20 value 20033.773196
## final value 20033.773196
## converged
## # weights: 25
## initial value 22093.359095
## iter 10 value 20046.710191
## iter 20 value 20033.835368
## final value 20033.696385
## converged
## # weights: 41
## initial value 22536.063691
## iter 10 value 20052.894468
## iter 20 value 20033.906668
## final value 20033.694520
## converged
## # weights: 9
## initial value 23466.614435
## final value 20021.050000
## converged
## # weights: 25
## initial value 23603.693818
## final value 20021.050000
## converged
## # weights: 41
## initial value 23488.042686
## final value 20021.050000
## converged
## # weights: 9
## initial value 23786.920465
## iter 10 value 20028.287695
## final value 20026.559499
## converged
## # weights: 25
## initial value 22680.832519
## iter 10 value 20027.361067
## iter 20 value 20025.046095
## final value 20025.025395
## converged
## # weights: 41
## initial value 22974.616718
## iter 10 value 20039.482867
## iter 20 value 20024.366222
## iter 20 value 20024.366092
## iter 20 value 20024.366055
## final value 20024.366055
```

```
## converged
## # weights: 9
## initial value 23316.441411
## iter 10 value 20030.851719
## iter 20 value 20021.163006
## iter 20 value 20021.162961
## final value 20021.162961
## converged
## # weights: 25
## initial value 21457.614217
## iter 10 value 20029.809463
## iter 20 value 20021.150990
## final value 20021.060917
## converged
## # weights: 41
## initial value 24125.248054
## iter 10 value 20033.091394
## iter 20 value 20021.188828
## final value 20021.062764
## converged
## # weights: 9
## initial value 22204.865215
## final value 20057.167600
## converged
## # weights: 25
## initial value 21911.455753
## final value 20057.167600
## converged
## # weights: 41
## initial value 22204.954525
## final value 20057.167600
## converged
## # weights: 9
## initial value 22133.875484
## iter 10 value 20063.422252
## final value 20062.678670
## converged
## # weights: 25
## initial value 22707.057984
## iter 10 value 20062.574744
## final value 20061.144143
## converged
## # weights: 41
## initial value 23211.974559
## iter 10 value 20066.252434
## iter 20 value 20060.488448
## final value 20060.484481
## converged
## # weights: 9
## initial value 22651.165922
```

```
## iter 10 value 20066.831145
## iter 20 value 20057.279013
## iter 20 value 20057.278969
## final value 20057.278969
## converged
## # weights: 25
## initial value 23858.145170
## iter 10 value 20069.009153
## iter 20 value 20057.304124
## final value 20057.184154
## converged
## # weights: 41
## initial value 23045.752215
## iter 10 value 20080.788859
## iter 20 value 20057.439935
## final value 20057.177774
## converged
## # weights: 9
## initial value 23537.958129
## final value 20053.560100
## converged
## # weights: 25
## initial value 23880.846250
## final value 20053.560100
## converged
## # weights: 41
## initial value 23382.068926
## final value 20053.560100
## converged
## # weights: 9
## initial value 21856.371327
## iter 10 value 20059.420755
## final value 20059.070958
## converged
## # weights: 25
## initial value 22312.517878
## iter 10 value 20060.200501
## iter 20 value 20057.536500
## iter 20 value 20057.536447
## iter 20 value 20057.536441
## final value 20057.536441
## converged
## # weights: 41
## initial value 23093.969417
## iter 10 value 20057.930320
## final value 20056.876885
## converged
## # weights: 9
## initial value 22217.430435
## iter 10 value 20062.592433
```

```
## iter 20 value 20053.664236
## iter 20 value 20053.664194
## final value 20053.664194
## converged
## # weights: 25
## initial value 22878.934213
## iter 10 value 20068.810621
## iter 20 value 20053.735927
## final value 20053.575073
## converged
## # weights: 41
## initial value 23134.078243
## iter 10 value 20070.382746
## iter 20 value 20053.754052
## final value 20053.571599
## converged
## # weights: 9
## initial value 22384.390733
## final value 20030.907700
## converged
## # weights: 25
## initial value 23086.937115
## final value 20030.907700
## converged
## # weights: 41
## initial value 22178.656539
## final value 20030.907700
## converged
## # weights: 9
## initial value 21930.685988
## iter 10 value 20037.087254
## final value 20036.417476
## converged
## # weights: 25
## initial value 21784.272347
## iter 10 value 20035.641889
## final value 20034.883293
## converged
## # weights: 41
## initial value 21415.015192
## iter 10 value 20052.498780
## iter 20 value 20034.225122
## final value 20034.223832
## converged
## # weights: 9
## initial value 23214.693089
## iter 10 value 20040.407611
## iter 20 value 20031.017227
## iter 20 value 20031.017183
## final value 20031.017183
```

```
## converged
## # weights: 25
## initial value 22400.171978
## iter 10 value 20044.954761
## iter 20 value 20031.069652
## final value 20030.920664
## converged
## # weights: 41
## initial value 23770.118554
## iter 10 value 20045.767714
## iter 20 value 20031.079024
## final value 20030.922716
## converged
## # weights: 9
## initial value 22355.484810
## final value 20016.930100
## converged
## # weights: 25
## initial value 21651.091318
## final value 20016.930100
## converged
## # weights: 41
## initial value 23224.557584
## final value 20016.930100
## converged
## # weights: 9
## initial value 22901.571074
## iter 10 value 20023.091475
## final value 20022.439458
## converged
## # weights: 25
## initial value 22510.802538
## iter 10 value 20022.103879
## final value 20020.905411
## converged
## # weights: 41
## initial value 22074.639940
## iter 10 value 20034.604167
## iter 20 value 20020.246663
## final value 20020.246011
## converged
## # weights: 9
## initial value 23458.443366
## iter 10 value 20026.764608
## iter 20 value 20017.043484
## iter 20 value 20017.043439
## final value 20017.043439
## converged
## # weights: 25
## initial value 22145.245089
```

```
## iter 10 value 20031.072763
## iter 20 value 20017.093154
## final value 20016.943303
## converged
## # weights: 41
## initial value 21851.712793
## iter 10 value 20031.978768
## iter 20 value 20017.103599
## final value 20016.939973
## converged
## # weights: 9
## initial value 22537.142716
## final value 20004.034000
## converged
## # weights: 25
## initial value 22297.379901
## final value 20004.034000
## converged
## # weights: 41
## initial value 22397.632225
## final value 20004.034000
## converged
## # weights: 9
## initial value 22848.385099
## iter 10 value 20011.215210
## final value 20009.543070
## converged
## # weights: 25
## initial value 22440.373702
## iter 10 value 20010.310197
## iter 20 value 20008.114491
## iter 30 value 20008.009483
## final value 20008.009162
## converged
## # weights: 41
## initial value 22799.719987
## iter 10 value 20008.653484
## final value 20007.349761
## converged
## # weights: 9
## initial value 22919.244257
## iter 10 value 20015.747837
## iter 20 value 20004.169051
## iter 20 value 20004.168997
## final value 20004.168997
## converged
## # weights: 25
## initial value 22921.078665
## iter 10 value 20018.780814
## iter 20 value 20004.204019
```

```
## final value 20004.047809
## converged
## # weights: 41
## initial value 22500.403373
## iter 10 value 20025.387023
## iter 20 value 20004.280184
## final value 20004.046767
## converged
## # weights: 9
## initial value 21854.770345
## final value 20043.810100
## converged
## # weights: 25
## initial value 21662.574832
## final value 20043.810100
## converged
## # weights: 41
## initial value 21517.343586
## final value 20043.810100
## converged
## # weights: 9
## initial value 21789.442217
## iter 10 value 20050.545434
## final value 20049.320386
## converged
## # weights: 25
## initial value 23048.176036
## iter 10 value 20048.308849
## final value 20047.786030
## converged
## # weights: 41
## initial value 22149.333767
## iter 10 value 20059.349983
## iter 20 value 20047.126938
## final value 20047.126540
## converged
## # weights: 9
## initial value 22631.705400
## iter 10 value 20053.743308
## iter 20 value 20043.924622
## iter 20 value 20043.924576
## final value 20043.924576
## converged
## # weights: 25
## initial value 22318.319842
## iter 10 value 20057.978102
## iter 20 value 20043.973446
## final value 20043.822433
## converged
## # weights: 41
```



```
## initial value 22591.581745
## iter 10 value 20064.497665
## iter 20 value 20044.048611
## final value 20043.820824
## converged
## # weights: 9
## initial value 22534.150711
## final value 19959.334000
## converged
## # weights: 25
## initial value 22366.478813
## final value 19959.334000
## converged
## # weights: 41
## initial value 22828.295817
## final value 19959.334000
## converged
## # weights: 9
## initial value 22514.753931
## iter 10 value 19967.829519
## final value 19964.842206
## converged
## # weights: 25
## initial value 22266.094381
## iter 10 value 19963.983083
## final value 19963.308621
## converged
## # weights: 41
## initial value 23225.250482
## iter 10 value 19973.737631
## iter 20 value 19962.649613
## iter 20 value 19962.649460
## iter 20 value 19962.649445
## final value 19962.649445
## converged
## # weights: 9
## initial value 23054.202183
## iter 10 value 19968.989362
## iter 20 value 19959.445319
## iter 20 value 19959.445274
## final value 19959.445274
## converged
## # weights: 25
## initial value 22317.889824
## iter 10 value 19977.754301
## iter 20 value 19959.546372
## final value 19959.350878
## converged
## # weights: 41
## initial value 21824.339004
```

```
## iter 10 value 19973.486506
## iter 20 value 19959.497167
## final value 19959.343426
## converged
## # weights: 9
## initial value 23036.914442
## final value 20045.864500
## converged
## # weights: 25
## initial value 22855.803677
## final value 20045.864500
## converged
## # weights: 41
## initial value 23236.898796
## final value 20045.864500
## converged
## # weights: 9
## initial value 22334.262527
## iter 10 value 20052.180900
## final value 20051.374878
## converged
## # weights: 25
## initial value 23929.918103
## iter 10 value 20051.265977
## final value 20049.840471
## converged
## # weights: 41
## initial value 23614.329471
## iter 10 value 20051.029649
## final value 20049.181031
## converged
## # weights: 9
## initial value 22580.646060
## iter 10 value 20057.742939
## iter 20 value 20046.001449
## iter 20 value 20046.001394
## final value 20046.001394
## converged
## # weights: 25
## initial value 22193.837930
## iter 10 value 20059.938299
## iter 20 value 20046.026760
## final value 20045.875685
## converged
## # weights: 41
## initial value 23825.429410
## iter 10 value 20061.889722
## iter 20 value 20046.049258
## final value 20045.876201
## converged
```

```
## # weights: 9
## initial value 21895.034761
## final value 20012.902000
## converged
## # weights: 25
## initial value 23792.990867
## final value 20012.902000
## converged
## # weights: 41
## initial value 23288.316011
## final value 20012.902000
## converged
## # weights: 9
## initial value 23353.396540
## iter 10 value 20019.275896
## final value 20018.411283
## converged
## # weights: 25
## initial value 24006.668422
## iter 10 value 20018.582456
## iter 20 value 20016.877473
## iter 20 value 20016.877287
## iter 20 value 20016.877273
## final value 20016.877273
## converged
## # weights: 41
## initial value 21843.870425
## iter 10 value 20030.208804
## iter 20 value 20016.226153
## final value 20016.217900
## converged
## # weights: 9
## initial value 21962.988840
## iter 10 value 20021.074367
## iter 20 value 20012.996221
## iter 20 value 20012.996183
## final value 20012.996183
## converged
## # weights: 25
## initial value 22681.231421
## iter 10 value 20029.304460
## iter 20 value 20013.091107
## final value 20012.914770
## converged
## # weights: 41
## initial value 22438.081153
## iter 10 value 20032.250507
## iter 20 value 20013.125073
## final value 20012.913813
## converged
```

```
## # weights: 9
## initial value 21386.502704
## final value 19915.790500
## converged
## # weights: 25
## initial value 23190.978219
## final value 19915.790500
## converged
## # weights: 41
## initial value 23977.260176
## final value 19915.790500
## converged
## # weights: 9
## initial value 23315.659676
## iter 10 value 19922.123774
## final value 19921.297957
## converged
## # weights: 25
## initial value 22990.102764
## iter 10 value 19928.567302
## iter 20 value 19919.793556
## final value 19919.764626
## converged
## # weights: 41
## initial value 22659.282834
## iter 10 value 19932.478775
## iter 20 value 19919.111063
## final value 19919.105476
## converged
## # weights: 9
## initial value 22147.568647
## iter 10 value 19925.559233
## iter 20 value 19915.903126
## iter 20 value 19915.903081
## final value 19915.903081
## converged
## # weights: 25
## initial value 21971.541639
## iter 10 value 19928.025635
## iter 20 value 19915.931562
## final value 19915.803785
## converged
## # weights: 41
## initial value 22991.056736
## iter 10 value 19934.170217
## iter 20 value 19916.002404
## final value 19915.802666
## converged
## # weights: 9
## initial value 22848.478103
```

```
## final value 20004.647600
## converged
## # weights: 25
## initial value 22085.172450
## final value 20004.647600
## converged
## # weights: 41
## initial value 21279.462059
## final value 20004.647600
## converged
## # weights: 9
## initial value 22498.371128
## iter 10 value 20010.499751
## final value 20010.156678
## converged
## # weights: 25
## initial value 23405.770503
## iter 10 value 20010.709888
## final value 20008.622758
## converged
## # weights: 41
## initial value 23012.029457
## iter 10 value 20012.138238
## iter 20 value 20007.995851
## final value 20007.963413
## converged
## # weights: 9
## initial value 23120.886910
## iter 10 value 20016.043469
## iter 20 value 20004.778985
## iter 20 value 20004.778933
## final value 20004.778933
## converged
## # weights: 25
## initial value 23019.868629
## iter 10 value 20019.331423
## iter 20 value 20004.816893
## final value 20004.664325
## converged
## # weights: 41
## initial value 22001.296045
## iter 10 value 20018.950541
## iter 20 value 20004.812502
## final value 20004.657148
## converged
## # weights: 9
## initial value 23010.569377
## final value 19992.105200
## converged
## # weights: 25
```

```
## initial value 23061.878768
## final value 19992.105200
## converged
## # weights: 41
## initial value 22394.658921
## final value 19992.105200
## converged
## # weights: 9
## initial value 22223.458005
## iter 10 value 19997.795315
## final value 19997.613955
## converged
## # weights: 25
## initial value 22437.398945
## iter 10 value 19997.475006
## final value 19996.080161
## converged
## # weights: 41
## initial value 22460.330503
## iter 10 value 19996.498835
## iter 20 value 19995.420852
## iter 20 value 19995.420777
## iter 20 value 19995.420772
## final value 19995.420772
## converged
## # weights: 9
## initial value 23312.334194
## iter 10 value 20001.318685
## iter 20 value 19992.211424
## iter 20 value 19992.211382
## final value 19992.211382
## converged
## # weights: 25
## initial value 22841.322800
## iter 10 value 20006.511873
## iter 20 value 19992.271298
## final value 19992.125824
## converged
## # weights: 41
## initial value 23526.756579
## iter 10 value 20010.852674
## iter 20 value 19992.321344
## final value 19992.118800
## converged
## # weights: 9
## initial value 22735.004027
## final value 20042.649200
## converged
## # weights: 25
## initial value 21621.324465
```

```
## final value 20042.649200
## converged
## # weights: 41
## initial value 21560.826654
## final value 20042.649200
## converged
## # weights: 9
## initial value 23580.942536
## iter 10 value 20048.273111
## final value 20048.159464
## converged
## # weights: 25
## initial value 22729.493870
## iter 10 value 20047.165330
## final value 20046.625142
## converged
## # weights: 41
## initial value 23229.430969
## iter 10 value 20047.142049
## final value 20045.965680
## converged
## # weights: 9
## initial value 21714.705812
## iter 10 value 20050.139938
## iter 20 value 20042.735562
## iter 20 value 20042.735528
## final value 20042.735528
## converged
## # weights: 25
## initial value 22566.239478
## iter 10 value 20057.625276
## iter 20 value 20042.821862
## final value 20042.663803
## converged
## # weights: 41
## initial value 22490.808816
## iter 10 value 20060.944698
## iter 20 value 20042.860133
## final value 20042.662101
## converged
## # weights: 9
## initial value 22724.940714
## final value 19993.947700
## converged
## # weights: 25
## initial value 22842.153458
## final value 19993.947700
## converged
## # weights: 41
## initial value 23215.893199
```

```
## final value 19993.947700
## converged
## # weights: 9
## initial value 22855.484798
## iter 10 value 20004.552683
## final value 19999.456527
## converged
## # weights: 25
## initial value 22365.908306
## iter 10 value 19999.223216
## iter 20 value 19997.922689
## iter 20 value 19997.922657
## iter 20 value 19997.922656
## final value 19997.922656
## converged
## # weights: 41
## initial value 22585.243043
## iter 10 value 19997.979771
## iter 20 value 19997.263376
## iter 20 value 19997.263329
## iter 20 value 19997.263327
## final value 19997.263327
## converged
## # weights: 9
## initial value 22192.016315
## iter 10 value 20003.978406
## iter 20 value 19994.063346
## iter 20 value 19994.063300
## final value 19994.063300
## converged
## # weights: 25
## initial value 21383.126119
## iter 10 value 20002.033140
## iter 20 value 19994.040919
## final value 19993.959803
## converged
## # weights: 41
## initial value 23767.432094
## iter 10 value 20010.047300
## iter 20 value 19994.133316
## final value 19993.959407
## converged
## # weights: 9
## initial value 22214.075214
## final value 19988.865700
## converged
## # weights: 25
## initial value 22905.916418
## final value 19988.865700
## converged
```



```
## # weights: 41
## initial value 22598.137553
## final value 19988.865700
## converged
## # weights: 9
## initial value 22643.494761
## iter 10 value 19996.514357
## final value 19994.374355
## converged
## # weights: 25
## initial value 22871.985217
## iter 10 value 19994.448379
## final value 19992.840560
## converged
## # weights: 41
## initial value 23158.850078
## iter 10 value 19994.726506
## iter 20 value 19992.181695
## final value 19992.181237
## converged
## # weights: 9
## initial value 22996.307541
## iter 10 value 20000.787126
## iter 20 value 19989.003145
## iter 20 value 19989.003090
## final value 19989.003090
## converged
## # weights: 25
## initial value 21057.633536
## iter 10 value 19994.959844
## iter 20 value 19988.935961
## final value 19988.875989
## converged
## # weights: 41
## initial value 21683.995309
## iter 10 value 20003.809649
## iter 20 value 19989.037992
## final value 19988.876454
## converged
## # weights: 9
## initial value 22189.787157
## final value 20022.720500
## converged
## # weights: 25
## initial value 21829.473513
## final value 20022.720500
## converged
## # weights: 41
## initial value 24290.670818
## final value 20022.720500
```

```
## converged
## # weights: 9
## initial value 22211.907773
## iter 10 value 20030.211323
## final value 20028.229983
## converged
## # weights: 25
## initial value 22355.108237
## iter 10 value 20027.156404
## iter 20 value 20026.697829
## final value 20026.695866
## converged
## # weights: 41
## initial value 24491.298723
## iter 10 value 20034.722521
## iter 20 value 20026.036969
## final value 20026.036498
## converged
## # weights: 9
## initial value 23295.373136
## iter 10 value 20032.415738
## iter 20 value 20022.832278
## iter 20 value 20022.832234
## final value 20022.832234
## converged
## # weights: 25
## initial value 24646.374254
## iter 10 value 20028.045148
## iter 20 value 20022.781889
## final value 20022.747149
## converged
## # weights: 41
## initial value 21629.100507
## iter 10 value 20037.771303
## iter 20 value 20022.894024
## final value 20022.730557
## converged
## # weights: 9
## initial value 23062.720819
## final value 20054.818000
## converged
## # weights: 25
## initial value 22228.872181
## final value 20054.818000
## converged
## # weights: 41
## initial value 23124.182065
## final value 20054.818000
## converged
## # weights: 9
```

```
## initial value 23454.974155
## iter 10 value 20060.959253
## final value 20060.328896
## converged
## # weights: 25
## initial value 22371.402545
## iter 10 value 20064.521426
## iter 20 value 20058.795002
## final value 20058.794377
## converged
## # weights: 41
## initial value 21712.300747
## iter 10 value 20063.345332
## iter 20 value 20058.134947
## iter 20 value 20058.134849
## iter 20 value 20058.134804
## final value 20058.134804
## converged
## # weights: 9
## initial value 23018.071655
## iter 10 value 20066.157751
## iter 20 value 20054.948738
## iter 20 value 20054.948686
## final value 20054.948686
## converged
## # weights: 25
## initial value 23009.967658
## iter 10 value 20070.521938
## iter 20 value 20054.999054
## final value 20054.838569
## converged
## # weights: 41
## initial value 23562.789974
## iter 10 value 20071.597248
## iter 20 value 20055.011452
## final value 20054.829373
## converged
## # weights: 9
## initial value 22910.687227
## final value 19976.494000
## converged
## # weights: 25
## initial value 23551.711861
## final value 19976.494000
## converged
## # weights: 41
## initial value 23798.127807
## final value 19976.494000
## converged
## # weights: 9
```

```
## initial value 22409.761180
## iter 10 value 19982.537478
## final value 19982.002447
## converged
## # weights: 25
## initial value 23319.637133
## iter 10 value 19982.286441
## iter 20 value 19980.468819
## iter 20 value 19980.468735
## iter 20 value 19980.468717
## final value 19980.468717
## converged
## # weights: 41
## initial value 23960.822969
## iter 10 value 19993.759372
## iter 20 value 19979.816963
## final value 19979.809506
## converged
## # weights: 9
## initial value 21911.304917
## iter 10 value 19985.135743
## iter 20 value 19976.593633
## iter 20 value 19976.593593
## final value 19976.593593
## converged
## # weights: 25
## initial value 23152.569410
## iter 10 value 19992.630701
## iter 20 value 19976.680043
## final value 19976.508182
## converged
## # weights: 41
## initial value 22651.210472
## iter 10 value 19997.662928
## iter 20 value 19976.738061
## final value 19976.503964
## converged
## # weights: 9
## initial value 21743.095830
## final value 19941.950000
## converged
## # weights: 25
## initial value 23966.361345
## final value 19941.950000
## converged
## # weights: 41
## initial value 22176.405747
## final value 19941.950000
## converged
## # weights: 9
```

```
## initial value 21952.609382
## iter 10 value 19948.633554
## final value 19947.457872
## converged
## # weights: 25
## initial value 22273.551774
## iter 10 value 19946.891220
## final value 19945.924359
## converged
## # weights: 41
## initial value 22144.093616
## iter 10 value 19948.508289
## iter 20 value 19945.265620
## final value 19945.265197
## converged
## # weights: 9
## initial value 22517.651235
## iter 10 value 19952.963568
## iter 20 value 19942.076978
## iter 20 value 19942.076927
## final value 19942.076927
## converged
## # weights: 25
## initial value 22678.659438
## iter 10 value 19958.580330
## iter 20 value 19942.141735
## final value 19941.971325
## converged
## # weights: 41
## initial value 23088.427315
## iter 10 value 19961.058084
## iter 20 value 19942.170301
## final value 19941.963673
## converged
## # weights: 9
## initial value 22349.969194
## final value 20049.627700
## converged
## # weights: 25
## initial value 22452.506638
## final value 20049.627700
## converged
## # weights: 41
## initial value 22988.543074
## final value 20049.627700
## converged
## # weights: 9
## initial value 21793.881256
## iter 10 value 20055.349721
## final value 20055.138321
```

```
## converged
## # weights: 25
## initial value 23050.098682
## iter 10 value 20054.590351
## final value 20053.603907
## converged
## # weights: 41
## initial value 23371.291794
## iter 10 value 20054.595864
## iter 20 value 20052.944752
## final value 20052.944332
## converged
## # weights: 9
## initial value 23390.988573
## iter 10 value 20058.690036
## iter 20 value 20049.732182
## iter 20 value 20049.732140
## final value 20049.732140
## converged
## # weights: 25
## initial value 23033.288081
## iter 10 value 20063.986596
## iter 20 value 20049.793247
## final value 20049.643440
## converged
## # weights: 41
## initial value 24001.824644
## iter 10 value 20062.297294
## iter 20 value 20049.773770
## final value 20049.641614
## converged
## # weights: 9
## initial value 22216.675911
## final value 20016.657700
## converged
## # weights: 25
## initial value 24049.916833
## final value 20016.657700
## converged
## # weights: 41
## initial value 23906.310146
## final value 20016.657700
## converged
## # weights: 9
## initial value 23662.338476
## iter 10 value 20022.931168
## final value 20022.167082
## converged
## # weights: 25
## initial value 21787.900278
```

```
## iter 10 value 20021.769521
## final value 20020.633113
## converged
## # weights: 41
## initial value 22829.325026
## iter 10 value 20020.488623
## final value 20019.973646
## converged
## # weights: 9
## initial value 22152.461506
## iter 10 value 20027.299936
## iter 20 value 20016.780397
## iter 20 value 20016.780348
## final value 20016.780348
## converged
## # weights: 25
## initial value 22204.330311
## iter 10 value 20029.071805
## iter 20 value 20016.800825
## final value 20016.671250
## converged
## # weights: 41
## initial value 21596.158572
## iter 10 value 20029.736588
## iter 20 value 20016.808489
## final value 20016.667942
## converged
## # weights: 9
## initial value 22612.569489
## final value 20002.641700
## converged
## # weights: 25
## initial value 23639.106791
## final value 20002.641700
## converged
## # weights: 41
## initial value 22112.523917
## final value 20002.641700
## converged
## # weights: 9
## initial value 21755.247517
## iter 10 value 20008.894691
## final value 20008.150725
## converged
## # weights: 25
## initial value 23726.397587
## iter 10 value 20008.769638
## final value 20006.616917
## converged
## # weights: 41
```

```
## initial value 22715.496023
## iter 10 value 20006.669975
## final value 20005.957455
## converged
## # weights: 9
## initial value 22532.125262
## iter 10 value 20012.804163
## iter 20 value 20002.758865
## iter 20 value 20002.758818
## final value 20002.758818
## converged
## # weights: 25
## initial value 21778.727266
## iter 10 value 20013.508499
## iter 20 value 20002.766986
## final value 20002.653432
## converged
## # weights: 41
## initial value 23386.353989
## iter 10 value 20018.898567
## iter 20 value 20002.829129
## final value 20002.651719
## converged
## # weights: 9
## initial value 21547.635831
## final value 19982.170100
## converged
## # weights: 25
## initial value 22378.903966
## final value 19982.170100
## converged
## # weights: 41
## initial value 22893.658561
## final value 19982.170100
## converged
## # weights: 9
## initial value 23697.836509
## iter 10 value 19987.909242
## final value 19987.678678
## converged
## # weights: 25
## initial value 22497.211046
## iter 10 value 19986.941270
## final value 19986.144883
## converged
## # weights: 41
## initial value 23665.315274
## iter 10 value 19999.870841
## iter 20 value 19985.488542
## final value 19985.485640
```



```
## converged
## # weights: 9
## initial value 21289.995032
## iter 10 value 19988.449309
## iter 20 value 19982.242494
## iter 20 value 19982.242465
## final value 19982.242465
## converged
## # weights: 25
## initial value 22151.931353
## iter 10 value 19995.393660
## iter 20 value 19982.322557
## final value 19982.182271
## converged
## # weights: 41
## initial value 22902.906600
## iter 10 value 20001.929992
## iter 20 value 19982.397916
## final value 19982.180894
## converged
## # weights: 9
## initial value 22299.724740
## final value 20028.360100
## converged
## # weights: 25
## initial value 21434.629214
## final value 20028.360100
## converged
## # weights: 41
## initial value 22748.384055
## final value 20028.360100
## converged
## # weights: 9
## initial value 21637.522720
## iter 10 value 20034.554600
## final value 20033.869791
## converged
## # weights: 25
## initial value 23982.000073
## iter 10 value 20040.478886
## iter 20 value 20032.388400
## final value 20032.335744
## converged
## # weights: 41
## initial value 23045.061910
## iter 10 value 20033.847204
## final value 20031.676308
## converged
## # weights: 9
## initial value 23281.829157
```

```
## iter 10 value 20038.785458
## iter 20 value 20028.480296
## iter 20 value 20028.480248
## final value 20028.480248
## converged
## # weights: 25
## initial value 22181.087399
## iter 10 value 20042.187342
## iter 20 value 20028.519517
## final value 20028.376516
## converged
## # weights: 41
## initial value 24181.976760
## iter 10 value 20041.776495
## iter 20 value 20028.514781
## final value 20028.374443
## converged
## # weights: 9
## initial value 23059.544391
## final value 20046.848500
## converged
## # weights: 25
## initial value 22077.439986
## final value 20046.848500
## converged
## # weights: 41
## initial value 23009.412602
## final value 20046.848500
## converged
## # weights: 9
## initial value 22312.572201
## iter 10 value 20052.380179
## final value 20052.358953
## converged
## # weights: 25
## initial value 23388.005869
## iter 10 value 20052.063847
## final value 20050.824612
## converged
## # weights: 41
## initial value 23936.773930
## iter 10 value 20058.766185
## iter 20 value 20050.169457
## final value 20050.165029
## converged
## # weights: 9
## initial value 23133.535864
## iter 10 value 20057.915461
## iter 20 value 20046.976093
## iter 20 value 20046.976042
```

```
## final value 20046.976042
## converged
## # weights: 25
## initial value 22757.250116
## iter 10 value 20062.585335
## iter 20 value 20047.029933
## final value 20046.864936
## converged
## # weights: 41
## initial value 21498.736623
## iter 10 value 20058.055916
## iter 20 value 20046.977713
## final value 20046.858420
## converged
## # weights: 9
## initial value 21987.233804
## final value 20044.160500
## converged
## # weights: 25
## initial value 23749.220303
## final value 20044.160500
## converged
## # weights: 41
## initial value 21846.493905
## final value 20044.160500
## converged
## # weights: 9
## initial value 22795.193622
## iter 10 value 20050.180964
## final value 20049.670809
## converged
## # weights: 25
## initial value 21383.629284
## iter 10 value 20049.885101
## iter 20 value 20048.170733
## final value 20048.136432
## converged
## # weights: 41
## initial value 22956.824437
## iter 10 value 20051.130149
## iter 20 value 20047.477352
## final value 20047.476918
## converged
## # weights: 9
## initial value 23269.026177
## iter 10 value 20053.748985
## iter 20 value 20044.271048
## iter 20 value 20044.271003
## final value 20044.271003
## converged
```

```
## # weights: 25
## initial value 23211.188215
## iter 10 value 20059.949209
## iter 20 value 20044.342531
## final value 20044.173145
## converged
## # weights: 41
## initial value 22580.226418
## iter 10 value 20065.322174
## iter 20 value 20044.404477
## final value 20044.172144
## converged
## # weights: 9
## initial value 21756.560432
## final value 20046.767600
## converged
## # weights: 25
## initial value 22187.873304
## final value 20046.767600
## converged
## # weights: 41
## initial value 22248.461333
## final value 20046.767600
## converged
## # weights: 9
## initial value 23470.932850
## iter 10 value 20052.759475
## final value 20052.278056
## converged
## # weights: 25
## initial value 23016.710003
## iter 10 value 20051.741213
## iter 20 value 20050.750978
## final value 20050.743679
## converged
## # weights: 41
## initial value 22308.983614
## iter 10 value 20059.926962
## iter 20 value 20050.085736
## final value 20050.084182
## converged
## # weights: 9
## initial value 22143.737647
## iter 10 value 20055.395471
## iter 20 value 20046.867073
## iter 20 value 20046.867033
## final value 20046.867033
## converged
## # weights: 25
## initial value 23649.595545
```

```
## iter 10 value 20060.212403
## iter 20 value 20046.922608
## final value 20046.786938
## converged
## # weights: 41
## initial value 22186.083684
## iter 10 value 20065.724921
## iter 20 value 20046.986163
## final value 20046.778111
## converged
## # weights: 9
## initial value 23005.625840
## final value 19996.584500
## converged
## # weights: 25
## initial value 22852.382438
## final value 19996.584500
## converged
## # weights: 41
## initial value 20889.043477
## final value 19996.584500
## converged
## # weights: 9
## initial value 23295.201479
## iter 10 value 20002.555535
## final value 20002.093253
## converged
## # weights: 25
## initial value 23552.844873
## iter 10 value 20001.462909
## final value 20000.559455
## converged
## # weights: 41
## initial value 22472.405404
## iter 10 value 20001.392113
## final value 19999.900084
## converged
## # weights: 9
## initial value 21800.750792
## iter 10 value 20006.013384
## iter 20 value 19996.693208
## iter 20 value 19996.693164
## final value 19996.693164
## converged
## # weights: 25
## initial value 22140.348447
## iter 10 value 20010.107964
## iter 20 value 19996.740415
## final value 19996.598655
## converged
```

```
## # weights: 41
## initial value 22321.618034
## iter 10 value 20016.698814
## iter 20 value 19996.816402
## final value 19996.594839
## converged
## # weights: 9
## initial value 22633.094505
## final value 20055.771700
## converged
## # weights: 25
## initial value 22852.017329
## final value 20055.771700
## converged
## # weights: 41
## initial value 23639.757459
## final value 20055.771700
## converged
## # weights: 9
## initial value 21795.606495
## iter 10 value 20062.411782
## final value 20061.282667
## converged
## # weights: 25
## initial value 22929.857625
## iter 10 value 20060.119827
## final value 20059.748098
## converged
## # weights: 41
## initial value 21683.219185
## iter 10 value 20061.571580
## iter 20 value 20059.088695
## iter 20 value 20059.088585
## iter 20 value 20059.088556
## final value 20059.088556
## converged
## # weights: 9
## initial value 23740.559734
## iter 10 value 20063.991185
## iter 20 value 20055.866464
## iter 20 value 20055.866426
## final value 20055.866426
## converged
## # weights: 25
## initial value 24117.539518
## iter 10 value 20064.350554
## iter 20 value 20055.870607
## final value 20055.795530
## converged
## # weights: 41
```

```
## initial value 22009.963251
## iter 10 value 20071.305858
## iter 20 value 20055.950797
## iter 30 value 20055.781032
## iter 30 value 20055.781030
## iter 30 value 20055.781027
## final value 20055.781027
## converged
## # weights: 9
## initial value 22246.091905
## final value 20009.734000
## converged
## # weights: 25
## initial value 23034.689147
## final value 20009.734000
## converged
## # weights: 41
## initial value 22448.622285
## final value 20009.734000
## converged
## # weights: 9
## initial value 22243.349844
## iter 10 value 20015.898830
## final value 20015.243198
## converged
## # weights: 25
## initial value 22863.701757
## iter 10 value 20014.520375
## final value 20013.709228
## converged
## # weights: 41
## initial value 23897.928657
## iter 10 value 20030.639179
## iter 20 value 20013.054125
## final value 20013.049874
## converged
## # weights: 9
## initial value 23348.654002
## iter 10 value 20020.505440
## iter 20 value 20009.858186
## iter 20 value 20009.858137
## final value 20009.858137
## converged
## # weights: 25
## initial value 22706.734667
## iter 10 value 20024.691334
## iter 20 value 20009.906446
## final value 20009.748896
## converged
## # weights: 41
```

```
## initial value 22536.695679
## iter 10 value 20028.874068
## iter 20 value 20009.954670
## final value 20009.744050
## converged
## # weights: 9
## initial value 22866.667811
## final value 20041.640500
## converged
## # weights: 25
## initial value 23420.074490
## final value 20041.640500
## converged
## # weights: 41
## initial value 22975.286096
## final value 20041.640500
## converged
## # weights: 9
## initial value 22975.110063
## iter 10 value 20048.386311
## final value 20047.150731
## converged
## # weights: 25
## initial value 22519.430586
## iter 10 value 20046.679557
## final value 20045.616424
## converged
## # weights: 41
## initial value 23576.646793
## iter 10 value 20047.404759
## iter 20 value 20044.957062
## iter 20 value 20044.956943
## iter 20 value 20044.956926
## final value 20044.956926
## converged
## # weights: 9
## initial value 22135.521420
## iter 10 value 20051.976016
## iter 20 value 20041.759660
## iter 20 value 20041.759613
## final value 20041.759613
## converged
## # weights: 25
## initial value 22893.230241
## iter 10 value 20055.406575
## iter 20 value 20041.799212
## final value 20041.663576
## converged
## # weights: 41
## initial value 22499.671807
```



```
## iter 10 value 20058.331459
## iter 20 value 20041.832934
## final value 20041.651158
## converged
## # weights: 9
## initial value 22004.620334
## final value 19989.553700
## converged
## # weights: 25
## initial value 22124.202489
## final value 19989.553700
## converged
## # weights: 41
## initial value 21735.966923
## final value 19989.553700
## converged
## # weights: 9
## initial value 21896.758500
## iter 10 value 19995.707673
## final value 19995.062455
## converged
## # weights: 25
## initial value 22842.782620
## iter 10 value 19994.321057
## final value 19993.528649
## converged
## # weights: 41
## initial value 22282.144801
## iter 10 value 20004.460047
## iter 20 value 19992.869487
## iter 20 value 19992.869396
## iter 20 value 19992.869389
## final value 19992.869389
## converged
## # weights: 9
## initial value 22211.461489
## iter 10 value 20000.229427
## iter 20 value 19989.676783
## iter 20 value 19989.676734
## final value 19989.676734
## converged
## # weights: 25
## initial value 23157.977498
## iter 10 value 20003.267874
## iter 20 value 19989.711814
## final value 19989.569096
## converged
## # weights: 41
## initial value 22714.260412
## iter 10 value 20008.693648
```

```
## iter 20 value 19989.774369
## final value 19989.563386
## converged
## # weights: 9
## initial value 22158.971214
## final value 20018.146000
## converged
## # weights: 25
## initial value 22387.180339
## final value 20018.146000
## converged
## # weights: 41
## initial value 21878.619607
## final value 20018.146000
## converged
## # weights: 9
## initial value 22552.624967
## iter 10 value 20024.945518
## final value 20023.655412
## converged
## # weights: 25
## initial value 21886.634656
## iter 10 value 20022.900928
## final value 20022.121340
## converged
## # weights: 41
## initial value 23709.322726
## iter 10 value 20042.459460
## iter 20 value 20021.466692
## final value 20021.462050
## converged
## # weights: 9
## initial value 23917.201841
## iter 10 value 20025.790782
## iter 20 value 20018.234138
## iter 20 value 20018.234103
## final value 20018.234103
## converged
## # weights: 25
## initial value 22784.179933
## iter 10 value 20033.144549
## iter 20 value 20018.318921
## iter 30 value 20018.159386
## final value 20018.159006
## converged
## # weights: 41
## initial value 23075.361523
## iter 10 value 20037.395249
## iter 20 value 20018.367929
## final value 20018.155893
```

```
## converged
## # weights: 9
## initial value 23649.044170
## final value 20052.930100
## converged
## # weights: 25
## initial value 22964.812810
## final value 20052.930100
## converged
## # weights: 41
## initial value 22459.221004
## final value 20052.930100
## converged
## # weights: 9
## initial value 22652.057984
## iter 10 value 20061.397832
## final value 20058.440955
## converged
## # weights: 25
## initial value 23830.927724
## iter 10 value 20057.700811
## iter 20 value 20056.907048
## final value 20056.906468
## converged
## # weights: 41
## initial value 24094.481722
## iter 10 value 20058.013406
## iter 20 value 20056.247112
## iter 20 value 20056.246960
## iter 20 value 20056.246946
## final value 20056.246946
## converged
## # weights: 9
## initial value 23280.513298
## iter 10 value 20063.427662
## iter 20 value 20053.051129
## iter 20 value 20053.051080
## final value 20053.051080
## converged
## # weights: 25
## initial value 23801.800121
## iter 10 value 20065.461655
## iter 20 value 20053.074579
## final value 20052.944860
## converged
## # weights: 41
## initial value 22442.285970
## iter 10 value 20068.954962
## iter 20 value 20053.114854
## final value 20052.940714
```

```
## converged
## # weights: 9
## initial value 22043.791518
## final value 20004.341200
## converged
## # weights: 25
## initial value 22669.995720
## final value 20004.341200
## converged
## # weights: 41
## initial value 21706.999789
## final value 20004.341200
## converged
## # weights: 9
## initial value 22714.977520
## iter 10 value 20010.492807
## final value 20009.850250
## converged
## # weights: 25
## initial value 21960.481019
## iter 10 value 20009.443210
## final value 20008.316330
## converged
## # weights: 41
## initial value 23785.586900
## iter 10 value 20010.928904
## iter 20 value 20007.657093
## iter 20 value 20007.656977
## iter 20 value 20007.656970
## final value 20007.656970
## converged
## # weights: 9
## initial value 23278.658042
## iter 10 value 20013.930590
## iter 20 value 20004.451758
## iter 20 value 20004.451714
## final value 20004.451714
## converged
## # weights: 25
## initial value 23984.346991
## iter 10 value 20013.747415
## iter 20 value 20004.449646
## final value 20004.365926
## converged
## # weights: 41
## initial value 23325.135646
## iter 10 value 20020.035263
## iter 20 value 20004.522140
## final value 20004.356654
## converged
```

```
## # weights: 9
## initial value 22227.478835
## final value 20057.069200
## converged
## # weights: 25
## initial value 23049.714773
## final value 20057.069200
## converged
## # weights: 41
## initial value 23640.677168
## final value 20057.069200
## converged
## # weights: 9
## initial value 23396.537485
## iter 10 value 20062.797946
## final value 20062.580204
## converged
## # weights: 25
## initial value 22376.749370
## iter 10 value 20061.836714
## final value 20061.045728
## converged
## # weights: 41
## initial value 21864.360643
## iter 10 value 20061.740764
## iter 20 value 20060.386081
## iter 20 value 20060.386008
## iter 20 value 20060.386001
## final value 20060.386001
## converged
## # weights: 9
## initial value 22651.594262
## iter 10 value 20067.447241
## iter 20 value 20057.188851
## iter 20 value 20057.188803
## final value 20057.188803
## converged
## # weights: 25
## initial value 22913.108060
## iter 10 value 20071.527690
## iter 20 value 20057.235895
## final value 20057.081037
## converged
## # weights: 41
## initial value 23198.151479
## iter 10 value 20074.896433
## iter 20 value 20057.274734
## final value 20057.080822
## converged
## # weights: 9
```

```
## initial value 23487.670382
## final value 20046.195700
## converged
## # weights: 25
## initial value 24181.479267
## final value 20046.195700
## converged
## # weights: 41
## initial value 23597.953761
## final value 20046.195700
## converged
## # weights: 9
## initial value 22227.948672
## iter 10 value 20052.676195
## final value 20051.706088
## converged
## # weights: 25
## initial value 22773.588096
## iter 10 value 20052.820818
## iter 20 value 20050.171944
## iter 20 value 20050.171806
## iter 20 value 20050.171742
## final value 20050.171742
## converged
## # weights: 41
## initial value 21803.131309
## iter 10 value 20050.596771
## iter 20 value 20049.512196
## iter 20 value 20049.512162
## iter 20 value 20049.512157
## final value 20049.512157
## converged
## # weights: 9
## initial value 22113.406455
## iter 10 value 20055.004485
## iter 20 value 20046.297258
## iter 20 value 20046.297218
## final value 20046.297218
## converged
## # weights: 25
## initial value 22881.117580
## iter 10 value 20063.737063
## iter 20 value 20046.397938
## final value 20046.215094
## converged
## # weights: 41
## initial value 23036.574002
## iter 10 value 20063.650572
## iter 20 value 20046.396941
## final value 20046.205419
```

```
## converged
## # weights: 9
## initial value 23956.204750
## final value 20018.681200
## converged
## # weights: 25
## initial value 22506.668831
## final value 20018.681200
## converged
## # weights: 41
## initial value 21536.160499
## final value 20018.681200
## converged
## # weights: 9
## initial value 22528.216766
## iter 10 value 20037.170385
## iter 20 value 20024.190663
## iter 20 value 20024.190630
## final value 20024.190630
## converged
## # weights: 25
## initial value 21970.836459
## iter 10 value 20023.524523
## final value 20022.656552
## converged
## # weights: 41
## initial value 21547.592925
## iter 10 value 20034.061314
## final value 20021.997241
## converged
## # weights: 9
## initial value 22551.755265
## iter 10 value 20029.267272
## iter 20 value 20018.803249
## iter 20 value 20018.803200
## final value 20018.803200
## converged
## # weights: 25
## initial value 24013.815129
## iter 10 value 20028.429360
## iter 20 value 20018.793589
## final value 20018.698756
## converged
## # weights: 41
## initial value 21858.841920
## iter 10 value 20033.712918
## iter 20 value 20018.854504
## final value 20018.690649
## converged
## # weights: 9
```

```
## initial value 21793.254863
## final value 20040.986000
## converged
## # weights: 25
## initial value 22712.516076
## final value 20040.986000
## converged
## # weights: 41
## initial value 22560.637289
## final value 20040.986000
## converged
## # weights: 9
## initial value 21783.853828
## iter 10 value 20046.886295
## final value 20046.496190
## converged
## # weights: 25
## initial value 22428.835167
## iter 10 value 20046.581839
## final value 20044.961913
## converged
## # weights: 41
## initial value 23432.044428
## iter 10 value 20047.838108
## final value 20044.302423
## converged
## # weights: 9
## initial value 23449.068868
## iter 10 value 20050.706816
## iter 20 value 20041.098073
## iter 20 value 20041.098029
## final value 20041.098029
## converged
## # weights: 25
## initial value 23057.378586
## iter 10 value 20055.975049
## iter 20 value 20041.158812
## final value 20041.000449
## converged
## # weights: 41
## initial value 22661.564209
## iter 10 value 20060.808858
## iter 20 value 20041.214542
## final value 20040.997625
## converged
## # weights: 9
## initial value 22272.882215
## final value 20034.333200
## converged
## # weights: 25
```



```
## initial value 22907.382976
## final value 20034.333200
## converged
## # weights: 41
## initial value 21729.319872
## final value 20034.333200
## converged
## # weights: 9
## initial value 23734.053075
## iter 10 value 20040.457398
## final value 20039.843117
## converged
## # weights: 25
## initial value 21513.662813
## iter 10 value 20041.149703
## iter 20 value 20038.344023
## final value 20038.308916
## converged
## # weights: 41
## initial value 22239.336218
## iter 10 value 20049.484307
## iter 20 value 20037.652842
## final value 20037.649471
## converged
## # weights: 9
## initial value 21786.590461
## iter 10 value 20041.522666
## iter 20 value 20034.416089
## iter 20 value 20034.416056
## final value 20034.416056
## converged
## # weights: 25
## initial value 23072.432604
## iter 10 value 20048.726493
## iter 20 value 20034.499143
## final value 20034.345506
## converged
## # weights: 41
## initial value 22713.409348
## iter 10 value 20053.258464
## iter 20 value 20034.551393
## final value 20034.342764
## converged
## # weights: 9
## initial value 22690.890095
## final value 20017.337200
## converged
## # weights: 25
## initial value 23086.098820
## final value 20017.337200
```

```
## converged
## # weights: 41
## initial value 22761.369972
## final value 20017.337200
## converged
## # weights: 9
## initial value 22969.970901
## iter 10 value 20023.780700
## final value 20022.846599
## converged
## # weights: 25
## initial value 24311.852780
## iter 10 value 20026.665067
## iter 20 value 20021.314244
## final value 20021.312571
## converged
## # weights: 41
## initial value 22460.961470
## iter 10 value 20021.279129
## final value 20020.653149
## converged
## # weights: 9
## initial value 22603.338780
## iter 10 value 20027.801281
## iter 20 value 20017.457843
## iter 20 value 20017.457794
## final value 20017.457794
## converged
## # weights: 25
## initial value 22710.945053
## iter 10 value 20032.035168
## iter 20 value 20017.506656
## final value 20017.348724
## converged
## # weights: 41
## initial value 22399.415623
## iter 10 value 20036.802276
## iter 20 value 20017.561617
## final value 20017.346602
## converged
## # weights: 9
## initial value 22413.399842
## final value 20027.767600
## converged
## # weights: 25
## initial value 24049.557228
## final value 20027.767600
## converged
## # weights: 41
## initial value 22496.254577
```

```
## final value 20027.767600
## converged
## # weights: 9
## initial value 23829.510325
## iter 10 value 20042.743017
## iter 20 value 20033.277331
## iter 20 value 20033.277291
## final value 20033.277291
## converged
## # weights: 25
## initial value 22849.860899
## iter 10 value 20034.152731
## iter 20 value 20031.743160
## iter 20 value 20031.743097
## iter 20 value 20031.743095
## final value 20031.743095
## converged
## # weights: 41
## initial value 23347.250333
## iter 10 value 20032.031409
## final value 20031.083730
## converged
## # weights: 9
## initial value 22404.327423
## iter 10 value 20037.556140
## iter 20 value 20027.880454
## iter 20 value 20027.880409
## final value 20027.880409
## converged
## # weights: 25
## initial value 22488.008924
## iter 10 value 20043.004929
## iter 20 value 20027.943274
## final value 20027.779735
## converged
## # weights: 41
## initial value 21654.008539
## iter 10 value 20039.999184
## iter 20 value 20027.908621
## final value 20027.777201
## converged
## # weights: 9
## initial value 22710.645160
## final value 20044.594000
## converged
## # weights: 25
## initial value 22241.705558
## final value 20044.594000
## converged
## # weights: 41
```

```
## initial value 21755.601522
## final value 20044.594000
## converged
## # weights: 9
## initial value 21941.775296
## iter 10 value 20050.203942
## final value 20050.104329
## converged
## # weights: 25
## initial value 22335.558388
## iter 10 value 20049.468245
## final value 20048.569988
## converged
## # weights: 41
## initial value 21779.005675
## iter 10 value 20059.547908
## iter 20 value 20047.916409
## final value 20047.910487
## converged
## # weights: 9
## initial value 22777.897683
## iter 10 value 20055.603043
## iter 20 value 20044.720926
## iter 20 value 20044.720875
## final value 20044.720875
## converged
## # weights: 25
## initial value 22073.846118
## iter 10 value 20057.548296
## iter 20 value 20044.743353
## final value 20044.608404
## converged
## # weights: 41
## initial value 23574.378938
## iter 10 value 20059.519667
## iter 20 value 20044.766081
## final value 20044.607811
## converged
## # weights: 9
## initial value 21682.919402
## final value 19997.560100
## converged
## # weights: 25
## initial value 22713.577850
## final value 19997.560100
## converged
## # weights: 41
## initial value 23112.980122
## final value 19997.560100
## converged
```

```
## # weights: 9
## initial value 21393.223052
## iter 10 value 20006.572684
## iter 20 value 20003.102096
## final value 20003.069001
## converged
## # weights: 25
## initial value 22290.934881
## iter 10 value 20003.953922
## iter 20 value 20001.558430
## final value 20001.535108
## converged
## # weights: 41
## initial value 24063.193424
## iter 10 value 20012.925808
## iter 20 value 20000.876319
## final value 20000.875827
## converged
## # weights: 9
## initial value 22587.183998
## iter 10 value 20007.084668
## iter 20 value 19997.669911
## iter 20 value 19997.669867
## final value 19997.669867
## converged
## # weights: 25
## initial value 21907.876623
## iter 10 value 20009.370766
## iter 20 value 19997.696268
## final value 19997.572414
## converged
## # weights: 41
## initial value 22977.338468
## iter 10 value 20015.909286
## iter 20 value 19997.771652
## final value 19997.571693
## converged
## # weights: 9
## initial value 22679.897528
## final value 20039.841200
## converged
## # weights: 25
## initial value 23432.010876
## final value 20039.841200
## converged
## # weights: 41
## initial value 22431.532184
## final value 20039.841200
## converged
## # weights: 9
```

```
## initial value 22309.771485
## iter 10 value 20104.527332
## iter 20 value 20045.660367
## final value 20045.351314
## converged
## # weights: 25
## initial value 21932.696500
## iter 10 value 20045.849694
## final value 20043.817033
## converged
## # weights: 41
## initial value 22195.859983
## iter 10 value 20044.806537
## iter 20 value 20043.157942
## final value 20043.157534
## converged
## # weights: 9
## initial value 22142.180335
## iter 10 value 20049.888751
## iter 20 value 20039.957040
## iter 20 value 20039.956994
## final value 20039.956994
## converged
## # weights: 25
## initial value 21655.217073
## iter 10 value 20050.115098
## iter 20 value 20039.959650
## final value 20039.852993
## converged
## # weights: 41
## initial value 22745.713689
## iter 10 value 20058.914268
## iter 20 value 20040.061098
## final value 20039.851675
## converged
## # weights: 9
## initial value 21660.125959
## final value 20032.589200
## converged
## # weights: 25
## initial value 21722.689049
## final value 20032.589200
## converged
## # weights: 41
## initial value 22360.792888
## final value 20032.589200
## converged
## # weights: 9
## initial value 22830.950262
## iter 10 value 20114.451044
```

```
## iter 20 value 20040.460630
## final value 20038.099055
## converged
## # weights: 25
## initial value 23292.284912
## iter 10 value 20072.996521
## iter 20 value 20036.582922
## iter 30 value 20036.565024
## iter 30 value 20036.564900
## iter 30 value 20036.564854
## final value 20036.564854
## converged
## # weights: 41
## initial value 23405.413302
## iter 10 value 20037.075833
## final value 20035.905450
## converged
## # weights: 9
## initial value 23099.152900
## iter 10 value 20042.883734
## iter 20 value 20032.707888
## iter 20 value 20032.707840
## final value 20032.707840
## converged
## # weights: 25
## initial value 21895.029375
## iter 10 value 20046.791354
## iter 20 value 20032.752940
## final value 20032.601923
## converged
## # weights: 41
## initial value 23771.864480
## iter 10 value 20047.709171
## iter 20 value 20032.763521
## final value 20032.604852
## converged
## # weights: 9
## initial value 22397.969855
## final value 20047.090000
## converged
## # weights: 25
## initial value 22260.796751
## final value 20047.090000
## converged
## # weights: 41
## initial value 24167.168274
## final value 20047.090000
## converged
## # weights: 9
## initial value 23134.475735
```

```
## iter 10 value 20052.617495
## final value 20052.600488
## converged
## # weights: 25
## initial value 22818.374367
## iter 10 value 20052.800840
## iter 20 value 20051.066154
## iter 20 value 20051.066092
## iter 20 value 20051.066080
## final value 20051.066080
## converged
## # weights: 41
## initial value 22763.850202
## iter 10 value 20052.102765
## final value 20050.406603
## converged
## # weights: 9
## initial value 22676.578924
## iter 10 value 20058.592400
## iter 20 value 20047.222614
## iter 20 value 20047.222561
## final value 20047.222561
## converged
## # weights: 25
## initial value 23186.417004
## iter 10 value 20061.396491
## iter 20 value 20047.254943
## final value 20047.102624
## converged
## # weights: 41
## initial value 23667.223912
## iter 10 value 20064.404602
## iter 20 value 20047.289624
## final value 20047.103791
## converged
## # weights: 9
## initial value 23540.899759
## final value 19942.390000
## converged
## # weights: 25
## initial value 23514.866870
## final value 19942.390000
## converged
## # weights: 41
## initial value 22750.026101
## final value 19942.390000
## converged
## # weights: 9
## initial value 22797.579680
## iter 10 value 19949.230562
```



```
## final value 19947.897900
## converged
## # weights: 25
## initial value 22760.450312
## iter 10 value 19947.201111
## final value 19946.364483
## converged
## # weights: 41
## initial value 24068.758687
## iter 10 value 19958.389672
## iter 20 value 19945.714505
## final value 19945.705214
## converged
## # weights: 9
## initial value 22242.824657
## iter 10 value 19951.911844
## iter 20 value 19942.499779
## iter 20 value 19942.499735
## final value 19942.499735
## converged
## # weights: 25
## initial value 22572.271024
## iter 10 value 19955.133532
## iter 20 value 19942.536923
## final value 19942.404421
## converged
## # weights: 41
## initial value 23056.733021
## iter 10 value 19964.429984
## iter 20 value 19942.644104
## final value 19942.401387
## converged
## # weights: 9
## initial value 22746.755689
## final value 20050.567600
## converged
## # weights: 25
## initial value 24244.969187
## final value 20050.567600
## converged
## # weights: 41
## initial value 21997.812697
## final value 20050.567600
## converged
## # weights: 9
## initial value 22778.687611
## iter 10 value 20057.558411
## final value 20056.078249
## converged
## # weights: 25
```

```
## initial value 22436.527478
## iter 10 value 20058.538021
## iter 20 value 20054.544303
## final value 20054.543826
## converged
## # weights: 41
## initial value 22953.053763
## iter 10 value 20067.555179
## iter 20 value 20053.884509
## iter 20 value 20053.884352
## iter 20 value 20053.884346
## final value 20053.884346
## converged
## # weights: 9
## initial value 22405.572376
## iter 10 value 20060.602171
## iter 20 value 20050.683291
## iter 20 value 20050.683244
## final value 20050.683244
## converged
## # weights: 25
## initial value 22331.571423
## iter 10 value 20063.629342
## iter 20 value 20050.718192
## final value 20050.581357
## converged
## # weights: 41
## initial value 23978.077461
## iter 10 value 20064.563093
## iter 20 value 20050.728957
## final value 20050.579987
## converged
## # weights: 9
## initial value 22539.543935
## final value 19919.649700
## converged
## # weights: 25
## initial value 23190.863583
## final value 19919.649700
## converged
## # weights: 41
## initial value 22307.016653
## final value 19919.649700
## converged
## # weights: 9
## initial value 22361.276284
## iter 10 value 19925.996908
## final value 19925.157281
## converged
## # weights: 25
```

```
## initial value 21405.531647
## iter 10 value 19926.109383
## final value 19923.624004
## converged
## # weights: 41
## initial value 21927.325251
## iter 10 value 19933.756954
## iter 20 value 19922.976432
## final value 19922.964848
## converged
## # weights: 9
## initial value 22530.733752
## iter 10 value 19931.094306
## iter 20 value 19919.781647
## iter 20 value 19919.781595
## final value 19919.781595
## converged
## # weights: 25
## initial value 22561.779453
## iter 10 value 19935.196006
## iter 20 value 19919.828937
## final value 19919.660951
## converged
## # weights: 41
## initial value 22319.510262
## iter 10 value 19937.051470
## iter 20 value 19919.850329
## final value 19919.662390
## converged
## # weights: 9
## initial value 22731.261866
## final value 19981.448500
## converged
## # weights: 25
## initial value 22621.289518
## final value 19981.448500
## converged
## # weights: 41
## initial value 21607.588424
## final value 19981.448500
## converged
## # weights: 9
## initial value 22820.658527
## iter 10 value 19987.450692
## final value 19986.957098
## converged
## # weights: 25
## initial value 21494.260567
## iter 10 value 19987.452788
## final value 19985.423409
```

```
## converged
## # weights: 41
## initial value 22553.573186
## iter 10 value 20001.546603
## iter 20 value 19984.764282
## iter 20 value 19984.764160
## iter 20 value 19984.764109
## final value 19984.764109
## converged
## # weights: 9
## initial value 22949.155097
## iter 10 value 19991.931525
## iter 20 value 19981.569361
## iter 20 value 19981.569313
## final value 19981.569313
## converged
## # weights: 25
## initial value 23760.417177
## iter 10 value 19992.880558
## iter 20 value 19981.580303
## final value 19981.464204
## converged
## # weights: 41
## initial value 22509.335200
## iter 10 value 19998.050527
## iter 20 value 19981.639908
## final value 19981.458827
## converged
## # weights: 9
## initial value 23199.417423
## final value 20024.481700
## converged
## # weights: 25
## initial value 22470.613969
## final value 20024.481700
## converged
## # weights: 41
## initial value 21478.020291
## final value 20024.481700
## converged
## # weights: 9
## initial value 22390.086981
## iter 10 value 20047.384933
## iter 20 value 20029.992010
## final value 20029.991322
## converged
## # weights: 25
## initial value 22845.226725
## iter 10 value 20029.185611
## final value 20028.457183
```

```
## converged
## # weights: 41
## initial value 21249.040227
## iter 10 value 20028.999142
## final value 20027.797808
## converged
## # weights: 9
## initial value 22116.212030
## iter 10 value 20033.588542
## iter 20 value 20024.586695
## iter 20 value 20024.586653
## final value 20024.586653
## converged
## # weights: 25
## initial value 23116.313174
## iter 10 value 20037.724370
## iter 20 value 20024.634378
## final value 20024.493813
## converged
## # weights: 41
## initial value 23172.921474
## iter 10 value 20043.765472
## iter 20 value 20024.704027
## final value 20024.492356
## converged
## # weights: 9
## initial value 23169.615442
## final value 20031.021200
## converged
## # weights: 25
## initial value 23933.433686
## final value 20031.021200
## converged
## # weights: 41
## initial value 21744.566770
## final value 20031.021200
## converged
## # weights: 9
## initial value 23213.814530
## iter 10 value 20036.905388
## final value 20036.531007
## converged
## # weights: 25
## initial value 22069.899178
## iter 10 value 20036.195393
## final value 20034.996865
## converged
## # weights: 41
## initial value 22296.617218
## iter 10 value 20051.477506
```

```
## iter 20 value 20034.338387
## final value 20034.337374
## converged
## # weights: 9
## initial value 22626.579863
## iter 10 value 20042.157789
## iter 20 value 20031.149596
## iter 20 value 20031.149545
## final value 20031.149545
## converged
## # weights: 25
## initial value 22398.745660
## iter 10 value 20045.037231
## iter 20 value 20031.182794
## final value 20031.033899
## converged
## # weights: 41
## initial value 23598.133543
## iter 10 value 20047.992357
## iter 20 value 20031.216864
## final value 20031.033214
## converged
## # weights: 9
## initial value 22548.256756
## final value 20028.005200
## converged
## # weights: 25
## initial value 23530.619459
## final value 20028.005200
## converged
## # weights: 41
## initial value 21908.087638
## final value 20028.005200
## converged
## # weights: 9
## initial value 23121.741689
## iter 10 value 20037.227953
## final value 20033.514910
## converged
## # weights: 25
## initial value 21358.029958
## iter 10 value 20032.757519
## final value 20031.980789
## converged
## # weights: 41
## initial value 22634.739115
## iter 10 value 20050.710083
## iter 20 value 20031.322557
## final value 20031.321344
## converged
```

```
## # weights: 9
## initial value 21672.157819
## iter 10 value 20035.775984
## iter 20 value 20028.094791
## iter 20 value 20028.094755
## final value 20028.094755
## converged
## # weights: 25
## initial value 23692.560317
## iter 10 value 20041.403285
## iter 20 value 20028.159669
## final value 20028.018669
## converged
## # weights: 41
## initial value 21218.802583
## iter 10 value 20037.229944
## iter 20 value 20028.111554
## final value 20028.014560
## converged
## # weights: 9
## initial value 23154.067161
## final value 20016.930100
## converged
## # weights: 25
## initial value 21777.730531
## final value 20016.930100
## converged
## # weights: 41
## initial value 23614.273787
## final value 20016.930100
## converged
## # weights: 9
## initial value 23514.232094
## iter 10 value 20022.896804
## final value 20022.439487
## converged
## # weights: 25
## initial value 24061.733526
## iter 10 value 20023.903188
## iter 20 value 20020.905527
## iter 20 value 20020.905446
## iter 20 value 20020.905439
## final value 20020.905439
## converged
## # weights: 41
## initial value 22787.259392
## iter 10 value 20035.337910
## iter 20 value 20020.248799
## final value 20020.246067
## converged
```

```
## # weights: 9
## initial value 23603.603954
## iter 10 value 20025.945637
## iter 20 value 20017.034042
## iter 20 value 20017.034000
## final value 20017.034000
## converged
## # weights: 25
## initial value 23093.637554
## iter 10 value 20033.644641
## iter 20 value 20017.122806
## final value 20016.944432
## converged
## # weights: 41
## initial value 23503.634112
## iter 10 value 20034.830089
## iter 20 value 20017.136473
## final value 20016.940753
## converged
## # weights: 9
## initial value 22064.281570
## final value 20024.481700
## converged
## # weights: 25
## initial value 23316.541136
## final value 20024.481700
## converged
## # weights: 41
## initial value 22767.294544
## final value 20024.481700
## converged
## # weights: 9
## initial value 22473.556799
## iter 10 value 20036.108397
## iter 20 value 20029.992486
## final value 20029.991353
## converged
## # weights: 25
## initial value 22716.304455
## iter 10 value 20028.929757
## final value 20028.457172
## converged
## # weights: 41
## initial value 23702.385055
## iter 10 value 20028.983917
## final value 20027.797792
## converged
## # weights: 9
## initial value 21897.529336
## iter 10 value 20032.452859
```



```
## iter 20 value 20024.573601
## iter 20 value 20024.573564
## final value 20024.573564
## converged
## # weights: 25
## initial value 23600.120242
## iter 10 value 20036.699626
## iter 20 value 20024.622563
## final value 20024.498089
## converged
## # weights: 41
## initial value 22813.814145
## iter 10 value 20042.792147
## iter 20 value 20024.692805
## final value 20024.491555
## converged
## # weights: 9
## initial value 23563.146699
## final value 20057.313700
## converged
## # weights: 25
## initial value 23712.653990
## final value 20057.313700
## converged
## # weights: 41
## initial value 21996.417678
## final value 20057.313700
## converged
## # weights: 9
## initial value 22344.355500
## iter 10 value 20064.955255
## final value 20062.824846
## converged
## # weights: 25
## initial value 23386.947797
## iter 10 value 20068.980474
## iter 20 value 20061.291255
## final value 20061.290267
## converged
## # weights: 41
## initial value 22390.217406
## iter 10 value 20061.086805
## final value 20060.630722
## converged
## # weights: 9
## initial value 22641.342831
## iter 10 value 20068.224352
## iter 20 value 20057.439491
## iter 20 value 20057.439441
## final value 20057.439441
```

```
## converged
## # weights: 25
## initial value 21926.732599
## iter 10 value 20071.239017
## iter 20 value 20057.474248
## final value 20057.327898
## converged
## # weights: 41
## initial value 23610.782608
## iter 10 value 20072.539336
## iter 20 value 20057.489240
## final value 20057.325976
## converged
## # weights: 9
## initial value 23198.566173
## final value 20059.710500
## converged
## # weights: 25
## initial value 23892.016699
## final value 20059.710500
## converged
## # weights: 41
## initial value 23464.214654
## final value 20059.710500
## converged
## # weights: 9
## initial value 22987.341900
## iter 10 value 20065.609336
## final value 20065.221850
## converged
## # weights: 25
## initial value 22133.027023
## iter 10 value 20078.590781
## iter 20 value 20063.691208
## final value 20063.687126
## converged
## # weights: 41
## initial value 22657.335513
## iter 10 value 20064.706360
## iter 20 value 20063.027738
## iter 20 value 20063.027550
## iter 20 value 20063.027537
## final value 20063.027537
## converged
## # weights: 9
## initial value 23584.155583
## iter 10 value 20068.917221
## iter 20 value 20059.816646
## iter 20 value 20059.816604
## final value 20059.816604
```

```
## converged
## # weights: 25
## initial value 23083.826716
## iter 10 value 20075.103589
## iter 20 value 20059.887970
## final value 20059.725264
## converged
## # weights: 41
## initial value 22817.606628
## iter 10 value 20079.101589
## iter 20 value 20059.934064
## final value 20059.722327
## converged
## # weights: 9
## initial value 22678.751259
## final value 19959.334000
## converged
## # weights: 25
## initial value 22936.345623
## final value 19959.334000
## converged
## # weights: 41
## initial value 22689.454864
## final value 19959.334000
## converged
## # weights: 9
## initial value 22039.141460
## iter 10 value 19965.475191
## final value 19964.842162
## converged
## # weights: 25
## initial value 22294.232559
## iter 10 value 19963.757301
## final value 19963.308699
## converged
## # weights: 41
## initial value 21451.422323
## iter 10 value 19966.261351
## iter 20 value 19962.649799
## final value 19962.649347
## converged
## # weights: 9
## initial value 23422.015101
## iter 10 value 19969.713703
## iter 20 value 19959.453670
## iter 20 value 19959.453622
## final value 19959.453622
## converged
## # weights: 25
## initial value 22800.958657
```

```
## iter 10 value 19976.109355
## iter 20 value 19959.527407
## final value 19959.346586
## converged
## # weights: 41
## initial value 23154.272685
## iter 10 value 19979.036475
## iter 20 value 19959.561154
## final value 19959.343898
## converged
## # weights: 9
## initial value 22323.189447
## final value 20017.742500
## converged
## # weights: 25
## initial value 23815.639717
## final value 20017.742500
## converged
## # weights: 41
## initial value 22026.782030
## final value 20017.742500
## converged
## # weights: 9
## initial value 23058.160697
## iter 10 value 20023.463234
## final value 20023.251827
## converged
## # weights: 25
## initial value 22230.882886
## iter 10 value 20022.564188
## final value 20021.717804
## converged
## # weights: 41
## initial value 23181.989984
## iter 10 value 20031.832041
## iter 20 value 20021.059749
## final value 20021.058393
## converged
## # weights: 9
## initial value 22940.472562
## iter 10 value 20027.973280
## iter 20 value 20017.860453
## iter 20 value 20017.860406
## final value 20017.860406
## converged
## # weights: 25
## initial value 22413.081956
## iter 10 value 20032.383792
## iter 20 value 20017.911303
## final value 20017.757727
```

```
## converged
## # weights: 41
## initial value 22474.247601
## iter 10 value 20037.621050
## iter 20 value 20017.971684
## final value 20017.752415
## converged
## # weights: 9
## initial value 22238.515901
## final value 20044.160500
## converged
## # weights: 25
## initial value 23887.037725
## final value 20044.160500
## converged
## # weights: 41
## initial value 22787.625856
## final value 20044.160500
## converged
## # weights: 9
## initial value 23394.336955
## iter 10 value 20049.903206
## final value 20049.670835
## converged
## # weights: 25
## initial value 23037.273987
## iter 10 value 20048.946501
## final value 20048.137026
## converged
## # weights: 41
## initial value 23877.406965
## iter 10 value 20058.387638
## iter 20 value 20047.482554
## final value 20047.477032
## converged
## # weights: 9
## initial value 23417.812056
## iter 10 value 20054.469180
## iter 20 value 20044.279351
## iter 20 value 20044.279303
## final value 20044.279303
## converged
## # weights: 25
## initial value 23614.701316
## iter 10 value 20058.090725
## iter 20 value 20044.321105
## final value 20044.181180
## converged
## # weights: 41
## initial value 22838.055495
```

```
## iter 10 value 20063.396602
## iter 20 value 20044.382277
## final value 20044.171539
## converged
## # weights: 9
## initial value 22406.549834
## final value 20027.529200
## converged
## # weights: 25
## initial value 22509.580820
## final value 20027.529200
## converged
## # weights: 41
## initial value 23346.971697
## final value 20027.529200
## converged
## # weights: 9
## initial value 23753.634828
## iter 10 value 20033.564472
## final value 20033.038894
## converged
## # weights: 25
## initial value 22517.353332
## iter 10 value 20037.912617
## iter 20 value 20031.505531
## final value 20031.504731
## converged
## # weights: 41
## initial value 23209.251492
## iter 10 value 20038.057451
## iter 20 value 20030.845411
## iter 20 value 20030.845329
## iter 20 value 20030.845318
## final value 20030.845318
## converged
## # weights: 9
## initial value 23758.125965
## iter 10 value 20036.697342
## iter 20 value 20027.634901
## iter 20 value 20027.634859
## final value 20027.634859
## converged
## # weights: 25
## initial value 22421.117874
## iter 10 value 20040.804729
## iter 20 value 20027.682256
## final value 20027.541600
## converged
## # weights: 41
## initial value 21943.680911
```

```
## iter 10 value 20044.196536
## iter 20 value 20027.721361
## final value 20027.539572
## converged
## # weights: 9
## initial value 22327.832515
## final value 20019.610100
## converged
## # weights: 25
## initial value 22257.185448
## final value 20019.610100
## converged
## # weights: 41
## initial value 21128.256945
## final value 20019.610100
## converged
## # weights: 9
## initial value 21954.165888
## iter 10 value 20026.561814
## final value 20025.119559
## converged
## # weights: 25
## initial value 22795.326484
## iter 10 value 20024.818306
## final value 20023.585631
## converged
## # weights: 41
## initial value 21643.314156
## iter 10 value 20029.987851
## iter 20 value 20022.926302
## iter 20 value 20022.926169
## iter 20 value 20022.926156
## final value 20022.926156
## converged
## # weights: 9
## initial value 21518.606652
## iter 10 value 20026.825943
## iter 20 value 20019.693293
## iter 20 value 20019.693260
## final value 20019.693260
## converged
## # weights: 25
## initial value 22837.455296
## iter 10 value 20036.848412
## iter 20 value 20019.808844
## final value 20019.622970
## converged
## # weights: 41
## initial value 23468.441330
## iter 10 value 20036.008823
```

```
## iter 20 value 20019.799164
## final value 20019.620955
## converged
## # weights: 9
## initial value 23740.747153
## final value 20020.529200
## converged
## # weights: 25
## initial value 22304.984341
## final value 20020.529200
## converged
## # weights: 41
## initial value 22297.567241
## final value 20020.529200
## converged
## # weights: 9
## initial value 22757.287808
## iter 10 value 20027.657816
## final value 20026.038690
## converged
## # weights: 25
## initial value 22190.797083
## iter 10 value 20024.927213
## final value 20024.504653
## converged
## # weights: 41
## initial value 23463.384774
## iter 10 value 20027.733880
## iter 20 value 20023.846047
## final value 20023.845259
## converged
## # weights: 9
## initial value 22885.138696
## iter 10 value 20032.448963
## iter 20 value 20020.666626
## iter 20 value 20020.666571
## final value 20020.666571
## converged
## # weights: 25
## initial value 21184.944831
## iter 10 value 20027.283730
## iter 20 value 20020.607074
## final value 20020.539870
## converged
## # weights: 41
## initial value 22246.628772
## iter 10 value 20037.003546
## iter 20 value 20020.719136
## final value 20020.541095
## converged
```



```
## # weights: 9
## initial value 22737.368709
## final value 20028.595700
## converged
## # weights: 25
## initial value 22522.328723
## final value 20028.595700
## converged
## # weights: 41
## initial value 21058.599525
## final value 20028.595700
## converged
## # weights: 9
## initial value 22867.785240
## iter 10 value 20034.567539
## final value 20034.105412
## converged
## # weights: 25
## initial value 23072.037478
## iter 10 value 20036.213017
## iter 20 value 20032.571531
## final value 20032.571209
## converged
## # weights: 41
## initial value 21498.853075
## iter 10 value 20043.027347
## iter 20 value 20031.917558
## final value 20031.911764
## converged
## # weights: 9
## initial value 23173.536621
## iter 10 value 20038.959875
## iter 20 value 20028.715191
## iter 20 value 20028.715143
## final value 20028.715143
## converged
## # weights: 25
## initial value 22604.945349
## iter 10 value 20042.725398
## iter 20 value 20028.758604
## final value 20028.611762
## converged
## # weights: 41
## initial value 22561.196917
## iter 10 value 20046.040247
## iter 20 value 20028.796822
## final value 20028.606553
## converged
## # weights: 9
## initial value 22520.561031
```

```
## final value 20027.409700
## converged
## # weights: 25
## initial value 22853.211806
## final value 20027.409700
## converged
## # weights: 41
## initial value 22596.409617
## final value 20027.409700
## converged
## # weights: 9
## initial value 22120.414107
## iter 10 value 20034.525217
## final value 20032.919387
## converged
## # weights: 25
## initial value 21789.035114
## iter 10 value 20032.336134
## final value 20031.385224
## converged
## # weights: 41
## initial value 21371.885345
## iter 10 value 20032.672736
## final value 20030.725900
## converged
## # weights: 9
## initial value 21970.790398
## iter 10 value 20036.995547
## iter 20 value 20027.520217
## iter 20 value 20027.520173
## final value 20027.520173
## converged
## # weights: 25
## initial value 22857.910859
## iter 10 value 20043.480327
## iter 20 value 20027.594982
## final value 20027.424093
## converged
## # weights: 41
## initial value 21185.794997
## iter 10 value 20035.771719
## iter 20 value 20027.506108
## final value 20027.419054
## converged
## # weights: 9
## initial value 21506.578696
## final value 20003.107600
## converged
## # weights: 25
## initial value 23208.048632
```

```
## final value 20003.107600
## converged
## # weights: 41
## initial value 22091.061829
## final value 20003.107600
## converged
## # weights: 9
## initial value 23588.589163
## iter 10 value 20008.887419
## final value 20008.616616
## converged
## # weights: 25
## initial value 22712.091112
## iter 10 value 20008.003711
## final value 20007.082690
## converged
## # weights: 41
## initial value 22204.777003
## iter 10 value 20007.406586
## final value 20006.423362
## converged
## # weights: 9
## initial value 22094.527081
## iter 10 value 20012.293032
## iter 20 value 20003.213501
## iter 20 value 20003.213458
## final value 20003.213458
## converged
## # weights: 25
## initial value 21991.362196
## iter 10 value 20014.660631
## iter 20 value 20003.240797
## final value 20003.119263
## converged
## # weights: 41
## initial value 22118.962116
## iter 10 value 20020.755768
## iter 20 value 20003.311070
## final value 20003.118509
## converged
## # weights: 9
## initial value 22516.470457
## final value 19991.090000
## converged
## # weights: 25
## initial value 23828.298252
## final value 19991.090000
## converged
## # weights: 41
## initial value 23203.231241
```

```
## final value 19991.090000
## converged
## # weights: 9
## initial value 22962.730795
## iter 10 value 19996.655294
## final value 19996.598794
## converged
## # weights: 25
## initial value 21980.600923
## iter 10 value 19996.610531
## iter 20 value 19995.065327
## iter 20 value 19995.065159
## iter 20 value 19995.065092
## final value 19995.065092
## converged
## # weights: 41
## initial value 22461.244675
## iter 10 value 19994.942315
## iter 20 value 19994.407689
## final value 19994.405641
## converged
## # weights: 9
## initial value 22292.873780
## iter 10 value 20000.750388
## iter 20 value 19991.201377
## iter 20 value 19991.201332
## final value 19991.201332
## converged
## # weights: 25
## initial value 23186.314423
## iter 10 value 20006.086712
## iter 20 value 19991.262900
## final value 19991.106660
## converged
## # weights: 41
## initial value 22534.405121
## iter 10 value 20009.615399
## iter 20 value 19991.303583
## final value 19991.100800
## converged
## # weights: 9
## initial value 22492.243541
## final value 20031.360500
## converged
## # weights: 25
## initial value 22343.428206
## final value 20031.360500
## converged
## # weights: 41
## initial value 22413.475227
```

```
## final value 20031.360500
## converged
## # weights: 9
## initial value 22085.846747
## iter 10 value 20038.882880
## final value 20036.870295
## converged
## # weights: 25
## initial value 23466.649573
## iter 10 value 20036.100013
## final value 20035.336104
## converged
## # weights: 41
## initial value 23134.269092
## iter 10 value 20036.383684
## iter 20 value 20034.676980
## final value 20034.676660
## converged
## # weights: 9
## initial value 21880.991773
## iter 10 value 20039.879281
## iter 20 value 20031.458715
## iter 20 value 20031.458676
## final value 20031.458676
## converged
## # weights: 25
## initial value 22760.810925
## iter 10 value 20045.773277
## iter 20 value 20031.526668
## final value 20031.375459
## converged
## # weights: 41
## initial value 22650.140836
## iter 10 value 20051.438596
## iter 20 value 20031.591985
## final value 20031.372508
## converged
## # weights: 9
## initial value 22109.632919
## final value 19946.097700
## converged
## # weights: 25
## initial value 22048.478080
## final value 19946.097700
## converged
## # weights: 41
## initial value 22796.121191
## final value 19946.097700
## converged
## # weights: 9
```

```
## initial value 22647.649424
## iter 10 value 19951.837191
## final value 19951.605675
## converged
## # weights: 25
## initial value 23263.895601
## iter 10 value 19950.945843
## final value 19950.072188
## converged
## # weights: 41
## initial value 22501.848733
## iter 10 value 19963.089911
## iter 20 value 19949.413366
## iter 20 value 19949.413171
## iter 20 value 19949.413066
## final value 19949.413066
## converged
## # weights: 9
## initial value 23269.404251
## iter 10 value 19956.786459
## iter 20 value 19946.220933
## iter 20 value 19946.220884
## final value 19946.220884
## converged
## # weights: 25
## initial value 22118.684460
## iter 10 value 19959.938156
## iter 20 value 19946.257270
## final value 19946.113713
## converged
## # weights: 41
## initial value 21686.876262
## iter 10 value 19961.224285
## iter 20 value 19946.272098
## final value 19946.107722
## converged
## # weights: 9
## initial value 21869.435200
## final value 19957.491700
## converged
## # weights: 25
## initial value 21744.709239
## final value 19957.491700
## converged
## # weights: 41
## initial value 21739.628477
## final value 19957.491700
## converged
## # weights: 9
## initial value 21941.763326
```

```
## iter 10 value 19964.872119
## final value 19962.999821
## converged
## # weights: 25
## initial value 22863.606789
## iter 10 value 19962.265369
## final value 19961.466272
## converged
## # weights: 41
## initial value 23266.174156
## iter 10 value 19961.745067
## iter 20 value 19960.807068
## iter 20 value 19960.806985
## iter 20 value 19960.806980
## final value 19960.806980
## converged
## # weights: 9
## initial value 22398.352527
## iter 10 value 19967.742734
## iter 20 value 19957.609886
## iter 20 value 19957.609839
## final value 19957.609839
## converged
## # weights: 25
## initial value 22684.867949
## iter 10 value 19971.403664
## iter 20 value 19957.652094
## final value 19957.504149
## converged
## # weights: 41
## initial value 22947.075370
## iter 10 value 19976.661034
## iter 20 value 19957.712707
## final value 19957.501935
## converged
## # weights: 9
## initial value 21461.899987
## final value 19927.214500
## converged
## # weights: 25
## initial value 22239.812727
## final value 19927.214500
## converged
## # weights: 41
## initial value 23594.893945
## final value 19927.214500
## converged
## # weights: 9
## initial value 23831.385905
## iter 10 value 19934.777750
```

```
## final value 19932.722092
## converged
## # weights: 25
## initial value 23139.399034
## iter 10 value 19943.079031
## iter 20 value 19931.282281
## final value 19931.188682
## converged
## # weights: 41
## initial value 23008.994095
## iter 10 value 19935.748934
## iter 20 value 19930.529628
## iter 20 value 19930.529557
## iter 20 value 19930.529532
## final value 19930.529532
## converged
## # weights: 9
## initial value 22936.129061
## iter 10 value 19938.709381
## iter 20 value 19927.347027
## iter 20 value 19927.346974
## final value 19927.346974
## converged
## # weights: 25
## initial value 21974.096064
## iter 10 value 19938.491546
## iter 20 value 19927.344515
## final value 19927.226266
## converged
## # weights: 41
## initial value 21442.993659
## iter 10 value 19939.940378
## iter 20 value 19927.361219
## final value 19927.223699
## converged
## # weights: 9
## initial value 22135.355886
## final value 20052.866000
## converged
## # weights: 25
## initial value 23672.436453
## final value 20052.866000
## converged
## # weights: 41
## initial value 21723.051891
## final value 20052.866000
## converged
## # weights: 9
## initial value 23258.416001
## iter 10 value 20059.874291
```



```
## final value 20058.376801
## converged
## # weights: 25
## initial value 23038.007810
## iter 10 value 20066.044894
## iter 20 value 20056.842638
## iter 20 value 20056.842461
## iter 20 value 20056.842450
## final value 20056.842450
## converged
## # weights: 41
## initial value 23413.290873
## iter 10 value 20067.432130
## iter 20 value 20056.183686
## final value 20056.182784
## converged
## # weights: 9
## initial value 23213.374297
## iter 10 value 20063.909150
## iter 20 value 20052.993319
## iter 20 value 20052.993268
## final value 20052.993268
## converged
## # weights: 25
## initial value 22898.523601
## iter 10 value 20068.743676
## iter 20 value 20053.049057
## final value 20052.877746
## converged
## # weights: 41
## initial value 22256.682417
## iter 10 value 20070.733279
## iter 20 value 20053.071996
## final value 20052.875883
## converged
## # weights: 9
## initial value 22961.682176
## final value 20011.186000
## converged
## # weights: 25
## initial value 22928.160121
## final value 20011.186000
## converged
## # weights: 41
## initial value 23052.699195
## final value 20011.186000
## converged
## # weights: 9
## initial value 23317.929850
## iter 10 value 20017.019970
```

```
## final value 20016.695224
## converged
## # weights: 25
## initial value 22516.248590
## iter 10 value 20019.118064
## final value 20015.161290
## converged
## # weights: 41
## initial value 22060.194465
## iter 10 value 20015.689983
## final value 20014.502002
## converged
## # weights: 9
## initial value 23029.480622
## iter 10 value 20021.776536
## iter 20 value 20011.308101
## iter 20 value 20011.308052
## final value 20011.308052
## converged
## # weights: 25
## initial value 22782.943923
## iter 10 value 20025.883670
## iter 20 value 20011.355453
## final value 20011.199791
## converged
## # weights: 41
## initial value 23564.242470
## iter 10 value 20027.720787
## iter 20 value 20011.376633
## final value 20011.198043
## converged
## # weights: 9
## initial value 22054.908670
## final value 20058.885200
## converged
## # weights: 25
## initial value 24106.340609
## final value 20058.885200
## converged
## # weights: 41
## initial value 22054.842861
## final value 20058.885200
## converged
## # weights: 9
## initial value 22690.343386
## iter 10 value 20064.452750
## final value 20064.396306
## converged
## # weights: 25
## initial value 24162.192749
```

```
## iter 10 value 20065.721909
## iter 20 value 20062.862829
## final value 20062.861629
## converged
## # weights: 41
## initial value 24371.459802
## iter 10 value 20071.529642
## iter 20 value 20062.204280
## final value 20062.202088
## converged
## # weights: 9
## initial value 22549.286651
## iter 10 value 20070.132333
## iter 20 value 20059.014871
## iter 20 value 20059.014819
## final value 20059.014819
## converged
## # weights: 25
## initial value 22705.637559
## iter 10 value 20074.415230
## iter 20 value 20059.064249
## final value 20058.900381
## converged
## # weights: 41
## initial value 21908.932678
## iter 10 value 20072.585071
## iter 20 value 20059.043149
## final value 20058.894194
## converged
## # weights: 9
## initial value 21906.815701
## final value 19963.569700
## converged
## # weights: 25
## initial value 23215.444126
## final value 19963.569700
## converged
## # weights: 41
## initial value 22783.108075
## final value 19963.569700
## converged
## # weights: 9
## initial value 22979.132746
## iter 10 value 19969.843357
## final value 19969.077726
## converged
## # weights: 25
## initial value 22179.454517
## iter 10 value 19972.397046
## final value 19967.544103
```

```
## converged
## # weights: 41
## initial value 22286.669291
## iter 10 value 19980.841841
## iter 20 value 19966.890289
## final value 19966.884823
## converged
## # weights: 9
## initial value 22575.632234
## iter 10 value 19974.738256
## iter 20 value 19963.698465
## iter 20 value 19963.698413
## final value 19963.698413
## converged
## # weights: 25
## initial value 22913.846385
## iter 10 value 19977.874832
## iter 20 value 19963.734627
## final value 19963.582191
## converged
## # weights: 41
## initial value 22402.707048
## iter 10 value 19980.191587
## iter 20 value 19963.761337
## final value 19963.579912
## converged
## # weights: 9
## initial value 23643.392808
## final value 19992.610100
## converged
## # weights: 25
## initial value 22341.749074
## final value 19992.610100
## converged
## # weights: 41
## initial value 22343.835783
## final value 19992.610100
## converged
## # weights: 9
## initial value 22163.057909
## iter 10 value 19999.812949
## final value 19998.118917
## converged
## # weights: 25
## initial value 23699.909516
## iter 10 value 19997.326691
## final value 19996.585124
## converged
## # weights: 41
## initial value 22679.829072
```

```
## iter 10 value 19996.477479
## final value 19995.925779
## converged
## # weights: 9
## initial value 22791.778628
## iter 10 value 20003.926217
## iter 20 value 19992.740566
## iter 20 value 19992.740514
## final value 19992.740514
## converged
## # weights: 25
## initial value 21909.998628
## iter 10 value 20006.641932
## iter 20 value 19992.771876
## final value 19992.622192
## converged
## # weights: 41
## initial value 21658.510039
## iter 10 value 20006.719183
## iter 20 value 19992.772767
## final value 19992.620108
## converged
## # weights: 9
## initial value 23263.703396
## final value 20005.865200
## converged
## # weights: 25
## initial value 23409.533085
## final value 20005.865200
## converged
## # weights: 41
## initial value 23921.309922
## final value 20005.865200
## converged
## # weights: 9
## initial value 22524.802482
## iter 10 value 20011.927085
## final value 20011.374308
## converged
## # weights: 25
## initial value 21013.307756
## iter 10 value 20011.902549
## iter 20 value 20009.840536
## iter 20 value 20009.840434
## iter 20 value 20009.840407
## final value 20009.840407
## converged
## # weights: 41
## initial value 23910.159497
## iter 10 value 20012.909448
```

```
## iter 20 value 20009.181106
## iter 20 value 20009.181039
## iter 20 value 20009.181033
## final value 20009.181033
## converged
## # weights: 9
## initial value 22765.915089
## iter 10 value 20016.225903
## iter 20 value 20005.984651
## iter 20 value 20005.984603
## final value 20005.984603
## converged
## # weights: 25
## initial value 22199.271262
## iter 10 value 20019.419201
## iter 20 value 20006.021467
## final value 20005.879512
## converged
## # weights: 41
## initial value 21404.391435
## iter 10 value 20018.734862
## iter 20 value 20006.013577
## final value 20005.874741
## converged
## # weights: 9
## initial value 23555.053751
## final value 20022.082000
## converged
## # weights: 25
## initial value 22350.791356
## final value 20022.082000
## converged
## # weights: 41
## initial value 23392.134930
## final value 20022.082000
## converged
## # weights: 9
## initial value 23097.576169
## iter 10 value 20028.374351
## final value 20027.591525
## converged
## # weights: 25
## initial value 22403.893954
## iter 10 value 20027.167968
## final value 20026.057413
## converged
## # weights: 41
## initial value 22866.274276
## iter 10 value 20026.529059
## final value 20025.398132
```

```
## converged
## # weights: 9
## initial value 22046.906579
## iter 10 value 20031.196306
## iter 20 value 20022.187081
## iter 20 value 20022.187039
## final value 20022.187039
## converged
## # weights: 25
## initial value 24188.347086
## iter 10 value 20030.941140
## iter 20 value 20022.184139
## final value 20022.103787
## converged
## # weights: 41
## initial value 23472.083502
## iter 10 value 20039.662385
## iter 20 value 20022.284688
## final value 20022.094308
## converged
## # weights: 9
## initial value 22875.551575
## final value 20044.851700
## converged
## # weights: 25
## initial value 23272.207431
## final value 20044.851700
## converged
## # weights: 41
## initial value 22371.683977
## final value 20044.851700
## converged
## # weights: 9
## initial value 23340.128500
## iter 10 value 20053.359694
## iter 20 value 20050.362104
## iter 20 value 20050.362084
## final value 20050.362084
## converged
## # weights: 25
## initial value 23054.177171
## iter 10 value 20049.260085
## iter 20 value 20048.827779
## iter 20 value 20048.827694
## iter 20 value 20048.827663
## final value 20048.827663
## converged
## # weights: 41
## initial value 23640.270184
## iter 10 value 20063.117751
```

```
## iter 20 value 20048.168749
## final value 20048.168197
## converged
## # weights: 9
## initial value 23054.575563
## iter 10 value 20055.221752
## iter 20 value 20044.971259
## iter 20 value 20044.971211
## final value 20044.971211
## converged
## # weights: 25
## initial value 22923.140686
## iter 10 value 20061.151620
## iter 20 value 20045.039625
## final value 20044.872224
## converged
## # weights: 41
## initial value 22929.304155
## iter 10 value 20064.767177
## iter 20 value 20045.081310
## final value 20044.862965
## converged
## # weights: 9
## initial value 22406.965682
## final value 19981.990000
## converged
## # weights: 25
## initial value 22756.113799
## final value 19981.990000
## converged
## # weights: 41
## initial value 21451.742275
## final value 19981.990000
## converged
## # weights: 9
## initial value 23199.885467
## iter 10 value 19987.999016
## final value 19987.498612
## converged
## # weights: 25
## initial value 21765.915680
## iter 10 value 19987.636907
## iter 20 value 19985.965159
## final value 19985.964854
## converged
## # weights: 41
## initial value 21808.942297
## iter 10 value 19986.515286
## iter 20 value 19985.305913
## final value 19985.305587
```



```
## converged
## # weights: 9
## initial value 22056.300401
## iter 10 value 19992.702568
## iter 20 value 19982.113507
## iter 20 value 19982.113458
## final value 19982.113458
## converged
## # weights: 25
## initial value 21898.146219
## iter 10 value 19996.666462
## iter 20 value 19982.159208
## final value 19982.003667
## converged
## # weights: 41
## initial value 23354.301415
## iter 10 value 20004.249105
## iter 20 value 19982.246630
## final value 19982.004595
## converged
## # weights: 9
## initial value 22663.918557
## final value 19943.705200
## converged
## # weights: 25
## initial value 22143.351361
## final value 19943.705200
## converged
## # weights: 41
## initial value 21608.346534
## final value 19943.705200
## converged
## # weights: 9
## initial value 22702.408689
## iter 10 value 19950.008465
## final value 19949.213101
## converged
## # weights: 25
## initial value 22287.208374
## iter 10 value 19953.880428
## iter 20 value 19947.681666
## final value 19947.679582
## converged
## # weights: 41
## initial value 22744.670566
## iter 10 value 19959.936435
## iter 20 value 19947.020692
## final value 19947.020396
## converged
## # weights: 9
```

```
## initial value 21953.725134
## iter 10 value 19953.128128
## iter 20 value 19943.813839
## iter 20 value 19943.813796
## final value 19943.813796
## converged
## # weights: 25
## initial value 23045.245772
## iter 10 value 19958.263279
## iter 20 value 19943.873043
## final value 19943.721772
## converged
## # weights: 41
## initial value 23128.359501
## iter 10 value 19962.208799
## iter 20 value 19943.918532
## final value 19943.715981
## converged
## # weights: 9
## initial value 22016.924019
## final value 20013.749200
## converged
## # weights: 25
## initial value 22637.645743
## final value 20013.749200
## converged
## # weights: 41
## initial value 22111.254490
## final value 20013.749200
## converged
## # weights: 9
## initial value 23470.490959
## iter 10 value 20020.570739
## final value 20019.258497
## converged
## # weights: 25
## initial value 22437.414228
## iter 10 value 20018.502392
## final value 20017.724505
## converged
## # weights: 41
## initial value 23459.133791
## iter 10 value 20020.734810
## iter 20 value 20017.065351
## final value 20017.065073
## converged
## # weights: 9
## initial value 22436.604042
## iter 10 value 20025.530854
## iter 20 value 20013.885033
```

```
## iter 20 value 20013.884979
## final value 20013.884979
## converged
## # weights: 25
## initial value 23582.730008
## iter 10 value 20027.575030
## iter 20 value 20013.908601
## final value 20013.767035
## converged
## # weights: 41
## initial value 24039.076138
## iter 10 value 20026.124719
## iter 20 value 20013.891880
## final value 20013.761189
## converged
## # weights: 9
## initial value 22451.376050
## final value 20048.881700
## converged
## # weights: 25
## initial value 22953.126916
## final value 20048.881700
## converged
## # weights: 41
## initial value 21636.808947
## final value 20048.881700
## converged
## # weights: 9
## initial value 22634.326396
## iter 10 value 20054.636299
## final value 20054.392272
## converged
## # weights: 25
## initial value 21904.951794
## iter 10 value 20055.304636
## final value 20052.857943
## converged
## # weights: 41
## initial value 22998.087651
## iter 10 value 20056.634280
## iter 20 value 20052.198748
## final value 20052.198332
## converged
## # weights: 9
## initial value 22727.942851
## iter 10 value 20060.030365
## iter 20 value 20049.010235
## iter 20 value 20049.010184
## final value 20049.010184
## converged
```

```
## # weights: 25
## initial value 22880.757213
## iter 10 value 20063.312833
## iter 20 value 20049.048080
## final value 20048.894855
## converged
## # weights: 41
## initial value 23476.149128
## iter 10 value 20066.928363
## iter 20 value 20049.089764
## final value 20048.892008
## converged
## # weights: 9
## initial value 23265.990026
## final value 20039.160100
## converged
## # weights: 25
## initial value 22282.619832
## final value 20039.160100
## converged
## # weights: 41
## initial value 22743.456083
## final value 20039.160100
## converged
## # weights: 9
## initial value 23700.991109
## iter 10 value 20045.057508
## final value 20044.670216
## converged
## # weights: 25
## initial value 23547.485098
## iter 10 value 20044.575980
## iter 20 value 20043.136244
## final value 20043.135926
## converged
## # weights: 41
## initial value 22814.096087
## iter 10 value 20054.818344
## iter 20 value 20042.478257
## final value 20042.476443
## converged
## # weights: 9
## initial value 23080.098937
## iter 10 value 20050.972068
## iter 20 value 20039.296283
## iter 20 value 20039.296228
## final value 20039.296228
## converged
## # weights: 25
## initial value 24047.273579
```

```
## iter 10 value 20048.977011
## iter 20 value 20039.273281
## final value 20039.181822
## converged
## # weights: 41
## initial value 23203.116606
## iter 10 value 20061.154556
## iter 20 value 20039.413679
## final value 20039.171441
## converged
## # weights: 9
## initial value 22777.254449
## final value 19995.272500
## converged
## # weights: 25
## initial value 21902.598075
## final value 19995.272500
## converged
## # weights: 41
## initial value 22992.691126
## final value 19995.272500
## converged
## # weights: 9
## initial value 23887.879196
## iter 10 value 20001.336599
## final value 20000.781368
## converged
## # weights: 25
## initial value 22205.247347
## iter 10 value 20001.953022
## iter 20 value 19999.247553
## iter 20 value 19999.247491
## iter 20 value 19999.247488
## final value 19999.247488
## converged
## # weights: 41
## initial value 22433.983037
## iter 10 value 20015.552715
## iter 20 value 19998.751828
## iter 30 value 19998.588429
## iter 30 value 19998.588298
## iter 30 value 19998.588261
## final value 19998.588261
## converged
## # weights: 9
## initial value 22593.174303
## iter 10 value 20005.098981
## iter 20 value 19995.385792
## iter 20 value 19995.385746
## final value 19995.385746
```

```
## converged
## # weights: 25
## initial value 22283.889160
## iter 10 value 20008.685980
## iter 20 value 19995.427147
## final value 19995.284346
## converged
## # weights: 41
## initial value 21591.604509
## iter 10 value 20008.190050
## iter 20 value 19995.421429
## final value 19995.282629
## converged
## # weights: 9
## initial value 22833.065181
## final value 19959.537700
## converged
## # weights: 25
## initial value 22560.851418
## final value 19959.537700
## converged
## # weights: 41
## initial value 21981.479876
## final value 19959.537700
## converged
## # weights: 9
## initial value 21833.650799
## iter 10 value 19965.290857
## final value 19965.045923
## converged
## # weights: 25
## initial value 23510.903911
## iter 10 value 19966.493685
## iter 20 value 19963.514863
## final value 19963.512306
## converged
## # weights: 41
## initial value 22967.882477
## iter 10 value 19966.497601
## final value 19962.853206
## converged
## # weights: 9
## initial value 23615.405817
## iter 10 value 19968.852193
## iter 20 value 19959.645089
## iter 20 value 19959.645046
## final value 19959.645046
## converged
## # weights: 25
## initial value 22868.549441
```

```
## iter 10 value 19974.029054
## iter 20 value 19959.704774
## final value 19959.550633
## converged
## # weights: 41
## initial value 22927.180265
## iter 10 value 19977.415052
## iter 20 value 19959.743812
## final value 19959.549201
## converged
## # weights: 9
## initial value 21879.329856
## final value 19990.409200
## converged
## # weights: 25
## initial value 22543.358588
## final value 19990.409200
## converged
## # weights: 41
## initial value 22742.310334
## final value 19990.409200
## converged
## # weights: 9
## initial value 22526.128117
## iter 10 value 20011.734177
## iter 20 value 19995.920886
## final value 19995.917929
## converged
## # weights: 25
## initial value 22407.376017
## iter 10 value 19997.718479
## iter 20 value 19994.384338
## iter 20 value 19994.384152
## iter 20 value 19994.384099
## final value 19994.384099
## converged
## # weights: 41
## initial value 22949.673058
## iter 10 value 19995.051406
## iter 20 value 19993.725943
## final value 19993.724892
## converged
## # weights: 9
## initial value 22301.772168
## iter 10 value 19999.991691
## iter 20 value 19990.519679
## iter 20 value 19990.519634
## final value 19990.519634
## converged
## # weights: 25
```

```
## initial value 22608.829959
## iter 10 value 20003.657694
## iter 20 value 19990.561945
## final value 19990.424314
## converged
## # weights: 41
## initial value 23666.849725
## iter 10 value 20006.608095
## iter 20 value 19990.595961
## final value 19990.423161
## converged
## # weights: 9
## initial value 22416.738526
## final value 20036.647600
## converged
## # weights: 25
## initial value 21756.094300
## final value 20036.647600
## converged
## # weights: 41
## initial value 23228.578586
## final value 20036.647600
## converged
## # weights: 9
## initial value 23120.653748
## iter 10 value 20042.302108
## final value 20042.157616
## converged
## # weights: 25
## initial value 21732.830557
## iter 10 value 20057.756749
## iter 20 value 20040.624531
## final value 20040.623843
## converged
## # weights: 41
## initial value 22248.332509
## iter 10 value 20040.980303
## final value 20039.963988
## converged
## # weights: 9
## initial value 22727.313909
## iter 10 value 20047.351648
## iter 20 value 20036.771009
## iter 20 value 20036.770960
## final value 20036.770960
## converged
## # weights: 25
## initial value 23639.510029
## iter 10 value 20049.785632
## iter 20 value 20036.799071
```



```
## final value 20036.663018
## converged
## # weights: 41
## initial value 23144.922636
## iter 10 value 20054.496989
## iter 20 value 20036.853389
## final value 20036.658363
## converged
## # weights: 9
## initial value 22751.235778
## final value 20029.530100
## converged
## # weights: 25
## initial value 21592.543259
## final value 20029.530100
## converged
## # weights: 41
## initial value 24308.378957
## final value 20029.530100
## converged
## # weights: 9
## initial value 21883.021297
## iter 10 value 20035.176577
## final value 20035.039864
## converged
## # weights: 25
## initial value 22013.281263
## iter 10 value 20034.111495
## iter 20 value 20033.506479
## final value 20033.505679
## converged
## # weights: 41
## initial value 22311.717329
## iter 10 value 20045.939190
## iter 20 value 20032.850085
## final value 20032.846286
## converged
## # weights: 9
## initial value 22727.130131
## iter 10 value 20039.148470
## iter 20 value 20029.640992
## iter 20 value 20029.640948
## final value 20029.640948
## converged
## # weights: 25
## initial value 22197.490916
## iter 10 value 20044.790450
## iter 20 value 20029.706040
## final value 20029.544294
## converged
```

```
## # weights: 41
## initial value 24201.570553
## iter 10 value 20043.034586
## iter 20 value 20029.685796
## final value 20029.543724
## converged
## # weights: 9
## initial value 23559.991385
## final value 19993.781200
## converged
## # weights: 25
## initial value 22821.487021
## final value 19993.781200
## converged
## # weights: 41
## initial value 23778.070973
## final value 19993.781200
## converged
## # weights: 9
## initial value 22338.421652
## iter 10 value 19999.579690
## final value 19999.290023
## converged
## # weights: 25
## initial value 22395.079946
## iter 10 value 20000.789264
## iter 20 value 19997.761847
## final value 19997.756158
## converged
## # weights: 41
## initial value 23158.391301
## iter 10 value 19998.587378
## iter 20 value 19997.097083
## iter 20 value 19997.096905
## iter 20 value 19997.096864
## final value 19997.096864
## converged
## # weights: 9
## initial value 23475.056416
## iter 10 value 20003.265932
## iter 20 value 19993.890552
## iter 20 value 19993.890508
## final value 19993.890508
## converged
## # weights: 25
## initial value 22593.431877
## iter 10 value 20009.822776
## iter 20 value 19993.966147
## final value 19993.795527
## converged
```

```
## # weights: 41
## initial value 22715.748927
## iter 10 value 20011.165019
## iter 20 value 19993.981622
## final value 19993.794157
## converged
## # weights: 9
## initial value 23931.807255
## final value 20018.011700
## converged
## # weights: 25
## initial value 23832.356212
## final value 20018.011700
## converged
## # weights: 41
## initial value 22757.069798
## final value 20018.011700
## converged
## # weights: 9
## initial value 21764.037034
## iter 10 value 20024.142710
## final value 20023.521091
## converged
## # weights: 25
## initial value 22204.074710
## iter 10 value 20022.445249
## final value 20021.987027
## converged
## # weights: 41
## initial value 23934.865831
## iter 10 value 20029.847382
## iter 20 value 20021.327821
## iter 20 value 20021.327726
## iter 20 value 20021.327681
## final value 20021.327681
## converged
## # weights: 9
## initial value 23209.639109
## iter 10 value 20028.450876
## iter 20 value 20018.132056
## iter 20 value 20018.132007
## final value 20018.132007
## converged
## # weights: 25
## initial value 23552.705604
## iter 10 value 20030.656678
## iter 20 value 20018.157487
## final value 20018.026075
## converged
## # weights: 41
```

```
## initial value 22667.728457
## iter 10 value 20037.052368
## iter 20 value 20018.231224
## final value 20018.025077
## converged
## # weights: 9
## initial value 23892.635516
## final value 20034.118000
## converged
## # weights: 25
## initial value 22510.274436
## final value 20034.118000
## converged
## # weights: 41
## initial value 22857.152728
## final value 20034.118000
## converged
## # weights: 9
## initial value 22372.977407
## iter 10 value 20054.735134
## iter 20 value 20039.629785
## final value 20039.627999
## converged
## # weights: 25
## initial value 23224.936554
## iter 10 value 20039.081964
## final value 20038.093693
## converged
## # weights: 41
## initial value 23848.066438
## iter 10 value 20051.773717
## iter 20 value 20037.437229
## final value 20037.434236
## converged
## # weights: 9
## initial value 22264.739741
## iter 10 value 20044.866489
## iter 20 value 20034.241922
## iter 20 value 20034.241872
## final value 20034.241872
## converged
## # weights: 25
## initial value 23365.531043
## iter 10 value 20047.589684
## iter 20 value 20034.273318
## final value 20034.131831
## converged
## # weights: 41
## initial value 23482.648148
## iter 10 value 20052.540984
```

```
## iter 20 value 20034.330403
## final value 20034.130465
## converged
## # weights: 9
## initial value 23274.352297
## final value 19849.133200
## converged
## # weights: 25
## initial value 22002.151986
## final value 19849.133200
## converged
## # weights: 41
## initial value 23336.715936
## final value 19849.133200
## converged
## # weights: 9
## initial value 22366.099296
## iter 10 value 19856.264820
## final value 19854.639910
## converged
## # weights: 25
## initial value 21708.997370
## iter 10 value 19854.718545
## iter 20 value 19853.107066
## iter 20 value 19853.106957
## iter 20 value 19853.106916
## final value 19853.106916
## converged
## # weights: 41
## initial value 23177.646678
## iter 10 value 19856.580233
## iter 20 value 19852.448211
## final value 19852.447860
## converged
## # weights: 9
## initial value 21680.402613
## iter 10 value 19858.209778
## iter 20 value 19849.237846
## iter 20 value 19849.237804
## final value 19849.237804
## converged
## # weights: 25
## initial value 22029.308436
## iter 10 value 19863.710228
## iter 20 value 19849.301262
## final value 19849.148421
## converged
## # weights: 41
## initial value 22569.097428
## iter 10 value 19870.224528
```

```
## iter 20 value 19849.376366
## final value 19849.142935
## converged
## # weights: 9
## initial value 22398.294120
## final value 20033.902000
## converged
## # weights: 25
## initial value 23430.376771
## final value 20033.902000
## converged
## # weights: 41
## initial value 21853.190240
## final value 20033.902000
## converged
## # weights: 9
## initial value 23298.036363
## iter 10 value 20039.473364
## final value 20039.411879
## converged
## # weights: 25
## initial value 23047.515431
## iter 10 value 20038.220367
## final value 20037.877669
## converged
## # weights: 41
## initial value 23472.055569
## iter 10 value 20043.657976
## iter 20 value 20037.218843
## final value 20037.218182
## converged
## # weights: 9
## initial value 22829.960104
## iter 10 value 20045.425328
## iter 20 value 20034.034855
## iter 20 value 20034.034802
## final value 20034.034802
## converged
## # weights: 25
## initial value 23228.193382
## iter 10 value 20048.147248
## iter 20 value 20034.066237
## final value 20033.921432
## converged
## # weights: 41
## initial value 21354.144152
## iter 10 value 20044.219517
## iter 20 value 20034.020953
## final value 20033.911627
## converged
```

```
## # weights: 9
## initial value 21740.806599
## final value 19980.723700
## converged
## # weights: 25
## initial value 22883.790768
## final value 19980.723700
## converged
## # weights: 41
## initial value 21736.034525
## final value 19980.723700
## converged
## # weights: 9
## initial value 21840.338698
## iter 10 value 19986.616436
## final value 19986.232235
## converged
## # weights: 25
## initial value 22716.741921
## iter 10 value 19985.192230
## final value 19984.698497
## converged
## # weights: 41
## initial value 22756.438634
## iter 10 value 20003.422303
## iter 20 value 19984.142077
## final value 19984.039205
## converged
## # weights: 9
## initial value 22311.937168
## iter 10 value 19992.225859
## iter 20 value 19980.856311
## iter 20 value 19980.856258
## final value 19980.856258
## converged
## # weights: 25
## initial value 21577.510076
## iter 10 value 19989.506390
## iter 20 value 19980.824958
## final value 19980.735081
## converged
## # weights: 41
## initial value 22139.318196
## iter 10 value 19998.966324
## iter 20 value 19980.934023
## final value 19980.732448
## converged
## # weights: 9
## initial value 21605.308218
## final value 20027.529200
```

```
## converged
## # weights: 25
## initial value 23060.905924
## final value 20027.529200
## converged
## # weights: 41
## initial value 22272.685659
## final value 20027.529200
## converged
## # weights: 9
## initial value 23916.467824
## iter 10 value 20033.207052
## final value 20033.038891
## converged
## # weights: 25
## initial value 21930.151397
## iter 10 value 20039.860878
## iter 20 value 20031.504819
## iter 20 value 20031.504755
## iter 20 value 20031.504748
## final value 20031.504748
## converged
## # weights: 41
## initial value 22854.618337
## iter 10 value 20031.503017
## final value 20030.845278
## converged
## # weights: 9
## initial value 22058.022782
## iter 10 value 20036.655520
## iter 20 value 20027.634419
## iter 20 value 20027.634377
## final value 20027.634377
## converged
## # weights: 25
## initial value 21873.862578
## iter 10 value 20040.471655
## iter 20 value 20027.678416
## final value 20027.540318
## converged
## # weights: 41
## initial value 23873.798985
## iter 10 value 20042.096575
## iter 20 value 20027.697150
## final value 20027.547257
## converged
## # weights: 9
## initial value 22634.128040
## final value 20039.550500
## converged
```



```
## # weights: 25
## initial value 23026.820933
## final value 20039.550500
## converged
## # weights: 41
## initial value 22622.830628
## final value 20039.550500
## converged
## # weights: 9
## initial value 22920.159011
## iter 10 value 20061.476747
## iter 20 value 20045.139394
## final value 20045.060623
## converged
## # weights: 25
## initial value 21923.079026
## iter 10 value 20046.269376
## iter 20 value 20043.527508
## final value 20043.526339
## converged
## # weights: 41
## initial value 24468.425270
## iter 10 value 20046.626960
## iter 20 value 20042.867231
## final value 20042.866889
## converged
## # weights: 9
## initial value 23015.215729
## iter 10 value 20050.745652
## iter 20 value 20039.679571
## iter 20 value 20039.679520
## final value 20039.679520
## converged
## # weights: 25
## initial value 24104.119917
## iter 10 value 20049.493012
## iter 20 value 20039.665129
## final value 20039.569334
## converged
## # weights: 41
## initial value 23274.618729
## iter 10 value 20057.020885
## iter 20 value 20039.751920
## final value 20039.564233
## converged
## # weights: 9
## initial value 22261.921144
## final value 20020.659700
## converged
## # weights: 25
```

```
## initial value 23129.863803
## final value 20020.659700
## converged
## # weights: 41
## initial value 22717.003386
## final value 20020.659700
## converged
## # weights: 9
## initial value 22944.940934
## iter 10 value 20027.899908
## final value 20026.169186
## converged
## # weights: 25
## initial value 23076.883968
## iter 10 value 20025.525689
## final value 20024.635084
## converged
## # weights: 41
## initial value 22897.911629
## iter 10 value 20037.242643
## iter 20 value 20023.976134
## final value 20023.975721
## converged
## # weights: 9
## initial value 22443.001504
## iter 10 value 20030.856927
## iter 20 value 20020.777266
## iter 20 value 20020.777219
## final value 20020.777219
## converged
## # weights: 25
## initial value 23358.349801
## iter 10 value 20035.415677
## iter 20 value 20020.829825
## final value 20020.673113
## converged
## # weights: 41
## initial value 22277.637731
## iter 10 value 20039.183086
## iter 20 value 20020.873260
## final value 20020.670779
## converged
## # weights: 9
## initial value 23141.090526
## final value 19996.584500
## converged
## # weights: 25
## initial value 21967.737753
## final value 19996.584500
## converged
```

```
## # weights: 41
## initial value 22064.502143
## final value 19996.584500
## converged
## # weights: 9
## initial value 22732.432968
## iter 10 value 20003.114672
## final value 20002.093314
## converged
## # weights: 25
## initial value 22186.833655
## iter 10 value 20003.435116
## final value 20000.559499
## converged
## # weights: 41
## initial value 22971.657879
## iter 10 value 20013.599554
## iter 20 value 19999.903261
## final value 19999.900103
## converged
## # weights: 9
## initial value 22935.288389
## iter 10 value 20006.460530
## iter 20 value 19996.698363
## iter 20 value 19996.698317
## final value 19996.698317
## converged
## # weights: 25
## initial value 22335.013137
## iter 10 value 20009.990039
## iter 20 value 19996.739055
## final value 19996.595498
## converged
## # weights: 41
## initial value 23747.735565
## iter 10 value 20013.223666
## iter 20 value 19996.776337
## final value 19996.596909
## converged
## # weights: 9
## initial value 23702.121612
## final value 19975.560500
## converged
## # weights: 25
## initial value 23249.924295
## final value 19975.560500
## converged
## # weights: 41
## initial value 23401.107402
## final value 19975.560500
```

```
## converged
## # weights: 9
## initial value 23239.943797
## iter 10 value 19983.677078
## final value 19981.068997
## converged
## # weights: 25
## initial value 22577.606645
## iter 10 value 19980.227954
## final value 19979.535377
## converged
## # weights: 41
## initial value 22741.432160
## iter 10 value 19979.645136
## final value 19978.875992
## converged
## # weights: 9
## initial value 21898.894017
## iter 10 value 19984.971748
## iter 20 value 19975.669004
## iter 20 value 19975.668961
## final value 19975.668961
## converged
## # weights: 25
## initial value 23567.924510
## iter 10 value 19986.948160
## iter 20 value 19975.691791
## final value 19975.574371
## converged
## # weights: 41
## initial value 22646.211913
## iter 10 value 19992.396818
## iter 20 value 19975.754610
## final value 19975.574910
## converged
## # weights: 9
## initial value 22154.062406
## final value 20060.414500
## converged
## # weights: 25
## initial value 23599.458462
## final value 20060.414500
## converged
## # weights: 41
## initial value 21747.039667
## final value 20060.414500
## converged
## # weights: 9
## initial value 22001.991600
## iter 10 value 20066.025215
```

```
## final value 20065.925954
## converged
## # weights: 25
## initial value 22469.083176
## iter 10 value 20065.962759
## iter 20 value 20064.404409
## final value 20064.391276
## converged
## # weights: 41
## initial value 23505.222464
## iter 10 value 20064.837118
## final value 20063.731671
## converged
## # weights: 9
## initial value 22545.785553
## iter 10 value 20071.455340
## iter 20 value 20060.541792
## iter 20 value 20060.541741
## final value 20060.541741
## converged
## # weights: 25
## initial value 21618.155178
## iter 10 value 20070.942927
## iter 20 value 20060.535884
## final value 20060.426614
## converged
## # weights: 41
## initial value 22475.448566
## iter 10 value 20081.281214
## iter 20 value 20060.655077
## final value 20060.423900
## converged
## # weights: 9
## initial value 23076.321206
## final value 19948.680100
## converged
## # weights: 25
## initial value 24093.558496
## final value 19948.680100
## converged
## # weights: 41
## initial value 22912.684751
## final value 19948.680100
## converged
## # weights: 9
## initial value 22748.790985
## iter 10 value 19956.251900
## final value 19954.188108
## converged
## # weights: 25
```

```
## initial value 23425.917905
## iter 10 value 19953.868908
## iter 20 value 19952.654649
## iter 20 value 19952.654571
## iter 20 value 19952.654567
## final value 19952.654567
## converged
## # weights: 41
## initial value 23893.628507
## iter 10 value 19955.788084
## iter 20 value 19951.995519
## iter 20 value 19951.995407
## iter 20 value 19951.995407
## final value 19951.995407
## converged
## # weights: 9
## initial value 23634.354905
## iter 10 value 19956.608733
## iter 20 value 19948.771511
## iter 20 value 19948.771474
## final value 19948.771474
## converged
## # weights: 25
## initial value 21929.206728
## iter 10 value 19961.226550
## iter 20 value 19948.824751
## final value 19948.692792
## converged
## # weights: 41
## initial value 22281.429863
## iter 10 value 19965.203678
## iter 20 value 19948.870604
## final value 19948.693181
## converged
## # weights: 9
## initial value 21801.042690
## final value 20049.554000
## converged
## # weights: 25
## initial value 24117.529036
## final value 20049.554000
## converged
## # weights: 41
## initial value 21533.621745
## final value 20049.554000
## converged
## # weights: 9
## initial value 22191.794765
## iter 10 value 20055.376776
## final value 20055.064609
```

```
## converged
## # weights: 25
## initial value 22337.634918
## iter 10 value 20054.245777
## final value 20053.530206
## converged
## # weights: 41
## initial value 22524.100808
## iter 10 value 20057.228729
## iter 20 value 20052.947909
## iter 30 value 20052.871070
## final value 20052.870649
## converged
## # weights: 9
## initial value 23321.059354
## iter 10 value 20060.658140
## iter 20 value 20049.682022
## iter 20 value 20049.681971
## final value 20049.681971
## converged
## # weights: 25
## initial value 23025.856332
## iter 10 value 20064.178522
## iter 20 value 20049.722609
## final value 20049.569943
## converged
## # weights: 41
## initial value 24413.356891
## iter 10 value 20059.255837
## iter 20 value 20049.665855
## final value 20049.569370
## converged
## # weights: 9
## initial value 22207.003024
## final value 20035.817200
## converged
## # weights: 25
## initial value 22587.990424
## final value 20035.817200
## converged
## # weights: 41
## initial value 23205.403957
## final value 20035.817200
## converged
## # weights: 9
## initial value 22205.703039
## iter 10 value 20041.455041
## final value 20041.327166
## converged
## # weights: 25
```

```
## initial value 23461.546393
## iter 10 value 20040.310058
## iter 20 value 20039.793364
## final value 20039.793007
## converged
## # weights: 41
## initial value 23292.240727
## iter 10 value 20040.703102
## iter 20 value 20039.133477
## iter 20 value 20039.133439
## iter 20 value 20039.133427
## final value 20039.133427
## converged
## # weights: 9
## initial value 23365.180228
## iter 10 value 20045.849341
## iter 20 value 20035.932863
## iter 20 value 20035.932816
## final value 20035.932816
## converged
## # weights: 25
## initial value 23223.525167
## iter 10 value 20047.488355
## iter 20 value 20035.951759
## final value 20035.830505
## converged
## # weights: 41
## initial value 22139.752194
## iter 10 value 20050.882680
## iter 20 value 20035.990893
## final value 20035.826791
## converged
## # weights: 9
## initial value 21778.580421
## final value 20058.547600
## converged
## # weights: 25
## initial value 23083.937619
## final value 20058.547600
## converged
## # weights: 41
## initial value 22855.684038
## final value 20058.547600
## converged
## # weights: 9
## initial value 22309.287245
## iter 10 value 20065.349424
## final value 20064.058751
## converged
## # weights: 25
```



```
## initial value 22627.506980
## iter 10 value 20064.275646
## iter 20 value 20062.524453
## iter 20 value 20062.524278
## iter 20 value 20062.524201
## final value 20062.524201
## converged
## # weights: 41
## initial value 23773.177985
## iter 10 value 20066.948508
## iter 20 value 20061.996088
## iter 30 value 20061.864629
## iter 30 value 20061.864521
## iter 30 value 20061.864500
## final value 20061.864500
## converged
## # weights: 9
## initial value 22482.300598
## iter 10 value 20069.211402
## iter 20 value 20058.670545
## iter 20 value 20058.670496
## final value 20058.670496
## converged
## # weights: 25
## initial value 21729.341911
## iter 10 value 20069.817669
## iter 20 value 20058.677535
## final value 20058.560505
## converged
## # weights: 41
## initial value 22881.726097
## iter 10 value 20076.985845
## iter 20 value 20058.760178
## final value 20058.559914
## converged
## # weights: 9
## initial value 21828.872906
## final value 19957.697200
## converged
## # weights: 25
## initial value 23872.240979
## final value 19957.697200
## converged
## # weights: 41
## initial value 22853.896492
## final value 19957.697200
## converged
## # weights: 9
## initial value 23755.355374
## iter 10 value 19964.149087
```

```
## final value 19963.205370
## converged
## # weights: 25
## initial value 21477.216874
## iter 10 value 19961.975155
## final value 19961.671770
## converged
## # weights: 41
## initial value 22797.403398
## iter 10 value 19968.645219
## iter 20 value 19961.013500
## final value 19961.012558
## converged
## # weights: 9
## initial value 23600.024869
## iter 10 value 19967.647723
## iter 20 value 19957.811922
## iter 20 value 19957.811876
## final value 19957.811876
## converged
## # weights: 25
## initial value 22253.535819
## iter 10 value 19973.489123
## iter 20 value 19957.879268
## final value 19957.708780
## converged
## # weights: 41
## initial value 23200.651401
## iter 10 value 19975.744799
## iter 20 value 19957.905275
## final value 19957.710064
## converged
## # weights: 9
## initial value 23184.114708
## final value 20047.250000
## converged
## # weights: 25
## initial value 22207.544905
## final value 20047.250000
## converged
## # weights: 41
## initial value 21656.456269
## final value 20047.250000
## converged
## # weights: 9
## initial value 22014.628491
## iter 10 value 20053.388963
## final value 20052.760431
## converged
## # weights: 25
```

```
## initial value 22355.926702
## iter 10 value 20051.988028
## final value 20051.226048
## converged
## # weights: 41
## initial value 21792.271284
## iter 10 value 20051.302167
## final value 20050.566562
## converged
## # weights: 9
## initial value 22384.723667
## iter 10 value 20058.811994
## iter 20 value 20047.383301
## iter 20 value 20047.383247
## final value 20047.383247
## converged
## # weights: 25
## initial value 21853.993156
## iter 10 value 20058.672988
## iter 20 value 20047.381698
## final value 20047.264315
## converged
## # weights: 41
## initial value 23245.140217
## iter 10 value 20063.543988
## iter 20 value 20047.437857
## final value 20047.261709
## converged
## # weights: 9
## initial value 23333.700466
## final value 19980.360100
## converged
## # weights: 25
## initial value 23526.454065
## final value 19980.360100
## converged
## # weights: 41
## initial value 23008.275149
## final value 19980.360100
## converged
## # weights: 9
## initial value 22273.456692
## iter 10 value 19986.472535
## final value 19985.868654
## converged
## # weights: 25
## initial value 21288.661719
## iter 10 value 19986.188287
## final value 19984.334949
## converged
```

```
## # weights: 41
## initial value 22071.708198
## iter 10 value 19995.241526
## iter 20 value 19983.677148
## final value 19983.675620
## converged
## # weights: 9
## initial value 21912.601257
## iter 10 value 19989.448837
## iter 20 value 19980.464886
## iter 20 value 19980.464844
## final value 19980.464844
## converged
## # weights: 25
## initial value 21961.196147
## iter 10 value 19991.597244
## iter 20 value 19980.489655
## final value 19980.374066
## converged
## # weights: 41
## initial value 24213.972277
## iter 10 value 19989.287859
## iter 20 value 19980.463030
## final value 19980.374108
## converged
## # weights: 9
## initial value 23638.705804
## final value 20040.702500
## converged
## # weights: 25
## initial value 22850.352688
## final value 20040.702500
## converged
## # weights: 41
## initial value 22205.370810
## final value 20040.702500
## converged
## # weights: 9
## initial value 23836.413127
## iter 10 value 20046.766289
## final value 20046.212608
## converged
## # weights: 25
## initial value 22960.203261
## iter 10 value 20046.051387
## iter 20 value 20044.678396
## iter 20 value 20044.678319
## iter 20 value 20044.678316
## final value 20044.678316
## converged
```

```
## # weights: 41
## initial value 22864.842432
## iter 10 value 20045.362006
## iter 20 value 20044.018977
## iter 20 value 20044.018810
## iter 20 value 20044.018798
## final value 20044.018798
## converged
## # weights: 9
## initial value 21689.530868
## iter 10 value 20048.553855
## iter 20 value 20040.793020
## iter 20 value 20040.792984
## final value 20040.792984
## converged
## # weights: 25
## initial value 22633.006193
## iter 10 value 20055.490601
## iter 20 value 20040.872995
## final value 20040.714755
## converged
## # weights: 41
## initial value 21868.775938
## iter 10 value 20054.757380
## iter 20 value 20040.864542
## final value 20040.712743
## converged
## # weights: 9
## initial value 23868.620295
## final value 20039.453200
## converged
## # weights: 25
## initial value 22709.913961
## final value 20039.453200
## converged
## # weights: 41
## initial value 23875.315307
## final value 20039.453200
## converged
## # weights: 9
## initial value 21750.973559
## iter 10 value 20045.151070
## final value 20044.963324
## converged
## # weights: 25
## initial value 23572.668568
## iter 10 value 20044.131861
## final value 20043.429054
## converged
## # weights: 41
```

```
## initial value 21709.651940
## iter 10 value 20054.834719
## iter 20 value 20042.769805
## iter 20 value 20042.769663
## iter 20 value 20042.769655
## final value 20042.769655
## converged
## # weights: 9
## initial value 22068.959603
## iter 10 value 20049.554378
## iter 20 value 20039.569659
## iter 20 value 20039.569612
## final value 20039.569612
## converged
## # weights: 25
## initial value 21325.032687
## iter 10 value 20047.463322
## iter 20 value 20039.545550
## final value 20039.464488
## converged
## # weights: 41
## initial value 22559.274881
## iter 10 value 20059.650778
## iter 20 value 20039.686062
## final value 20039.462853
## converged
## # weights: 9
## initial value 23436.751497
## final value 20019.213200
## converged
## # weights: 25
## initial value 22433.239429
## final value 20019.213200
## converged
## # weights: 41
## initial value 22727.698633
## final value 20019.213200
## converged
## # weights: 9
## initial value 22746.233616
## iter 10 value 20026.757940
## final value 20024.722609
## converged
## # weights: 25
## initial value 23538.303970
## iter 10 value 20024.435330
## iter 20 value 20023.189702
## final value 20023.188524
## converged
## # weights: 41
```

```
## initial value 23778.132411
## iter 10 value 20025.533227
## final value 20022.529310
## converged
## # weights: 9
## initial value 23003.025572
## iter 10 value 20030.576313
## iter 20 value 20019.344208
## iter 20 value 20019.344155
## final value 20019.344155
## converged
## # weights: 25
## initial value 23077.682340
## iter 10 value 20031.093175
## iter 20 value 20019.350167
## final value 20019.226249
## converged
## # weights: 41
## initial value 22726.458395
## iter 10 value 20037.840091
## iter 20 value 20019.427953
## final value 20019.224496
## converged
## # weights: 9
## initial value 22513.066698
## final value 20036.337700
## converged
## # weights: 25
## initial value 21502.726758
## final value 20036.337700
## converged
## # weights: 41
## initial value 22521.232478
## final value 20036.337700
## converged
## # weights: 9
## initial value 23815.016610
## iter 10 value 20042.341868
## final value 20041.847686
## converged
## # weights: 25
## initial value 23210.824042
## iter 10 value 20041.269983
## final value 20040.313484
## converged
## # weights: 41
## initial value 23785.257839
## iter 10 value 20051.777803
## iter 20 value 20039.654240
## iter 20 value 20039.654077
```

```
## iter 20 value 20039.654040
## final value 20039.654040
## converged
## # weights: 9
## initial value 23729.755196
## iter 10 value 20045.839710
## iter 20 value 20036.447251
## iter 20 value 20036.447207
## final value 20036.447207
## converged
## # weights: 25
## initial value 22154.846752
## iter 10 value 20050.380209
## iter 20 value 20036.499599
## final value 20036.350193
## converged
## # weights: 41
## initial value 22207.650306
## iter 10 value 20053.630806
## iter 20 value 20036.537076
## final value 20036.348009
## converged
## # weights: 9
## initial value 21850.304858
## final value 20045.781200
## converged
## # weights: 25
## initial value 23414.174885
## final value 20045.781200
## converged
## # weights: 41
## initial value 23427.541733
## final value 20045.781200
## converged
## # weights: 9
## initial value 23149.224849
## iter 10 value 20054.149394
## final value 20051.291658
## converged
## # weights: 25
## initial value 23121.329736
## iter 10 value 20052.392036
## iter 20 value 20049.766654
## final value 20049.757212
## converged
## # weights: 41
## initial value 21517.635059
## iter 10 value 20050.739098
## iter 20 value 20049.097951
## iter 20 value 20049.097778
```



```
## iter 20 value 20049.097734
## final value 20049.097734
## converged
## # weights: 9
## initial value 23119.147194
## iter 10 value 20055.265917
## iter 20 value 20045.890551
## iter 20 value 20045.890508
## final value 20045.890508
## converged
## # weights: 25
## initial value 22942.148417
## iter 10 value 20059.803886
## iter 20 value 20045.942871
## final value 20045.795978
## converged
## # weights: 41
## initial value 21334.500630
## iter 10 value 20055.481522
## iter 20 value 20045.893037
## final value 20045.790588
## converged
## # weights: 9
## initial value 22972.624299
## final value 20005.258000
## converged
## # weights: 25
## initial value 23710.190246
## final value 20005.258000
## converged
## # weights: 41
## initial value 21621.861819
## final value 20005.258000
## converged
## # weights: 9
## initial value 22506.886581
## iter 10 value 20011.327103
## final value 20010.767026
## converged
## # weights: 25
## initial value 22077.451801
## iter 10 value 20009.418072
## final value 20009.233056
## converged
## # weights: 41
## initial value 22959.856314
## iter 10 value 20010.539194
## iter 20 value 20008.574307
## final value 20008.573712
## converged
```

```
## # weights: 9
## initial value 22407.772388
## iter 10 value 20015.687890
## iter 20 value 20005.378248
## iter 20 value 20005.378200
## final value 20005.378200
## converged
## # weights: 25
## initial value 22863.430325
## iter 10 value 20020.133803
## iter 20 value 20005.429506
## final value 20005.270872
## converged
## # weights: 41
## initial value 23321.242985
## iter 10 value 20020.920133
## iter 20 value 20005.438572
## final value 20005.268828
## converged
## # weights: 9
## initial value 22428.027473
## final value 20038.469200
## converged
## # weights: 25
## initial value 22646.152513
## final value 20038.469200
## converged
## # weights: 41
## initial value 22619.351699
## final value 20038.469200
## converged
## # weights: 9
## initial value 21933.110824
## iter 10 value 20044.354101
## final value 20043.979271
## converged
## # weights: 25
## initial value 23189.946186
## iter 10 value 20043.844739
## iter 20 value 20042.445188
## iter 20 value 20042.445042
## iter 20 value 20042.445025
## final value 20042.445025
## converged
## # weights: 41
## initial value 22210.508388
## iter 10 value 20050.896281
## iter 20 value 20041.786291
## final value 20041.785542
## converged
```

```
## # weights: 9
## initial value 22879.927182
## iter 10 value 20048.292310
## iter 20 value 20038.582453
## iter 20 value 20038.582407
## final value 20038.582407
## converged
## # weights: 25
## initial value 23503.267563
## iter 10 value 20051.649463
## iter 20 value 20038.621158
## final value 20038.482843
## converged
## # weights: 41
## initial value 23317.181830
## iter 10 value 20054.866852
## iter 20 value 20038.658252
## final value 20038.480977
## converged
## # weights: 9
## initial value 22836.766815
## final value 19952.078500
## converged
## # weights: 25
## initial value 22623.074037
## final value 19952.078500
## converged
## # weights: 41
## initial value 22782.063486
## final value 19952.078500
## converged
## # weights: 9
## initial value 22784.225979
## iter 10 value 19959.668587
## final value 19957.586431
## converged
## # weights: 25
## initial value 23696.953358
## iter 10 value 19957.046534
## final value 19956.052882
## converged
## # weights: 41
## initial value 22263.465374
## iter 10 value 19969.033988
## iter 20 value 19955.405564
## final value 19955.393659
## converged
## # weights: 9
## initial value 21869.975578
## iter 10 value 19961.736210
```

```
## iter 20 value 19952.189846
## iter 20 value 19952.189801
## final value 19952.189801
## converged
## # weights: 25
## initial value 22221.673111
## iter 10 value 19968.890758
## iter 20 value 19952.272332
## final value 19952.095244
## converged
## # weights: 41
## initial value 23051.774052
## iter 10 value 19970.560906
## iter 20 value 19952.291588
## final value 19952.089346
## converged
## # weights: 9
## initial value 23965.796126
## final value 20020.920100
## converged
## # weights: 25
## initial value 22768.004266
## final value 20020.920100
## converged
## # weights: 41
## initial value 22462.782958
## final value 20020.920100
## converged
## # weights: 9
## initial value 22639.976825
## iter 10 value 20027.418370
## final value 20026.429598
## converged
## # weights: 25
## initial value 22668.932365
## iter 10 value 20031.737660
## iter 20 value 20024.895936
## final value 20024.895540
## converged
## # weights: 41
## initial value 23745.787469
## iter 10 value 20025.729520
## final value 20024.236161
## converged
## # weights: 9
## initial value 23503.095461
## iter 10 value 20030.986774
## iter 20 value 20021.036161
## iter 20 value 20021.036114
## final value 20021.036114
```

```
## converged
## # weights: 25
## initial value 21523.408613
## iter 10 value 20030.114453
## iter 20 value 20021.026104
## final value 20020.930979
## converged
## # weights: 41
## initial value 21468.013532
## iter 10 value 20033.665320
## iter 20 value 20021.067042
## final value 20020.929570
## converged
## # weights: 9
## initial value 22678.495887
## final value 20022.465700
## converged
## # weights: 25
## initial value 23664.704683
## final value 20022.465700
## converged
## # weights: 41
## initial value 21503.889362
## final value 20022.465700
## converged
## # weights: 9
## initial value 22088.588039
## iter 10 value 20028.325902
## final value 20027.975241
## converged
## # weights: 25
## initial value 23062.284588
## iter 10 value 20027.275798
## final value 20026.441158
## converged
## # weights: 41
## initial value 21841.258813
## iter 10 value 20036.831299
## iter 20 value 20025.782328
## final value 20025.781745
## converged
## # weights: 9
## initial value 23201.575794
## iter 10 value 20033.085471
## iter 20 value 20022.588138
## iter 20 value 20022.588089
## final value 20022.588089
## converged
## # weights: 25
## initial value 22275.121114
```

```
## iter 10 value 20035.422367
## iter 20 value 20022.615080
## final value 20022.478258
## converged
## # weights: 41
## initial value 22800.363549
## iter 10 value 20043.315405
## iter 20 value 20022.706081
## final value 20022.475317
## converged
## # weights: 9
## initial value 21767.597801
## final value 20016.794000
## converged
## # weights: 25
## initial value 23977.789341
## final value 20016.794000
## converged
## # weights: 41
## initial value 22325.001135
## final value 20016.794000
## converged
## # weights: 9
## initial value 23274.540500
## iter 10 value 20022.813700
## final value 20022.303383
## converged
## # weights: 25
## initial value 23011.852139
## iter 10 value 20021.713445
## final value 20020.769328
## converged
## # weights: 41
## initial value 24404.513181
## iter 10 value 20031.215734
## iter 20 value 20020.115795
## final value 20020.110007
## converged
## # weights: 9
## initial value 22625.447806
## iter 10 value 20026.573982
## iter 20 value 20016.906756
## iter 20 value 20016.906710
## final value 20016.906710
## converged
## # weights: 25
## initial value 22615.059878
## iter 10 value 20030.390944
## iter 20 value 20016.950762
## final value 20016.805901
```

```
## converged
## # weights: 41
## initial value 22506.972281
## iter 10 value 20033.151101
## iter 20 value 20016.982585
## final value 20016.803126
## converged
## # weights: 9
## initial value 22177.525197
## final value 20038.270000
## converged
## # weights: 25
## initial value 22236.634099
## final value 20038.270000
## converged
## # weights: 41
## initial value 23151.049731
## final value 20038.270000
## converged
## # weights: 9
## initial value 23128.178154
## iter 10 value 20044.427872
## final value 20043.780038
## converged
## # weights: 25
## initial value 22885.854468
## iter 10 value 20044.144191
## final value 20042.245802
## converged
## # weights: 41
## initial value 23135.331091
## iter 10 value 20047.864923
## iter 20 value 20041.586502
## iter 20 value 20041.586319
## iter 20 value 20041.586310
## final value 20041.586310
## converged
## # weights: 9
## initial value 21696.305620
## iter 10 value 20045.581801
## iter 20 value 20038.354299
## iter 20 value 20038.354266
## final value 20038.354266
## converged
## # weights: 25
## initial value 22985.073464
## iter 10 value 20056.944521
## iter 20 value 20038.485303
## final value 20038.284486
## converged
```

```
## # weights: 41
## initial value 21300.817437
## iter 10 value 20047.732539
## iter 20 value 20038.379096
## final value 20038.279502
## converged
## # weights: 9
## initial value 22790.835982
## final value 20007.965200
## converged
## # weights: 25
## initial value 21964.451307
## final value 20007.965200
## converged
## # weights: 41
## initial value 22494.589624
## final value 20007.965200
## converged
## # weights: 9
## initial value 21800.869606
## iter 10 value 20013.697935
## final value 20013.474298
## converged
## # weights: 25
## initial value 21473.058716
## iter 10 value 20012.449003
## final value 20011.940289
## converged
## # weights: 41
## initial value 22035.795365
## iter 10 value 20011.925380
## final value 20011.281036
## converged
## # weights: 9
## initial value 21876.811017
## iter 10 value 20015.772706
## iter 20 value 20008.055214
## iter 20 value 20008.055178
## final value 20008.055178
## converged
## # weights: 25
## initial value 22381.186610
## iter 10 value 20020.819305
## iter 20 value 20008.113398
## final value 20007.979367
## converged
## # weights: 41
## initial value 22650.428712
## iter 10 value 20028.479129
## iter 20 value 20008.201709
```



```
## final value 20007.978276
## converged
## # weights: 9
## initial value 23882.332679
## final value 20048.654000
## converged
## # weights: 25
## initial value 22392.320570
## final value 20048.654000
## converged
## # weights: 41
## initial value 22839.169937
## final value 20048.654000
## converged
## # weights: 9
## initial value 23492.506960
## iter 10 value 20054.405090
## final value 20054.164586
## converged
## # weights: 25
## initial value 21924.677208
## iter 10 value 20053.366610
## final value 20052.630195
## converged
## # weights: 41
## initial value 21851.375562
## iter 10 value 20053.568223
## iter 20 value 20051.970818
## iter 20 value 20051.970683
## iter 20 value 20051.970648
## final value 20051.970648
## converged
## # weights: 9
## initial value 21853.009476
## iter 10 value 20056.250030
## iter 20 value 20048.741576
## iter 20 value 20048.741541
## final value 20048.741541
## converged
## # weights: 25
## initial value 22236.795768
## iter 10 value 20062.356235
## iter 20 value 20048.811976
## final value 20048.667060
## converged
## # weights: 41
## initial value 23202.240497
## iter 10 value 20068.195481
## iter 20 value 20048.879298
## final value 20048.663866
```

```
## converged
## # weights: 9
## initial value 23364.478968
## final value 19999.649200
## converged
## # weights: 25
## initial value 22007.992944
## final value 19999.649200
## converged
## # weights: 41
## initial value 22018.900414
## final value 19999.649200
## converged
## # weights: 9
## initial value 22627.421602
## iter 10 value 20005.266269
## final value 20005.158152
## converged
## # weights: 25
## initial value 21000.837395
## iter 10 value 20004.375703
## final value 20003.624251
## converged
## # weights: 41
## initial value 22336.344804
## iter 10 value 20005.923406
## iter 20 value 20002.964983
## iter 20 value 20002.964932
## iter 20 value 20002.964911
## final value 20002.964911
## converged
## # weights: 9
## initial value 22894.805717
## iter 10 value 20010.112336
## iter 20 value 19999.769832
## iter 20 value 19999.769783
## final value 19999.769783
## converged
## # weights: 25
## initial value 22520.845994
## iter 10 value 20013.642896
## iter 20 value 19999.810536
## final value 19999.666434
## converged
## # weights: 41
## initial value 22983.542487
## iter 10 value 20017.839373
## iter 20 value 19999.858918
## final value 19999.662444
## converged
```

```
## # weights: 9
## initial value 22380.946175
## final value 20028.595700
## converged
## # weights: 25
## initial value 21981.626617
## final value 20028.595700
## converged
## # weights: 41
## initial value 22642.851064
## final value 20028.595700
## converged
## # weights: 9
## initial value 22592.569761
## iter 10 value 20036.753157
## final value 20034.105430
## converged
## # weights: 25
## initial value 23046.089882
## iter 10 value 20035.605097
## final value 20032.571281
## converged
## # weights: 41
## initial value 22958.809211
## iter 10 value 20042.745895
## iter 20 value 20031.967639
## final value 20031.911837
## converged
## # weights: 9
## initial value 22566.275741
## iter 10 value 20038.510310
## iter 20 value 20028.710008
## iter 20 value 20028.709962
## final value 20028.709962
## converged
## # weights: 25
## initial value 21978.452371
## iter 10 value 20041.483224
## iter 20 value 20028.744283
## final value 20028.608374
## converged
## # weights: 41
## initial value 22751.471738
## iter 10 value 20046.832427
## iter 20 value 20028.805955
## final value 20028.607927
## converged
## # weights: 9
## initial value 22505.993119
## final value 19929.305200
```

```
## converged
## # weights: 25
## initial value 23414.662562
## final value 19929.305200
## converged
## # weights: 41
## initial value 21956.630546
## final value 19929.305200
## converged
## # weights: 9
## initial value 23402.621395
## iter 10 value 19938.264725
## final value 19934.812952
## converged
## # weights: 25
## initial value 22401.949998
## iter 10 value 19933.949357
## final value 19933.279563
## converged
## # weights: 41
## initial value 22512.951892
## iter 10 value 19934.238763
## iter 20 value 19932.620511
## iter 20 value 19932.620354
## iter 20 value 19932.620333
## final value 19932.620333
## converged
## # weights: 9
## initial value 21641.923753
## iter 10 value 19937.223294
## iter 20 value 19929.396489
## iter 20 value 19929.396453
## final value 19929.396453
## converged
## # weights: 25
## initial value 24131.553218
## iter 10 value 19937.576578
## iter 20 value 19929.400562
## final value 19929.324322
## converged
## # weights: 41
## initial value 21963.912775
## iter 10 value 19944.726977
## iter 20 value 19929.483001
## final value 19929.314790
## converged
## # weights: 9
## initial value 23524.777906
## final value 19993.947700
## converged
```

```
## # weights: 25
## initial value 23072.929083
## final value 19993.947700
## converged
## # weights: 41
## initial value 21411.300532
## final value 19993.947700
## converged
## # weights: 9
## initial value 21995.664742
## iter 10 value 19999.746480
## final value 19999.456546
## converged
## # weights: 25
## initial value 22313.650651
## iter 10 value 20021.162565
## iter 20 value 19997.956465
## final value 19997.922768
## converged
## # weights: 41
## initial value 22987.172153
## iter 10 value 20011.259627
## iter 20 value 19997.264522
## final value 19997.263383
## converged
## # weights: 9
## initial value 22774.746831
## iter 10 value 20003.970005
## iter 20 value 19994.063249
## iter 20 value 19994.063203
## final value 19994.063203
## converged
## # weights: 25
## initial value 23405.410215
## iter 10 value 20008.347441
## iter 20 value 19994.113718
## final value 19993.965863
## converged
## # weights: 41
## initial value 21922.762018
## iter 10 value 20010.402863
## iter 20 value 19994.137415
## final value 19993.957798
## converged
## # weights: 9
## initial value 22319.003131
## final value 20004.800500
## converged
## # weights: 25
## initial value 22657.278840
```

```
## final value 20004.800500
## converged
## # weights: 41
## initial value 23273.604366
## final value 20004.800500
## converged
## # weights: 9
## initial value 22825.151416
## iter 10 value 20011.248577
## final value 20010.309578
## converged
## # weights: 25
## initial value 21278.311094
## iter 10 value 20010.047271
## iter 20 value 20008.775794
## iter 20 value 20008.775680
## iter 20 value 20008.775649
## final value 20008.775649
## converged
## # weights: 41
## initial value 21661.686509
## iter 10 value 20009.657696
## iter 20 value 20008.116445
## iter 20 value 20008.116310
## iter 20 value 20008.116292
## final value 20008.116292
## converged
## # weights: 9
## initial value 22637.440854
## iter 10 value 20016.618589
## iter 20 value 20004.936753
## iter 20 value 20004.936699
## final value 20004.936699
## converged
## # weights: 25
## initial value 22947.018458
## iter 10 value 20019.594666
## iter 20 value 20004.971065
## final value 20004.812097
## converged
## # weights: 41
## initial value 22137.614394
## iter 10 value 20021.924795
## iter 20 value 20004.997930
## final value 20004.810292
## converged
## # weights: 9
## initial value 22780.973440
## final value 19974.056500
## converged
```

```
## # weights: 25
## initial value 21973.854249
## final value 19974.056500
## converged
## # weights: 41
## initial value 21406.784607
## final value 19974.056500
## converged
## # weights: 9
## initial value 23282.343979
## iter 10 value 19981.569074
## iter 20 value 19979.565580
## final value 19979.564975
## converged
## # weights: 25
## initial value 22325.226404
## iter 10 value 19979.607553
## final value 19978.031304
## converged
## # weights: 41
## initial value 22481.212841
## iter 10 value 19993.978232
## iter 20 value 19977.375541
## final value 19977.372031
## converged
## # weights: 9
## initial value 23612.273095
## iter 10 value 19982.157019
## iter 20 value 19974.149893
## iter 20 value 19974.149855
## final value 19974.149855
## converged
## # weights: 25
## initial value 22422.226814
## iter 10 value 19989.789319
## iter 20 value 19974.237887
## final value 19974.074796
## converged
## # weights: 41
## initial value 23061.500340
## iter 10 value 19995.696703
## iter 20 value 19974.305995
## final value 19974.066670
## converged
## # weights: 9
## initial value 22421.692893
## final value 19908.416500
## converged
## # weights: 25
## initial value 22619.782318
```

```
## final value 19908.416500
## converged
## # weights: 41
## initial value 22239.842352
## final value 19908.416500
## converged
## # weights: 9
## initial value 21903.710286
## iter 10 value 19915.054209
## final value 19913.923805
## converged
## # weights: 25
## initial value 21611.802160
## iter 10 value 19914.772520
## iter 20 value 19912.390592
## iter 20 value 19912.390533
## iter 20 value 19912.390527
## final value 19912.390527
## converged
## # weights: 41
## initial value 23030.380071
## iter 10 value 19916.746616
## iter 20 value 19911.731530
## iter 20 value 19911.731380
## iter 20 value 19911.731355
## final value 19911.731355
## converged
## # weights: 9
## initial value 21890.797194
## iter 10 value 19918.472403
## iter 20 value 19908.532437
## iter 20 value 19908.532390
## final value 19908.532390
## converged
## # weights: 25
## initial value 22766.940615
## iter 10 value 19925.535395
## iter 20 value 19908.613867
## final value 19908.428821
## converged
## # weights: 41
## initial value 22432.889884
## iter 10 value 19925.584937
## iter 20 value 19908.614439
## final value 19908.427864
## converged
## # weights: 9
## initial value 22854.058622
## final value 19991.767600
## converged
```



```
## # weights: 25
## initial value 22719.075506
## final value 19991.767600
## converged
## # weights: 41
## initial value 22139.583645
## final value 19991.767600
## converged
## # weights: 9
## initial value 23132.016252
## iter 10 value 19997.447487
## final value 19997.276404
## converged
## # weights: 25
## initial value 22399.735365
## iter 10 value 19996.090349
## final value 19995.742600
## converged
## # weights: 41
## initial value 22312.716987
## iter 10 value 19998.488164
## iter 20 value 19995.084689
## final value 19995.083282
## converged
## # weights: 9
## initial value 22692.769460
## iter 10 value 20001.333277
## iter 20 value 19991.877885
## iter 20 value 19991.877841
## final value 19991.877841
## converged
## # weights: 25
## initial value 23883.648502
## iter 10 value 20003.816279
## iter 20 value 19991.906512
## final value 19991.783328
## converged
## # weights: 41
## initial value 23594.372036
## iter 10 value 20009.447734
## iter 20 value 19991.971438
## final value 19991.781061
## converged
## # weights: 9
## initial value 22242.192190
## final value 20044.680100
## converged
## # weights: 25
## initial value 23456.112180
## final value 20044.680100
```

```
## converged
## # weights: 41
## initial value 21825.904828
## final value 20044.680100
## converged
## # weights: 9
## initial value 22894.153721
## iter 10 value 20052.287919
## final value 20050.190466
## converged
## # weights: 25
## initial value 22669.259702
## iter 10 value 20066.516498
## iter 20 value 20048.657511
## final value 20048.656220
## converged
## # weights: 41
## initial value 23416.898985
## iter 10 value 20059.917957
## iter 20 value 20047.998427
## final value 20047.996690
## converged
## # weights: 9
## initial value 22177.702497
## iter 10 value 20053.803073
## iter 20 value 20044.785281
## iter 20 value 20044.785239
## final value 20044.785239
## converged
## # weights: 25
## initial value 22480.484812
## iter 10 value 20060.628666
## iter 20 value 20044.863974
## final value 20044.692201
## converged
## # weights: 41
## initial value 22981.596448
## iter 10 value 20062.462096
## iter 20 value 20044.885112
## final value 20044.690642
## converged
## # weights: 9
## initial value 22363.554133
## final value 20026.929700
## converged
## # weights: 25
## initial value 23251.205638
## final value 20026.929700
## converged
## # weights: 41
```

```
## initial value 24103.541792
## final value 20026.929700
## converged
## # weights: 9
## initial value 23114.092243
## iter 10 value 20032.916166
## final value 20032.439367
## converged
## # weights: 25
## initial value 22786.970029
## iter 10 value 20031.805735
## final value 20030.905209
## converged
## # weights: 41
## initial value 22332.628770
## iter 10 value 20031.574524
## final value 20030.245789
## converged
## # weights: 9
## initial value 23351.145974
## iter 10 value 20037.779214
## iter 20 value 20027.054786
## iter 20 value 20027.054736
## final value 20027.054736
## converged
## # weights: 25
## initial value 22235.294580
## iter 10 value 20042.121405
## iter 20 value 20027.104848
## final value 20026.944328
## converged
## # weights: 41
## initial value 22852.979034
## iter 10 value 20049.206039
## iter 20 value 20027.186529
## final value 20026.939940
## converged
## # weights: 9
## initial value 23514.568420
## final value 20056.513700
## converged
## # weights: 25
## initial value 23006.314415
## final value 20056.513700
## converged
## # weights: 41
## initial value 21657.233289
## final value 20056.513700
## converged
## # weights: 9
```

```
## initial value 24072.429358
## iter 10 value 20063.088150
## final value 20062.024829
## converged
## # weights: 25
## initial value 22250.062353
## iter 10 value 20061.594311
## final value 20060.490268
## converged
## # weights: 41
## initial value 23727.295355
## iter 10 value 20074.937287
## iter 20 value 20059.841600
## final value 20059.830734
## converged
## # weights: 9
## initial value 22512.038977
## iter 10 value 20066.909123
## iter 20 value 20056.633551
## iter 20 value 20056.633503
## final value 20056.633503
## converged
## # weights: 25
## initial value 21998.305562
## iter 10 value 20069.632136
## iter 20 value 20056.664945
## final value 20056.527355
## converged
## # weights: 41
## initial value 24065.842489
## iter 10 value 20068.800792
## iter 20 value 20056.655361
## final value 20056.526549
## converged
## # weights: 9
## initial value 23551.227370
## final value 19910.400500
## converged
## # weights: 25
## initial value 22513.342684
## final value 19910.400500
## converged
## # weights: 41
## initial value 21900.395619
## final value 19910.400500
## converged
## # weights: 9
## initial value 22665.336676
## iter 10 value 19917.378165
## final value 19915.907973
```

```
## converged
## # weights: 25
## initial value 22804.062663
## iter 10 value 19915.709400
## iter 20 value 19914.375052
## final value 19914.374654
## converged
## # weights: 41
## initial value 23037.711307
## iter 10 value 19927.692743
## iter 20 value 19913.720060
## final value 19913.715670
## converged
## # weights: 9
## initial value 22656.565084
## iter 10 value 19920.623834
## iter 20 value 19910.518367
## iter 20 value 19910.518320
## final value 19910.518320
## converged
## # weights: 25
## initial value 22794.828303
## iter 10 value 19927.884282
## iter 20 value 19910.602074
## final value 19910.415050
## converged
## # weights: 41
## initial value 22051.520554
## iter 10 value 19926.608739
## iter 20 value 19910.587368
## final value 19910.410212
## converged
## # weights: 9
## initial value 22242.923274
## final value 20053.121200
## converged
## # weights: 25
## initial value 22716.834236
## final value 20053.121200
## converged
## # weights: 41
## initial value 23562.462165
## final value 20053.121200
## converged
## # weights: 9
## initial value 22339.282195
## iter 10 value 20058.982162
## final value 20058.631949
## converged
## # weights: 25
```

```
## initial value 23377.729168
## iter 10 value 20058.381526
## final value 20057.097427
## converged
## # weights: 41
## initial value 24105.504775
## iter 10 value 20070.139143
## iter 20 value 20056.438206
## iter 20 value 20056.438035
## iter 20 value 20056.437958
## final value 20056.437958
## converged
## # weights: 9
## initial value 23566.127415
## iter 10 value 20062.233994
## iter 20 value 20053.226263
## iter 20 value 20053.226221
## final value 20053.226221
## converged
## # weights: 25
## initial value 22311.471102
## iter 10 value 20067.757392
## iter 20 value 20053.289944
## final value 20053.137208
## converged
## # weights: 41
## initial value 21844.788062
## iter 10 value 20069.285600
## iter 20 value 20053.307563
## final value 20053.131900
## converged
## # weights: 9
## initial value 22478.865842
## final value 20058.633200
## converged
## # weights: 25
## initial value 23588.677880
## final value 20058.633200
## converged
## # weights: 41
## initial value 23025.607148
## final value 20058.633200
## converged
## # weights: 9
## initial value 24020.480198
## iter 10 value 20064.179072
## final value 20064.144397
## converged
## # weights: 25
## initial value 23302.814565
```

```
## iter 10 value 20064.012910
## final value 20062.609805
## converged
## # weights: 41
## initial value 23206.958239
## iter 10 value 20075.541693
## iter 20 value 20061.950854
## final value 20061.950134
## converged
## # weights: 9
## initial value 23469.602311
## iter 10 value 20067.923891
## iter 20 value 20058.740314
## iter 20 value 20058.740272
## final value 20058.740272
## converged
## # weights: 25
## initial value 21690.815178
## iter 10 value 20068.558017
## iter 20 value 20058.747625
## final value 20058.645284
## converged
## # weights: 41
## initial value 23137.685768
## iter 10 value 20078.810095
## iter 20 value 20058.865824
## final value 20058.643411
## converged
## # weights: 9
## initial value 23013.959093
## final value 20002.797200
## converged
## # weights: 25
## initial value 22054.339086
## final value 20002.797200
## converged
## # weights: 41
## initial value 22240.742677
## final value 20002.797200
## converged
## # weights: 9
## initial value 22551.540762
## iter 10 value 20010.049431
## final value 20008.306265
## converged
## # weights: 25
## initial value 22959.342484
## iter 10 value 20007.741172
## final value 20006.772295
## converged
```

```
## # weights: 41
## initial value 24300.272190
## iter 10 value 20017.317968
## iter 20 value 20006.114513
## final value 20006.112952
## converged
## # weights: 9
## initial value 21849.194684
## iter 10 value 20011.950317
## iter 20 value 20002.902728
## iter 20 value 20002.902686
## final value 20002.902686
## converged
## # weights: 25
## initial value 23392.333808
## iter 10 value 20017.132912
## iter 20 value 20002.962480
## final value 20002.812846
## converged
## # weights: 41
## initial value 22817.429454
## iter 10 value 20021.280010
## iter 20 value 20003.010292
## final value 20002.809371
## converged
## # weights: 9
## initial value 22190.303417
## final value 20004.187700
## converged
## # weights: 25
## initial value 22318.060065
## final value 20004.187700
## converged
## # weights: 41
## initial value 22355.516948
## final value 20004.187700
## converged
## # weights: 9
## initial value 21770.816275
## iter 10 value 20011.333991
## final value 20009.696764
## converged
## # weights: 25
## initial value 23464.991611
## iter 10 value 20008.883906
## final value 20008.162859
## converged
## # weights: 41
## initial value 21976.808110
## iter 10 value 20010.004617
```



```
## iter 20 value 20007.503576
## iter 20 value 20007.503485
## iter 20 value 20007.503457
## final value 20007.503457
## converged
## # weights: 9
## initial value 23118.983023
## iter 10 value 20014.870230
## iter 20 value 20004.310861
## iter 20 value 20004.310812
## final value 20004.310812
## converged
## # weights: 25
## initial value 22954.865213
## iter 10 value 20019.079528
## iter 20 value 20004.359391
## final value 20004.201354
## converged
## # weights: 41
## initial value 22848.518485
## iter 10 value 20022.569445
## iter 20 value 20004.399627
## final value 20004.200828
## converged
## # weights: 9
## initial value 22968.277303
## final value 20045.107600
## converged
## # weights: 25
## initial value 22983.796919
## final value 20045.107600
## converged
## # weights: 41
## initial value 23608.495732
## final value 20045.107600
## converged
## # weights: 9
## initial value 23885.135007
## iter 10 value 20052.989144
## final value 20050.617984
## converged
## # weights: 25
## initial value 21608.131974
## iter 10 value 20050.071810
## iter 20 value 20049.085992
## final value 20049.083613
## converged
## # weights: 41
## initial value 21044.062429
## iter 10 value 20057.354424
```

```
## iter 20 value 20048.424405
## iter 20 value 20048.424209
## iter 20 value 20048.424188
## final value 20048.424188
## converged
## # weights: 9
## initial value 22290.250978
## iter 10 value 20055.625874
## iter 20 value 20045.228867
## iter 20 value 20045.228819
## final value 20045.228819
## converged
## # weights: 25
## initial value 22986.532331
## iter 10 value 20059.382976
## iter 20 value 20045.272184
## final value 20045.123138
## converged
## # weights: 41
## initial value 22034.285094
## iter 10 value 20059.421919
## iter 20 value 20045.272633
## final value 20045.117248
## converged
## # weights: 9
## initial value 22401.419420
## final value 19977.422500
## converged
## # weights: 25
## initial value 21530.837717
## final value 19977.422500
## converged
## # weights: 41
## initial value 22859.778775
## final value 19977.422500
## converged
## # weights: 9
## initial value 23493.159488
## iter 10 value 19983.517861
## final value 19982.931018
## converged
## # weights: 25
## initial value 22087.729668
## iter 10 value 19981.655899
## final value 19981.397273
## converged
## # weights: 41
## initial value 22617.082989
## iter 10 value 19993.742060
## iter 20 value 19980.738332
```

```
## iter 20 value 19980.738159
## iter 20 value 19980.738145
## final value 19980.738145
## converged
## # weights: 9
## initial value 22127.234491
## iter 10 value 19987.433609
## iter 20 value 19977.537920
## iter 20 value 19977.537874
## final value 19977.537874
## converged
## # weights: 25
## initial value 23191.299463
## iter 10 value 19992.411889
## iter 20 value 19977.595316
## final value 19977.436429
## converged
## # weights: 41
## initial value 23754.140235
## iter 10 value 19993.378877
## iter 20 value 19977.606464
## final value 19977.434941
## converged
## # weights: 9
## initial value 22206.321902
## final value 19972.920100
## converged
## # weights: 25
## initial value 22277.657177
## final value 19972.920100
## converged
## # weights: 41
## initial value 21700.307929
## final value 19972.920100
## converged
## # weights: 9
## initial value 21912.097979
## iter 10 value 19978.693815
## final value 19978.428502
## converged
## # weights: 25
## initial value 22306.123836
## iter 10 value 19979.077322
## iter 20 value 19976.894868
## iter 20 value 19976.894791
## iter 20 value 19976.894786
## final value 19976.894786
## converged
## # weights: 41
## initial value 23014.626862
```

```
## iter 10 value 19988.821201
## iter 20 value 19976.235850
## final value 19976.235508
## converged
## # weights: 9
## initial value 22965.932194
## iter 10 value 19983.382937
## iter 20 value 19973.040728
## iter 20 value 19973.040680
## final value 19973.040680
## converged
## # weights: 25
## initial value 22616.551894
## iter 10 value 19986.598749
## iter 20 value 19973.077804
## final value 19972.936923
## converged
## # weights: 41
## initial value 22459.797394
## iter 10 value 19994.942687
## iter 20 value 19973.174003
## final value 19972.930223
## converged
## # weights: 9
## initial value 21806.625644
## final value 20032.589200
## converged
## # weights: 25
## initial value 22607.464543
## final value 20032.589200
## converged
## # weights: 41
## initial value 22995.205704
## final value 20032.589200
## converged
## # weights: 9
## initial value 23131.951473
## iter 10 value 20040.360921
## final value 20038.099002
## converged
## # weights: 25
## initial value 22517.880346
## iter 10 value 20038.136199
## final value 20036.564815
## converged
## # weights: 41
## initial value 22183.608754
## iter 10 value 20036.915944
## final value 20035.905315
## converged
```

```
## # weights: 9
## initial value 22032.722177
## iter 10 value 20041.735654
## iter 20 value 20032.694651
## iter 20 value 20032.694609
## final value 20032.694609
## converged
## # weights: 25
## initial value 22069.718392
## iter 10 value 20043.529237
## iter 20 value 20032.715330
## final value 20032.600985
## converged
## # weights: 41
## initial value 21866.768036
## iter 10 value 20046.964856
## iter 20 value 20032.754940
## final value 20032.599527
## converged
## # weights: 9
## initial value 22528.228417
## final value 20038.369700
## converged
## # weights: 25
## initial value 22809.211812
## final value 20038.369700
## converged
## # weights: 41
## initial value 21796.660018
## final value 20038.369700
## converged
## # weights: 9
## initial value 22784.098407
## iter 10 value 20044.867879
## final value 20043.879781
## converged
## # weights: 25
## initial value 21923.328704
## iter 10 value 20043.204561
## final value 20042.345496
## converged
## # weights: 41
## initial value 22727.367211
## iter 10 value 20042.925487
## final value 20041.686058
## converged
## # weights: 9
## initial value 23552.676614
## iter 10 value 20048.787874
## iter 20 value 20038.489813
```

```
## iter 20 value 20038.489765
## final value 20038.489765
## converged
## # weights: 25
## initial value 22380.755222
## iter 10 value 20054.151220
## iter 20 value 20038.551649
## final value 20038.382085
## converged
## # weights: 41
## initial value 22800.311183
## iter 10 value 20057.418249
## iter 20 value 20038.589315
## final value 20038.380028
## converged
## # weights: 9
## initial value 22212.425148
## final value 19884.413200
## converged
## # weights: 25
## initial value 22084.852822
## final value 19884.413200
## converged
## # weights: 41
## initial value 21367.923644
## final value 19884.413200
## converged
## # weights: 9
## initial value 22160.025890
## iter 10 value 19891.830393
## final value 19889.920335
## converged
## # weights: 25
## initial value 22175.913754
## iter 10 value 19888.693136
## final value 19888.387176
## converged
## # weights: 41
## initial value 21710.208569
## iter 10 value 19889.558541
## final value 19887.728150
## converged
## # weights: 9
## initial value 21614.784436
## iter 10 value 19892.933327
## iter 20 value 19884.511430
## iter 20 value 19884.511391
## final value 19884.511391
## converged
## # weights: 25
```

```
## initial value 23809.451308
## iter 10 value 19894.119041
## iter 20 value 19884.525101
## final value 19884.432811
## converged
## # weights: 41
## initial value 22539.129159
## iter 10 value 19902.522239
## iter 20 value 19884.621983
## final value 19884.423609
## converged
## # weights: 9
## initial value 22957.652944
## final value 19968.886000
## converged
## # weights: 25
## initial value 23614.452283
## final value 19968.886000
## converged
## # weights: 41
## initial value 21025.173662
## final value 19968.886000
## converged
## # weights: 9
## initial value 22279.346938
## iter 10 value 19975.219940
## final value 19974.394324
## converged
## # weights: 25
## initial value 21805.289623
## iter 10 value 19974.196680
## final value 19972.860707
## converged
## # weights: 41
## initial value 23818.689653
## iter 10 value 19983.864648
## iter 20 value 19972.203211
## final value 19972.201375
## converged
## # weights: 9
## initial value 21716.886105
## iter 10 value 19976.664561
## iter 20 value 19968.975681
## iter 20 value 19968.975645
## final value 19968.975645
## converged
## # weights: 25
## initial value 23090.211307
## iter 10 value 19983.117517
## iter 20 value 19969.050078
```

```
## final value 19968.899076
## converged
## # weights: 41
## initial value 22990.291123
## iter 10 value 19988.558650
## iter 20 value 19969.112810
## final value 19968.898111
## converged
## # weights: 9
## initial value 22873.076749
## final value 19977.422500
## converged
## # weights: 25
## initial value 21381.860773
## final value 19977.422500
## converged
## # weights: 41
## initial value 22087.861265
## final value 19977.422500
## converged
## # weights: 9
## initial value 21822.465999
## iter 10 value 19983.465472
## final value 19982.931024
## converged
## # weights: 25
## initial value 22226.889082
## iter 10 value 19982.028930
## iter 20 value 19981.403146
## final value 19981.397295
## converged
## # weights: 41
## initial value 22149.582831
## iter 10 value 19984.015626
## iter 20 value 19980.738191
## iter 20 value 19980.738039
## iter 20 value 19980.738027
## final value 19980.738027
## converged
## # weights: 9
## initial value 23338.465897
## iter 10 value 19987.487749
## iter 20 value 19977.538544
## iter 20 value 19977.538498
## final value 19977.538498
## converged
## # weights: 25
## initial value 23488.714909
## iter 10 value 19990.093549
## iter 20 value 19977.568587
```



```
## final value 19977.435353
## converged
## # weights: 41
## initial value 21506.025828
## iter 10 value 19989.301294
## iter 20 value 19977.559453
## final value 19977.431974
## converged
## # weights: 9
## initial value 23252.351288
## final value 20018.547700
## converged
## # weights: 25
## initial value 22482.678975
## final value 20018.547700
## converged
## # weights: 41
## initial value 22347.599871
## final value 20018.547700
## converged
## # weights: 9
## initial value 23900.475363
## iter 10 value 20024.466936
## final value 20024.057137
## converged
## # weights: 25
## initial value 23809.215888
## iter 10 value 20023.701180
## final value 20022.523044
## converged
## # weights: 41
## initial value 24318.910876
## iter 10 value 20033.645126
## iter 20 value 20021.865283
## final value 20021.863660
## converged
## # weights: 9
## initial value 22615.578878
## iter 10 value 20028.958304
## iter 20 value 20018.667726
## iter 20 value 20018.667678
## final value 20018.667678
## converged
## # weights: 25
## initial value 24017.393785
## iter 10 value 20028.692256
## iter 20 value 20018.664659
## final value 20018.568029
## converged
## # weights: 41
```

```
## initial value 22927.464288
## iter 10 value 20037.221933
## iter 20 value 20018.762999
## final value 20018.558152
## converged
## # weights: 9
## initial value 22140.880779
## final value 19997.883700
## converged
## # weights: 25
## initial value 23652.174744
## final value 19997.883700
## converged
## # weights: 41
## initial value 20874.602081
## final value 19997.883700
## converged
## # weights: 9
## initial value 22364.449656
## iter 10 value 20024.791208
## iter 20 value 20003.403495
## final value 20003.392714
## converged
## # weights: 25
## initial value 23363.344685
## iter 10 value 20003.821731
## iter 20 value 20001.859667
## final value 20001.858641
## converged
## # weights: 41
## initial value 23180.347559
## iter 10 value 20004.914317
## iter 20 value 20001.199603
## iter 20 value 20001.199423
## iter 20 value 20001.199376
## final value 20001.199376
## converged
## # weights: 9
## initial value 22134.751569
## iter 10 value 20007.854730
## iter 20 value 19997.998658
## iter 20 value 19997.998612
## final value 19997.998612
## converged
## # weights: 25
## initial value 23455.562856
## iter 10 value 20011.349611
## iter 20 value 19998.038951
## final value 19997.906515
## converged
```

```
## # weights: 41
## initial value 22414.601291
## iter 10 value 20013.881630
## iter 20 value 19998.068144
## final value 19997.894290
## converged
## # weights: 9
## initial value 22844.299417
## final value 20016.930100
## converged
## # weights: 25
## initial value 23487.476368
## final value 20016.930100
## converged
## # weights: 41
## initial value 22115.380352
## final value 20016.930100
## converged
## # weights: 9
## initial value 23738.256865
## iter 10 value 20022.902292
## final value 20022.439483
## converged
## # weights: 25
## initial value 23358.406791
## iter 10 value 20022.098974
## iter 20 value 20020.906273
## final value 20020.905499
## converged
## # weights: 41
## initial value 23334.222588
## iter 10 value 20023.722851
## iter 20 value 20020.246338
## final value 20020.246020
## converged
## # weights: 9
## initial value 23740.025171
## iter 10 value 20024.506284
## iter 20 value 20017.017447
## iter 20 value 20017.017413
## final value 20017.017413
## converged
## # weights: 25
## initial value 23571.375899
## iter 10 value 20029.626683
## iter 20 value 20017.076482
## final value 20016.943310
## converged
## # weights: 41
## initial value 23438.549171
```

```
## iter 10 value 20035.035936
## iter 20 value 20017.138846
## final value 20016.941884
## converged
## # weights: 9
## initial value 22765.183347
## final value 20042.193700
## converged
## # weights: 25
## initial value 22982.574470
## final value 20042.193700
## converged
## # weights: 41
## initial value 23181.032137
## final value 20042.193700
## converged
## # weights: 9
## initial value 22267.389825
## iter 10 value 20048.109594
## final value 20047.703952
## converged
## # weights: 25
## initial value 21535.910709
## iter 10 value 20047.409445
## final value 20046.169685
## converged
## # weights: 41
## initial value 23671.231067
## iter 10 value 20058.223259
## iter 20 value 20045.511043
## final value 20045.510186
## converged
## # weights: 9
## initial value 22016.420654
## iter 10 value 20051.831726
## iter 20 value 20042.304819
## iter 20 value 20042.304774
## final value 20042.304774
## converged
## # weights: 25
## initial value 23152.337973
## iter 10 value 20054.113975
## iter 20 value 20042.331131
## final value 20042.211565
## converged
## # weights: 41
## initial value 22482.298073
## iter 10 value 20060.279521
## iter 20 value 20042.402215
## final value 20042.202775
```

```
## converged
## # weights: 9
## initial value 23245.866387
## final value 19991.936500
## converged
## # weights: 25
## initial value 23543.172133
## final value 19991.936500
## converged
## # weights: 41
## initial value 21049.822535
## final value 19991.936500
## converged
## # weights: 9
## initial value 23584.135938
## iter 10 value 19997.832808
## final value 19997.445280
## converged
## # weights: 25
## initial value 23358.923143
## iter 10 value 19997.738674
## iter 20 value 19995.911549
## iter 20 value 19995.911424
## iter 20 value 19995.911419
## final value 19995.911419
## converged
## # weights: 41
## initial value 21540.188624
## iter 10 value 20008.298537
## iter 20 value 19995.254377
## final value 19995.252169
## converged
## # weights: 9
## initial value 22751.439853
## iter 10 value 20002.192568
## iter 20 value 19992.054744
## iter 20 value 19992.054697
## final value 19992.054697
## converged
## # weights: 25
## initial value 22878.126055
## iter 10 value 20009.112799
## iter 20 value 19992.134529
## final value 19991.948962
## converged
## # weights: 41
## initial value 23728.244053
## iter 10 value 20007.579882
## iter 20 value 19992.116856
## final value 19991.949984
```

```
## converged
## # weights: 9
## initial value 23219.317107
## final value 20015.560100
## converged
## # weights: 25
## initial value 22318.436737
## final value 20015.560100
## converged
## # weights: 41
## initial value 21892.944532
## final value 20015.560100
## converged
## # weights: 9
## initial value 23514.054521
## iter 10 value 20021.374775
## final value 20021.069416
## converged
## # weights: 25
## initial value 22481.752167
## iter 10 value 20020.016377
## final value 20019.535376
## converged
## # weights: 41
## initial value 23087.735933
## iter 10 value 20031.040639
## iter 20 value 20018.876076
## iter 20 value 20018.875988
## iter 20 value 20018.875974
## final value 20018.875974
## converged
## # weights: 9
## initial value 22655.527197
## iter 10 value 20027.435998
## iter 20 value 20015.697020
## iter 20 value 20015.696965
## final value 20015.696965
## converged
## # weights: 25
## initial value 22705.124906
## iter 10 value 20029.176375
## iter 20 value 20015.717085
## final value 20015.572846
## converged
## # weights: 41
## initial value 21392.096054
## iter 10 value 20026.160653
## iter 20 value 20015.682316
## final value 20015.569783
## converged
```

```
## # weights: 9
## initial value 22986.702090
## final value 19829.997200
## converged
## # weights: 25
## initial value 23604.752490
## final value 19829.997200
## converged
## # weights: 41
## initial value 21105.873475
## final value 19829.997200
## converged
## # weights: 9
## initial value 22516.538106
## iter 10 value 19836.646061
## final value 19835.503720
## converged
## # weights: 25
## initial value 21129.855435
## iter 10 value 19834.806709
## final value 19833.970882
## converged
## # weights: 41
## initial value 21141.388899
## iter 10 value 19836.362242
## iter 20 value 19833.312012
## iter 20 value 19833.311863
## iter 20 value 19833.311857
## final value 19833.311857
## converged
## # weights: 9
## initial value 23028.732724
## iter 10 value 19839.225225
## iter 20 value 19830.103592
## iter 20 value 19830.103549
## final value 19830.103549
## converged
## # weights: 25
## initial value 23263.069308
## iter 10 value 19842.398663
## iter 20 value 19830.140179
## final value 19830.011681
## converged
## # weights: 41
## initial value 23499.946512
## iter 10 value 19844.713699
## iter 20 value 19830.166870
## final value 19830.008790
## converged
## # weights: 9
```

```
## initial value 21767.338302
## final value 20029.414000
## converged
## # weights: 25
## initial value 22022.310316
## final value 20029.414000
## converged
## # weights: 41
## initial value 22206.709714
## final value 20029.414000
## converged
## # weights: 9
## initial value 22817.580490
## iter 10 value 20038.247847
## final value 20034.923771
## converged
## # weights: 25
## initial value 22497.899967
## iter 10 value 20035.487041
## iter 20 value 20033.389872
## final value 20033.389569
## converged
## # weights: 41
## initial value 22861.088086
## iter 10 value 20035.202002
## iter 20 value 20032.730207
## iter 20 value 20032.730139
## iter 20 value 20032.730124
## final value 20032.730124
## converged
## # weights: 9
## initial value 22457.581590
## iter 10 value 20039.192971
## iter 20 value 20029.526744
## iter 20 value 20029.526699
## final value 20029.526699
## converged
## # weights: 25
## initial value 23586.130536
## iter 10 value 20042.476290
## iter 20 value 20029.564598
## final value 20029.428273
## converged
## # weights: 41
## initial value 21206.552164
## iter 10 value 20038.093171
## iter 20 value 20029.514064
## final value 20029.423477
## converged
## # weights: 9
```



```
## initial value 23546.544828
## final value 20037.058000
## converged
## # weights: 25
## initial value 23047.575499
## final value 20037.058000
## converged
## # weights: 41
## initial value 22268.865975
## final value 20037.058000
## converged
## # weights: 9
## initial value 22976.897813
## iter 10 value 20043.228502
## final value 20042.568037
## converged
## # weights: 25
## initial value 21661.692795
## iter 10 value 20043.111837
## final value 20041.033858
## converged
## # weights: 41
## initial value 22282.445309
## iter 10 value 20041.590802
## final value 20040.374413
## converged
## # weights: 9
## initial value 23275.113852
## iter 10 value 20048.528711
## iter 20 value 20037.190248
## iter 20 value 20037.190195
## final value 20037.190195
## converged
## # weights: 25
## initial value 23130.774114
## iter 10 value 20052.861023
## iter 20 value 20037.240196
## final value 20037.070593
## converged
## # weights: 41
## initial value 23582.873079
## iter 10 value 20054.818323
## iter 20 value 20037.262763
## final value 20037.069791
## converged
## # weights: 9
## initial value 23258.068300
## final value 20040.034000
## converged
## # weights: 25
```

```
## initial value 21801.659702
## final value 20040.034000
## converged
## # weights: 41
## initial value 22298.413440
## final value 20040.034000
## converged
## # weights: 9
## initial value 23546.577344
## iter 10 value 20046.127352
## final value 20045.544137
## converged
## # weights: 25
## initial value 22706.552257
## iter 10 value 20044.769756
## final value 20044.009858
## converged
## # weights: 41
## initial value 23144.255982
## iter 10 value 20057.403629
## iter 20 value 20043.350614
## iter 20 value 20043.350458
## iter 20 value 20043.350382
## final value 20043.350382
## converged
## # weights: 9
## initial value 23455.059468
## iter 10 value 20050.607248
## iter 20 value 20040.155901
## iter 20 value 20040.155852
## final value 20040.155852
## converged
## # weights: 25
## initial value 22347.917737
## iter 10 value 20053.187411
## iter 20 value 20040.185649
## final value 20040.046270
## converged
## # weights: 41
## initial value 23481.765203
## iter 10 value 20058.805706
## iter 20 value 20040.250423
## final value 20040.045538
## converged
## # weights: 9
## initial value 22634.863653
## final value 19988.520500
## converged
## # weights: 25
## initial value 23342.544439
```

```
## final value 19988.520500
## converged
## # weights: 41
## initial value 23020.141185
## final value 19988.520500
## converged
## # weights: 9
## initial value 22532.465553
## iter 10 value 19994.428987
## final value 19994.029228
## converged
## # weights: 25
## initial value 21917.396237
## iter 10 value 19993.048665
## final value 19992.495393
## converged
## # weights: 41
## initial value 23256.570550
## iter 10 value 20009.313681
## iter 20 value 19991.861370
## final value 19991.836125
## converged
## # weights: 9
## initial value 23590.499493
## iter 10 value 19996.827783
## iter 20 value 19988.616276
## iter 20 value 19988.616238
## final value 19988.616238
## converged
## # weights: 25
## initial value 23927.042964
## iter 10 value 19997.865647
## iter 20 value 19988.628242
## final value 19988.538883
## converged
## # weights: 41
## initial value 22743.108720
## iter 10 value 20007.511835
## iter 20 value 19988.739455
## final value 19988.534462
## converged
## # weights: 9
## initial value 23230.350761
## final value 20054.760100
## converged
## # weights: 25
## initial value 22554.425443
## final value 20054.760100
## converged
## # weights: 41
```

```
## initial value 23630.736874
## final value 20054.760100
## converged
## # weights: 9
## initial value 22973.834567
## iter 10 value 20060.507414
## final value 20060.270999
## converged
## # weights: 25
## initial value 23220.538017
## iter 10 value 20059.543238
## final value 20058.736557
## converged
## # weights: 41
## initial value 22101.272293
## iter 10 value 20071.341336
## iter 20 value 20058.078178
## final value 20058.076901
## converged
## # weights: 9
## initial value 22987.734652
## iter 10 value 20065.308681
## iter 20 value 20054.881717
## iter 20 value 20054.881668
## final value 20054.881668
## converged
## # weights: 25
## initial value 22399.977950
## iter 10 value 20066.926142
## iter 20 value 20054.900365
## final value 20054.773520
## converged
## # weights: 41
## initial value 21583.679646
## iter 10 value 20068.515274
## iter 20 value 20054.918686
## final value 20054.769345
## converged
## # weights: 9
## initial value 23505.068655
## final value 20047.567600
## converged
## # weights: 25
## initial value 22514.457171
## final value 20047.567600
## converged
## # weights: 41
## initial value 21576.893985
## final value 20047.567600
## converged
```

```
## # weights: 9
## initial value 23291.143897
## iter 10 value 20053.910335
## final value 20053.078049
## converged
## # weights: 25
## initial value 21646.737730
## iter 10 value 20053.394532
## final value 20051.543770
## converged
## # weights: 41
## initial value 22208.834488
## iter 10 value 20052.028132
## iter 20 value 20050.884210
## iter 20 value 20050.884122
## iter 20 value 20050.884107
## final value 20050.884107
## converged
## # weights: 9
## initial value 22882.590173
## iter 10 value 20057.388302
## iter 20 value 20047.680825
## iter 20 value 20047.680780
## final value 20047.680780
## converged
## # weights: 25
## initial value 21508.657577
## iter 10 value 20055.266566
## iter 20 value 20047.656363
## final value 20047.578971
## converged
## # weights: 41
## initial value 23825.179243
## iter 10 value 20061.080832
## iter 20 value 20047.723397
## final value 20047.578689
## converged
## # weights: 9
## initial value 23408.911494
## final value 19993.447600
## converged
## # weights: 25
## initial value 22855.614665
## final value 19993.447600
## converged
## # weights: 41
## initial value 22573.638011
## final value 19993.447600
## converged
## # weights: 9
```

```
## initial value 22269.973000
## iter 10 value 20000.394145
## final value 19998.956425
## converged
## # weights: 25
## initial value 22927.847833
## iter 10 value 19998.643605
## final value 19997.422600
## converged
## # weights: 41
## initial value 21908.003231
## iter 10 value 19997.046944
## final value 19996.763318
## converged
## # weights: 9
## initial value 23023.637001
## iter 10 value 20004.701672
## iter 20 value 19993.577351
## iter 20 value 19993.577299
## final value 19993.577299
## converged
## # weights: 25
## initial value 21580.640012
## iter 10 value 20002.410103
## iter 20 value 19993.550931
## final value 19993.459974
## converged
## # weights: 41
## initial value 22550.151271
## iter 10 value 20013.881948
## iter 20 value 19993.683192
## final value 19993.459380
## converged
## # weights: 9
## initial value 23107.209996
## final value 19922.747600
## converged
## # weights: 25
## initial value 21592.787607
## final value 19922.747600
## converged
## # weights: 41
## initial value 22118.226663
## final value 19922.747600
## converged
## # weights: 9
## initial value 22517.537749
## iter 10 value 19931.995989
## final value 19928.255226
## converged
```

```
## # weights: 25
## initial value 22124.865955
## iter 10 value 19928.587934
## final value 19926.721855
## converged
## # weights: 41
## initial value 21088.819701
## iter 10 value 19936.482634
## iter 20 value 19926.067114
## final value 19926.062725
## converged
## # weights: 9
## initial value 22844.593333
## iter 10 value 19933.781243
## iter 20 value 19922.874809
## iter 20 value 19922.874758
## final value 19922.874758
## converged
## # weights: 25
## initial value 22503.990096
## iter 10 value 19937.184950
## iter 20 value 19922.914051
## final value 19922.760741
## converged
## # weights: 41
## initial value 22467.788277
## iter 10 value 19941.391697
## iter 20 value 19922.962552
## final value 19922.757426
## converged
## # weights: 9
## initial value 23163.822228
## final value 20039.453200
## converged
## # weights: 25
## initial value 24131.363263
## final value 20039.453200
## converged
## # weights: 41
## initial value 23122.501017
## final value 20039.453200
## converged
## # weights: 9
## initial value 22478.603520
## iter 10 value 20048.781419
## final value 20044.963324
## converged
## # weights: 25
## initial value 22311.473504
## iter 10 value 20045.107912
```

```
## iter 20 value 20043.429167
## iter 20 value 20043.429037
## iter 20 value 20043.429029
## final value 20043.429029
## converged
## # weights: 41
## initial value 24169.443945
## iter 10 value 20044.112365
## iter 20 value 20042.769860
## final value 20042.769532
## converged
## # weights: 9
## initial value 23040.083934
## iter 10 value 20049.716719
## iter 20 value 20039.571530
## iter 20 value 20039.571483
## final value 20039.571483
## converged
## # weights: 25
## initial value 21656.016040
## iter 10 value 20048.977866
## iter 20 value 20039.563012
## final value 20039.465027
## converged
## # weights: 41
## initial value 22234.657950
## iter 10 value 20058.911469
## iter 20 value 20039.677539
## final value 20039.462930
## converged
## # weights: 9
## initial value 23422.320931
## final value 20044.507700
## converged
## # weights: 25
## initial value 22406.361342
## final value 20044.507700
## converged
## # weights: 41
## initial value 24305.285297
## final value 20044.507700
## converged
## # weights: 9
## initial value 22857.979810
## iter 10 value 20053.310313
## final value 20050.018048
## converged
## # weights: 25
## initial value 23073.055204
## iter 10 value 20049.032735
```



```
## final value 20048.483684
## converged
## # weights: 41
## initial value 23034.800603
## iter 10 value 20048.911700
## iter 20 value 20047.824240
## iter 20 value 20047.824179
## iter 20 value 20047.824167
## final value 20047.824167
## converged
## # weights: 9
## initial value 22709.896014
## iter 10 value 20053.996402
## iter 20 value 20044.617097
## iter 20 value 20044.617054
## final value 20044.617054
## converged
## # weights: 25
## initial value 22774.451676
## iter 10 value 20059.513188
## iter 20 value 20044.680701
## final value 20044.524839
## converged
## # weights: 41
## initial value 22403.201350
## iter 10 value 20062.194827
## iter 20 value 20044.711619
## final value 20044.520602
## converged
## # weights: 9
## initial value 22612.575617
## final value 20004.341200
## converged
## # weights: 25
## initial value 23611.969892
## final value 20004.341200
## converged
## # weights: 41
## initial value 23222.827379
## final value 20004.341200
## converged
## # weights: 9
## initial value 22876.613766
## iter 10 value 20010.046437
## final value 20009.850272
## converged
## # weights: 25
## initial value 22874.189423
## iter 10 value 20017.392956
## iter 20 value 20008.673210
```

```
## iter 30 value 20008.316398
## iter 30 value 20008.316333
## iter 30 value 20008.316323
## final value 20008.316323
## converged
## # weights: 41
## initial value 22682.212520
## iter 10 value 20008.085721
## final value 20007.656948
## converged
## # weights: 9
## initial value 22728.505948
## iter 10 value 20014.237993
## iter 20 value 20004.455302
## iter 20 value 20004.455257
## final value 20004.455257
## converged
## # weights: 25
## initial value 22938.043367
## iter 10 value 20018.381115
## iter 20 value 20004.503069
## final value 20004.355634
## converged
## # weights: 41
## initial value 22198.858900
## iter 10 value 20019.375094
## iter 20 value 20004.514529
## final value 20004.354247
## converged
## # weights: 9
## initial value 22831.957980
## final value 20012.190500
## converged
## # weights: 25
## initial value 21767.642944
## final value 20012.190500
## converged
## # weights: 41
## initial value 23783.396587
## final value 20012.190500
## converged
## # weights: 9
## initial value 23351.574765
## iter 10 value 20017.830727
## final value 20017.699756
## converged
## # weights: 25
## initial value 21682.879502
## iter 10 value 20017.407463
## iter 20 value 20016.166976
```

```
## final value 20016.165743
## converged
## # weights: 41
## initial value 22734.893162
## iter 10 value 20027.812604
## iter 20 value 20015.506787
## final value 20015.506390
## converged
## # weights: 9
## initial value 23102.665365
## iter 10 value 20021.793459
## iter 20 value 20012.301215
## iter 20 value 20012.301170
## final value 20012.301170
## converged
## # weights: 25
## initial value 24295.932835
## iter 10 value 20020.551213
## iter 20 value 20012.286892
## final value 20012.214393
## converged
## # weights: 41
## initial value 21601.939725
## iter 10 value 20025.318765
## iter 20 value 20012.341859
## final value 20012.199580
## converged
## # weights: 9
## initial value 22468.047964
## final value 20007.816500
## converged
## # weights: 25
## initial value 22109.725089
## final value 20007.816500
## converged
## # weights: 41
## initial value 23057.421253
## final value 20007.816500
## converged
## # weights: 9
## initial value 22785.871934
## iter 10 value 20013.877737
## final value 20013.325658
## converged
## # weights: 25
## initial value 22953.558419
## iter 10 value 20012.576430
## iter 20 value 20011.791726
## iter 20 value 20011.791686
## iter 20 value 20011.791682
```

```
## final value 20011.791682
## converged
## # weights: 41
## initial value 22279.536466
## iter 10 value 20012.051665
## final value 20011.132341
## converged
## # weights: 9
## initial value 24047.081010
## iter 10 value 20015.487246
## iter 20 value 20007.904938
## iter 20 value 20007.904902
## final value 20007.904902
## converged
## # weights: 25
## initial value 23555.534078
## iter 10 value 20020.369058
## iter 20 value 20007.961221
## final value 20007.831534
## converged
## # weights: 41
## initial value 22322.513748
## iter 10 value 20025.622558
## iter 20 value 20008.021790
## final value 20007.827535
## converged
## # weights: 9
## initial value 23013.298253
## final value 20043.189200
## converged
## # weights: 25
## initial value 22656.439180
## final value 20043.189200
## converged
## # weights: 41
## initial value 22585.903535
## final value 20043.189200
## converged
## # weights: 9
## initial value 22865.908256
## iter 10 value 20049.527185
## final value 20048.699478
## converged
## # weights: 25
## initial value 22806.641948
## iter 10 value 20047.311390
## final value 20047.165121
## converged
## # weights: 41
## initial value 23082.293516
```

```
## iter 10 value 20048.097710
## iter 20 value 20046.505932
## final value 20046.505596
## converged
## # weights: 9
## initial value 23438.443761
## iter 10 value 20053.011959
## iter 20 value 20043.302449
## iter 20 value 20043.302403
## final value 20043.302403
## converged
## # weights: 25
## initial value 22300.981854
## iter 10 value 20056.553096
## iter 20 value 20043.343275
## final value 20043.202366
## converged
## # weights: 41
## initial value 22818.707898
## iter 10 value 20063.904045
## iter 20 value 20043.428026
## final value 20043.201403
## converged
## # weights: 9
## initial value 22809.904404
## final value 20037.160100
## converged
## # weights: 25
## initial value 23667.517009
## final value 20037.160100
## converged
## # weights: 41
## initial value 22495.368663
## final value 20037.160100
## converged
## # weights: 9
## initial value 21832.296711
## iter 10 value 20043.444805
## final value 20042.670141
## converged
## # weights: 25
## initial value 22823.271182
## iter 10 value 20042.847028
## final value 20041.135903
## converged
## # weights: 41
## initial value 22066.071046
## iter 10 value 20041.162058
## final value 20040.476518
## converged
```

```
## # weights: 9
## initial value 23689.219734
## iter 10 value 20046.759097
## iter 20 value 20037.270769
## iter 20 value 20037.270725
## final value 20037.270725
## converged
## # weights: 25
## initial value 23307.345454
## iter 10 value 20051.896989
## iter 20 value 20037.330005
## final value 20037.180666
## converged
## # weights: 41
## initial value 21518.280544
## iter 10 value 20050.272569
## iter 20 value 20037.311276
## final value 20037.168837
## converged
## # weights: 9
## initial value 22081.349711
## final value 20050.709200
## converged
## # weights: 25
## initial value 21573.814513
## final value 20050.709200
## converged
## # weights: 41
## initial value 21671.915434
## final value 20050.709200
## converged
## # weights: 9
## initial value 22680.615021
## iter 10 value 20057.441443
## final value 20056.219785
## converged
## # weights: 25
## initial value 21468.468536
## iter 10 value 20056.165052
## final value 20054.685444
## converged
## # weights: 41
## initial value 23094.488098
## iter 10 value 20055.714973
## final value 20054.025774
## converged
## # weights: 9
## initial value 23660.285451
## iter 10 value 20058.891424
## iter 20 value 20050.803535
```

```
## iter 20 value 20050.803497
## final value 20050.803497
## converged
## # weights: 25
## initial value 22903.238243
## iter 10 value 20065.861846
## iter 20 value 20050.883898
## final value 20050.723449
## converged
## # weights: 41
## initial value 22340.797946
## iter 10 value 20068.441872
## iter 20 value 20050.913644
## final value 20050.721170
## converged
## # weights: 9
## initial value 22593.094829
## final value 20042.285200
## converged
## # weights: 25
## initial value 22977.375770
## final value 20042.285200
## converged
## # weights: 41
## initial value 22349.756082
## final value 20042.285200
## converged
## # weights: 9
## initial value 22138.095958
## iter 10 value 20049.633946
## final value 20047.795392
## converged
## # weights: 25
## initial value 22923.662039
## iter 10 value 20049.790437
## iter 20 value 20046.261456
## final value 20046.261058
## converged
## # weights: 41
## initial value 22392.599969
## iter 10 value 20047.017219
## iter 20 value 20045.601714
## iter 20 value 20045.601575
## iter 20 value 20045.601569
## final value 20045.601569
## converged
## # weights: 9
## initial value 23506.328693
## iter 10 value 20052.708717
## iter 20 value 20042.405375
```

```
## iter 20 value 20042.405327
## final value 20042.405327
## converged
## # weights: 25
## initial value 23417.531086
## iter 10 value 20055.644967
## iter 20 value 20042.439228
## iter 30 value 20042.298596
## iter 30 value 20042.298578
## iter 30 value 20042.298573
## final value 20042.298573
## converged
## # weights: 41
## initial value 22589.023522
## iter 10 value 20059.772125
## iter 20 value 20042.486811
## final value 20042.295841
## converged
## # weights: 9
## initial value 23479.103504
## final value 20044.247600
## converged
## # weights: 25
## initial value 22129.159366
## final value 20044.247600
## converged
## # weights: 41
## initial value 23542.863036
## final value 20044.247600
## converged
## # weights: 9
## initial value 23622.717148
## iter 10 value 20049.928732
## final value 20049.757876
## converged
## # weights: 25
## initial value 21726.226094
## iter 10 value 20049.104988
## final value 20048.223567
## converged
## # weights: 41
## initial value 23649.960107
## iter 10 value 20048.979082
## iter 20 value 20047.564162
## iter 20 value 20047.564034
## iter 20 value 20047.564024
## final value 20047.564024
## converged
## # weights: 9
## initial value 22085.395114
```



```
## iter 10 value 20053.244972
## iter 20 value 20044.351333
## iter 20 value 20044.351291
## final value 20044.351291
## converged
## # weights: 25
## initial value 22689.050281
## iter 10 value 20059.291816
## iter 20 value 20044.421048
## final value 20044.261907
## converged
## # weights: 41
## initial value 23125.251970
## iter 10 value 20063.766686
## iter 20 value 20044.472640
## final value 20044.257413
## converged
## # weights: 9
## initial value 23252.521936
## final value 19929.305200
## converged
## # weights: 25
## initial value 21981.555370
## final value 19929.305200
## converged
## # weights: 41
## initial value 23592.055394
## final value 19929.305200
## converged
## # weights: 9
## initial value 21662.153451
## iter 10 value 19936.063166
## final value 19934.812912
## converged
## # weights: 25
## initial value 22163.407689
## iter 10 value 19934.439559
## final value 19933.279526
## converged
## # weights: 41
## initial value 22451.331988
## iter 10 value 19936.121189
## iter 20 value 19932.954603
## iter 30 value 19932.652943
## final value 19932.620317
## converged
## # weights: 9
## initial value 21721.488042
## iter 10 value 19936.936310
## iter 20 value 19929.393181
```

```
## iter 20 value 19929.393146
## final value 19929.393146
## converged
## # weights: 25
## initial value 22292.888237
## iter 10 value 19942.362922
## iter 20 value 19929.455745
## final value 19929.319458
## converged
## # weights: 41
## initial value 24003.982729
## iter 10 value 19941.907331
## iter 20 value 19929.450493
## final value 19929.318401
## converged
## # weights: 9
## initial value 22313.154041
## final value 20036.750500
## converged
## # weights: 25
## initial value 21449.003614
## final value 20036.750500
## converged
## # weights: 41
## initial value 23437.355072
## final value 20036.750500
## converged
## # weights: 9
## initial value 23594.887463
## iter 10 value 20045.390564
## final value 20042.260527
## converged
## # weights: 25
## initial value 23605.771065
## iter 10 value 20042.044405
## iter 20 value 20040.726685
## final value 20040.726253
## converged
## # weights: 41
## initial value 23394.911392
## iter 10 value 20053.482983
## iter 20 value 20040.067352
## final value 20040.066782
## converged
## # weights: 9
## initial value 22699.308916
## iter 10 value 20049.051749
## iter 20 value 20036.892324
## iter 20 value 20036.892267
## final value 20036.892267
```

```
## converged
## # weights: 25
## initial value 23073.197752
## iter 10 value 20049.950467
## iter 20 value 20036.902685
## final value 20036.765485
## converged
## # weights: 41
## initial value 22859.302887
## iter 10 value 20056.227718
## iter 20 value 20036.975057
## final value 20036.759763
## converged
## # weights: 9
## initial value 21609.208564
## final value 20022.082000
## converged
## # weights: 25
## initial value 21995.566709
## final value 20022.082000
## converged
## # weights: 41
## initial value 24131.665959
## final value 20022.082000
## converged
## # weights: 9
## initial value 23540.472347
## iter 10 value 20028.723163
## iter 20 value 20027.592112
## final value 20027.591640
## converged
## # weights: 25
## initial value 23792.148649
## iter 10 value 20027.854054
## iter 20 value 20026.057695
## final value 20026.057375
## converged
## # weights: 41
## initial value 21174.484513
## iter 10 value 20026.504928
## final value 20025.398036
## converged
## # weights: 9
## initial value 22476.861470
## iter 10 value 20033.429749
## iter 20 value 20022.212831
## iter 20 value 20022.212778
## final value 20022.212778
## converged
## # weights: 25
```

```
## initial value 23518.266617
## iter 10 value 20036.502122
## iter 20 value 20022.248253
## final value 20022.102025
## converged
## # weights: 41
## initial value 22413.382904
## iter 10 value 20043.054540
## iter 20 value 20022.323797
## final value 20022.092461
## converged
## # weights: 9
## initial value 22420.390533
## final value 20038.766500
## converged
## # weights: 25
## initial value 21931.403191
## final value 20038.766500
## converged
## # weights: 41
## initial value 23922.974333
## final value 20038.766500
## converged
## # weights: 9
## initial value 22030.697300
## iter 10 value 20044.407963
## final value 20044.276546
## converged
## # weights: 25
## initial value 23464.166017
## iter 10 value 20044.751403
## final value 20042.742266
## converged
## # weights: 41
## initial value 21933.566043
## iter 10 value 20056.136922
## iter 20 value 20042.087795
## final value 20042.082867
## converged
## # weights: 9
## initial value 23418.153805
## iter 10 value 20047.899309
## iter 20 value 20038.871794
## iter 20 value 20038.871752
## final value 20038.871752
## converged
## # weights: 25
## initial value 23028.764123
## iter 10 value 20053.637214
## iter 20 value 20038.937948
```

```
## final value 20038.784694
## converged
## # weights: 41
## initial value 21098.581300
## iter 10 value 20046.899717
## iter 20 value 20038.860270
## final value 20038.775632
## converged
## # weights: 9
## initial value 22405.774013
## final value 19987.306000
## converged
## # weights: 25
## initial value 21992.058349
## final value 19987.306000
## converged
## # weights: 41
## initial value 23804.323011
## final value 19987.306000
## converged
## # weights: 9
## initial value 21886.671352
## iter 10 value 19993.681268
## final value 19992.814619
## converged
## # weights: 25
## initial value 22164.320973
## iter 10 value 19992.377139
## final value 19991.280821
## converged
## # weights: 41
## initial value 22486.332682
## iter 10 value 19991.439269
## final value 19990.621486
## converged
## # weights: 9
## initial value 22130.376191
## iter 10 value 19996.936951
## iter 20 value 19987.417037
## iter 20 value 19987.416993
## final value 19987.416993
## converged
## # weights: 25
## initial value 23078.973951
## iter 10 value 20004.383858
## iter 20 value 19987.502894
## final value 19987.318379
## converged
## # weights: 41
## initial value 24072.062889
```

```

## iter 10 value 19999.680305
## iter 20 value 19987.448666
## final value 19987.321906
## converged
## # weights: 9
## initial value 21675.241326
## iter 10 value 20071.223437
## iter 20 value 20063.262949
## iter 20 value 20063.262912
## final value 20063.262912
## converged

nn_cars

## Neural Network
##
## 400 samples
## 6 predictor
##
## Pre-processing: centered (6), scaled (6)
## Resampling: Leave-One-Out Cross-Validation
## Summary of sample sizes: 399, 399, 399, 399, 399, 399, ...
## Resampling results across tuning parameters:
##
## size decay RMSE Rsquared MAE
## 1 0e+00 7.082226 NA 6.511475
## 1 1e-04 7.082226 NA 6.511475
## 1 1e-01 7.082396 0.321388450 6.511658
## 3 0e+00 7.082226 NA 6.511475
## 3 1e-04 7.082226 0.001273363 6.511475
## 3 1e-01 7.082337 0.329456832 6.511597
## 5 0e+00 7.082226 NA 6.511475
## 5 1e-04 7.082226 0.001105182 6.511475
## 5 1e-01 7.082317 0.327879773 6.511574
##
## RMSE was used to select the optimal model using the smallest value.
## The final values used for the model were size = 1 and decay = 1e-04.

```

The model output shows that the size = 1 and decay 1e-04 as the most optimal model using RMSE. The value for Rsquared for this model is "NaN". The closest Rsquared is 0.32788 for a model with decay 1e-01 and RMSE of 7.082317.

QB4

Consider the following input: Sales=9, Price=6.54, Population=124, Advertising=0, Age=76, Income= 110, Education=10. What will be the estimated Sales for this record using the above neuralnet model?

```
Sales <- c(9)
Price <- c(6.54)
Population <- c(124)
Advertising <- c(0)
Age <- c(76)
Income <- c(110)
Education <- c(10)
Test <- data.frame(Sales, Price, Population, Advertising, Age, Income, Education)
```

After we got the test data, we need to predict using the network model.

```
Predict_sales <- predict(nn_cars, Test)
Predict_sales

## 1
## 1
```

Looking at the result we got, the model predicts that only 1 Sale will take place with the given model. The price will be 6.54 and Sales in the output is 9. The output is way different from the ones we calculated using the decision tree, because what we got there was something around 9.5 for Sales. And from what we learnt SVM uses kernel trick to solve non-linear problems whereas decision trees derive hyper-rectangles in input space to solve the problem. I think decision trees are better because it deals with linearity better than SVM.

References

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- Yildirim, S. (2020, October 6). *SVM hyperparameters explained with visualizations*. Medium. Retrieved December 11, 2022, from <https://towardsdatascience.com/svm-hyperparameters-explained-with-visualizations-143e48cb701b>