

Assignment3_rspake1_SVM

Assignment 3

In this first part we are going to answer the questions to Part A, then in the second part we will build an SVM linear regression model and a neural network regression model.

Part A

QA1 - "What is the difference between SVM with hard margin and soft margin?"

A hard margin is a SVM model that is very strict with its margins and will not let the model violate them. Conversely, a soft margin SVM model is lenient with its margins and will violate them to a certain extent if it lead to a better split.

QA2 - "What is the role of the cost parameter, C, in SVM (with soft margin) classifiers?"

The cost parameter assigns weight to the constraints. It tells the model how strict it can be with its constraints. A small C allows for the model to be lenient with constraints and ignore constraints where necessary, leading to a **large margin**.

A large C has the opposite effect and tells the model to strictly follow the constraints, leading to a **narrow margin**. where C = infinity, the constraints are a **hard margin**.

In regards to soft margins: they provide a trade off between the margins and the number of mistakes/margin violations allowed.

QA3 - "Will the following perceptron be activated (2.8 is the activation threshold)"

0.1 -> 0.8 _ -> 2.8 -> 11.1 -> -0.2-

This perceptron will not activate as the result is -2.14. This happens as a result of $11.1 * -0.2 = -2.22$, when you add the 0.08 from the resulting math at the top, resulting in -2.14.

QA4 - "What is the role of alpha, the learning rate in the delta rule?"

The learning rate sets how to change the weights (w) as a function of the inputs (x), outputs (y) and the target (t).

A higher alpha (learning rate), the faster the changes to weight take place. A lower alpha will result in smoother changes in weight. By using high learning rate in the beginning to get closer to the target then switch to a smaller rate to smoothly reach the optimal value.

Part B

This part of the assignment involves building SVM and neural network regression models to answer a number of questions. We will use the Carseats dataset that is part of the ISLR package (you need to install and load the library).

We may also need the following packages: caret, dplyr, and glmnet

```
library(ISLR)
```

```
## Warning: package 'ISLR' was built under R version 4.1.2
```

```
library(dplyr)
```

```
## Warning: package 'dplyr' was built under R version 4.1.2
```

```
##  
## 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 4.1.3
```

```
## Loading required package: Matrix
```

```
## Loaded glmnet 4.1-4
```

```
library(caret)
```

```
## Warning: package 'caret' was built under R version 4.1.3
```

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

```
## Warning: package 'ggplot2' was built under R version 4.1.2
```

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

```
library(kernlab)
```

```
## Warning: package 'kernlab' was built under R version 4.1.3
```

```
##  
## Attaching package: 'kernlab'
```

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

For this assignment, we only need the following attributes: “Sales”, “Price”, “Advertising”, “Population”, “Age”, “Income” and “Education”. The goal of the assignment is to build models to predict the sales of the carseats (“Sales” attribute) using the other attributes.

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

QB1 - “Build a linear SVM regression model to predict Sales based on all other attributes (**“Price”, “Advertising”, “Population”, “Age”, “Income” and “Education”**). Hint: use caret train() with method set to “svmLinear”. What is the R-squared of the model?”

```
trctrl <- trainControl(method = "repeatedcv", number = 10, repeats = 3)  
set.seed(23)  
  
svm_Linear <- train(Sales~., data = Carseats_Filtered, method = "svmLinear",  
                   trControl=trctrl,  
                   preProcess = c("center", "scale"),  
                   tuneLength = 10)  
  
svm_Linear
```

```
## 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: 360, 360, 360, 359, 360, 360, ...  
## Resampling results:  
##  
##      RMSE      Rsquared  MAE  
##  2.262435  0.369034  1.817903  
##  
## Tuning parameter 'C' was held constant at a value of 1
```

In the above model, I added a train control section that adds cross validation to the model.

The R² of the model is 0.369034.

QB2 - “Customize the search grid by checking the model’s 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))
trctrl12 <- trainControl(method = "repeatedcv", number = 5, repeats = 2)

svm_Linear_Grid <- train(Sales~., data = Carseats_Filtered, method = "svmLinear",
                        trControl=trctrl12,
                        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: 320, 321, 320, 320, 319, 320, ...
## Resampling results across tuning parameters:
##
##  C      RMSE      Rsquared    MAE
##  0.1  2.284317  0.3568397  1.822146
##  0.5  2.280717  0.3581112  1.819602
##  1.0  2.281890  0.3576083  1.820133
## 10.0  2.282163  0.3576739  1.819997
##
## RMSE was used to select the optimal model using the smallest value.
## The final value used for the model was C = 0.5.

```

In this step we have added a search grid at the desired points. We have also adjusted the cross validation as instructed. The interesting outcome is that as we increase C, the change 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 C available.

QB3 - "Train a neural network model to predict Sales based on all other attributes ("**Price**", "**Advertising**", "**Population**", "**Age**", "**Income**" and "**Education**"). Hint: use caret train() with method set to "nnet". What is the R-square of the model with the best hyper parameters (using default caret search grid) – hint: don't forget to scale the data."

```

set.seed(23)

numfolds <- trainControl(method = 'LOOCV', verboseIter = FALSE)

nnet_Cars <- train(Sales~., data = Carseats_Filtered, method = "nnet",
                  preProcess = c("center", "scale"),
                  trControl = numfolds)

```

```
## # weights: 9
## initial value 22079.681855
## final value 19990.920100
## converged
## # weights: 25
## initial value 23294.046231
## final value 19990.920100
## converged
## # weights: 41
## initial value 22946.130470
## final value 19990.920100
## converged
## # weights: 9
## initial value 22964.596510
## iter 10 value 19996.699121
## final value 19996.428871
## converged
## # weights: 25
## initial value 23374.135659
## iter 10 value 19996.230359
## iter 20 value 19994.895174
## iter 20 value 19994.895060
## iter 20 value 19994.895032
## final value 19994.895032
## converged
## # weights: 41
## initial value 23546.140799
## iter 10 value 20004.427706
## iter 20 value 19994.236210
## final value 19994.235763
## converged
## # weights: 9
## initial value 23062.672151
## iter 10 value 20000.932754
## iter 20 value 19991.035538
## iter 20 value 19991.035492
## final value 19991.035492
## converged
## # weights: 25
## initial value 23197.430881
## iter 10 value 20006.113255
## iter 20 value 19991.095265
## final value 19990.932482
## converged
## # weights: 41
## initial value 22255.387411
## iter 10 value 20012.320571
## iter 20 value 19991.166831
## final value 19990.929556
## converged
## # weights: 9
## initial value 23326.051345
```

```
## final value 19958.721700
## converged
## # weights: 25
## initial value 22642.865779
## final value 19958.721700
## converged
## # weights: 41
## initial value 22748.278816
## final value 19958.721700
## converged
## # weights: 9
## initial value 23348.110751
## iter 10 value 19964.381455
## final value 19964.229903
## converged
## # weights: 25
## initial value 21997.696541
## iter 10 value 19963.776380
## final value 19962.696278
## converged
## # weights: 41
## initial value 22382.233769
## iter 10 value 19963.086908
## final value 19962.037040
## converged
## # weights: 9
## initial value 22703.648584
## iter 10 value 19969.258470
## iter 20 value 19958.843181
## iter 20 value 19958.843132
## final value 19958.843132
## converged
## # weights: 25
## initial value 23047.961795
## iter 10 value 19974.255353
## iter 20 value 19958.900791
## final value 19958.737247
## converged
## # weights: 41
## initial value 23138.299811
## iter 10 value 19977.858870
## iter 20 value 19958.942337
## final value 19958.731844
## converged
## # weights: 9
## initial value 21824.314173
## final value 19981.086500
## converged
## # weights: 25
## initial value 23771.441833
## final value 19981.086500
## converged
```

```
## # weights: 41
## initial value 21418.027902
## final value 19981.086500
## converged
## # weights: 9
## initial value 23351.963526
## iter 10 value 19987.121872
## final value 19986.595082
## converged
## # weights: 25
## initial value 21854.349404
## iter 10 value 19985.793433
## final value 19985.061374
## converged
## # weights: 41
## initial value 21503.127900
## iter 10 value 19995.909222
## iter 20 value 19984.402841
## final value 19984.402081
## converged
## # weights: 9
## initial value 22946.159803
## iter 10 value 19992.998671
## iter 20 value 19981.223838
## iter 20 value 19981.223783
## final value 19981.223783
## converged
## # weights: 25
## initial value 22365.346048
## iter 10 value 19993.933432
## iter 20 value 19981.234615
## final value 19981.098678
## converged
## # weights: 41
## initial value 23434.040635
## iter 10 value 19999.016325
## iter 20 value 19981.293217
## final value 19981.097286
## converged
## # weights: 9
## initial value 23285.202195
## final value 20022.210100
## converged
## # weights: 25
## initial value 22209.913385
## final value 20022.210100
## converged
## # weights: 41
## initial value 23481.085226
## final value 20022.210100
## converged
## # weights: 9
```

```
## initial value 22984.023346
## iter 10 value 20029.938865
## final value 20027.719632
## converged
## # weights: 25
## initial value 22001.163639
## iter 10 value 20028.040315
## iter 20 value 20026.185853
## iter 20 value 20026.185676
## iter 20 value 20026.185604
## final value 20026.185604
## converged
## # weights: 41
## initial value 22325.987310
## iter 10 value 20027.977068
## iter 20 value 20025.527479
## final value 20025.526140
## converged
## # weights: 9
## initial value 23421.026893
## iter 10 value 20032.265024
## iter 20 value 20022.326025
## iter 20 value 20022.325979
## final value 20022.325979
## converged
## # weights: 25
## initial value 22592.318060
## iter 10 value 20036.136659
## iter 20 value 20022.370662
## final value 20022.220800
## converged
## # weights: 41
## initial value 22590.772227
## iter 10 value 20039.416203
## iter 20 value 20022.408473
## final value 20022.222573
## converged
## # weights: 9
## initial value 22205.556667
## final value 20053.247600
## converged
## # weights: 25
## initial value 23403.754348
## final value 20053.247600
## converged
## # weights: 41
## initial value 21399.832743
## final value 20053.247600
## converged
## # weights: 9
## initial value 23182.666002
## iter 10 value 20059.904533
```



```
## final value 20058.758376
## converged
## # weights: 25
## initial value 23451.204475
## iter 10 value 20058.581830
## final value 20057.223891
## converged
## # weights: 41
## initial value 24228.289890
## iter 10 value 20070.501280
## iter 20 value 20056.564529
## iter 20 value 20056.564405
## iter 20 value 20056.564365
## final value 20056.564365
## converged
## # weights: 9
## initial value 23559.715061
## iter 10 value 20062.117081
## iter 20 value 20053.349858
## iter 20 value 20053.349817
## final value 20053.349817
## converged
## # weights: 25
## initial value 21686.248834
## iter 10 value 20062.859238
## iter 20 value 20053.358415
## final value 20053.259921
## converged
## # weights: 41
## initial value 24286.849892
## iter 10 value 20063.485355
## iter 20 value 20053.365633
## final value 20053.260785
## converged
## # weights: 9
## initial value 22890.346590
## final value 19966.934000
## converged
## # weights: 25
## initial value 23150.138025
## final value 19966.934000
## converged
## # weights: 41
## initial value 22804.227511
## final value 19966.934000
## converged
## # weights: 9
## initial value 23025.274447
## iter 10 value 19972.810855
## final value 19972.442338
## converged
## # weights: 25
```

```
## initial value 22697.630506
## iter 10 value 19971.764311
## final value 19970.908657
## converged
## # weights: 41
## initial value 22266.371672
## iter 10 value 19971.135025
## final value 19970.249433
## converged
## # weights: 9
## initial value 22892.708368
## iter 10 value 19977.795907
## iter 20 value 19967.059229
## iter 20 value 19967.059179
## final value 19967.059179
## converged
## # weights: 25
## initial value 23133.630136
## iter 10 value 19981.706645
## iter 20 value 19967.104317
## final value 19966.949809
## converged
## # weights: 41
## initial value 21315.757687
## iter 10 value 19976.716568
## iter 20 value 19967.046785
## final value 19966.943378
## converged
## # weights: 9
## initial value 23349.919398
## final value 20031.473200
## converged
## # weights: 25
## initial value 21475.710928
## final value 20031.473200
## converged
## # weights: 41
## initial value 23350.329289
## final value 20031.473200
## converged
## # weights: 9
## initial value 23217.969059
## iter 10 value 20040.737807
## final value 20036.983085
## converged
## # weights: 25
## initial value 21819.618795
## iter 10 value 20042.046777
## iter 20 value 20035.449100
## final value 20035.448829
## converged
## # weights: 41
```

```
## initial value 22304.205432
## iter 10 value 20035.770290
## final value 20034.789417
## converged
## # weights: 9
## initial value 23800.904600
## iter 10 value 20039.588031
## iter 20 value 20031.566758
## iter 20 value 20031.566720
## final value 20031.566720
## converged
## # weights: 25
## initial value 22874.336142
## iter 10 value 20048.013511
## iter 20 value 20031.663897
## final value 20031.487273
## converged
## # weights: 41
## initial value 22976.852599
## iter 10 value 20051.700015
## iter 20 value 20031.706399
## final value 20031.484718
## converged
## # weights: 9
## initial value 21944.986628
## final value 19945.447600
## converged
## # weights: 25
## initial value 22135.803318
## final value 19945.447600
## converged
## # weights: 41
## initial value 23545.833862
## final value 19945.447600
## converged
## # weights: 9
## initial value 22195.616246
## iter 10 value 19952.172245
## final value 19950.955489
## converged
## # weights: 25
## initial value 23258.427394
## iter 10 value 19949.974303
## final value 19949.421945
## converged
## # weights: 41
## initial value 22141.659736
## iter 10 value 19951.780518
## iter 20 value 19948.770099
## final value 19948.762854
## converged
## # weights: 9
```

```
## initial value 22418.714130
## iter 10 value 19957.284281
## iter 20 value 19945.584068
## iter 20 value 19945.584013
## final value 19945.584013
## converged
## # weights: 25
## initial value 22970.188737
## iter 10 value 19962.405047
## iter 20 value 19945.643106
## final value 19945.460973
## converged
## # weights: 41
## initial value 22137.233048
## iter 10 value 19965.268676
## iter 20 value 19945.676121
## final value 19945.457736
## converged
## # weights: 9
## initial value 22999.365170
## final value 20032.478500
## converged
## # weights: 25
## initial value 22689.436829
## final value 20032.478500
## converged
## # weights: 41
## initial value 23472.770991
## final value 20032.478500
## converged
## # weights: 9
## initial value 22324.744266
## iter 10 value 20040.023843
## final value 20037.988371
## converged
## # weights: 25
## initial value 23432.966616
## iter 10 value 20039.163161
## iter 20 value 20036.454392
## iter 20 value 20036.454258
## iter 20 value 20036.454228
## final value 20036.454228
## converged
## # weights: 41
## initial value 21893.347456
## iter 10 value 20054.976231
## iter 20 value 20035.798015
## final value 20035.794701
## converged
## # weights: 9
## initial value 22863.480532
## iter 10 value 20042.539088
```

```
## iter 20 value 20032.594491
## iter 20 value 20032.594444
## final value 20032.594444
## converged
## # weights: 25
## initial value 22949.790629
## iter 10 value 20047.540232
## iter 20 value 20032.652150
## final value 20032.493222
## converged
## # weights: 41
## initial value 24117.762593
## iter 10 value 20044.766031
## iter 20 value 20032.620166
## final value 20032.491935
## converged
## # weights: 9
## initial value 23810.843300
## final value 20049.554000
## converged
## # weights: 25
## initial value 22288.923186
## final value 20049.554000
## converged
## # weights: 41
## initial value 23497.397529
## final value 20049.554000
## converged
## # weights: 9
## initial value 23356.252396
## iter 10 value 20057.733660
## final value 20055.064614
## converged
## # weights: 25
## initial value 21909.381402
## iter 10 value 20056.111665
## iter 20 value 20053.530272
## iter 20 value 20053.530212
## iter 20 value 20053.530207
## final value 20053.530207
## converged
## # weights: 41
## initial value 22178.891029
## iter 10 value 20055.113488
## final value 20052.870691
## converged
## # weights: 9
## initial value 21708.295316
## iter 10 value 20056.533626
## iter 20 value 20049.634470
## iter 20 value 20049.634437
## final value 20049.634437
```

```
## converged
## # weights: 25
## initial value 22276.399943
## iter 10 value 20062.213561
## iter 20 value 20049.699955
## final value 20049.570823
## converged
## # weights: 41
## initial value 23744.695527
## iter 10 value 20065.360577
## iter 20 value 20049.736237
## final value 20049.567220
## converged
## # weights: 9
## initial value 22287.841219
## final value 19999.010000
## converged
## # weights: 25
## initial value 23915.042912
## final value 19999.010000
## converged
## # weights: 41
## initial value 23706.082454
## final value 19999.010000
## converged
## # weights: 9
## initial value 22950.149532
## iter 10 value 20006.235819
## iter 20 value 20004.518982
## iter 20 value 20004.518965
## final value 20004.518965
## converged
## # weights: 25
## initial value 22323.817854
## iter 10 value 20004.608821
## iter 20 value 20002.985107
## iter 20 value 20002.985052
## iter 20 value 20002.985046
## final value 20002.985046
## converged
## # weights: 41
## initial value 24139.374250
## iter 10 value 20006.858668
## iter 20 value 20002.325963
## iter 20 value 20002.325802
## iter 20 value 20002.325790
## final value 20002.325790
## converged
## # weights: 9
## initial value 22866.489320
## iter 10 value 20010.115072
## iter 20 value 19999.138033
```

```
## iter 20 value 19999.137982
## final value 19999.137982
## converged
## # weights: 25
## initial value 22488.079528
## iter 10 value 20014.154619
## iter 20 value 19999.184606
## final value 19999.022986
## converged
## # weights: 41
## initial value 22217.547715
## iter 10 value 20017.449907
## iter 20 value 19999.222598
## final value 19999.021256
## converged
## # weights: 9
## initial value 22484.294966
## final value 19943.048500
## converged
## # weights: 25
## initial value 22337.308813
## final value 19943.048500
## converged
## # weights: 41
## initial value 23612.314235
## final value 19943.048500
## converged
## # weights: 9
## initial value 23402.097581
## iter 10 value 19949.321283
## final value 19948.556406
## converged
## # weights: 25
## initial value 23721.144647
## iter 10 value 19955.762991
## iter 20 value 19947.027777
## final value 19947.022916
## converged
## # weights: 41
## initial value 23127.018317
## iter 10 value 19948.910727
## iter 20 value 19946.364377
## final value 19946.363730
## converged
## # weights: 9
## initial value 22846.000396
## iter 10 value 19953.160031
## iter 20 value 19943.165078
## iter 20 value 19943.165031
## final value 19943.165031
## converged
## # weights: 25
```

```
## initial value 22722.326002
## iter 10 value 19955.962119
## iter 20 value 19943.197384
## final value 19943.064642
## converged
## # weights: 41
## initial value 21860.361354
## iter 10 value 19958.960758
## iter 20 value 19943.231956
## final value 19943.058444
## converged
## # weights: 9
## initial value 21881.563986
## final value 20054.289700
## converged
## # weights: 25
## initial value 23062.962249
## final value 20054.289700
## converged
## # weights: 41
## initial value 23412.710467
## final value 20054.289700
## converged
## # weights: 9
## initial value 22223.225674
## iter 10 value 20060.806132
## final value 20059.800630
## converged
## # weights: 25
## initial value 24565.398550
## iter 10 value 20059.221307
## final value 20058.266157
## converged
## # weights: 41
## initial value 22390.330938
## iter 10 value 20059.954889
## iter 20 value 20057.606658
## iter 20 value 20057.606566
## iter 20 value 20057.606565
## final value 20057.606565
## converged
## # weights: 9
## initial value 21815.216916
## iter 10 value 20062.300269
## iter 20 value 20054.382056
## iter 20 value 20054.382019
## final value 20054.382019
## converged
## # weights: 25
## initial value 21398.783620
## iter 10 value 20061.655173
## iter 20 value 20054.374618
```



```
## final value 20054.301014
## converged
## # weights: 41
## initial value 21808.930373
## iter 10 value 20068.206625
## iter 20 value 20054.450151
## final value 20054.299062
## converged
## # weights: 9
## initial value 22438.835437
## final value 19963.968500
## converged
## # weights: 25
## initial value 23292.574692
## final value 19963.968500
## converged
## # weights: 41
## initial value 21520.936748
## final value 19963.968500
## converged
## # weights: 9
## initial value 23498.596598
## iter 10 value 19971.141435
## final value 19969.476763
## converged
## # weights: 25
## initial value 21389.053293
## iter 10 value 19969.033398
## final value 19967.943128
## converged
## # weights: 41
## initial value 21983.642445
## iter 10 value 19997.020620
## iter 20 value 19967.297962
## final value 19967.283860
## converged
## # weights: 9
## initial value 21818.850380
## iter 10 value 19972.275407
## iter 20 value 19964.064272
## iter 20 value 19964.064234
## final value 19964.064234
## converged
## # weights: 25
## initial value 22558.672050
## iter 10 value 19979.677262
## iter 20 value 19964.149610
## final value 19963.979905
## converged
## # weights: 41
## initial value 22249.871959
## iter 10 value 19983.010499
```

```
## iter 20 value 19964.188039
## final value 19963.979224
## converged
## # weights: 9
## initial value 22272.338371
## final value 19959.741200
## converged
## # weights: 25
## initial value 22055.626236
## final value 19959.741200
## converged
## # weights: 41
## initial value 24246.988335
## final value 19959.741200
## converged
## # weights: 9
## initial value 22522.642050
## iter 10 value 19965.753000
## final value 19965.249369
## converged
## # weights: 25
## initial value 22344.058654
## iter 10 value 19963.988476
## final value 19963.715773
## converged
## # weights: 41
## initial value 21309.572273
## iter 10 value 19973.051018
## iter 20 value 19963.056730
## iter 20 value 19963.056557
## iter 20 value 19963.056545
## final value 19963.056545
## converged
## # weights: 9
## initial value 22661.777462
## iter 10 value 19969.851453
## iter 20 value 19959.857763
## iter 20 value 19959.857717
## final value 19959.857717
## converged
## # weights: 25
## initial value 22895.108666
## iter 10 value 19976.536696
## iter 20 value 19959.934839
## final value 19959.753313
## converged
## # weights: 41
## initial value 22184.534791
## iter 10 value 19978.064988
## iter 20 value 19959.952459
## final value 19959.752136
## converged
```

```
## # weights: 9
## initial value 21891.852019
## final value 20003.726000
## converged
## # weights: 25
## initial value 23303.580871
## final value 20003.726000
## converged
## # weights: 41
## initial value 22007.112818
## final value 20003.726000
## converged
## # weights: 9
## initial value 22198.152101
## iter 10 value 20010.555173
## final value 20009.234933
## converged
## # weights: 25
## initial value 24196.055187
## iter 10 value 20009.491740
## final value 20007.701077
## converged
## # weights: 41
## initial value 22176.177755
## iter 10 value 20008.962113
## iter 20 value 20007.041817
## iter 20 value 20007.041662
## iter 20 value 20007.041630
## final value 20007.041630
## converged
## # weights: 9
## initial value 23155.754869
## iter 10 value 20014.093559
## iter 20 value 20003.845530
## iter 20 value 20003.845482
## final value 20003.845482
## converged
## # weights: 25
## initial value 22820.863769
## iter 10 value 20019.616361
## iter 20 value 20003.909203
## final value 20003.740283
## converged
## # weights: 41
## initial value 23537.697376
## iter 10 value 20020.877378
## iter 20 value 20003.923742
## final value 20003.738212
## converged
## # weights: 9
## initial value 22495.019164
## final value 20019.873700
```

```
## converged
## # weights: 25
## initial value 23171.326803
## final value 20019.873700
## converged
## # weights: 41
## initial value 22849.438241
## final value 20019.873700
## converged
## # weights: 9
## initial value 22592.029066
## iter 10 value 20027.108576
## final value 20025.383151
## converged
## # weights: 25
## initial value 23708.987610
## iter 10 value 20025.699678
## final value 20023.849068
## converged
## # weights: 41
## initial value 23597.299465
## iter 10 value 20038.065877
## iter 20 value 20023.191482
## final value 20023.189657
## converged
## # weights: 9
## initial value 22734.471567
## iter 10 value 20030.947434
## iter 20 value 20020.001371
## iter 20 value 20020.001320
## final value 20020.001320
## converged
## # weights: 25
## initial value 22865.932781
## iter 10 value 20035.159784
## iter 20 value 20020.049937
## final value 20019.890476
## converged
## # weights: 41
## initial value 23674.857385
## iter 10 value 20036.110373
## iter 20 value 20020.060896
## final value 20019.885712
## converged
## # weights: 9
## initial value 23479.974497
## final value 19935.706000
## converged
## # weights: 25
## initial value 21266.331667
## final value 19935.706000
## converged
```

```
## # weights: 41
## initial value 21919.544304
## final value 19935.706000
## converged
## # weights: 9
## initial value 21643.113790
## iter 10 value 19941.413718
## final value 19941.213712
## converged
## # weights: 25
## initial value 22723.630166
## iter 10 value 19940.506805
## final value 19939.680284
## converged
## # weights: 41
## initial value 20955.182823
## iter 10 value 19949.867717
## iter 20 value 19939.021265
## iter 20 value 19939.021136
## iter 20 value 19939.021106
## final value 19939.021106
## converged
## # weights: 9
## initial value 22540.356005
## iter 10 value 19945.831098
## iter 20 value 19935.822734
## iter 20 value 19935.822688
## final value 19935.822688
## converged
## # weights: 25
## initial value 22298.397688
## iter 10 value 19950.398586
## iter 20 value 19935.875394
## final value 19935.717513
## converged
## # weights: 41
## initial value 21486.769240
## iter 10 value 19949.180251
## iter 20 value 19935.861348
## final value 19935.714973
## converged
## # weights: 9
## initial value 23642.074066
## final value 19896.502000
## converged
## # weights: 25
## initial value 22149.388003
## final value 19896.502000
## converged
## # weights: 41
## initial value 21739.188600
## final value 19896.502000
```

```
## converged
## # weights: 9
## initial value 23451.254096
## iter 10 value 19903.114761
## final value 19902.009268
## converged
## # weights: 25
## initial value 22034.015628
## iter 10 value 19904.514115
## final value 19900.476024
## converged
## # weights: 41
## initial value 22402.132602
## iter 10 value 19900.860541
## iter 20 value 19899.816981
## iter 20 value 19899.816911
## iter 20 value 19899.816894
## final value 19899.816894
## converged
## # weights: 9
## initial value 23198.468641
## iter 10 value 19907.440933
## iter 20 value 19896.628117
## iter 20 value 19896.628067
## final value 19896.628067
## converged
## # weights: 25
## initial value 22538.826036
## iter 10 value 19909.962488
## iter 20 value 19896.657189
## final value 19896.514217
## converged
## # weights: 41
## initial value 22354.009141
## iter 10 value 19913.605506
## iter 20 value 19896.699190
## final value 19896.511258
## converged
## # weights: 9
## initial value 22632.872941
## final value 20003.417200
## converged
## # weights: 25
## initial value 23017.156335
## final value 20003.417200
## converged
## # weights: 41
## initial value 23758.384005
## final value 20003.417200
## converged
## # weights: 9
## initial value 22012.934082
```

```
## iter 10 value 20010.857330
## final value 20008.926247
## converged
## # weights: 25
## initial value 22477.632427
## iter 10 value 20014.753626
## iter 20 value 20007.415296
## final value 20007.392319
## converged
## # weights: 41
## initial value 22741.998772
## iter 10 value 20007.225195
## final value 20006.732939
## converged
## # weights: 9
## initial value 22560.107849
## iter 10 value 20013.998009
## iter 20 value 20003.539188
## iter 20 value 20003.539140
## final value 20003.539140
## converged
## # weights: 25
## initial value 22554.722596
## iter 10 value 20019.223531
## iter 20 value 20003.599435
## final value 20003.429836
## converged
## # weights: 41
## initial value 21883.772756
## iter 10 value 20017.741495
## iter 20 value 20003.582348
## final value 20003.428364
## converged
## # weights: 9
## initial value 23203.937417
## final value 20033.902000
## converged
## # weights: 25
## initial value 22414.594366
## final value 20033.902000
## converged
## # weights: 41
## initial value 22767.791888
## final value 20033.902000
## converged
## # weights: 9
## initial value 21892.411301
## iter 10 value 20040.298495
## final value 20039.411912
## converged
## # weights: 25
## initial value 23334.783337
```

```
## iter 10 value 20038.904694
## final value 20037.877727
## converged
## # weights: 41
## initial value 23434.958592
## iter 10 value 20039.674239
## iter 20 value 20037.218313
## iter 20 value 20037.218237
## iter 20 value 20037.218210
## final value 20037.218210
## converged
## # weights: 9
## initial value 22510.954834
## iter 10 value 20043.774630
## iter 20 value 20034.015824
## iter 20 value 20034.015778
## final value 20034.015778
## converged
## # weights: 25
## initial value 22651.807102
## iter 10 value 20049.144193
## iter 20 value 20034.077731
## final value 20033.914485
## converged
## # weights: 41
## initial value 22304.326448
## iter 10 value 20051.940110
## iter 20 value 20034.109965
## final value 20033.913694
## converged
## # weights: 9
## initial value 21834.394509
## final value 19939.293200
## converged
## # weights: 25
## initial value 22800.759542
## final value 19939.293200
## converged
## # weights: 41
## initial value 22915.459726
## final value 19939.293200
## converged
## # weights: 9
## initial value 22473.746244
## iter 10 value 19945.552705
## final value 19944.800957
## converged
## # weights: 25
## initial value 23660.875022
## iter 10 value 19944.991818
## final value 19943.267484
## converged
```



```
## # weights: 41
## initial value 23246.713492
## iter 10 value 19946.894374
## iter 20 value 19942.608726
## final value 19942.608263
## converged
## # weights: 9
## initial value 22301.903005
## iter 10 value 19949.680481
## iter 20 value 19939.412957
## iter 20 value 19939.412909
## final value 19939.412909
## converged
## # weights: 25
## initial value 22211.061611
## iter 10 value 19952.853630
## iter 20 value 19939.449541
## final value 19939.305467
## converged
## # weights: 41
## initial value 23996.300793
## iter 10 value 19953.140919
## iter 20 value 19939.452853
## final value 19939.305353
## converged
## # weights: 9
## initial value 22156.166219
## final value 20046.523700
## converged
## # weights: 25
## initial value 22815.889693
## final value 20046.523700
## converged
## # weights: 41
## initial value 23821.176220
## final value 20046.523700
## converged
## # weights: 9
## initial value 23484.356454
## iter 10 value 20052.603330
## final value 20052.034136
## converged
## # weights: 25
## initial value 21278.229599
## iter 10 value 20051.357052
## final value 20050.499768
## converged
## # weights: 41
## initial value 22631.076576
## iter 10 value 20063.009261
## iter 20 value 20049.841555
## final value 20049.840254
```

```
## converged
## # weights: 9
## initial value 23273.199390
## iter 10 value 20056.321959
## iter 20 value 20046.636666
## iter 20 value 20046.636621
## final value 20046.636621
## converged
## # weights: 25
## initial value 22907.689341
## iter 10 value 20064.209632
## iter 20 value 20046.727605
## final value 20046.536210
## converged
## # weights: 41
## initial value 21553.251234
## iter 10 value 20059.250178
## iter 20 value 20046.670426
## final value 20046.533168
## converged
## # weights: 9
## initial value 23418.033156
## final value 20039.453200
## converged
## # weights: 25
## initial value 22368.049112
## final value 20039.453200
## converged
## # weights: 41
## initial value 23782.745825
## final value 20039.453200
## converged
## # weights: 9
## initial value 23372.765267
## iter 10 value 20045.027573
## final value 20044.963356
## converged
## # weights: 25
## initial value 22740.296467
## iter 10 value 20044.509468
## final value 20043.429198
## converged
## # weights: 41
## initial value 22345.733486
## iter 10 value 20044.223599
## iter 20 value 20042.770037
## final value 20042.769581
## converged
## # weights: 9
## initial value 21739.621209
## iter 10 value 20047.298090
## iter 20 value 20039.543645
```

```
## iter 20 value 20039.543609
## final value 20039.543609
## converged
## # weights: 25
## initial value 23869.885575
## iter 10 value 20050.388259
## iter 20 value 20039.579273
## final value 20039.471932
## converged
## # weights: 41
## initial value 22999.585532
## iter 10 value 20061.924820
## iter 20 value 20039.712280
## final value 20039.463530
## converged
## # weights: 9
## initial value 22827.877143
## final value 19979.630500
## converged
## # weights: 25
## initial value 22670.733379
## final value 19979.630500
## converged
## # weights: 41
## initial value 22968.131743
## final value 19979.630500
## converged
## # weights: 9
## initial value 22298.910159
## iter 10 value 19988.206585
## final value 19985.139123
## converged
## # weights: 25
## initial value 21994.865620
## iter 10 value 19985.290914
## iter 20 value 19983.605429
## iter 20 value 19983.605362
## iter 20 value 19983.605359
## final value 19983.605359
## converged
## # weights: 41
## initial value 22873.020900
## iter 10 value 19986.268199
## iter 20 value 19982.946215
## iter 20 value 19982.946104
## iter 20 value 19982.946078
## final value 19982.946078
## converged
## # weights: 9
## initial value 22120.346992
## iter 10 value 19988.731422
## iter 20 value 19979.735426
```

```
## iter 20 value 19979.735385
## final value 19979.735385
## converged
## # weights: 25
## initial value 24396.264056
## iter 10 value 19986.125172
## iter 20 value 19979.705378
## final value 19979.654812
## converged
## # weights: 41
## initial value 23345.615579
## iter 10 value 19996.681485
## iter 20 value 19979.827084
## final value 19979.641787
## converged
## # weights: 9
## initial value 22793.578136
## final value 19869.960100
## converged
## # weights: 25
## initial value 22425.249430
## final value 19869.960100
## converged
## # weights: 41
## initial value 22076.354580
## final value 19869.960100
## converged
## # weights: 9
## initial value 22348.268142
## iter 10 value 19875.514951
## final value 19875.466889
## converged
## # weights: 25
## initial value 23270.770377
## iter 10 value 19874.929358
## final value 19873.933793
## converged
## # weights: 41
## initial value 21344.306097
## iter 10 value 19888.338902
## iter 20 value 19873.277292
## final value 19873.274664
## converged
## # weights: 9
## initial value 23361.170527
## iter 10 value 19879.080069
## iter 20 value 19870.065246
## iter 20 value 19870.065204
## final value 19870.065204
## converged
## # weights: 25
## initial value 22130.318397
```

```
## iter 10 value 19885.725278
## iter 20 value 19870.141860
## iter 30 value 19869.973923
## iter 30 value 19869.973897
## iter 30 value 19869.973891
## final value 19869.973891
## converged
## # weights: 41
## initial value 23613.913432
## iter 10 value 19887.829400
## iter 20 value 19870.166119
## final value 19869.971651
## converged
## # weights: 9
## initial value 23302.207866
## final value 20009.441200
## converged
## # weights: 25
## initial value 23303.939568
## final value 20009.441200
## converged
## # weights: 41
## initial value 23657.606337
## final value 20009.441200
## converged
## # weights: 9
## initial value 22384.889530
## iter 10 value 20015.392663
## final value 20014.950392
## converged
## # weights: 25
## initial value 22454.694354
## iter 10 value 20014.681791
## final value 20013.416423
## converged
## # weights: 41
## initial value 23190.836122
## iter 10 value 20016.836621
## iter 20 value 20012.757352
## final value 20012.757058
## converged
## # weights: 9
## initial value 22229.402921
## iter 10 value 20018.912728
## iter 20 value 20009.550399
## iter 20 value 20009.550356
## final value 20009.550356
## converged
## # weights: 25
## initial value 21362.217506
## iter 10 value 20017.589315
## iter 20 value 20009.535141
```

```
## final value 20009.452835
## converged
## # weights: 41
## initial value 22320.742369
## iter 10 value 20027.013597
## iter 20 value 20009.643796
## final value 20009.450979
## converged
## # weights: 9
## initial value 21752.735421
## final value 20044.937200
## converged
## # weights: 25
## initial value 22206.568072
## final value 20044.937200
## converged
## # weights: 41
## initial value 21936.629408
## final value 20044.937200
## converged
## # weights: 9
## initial value 23497.115662
## iter 10 value 20051.496302
## final value 20050.447542
## converged
## # weights: 25
## initial value 22686.511434
## iter 10 value 20050.069375
## final value 20048.913181
## converged
## # weights: 41
## initial value 23736.651462
## iter 10 value 20053.623682
## final value 20048.253691
## converged
## # weights: 9
## initial value 22733.320920
## iter 10 value 20054.857477
## iter 20 value 20045.051573
## iter 20 value 20045.051527
## final value 20045.051527
## converged
## # weights: 25
## initial value 22837.691599
## iter 10 value 20061.707369
## iter 20 value 20045.130547
## final value 20044.950188
## converged
## # weights: 41
## initial value 22767.461754
## iter 10 value 20067.337164
## iter 20 value 20045.195454
```

```
## final value 20044.947497
## converged
## # weights: 9
## initial value 21825.367925
## final value 20059.210000
## converged
## # weights: 25
## initial value 23111.057845
## final value 20059.210000
## converged
## # weights: 41
## initial value 23295.556257
## final value 20059.210000
## converged
## # weights: 9
## initial value 23651.269892
## iter 10 value 20065.896300
## final value 20064.721177
## converged
## # weights: 25
## initial value 23018.284177
## iter 10 value 20064.500640
## final value 20063.186487
## converged
## # weights: 41
## initial value 21926.420775
## iter 10 value 20073.524515
## iter 20 value 20062.526994
## iter 20 value 20062.526904
## iter 20 value 20062.526886
## final value 20062.526886
## converged
## # weights: 9
## initial value 23164.377694
## iter 10 value 20070.492704
## iter 20 value 20059.340081
## iter 20 value 20059.340029
## final value 20059.340029
## converged
## # weights: 25
## initial value 23154.239743
## iter 10 value 20075.903746
## iter 20 value 20059.402466
## final value 20059.223345
## converged
## # weights: 41
## initial value 21432.670615
## iter 10 value 20068.643630
## iter 20 value 20059.318762
## final value 20059.219839
## converged
## # weights: 9
```

```
## initial value 22426.533930
## final value 20016.794000
## converged
## # weights: 25
## initial value 22347.593865
## final value 20016.794000
## converged
## # weights: 41
## initial value 21817.047630
## final value 20016.794000
## converged
## # weights: 9
## initial value 23703.485499
## iter 10 value 20023.910134
## final value 20022.303377
## converged
## # weights: 25
## initial value 23184.444817
## iter 10 value 20021.287536
## final value 20020.769338
## converged
## # weights: 41
## initial value 23433.151942
## iter 10 value 20032.653888
## iter 20 value 20020.110854
## final value 20020.109926
## converged
## # weights: 9
## initial value 22339.898905
## iter 10 value 20028.026722
## iter 20 value 20016.923504
## iter 20 value 20016.923453
## final value 20016.923453
## converged
## # weights: 25
## initial value 22784.444071
## iter 10 value 20032.434818
## iter 20 value 20016.974326
## final value 20016.806415
## converged
## # weights: 41
## initial value 22344.276906
## iter 10 value 20033.909997
## iter 20 value 20016.991334
## final value 20016.804142
## converged
## # weights: 9
## initial value 21714.849199
## final value 19905.667600
## converged
## # weights: 25
## initial value 21988.056211
```



```
## final value 19905.667600
## converged
## # weights: 41
## initial value 22183.288965
## final value 19905.667600
## converged
## # weights: 9
## initial value 22921.866924
## iter 10 value 19911.473027
## final value 19911.174974
## converged
## # weights: 25
## initial value 22837.620125
## iter 10 value 19910.298347
## final value 19909.641685
## converged
## # weights: 41
## initial value 22879.109307
## iter 10 value 19923.978406
## iter 20 value 19908.983031
## final value 19908.982601
## converged
## # weights: 9
## initial value 22832.159255
## iter 10 value 19915.926278
## iter 20 value 19905.785875
## iter 20 value 19905.785827
## final value 19905.785827
## converged
## # weights: 25
## initial value 23446.018448
## iter 10 value 19919.346324
## iter 20 value 19905.825305
## final value 19905.683639
## converged
## # weights: 41
## initial value 23582.630309
## iter 10 value 19920.822634
## iter 20 value 19905.842326
## final value 19905.680748
## converged
## # weights: 9
## initial value 23070.212436
## final value 20010.607600
## converged
## # weights: 25
## initial value 22334.590800
## final value 20010.607600
## converged
## # weights: 41
## initial value 23244.101101
## final value 20010.607600
```

```
## converged
## # weights: 9
## initial value 22223.024144
## iter 10 value 20016.634402
## final value 20016.116819
## converged
## # weights: 25
## initial value 22404.161112
## iter 10 value 20022.986326
## iter 20 value 20014.583289
## iter 20 value 20014.583106
## iter 20 value 20014.583007
## final value 20014.583007
## converged
## # weights: 41
## initial value 23502.866421
## iter 10 value 20014.971409
## final value 20013.923500
## converged
## # weights: 9
## initial value 22131.700967
## iter 10 value 20019.762811
## iter 20 value 20010.713152
## iter 20 value 20010.713110
## final value 20010.713110
## converged
## # weights: 25
## initial value 23699.279956
## iter 10 value 20023.953278
## iter 20 value 20010.761465
## final value 20010.624893
## converged
## # weights: 41
## initial value 21524.070818
## iter 10 value 20024.383035
## iter 20 value 20010.766420
## final value 20010.617417
## converged
## # weights: 9
## initial value 23263.648830
## final value 20036.130100
## converged
## # weights: 25
## initial value 24084.680184
## final value 20036.130100
## converged
## # weights: 41
## initial value 22761.587319
## final value 20036.130100
## converged
## # weights: 9
## initial value 22469.097547
```

```
## iter 10 value 20042.032661
## final value 20041.640098
## converged
## # weights: 25
## initial value 22181.270227
## iter 10 value 20049.922308
## iter 20 value 20040.110468
## final value 20040.105872
## converged
## # weights: 41
## initial value 23486.004136
## iter 10 value 20052.259399
## iter 20 value 20039.446810
## iter 20 value 20039.446618
## iter 20 value 20039.446554
## final value 20039.446554
## converged
## # weights: 9
## initial value 23416.855429
## iter 10 value 20046.179015
## iter 20 value 20036.245956
## iter 20 value 20036.245910
## final value 20036.245910
## converged
## # weights: 25
## initial value 22057.225876
## iter 10 value 20049.243291
## iter 20 value 20036.281285
## final value 20036.142002
## converged
## # weights: 41
## initial value 23031.137792
## iter 10 value 20055.247932
## iter 20 value 20036.350514
## final value 20036.139908
## converged
## # weights: 9
## initial value 22309.825008
## final value 20002.797200
## converged
## # weights: 25
## initial value 22262.190807
## final value 20002.797200
## converged
## # weights: 41
## initial value 23445.046544
## final value 20002.797200
## converged
## # weights: 9
## initial value 22535.690627
## iter 10 value 20009.185693
## final value 20008.306215
```

```
## converged
## # weights: 25
## initial value 21859.438966
## iter 10 value 20007.812301
## final value 20006.772287
## converged
## # weights: 41
## initial value 23159.015596
## iter 10 value 20010.627709
## iter 20 value 20006.117156
## final value 20006.112923
## converged
## # weights: 9
## initial value 23606.177657
## iter 10 value 20010.944081
## iter 20 value 20002.891127
## iter 20 value 20002.891090
## final value 20002.891090
## converged
## # weights: 25
## initial value 23456.224945
## iter 10 value 20015.843638
## iter 20 value 20002.947615
## final value 20002.815956
## converged
## # weights: 41
## initial value 22882.112591
## iter 10 value 20022.296035
## iter 20 value 20003.022006
## final value 20002.809756
## converged
## # weights: 9
## initial value 22274.825611
## final value 20060.381200
## converged
## # weights: 25
## initial value 22514.367376
## final value 20060.381200
## converged
## # weights: 41
## initial value 22404.149730
## final value 20060.381200
## converged
## # weights: 9
## initial value 22604.751033
## iter 10 value 20066.451486
## final value 20065.892595
## converged
## # weights: 25
## initial value 23267.761990
## iter 10 value 20080.671023
## iter 20 value 20064.358628
```

```
## final value 20064.357902
## converged
## # weights: 41
## initial value 23104.063846
## iter 10 value 20079.296832
## iter 20 value 20063.708833
## final value 20063.698308
## converged
## # weights: 9
## initial value 23399.162038
## iter 10 value 20071.114367
## iter 20 value 20060.504945
## iter 20 value 20060.504896
## final value 20060.504896
## converged
## # weights: 25
## initial value 23031.865378
## iter 10 value 20074.166270
## iter 20 value 20060.540131
## final value 20060.399984
## converged
## # weights: 41
## initial value 23928.895845
## iter 10 value 20074.061800
## iter 20 value 20060.538927
## final value 20060.394804
## converged
## # weights: 9
## initial value 22685.158624
## final value 19961.765200
## converged
## # weights: 25
## initial value 22135.419219
## final value 19961.765200
## converged
## # weights: 41
## initial value 23952.630086
## final value 19961.765200
## converged
## # weights: 9
## initial value 22709.555313
## iter 10 value 19969.423487
## final value 19967.273445
## converged
## # weights: 25
## initial value 22016.364076
## iter 10 value 19966.494331
## final value 19965.739834
## converged
## # weights: 41
## initial value 23453.460705
## iter 10 value 19966.068297
```

```
## iter 20 value 19965.080709
## iter 20 value 19965.080600
## iter 20 value 19965.080594
## final value 19965.080594
## converged
## # weights: 9
## initial value 22581.447550
## iter 10 value 19971.951710
## iter 20 value 19961.882642
## iter 20 value 19961.882595
## final value 19961.882595
## converged
## # weights: 25
## initial value 22640.853500
## iter 10 value 19974.860697
## iter 20 value 19961.916181
## final value 19961.777765
## converged
## # weights: 41
## initial value 22608.748856
## iter 10 value 19976.867527
## iter 20 value 19961.939318
## final value 19961.775197
## converged
## # weights: 9
## initial value 22492.450121
## final value 20000.918000
## converged
## # weights: 25
## initial value 21640.568400
## final value 20000.918000
## converged
## # weights: 41
## initial value 24226.527117
## final value 20000.918000
## converged
## # weights: 9
## initial value 22526.765032
## iter 10 value 20010.838737
## iter 20 value 20006.427011
## iter 20 value 20006.426994
## final value 20006.426994
## converged
## # weights: 25
## initial value 23324.715180
## iter 10 value 20007.422321
## iter 20 value 20004.899255
## final value 20004.893097
## converged
## # weights: 41
## initial value 22038.463613
## iter 10 value 20019.648373
```

```
## iter 20 value 20004.240948
## final value 20004.233720
## converged
## # weights: 9
## initial value 22007.555870
## iter 10 value 20010.636512
## iter 20 value 20001.030047
## iter 20 value 20001.030002
## final value 20001.030002
## converged
## # weights: 25
## initial value 22784.606621
## iter 10 value 20015.425445
## iter 20 value 20001.085259
## final value 20000.935385
## converged
## # weights: 41
## initial value 22335.550929
## iter 10 value 20019.242282
## iter 20 value 20001.129265
## final value 20000.927395
## converged
## # weights: 9
## initial value 22825.899777
## final value 20047.567600
## converged
## # weights: 25
## initial value 23115.921210
## final value 20047.567600
## converged
## # weights: 41
## initial value 22078.773910
## final value 20047.567600
## converged
## # weights: 9
## initial value 23719.831826
## iter 10 value 20054.550734
## final value 20053.078066
## converged
## # weights: 25
## initial value 22151.274724
## iter 10 value 20054.349793
## final value 20051.543831
## converged
## # weights: 41
## initial value 22666.470644
## iter 10 value 20052.578397
## iter 20 value 20050.884269
## iter 20 value 20050.884167
## iter 20 value 20050.884139
## final value 20050.884139
## converged
```

```
## # weights: 9
## initial value 21624.947740
## iter 10 value 20054.443245
## iter 20 value 20047.646871
## iter 20 value 20047.646839
## final value 20047.646839
## converged
## # weights: 25
## initial value 22458.090004
## iter 10 value 20062.466563
## iter 20 value 20047.739373
## final value 20047.578384
## converged
## # weights: 41
## initial value 21696.467894
## iter 10 value 20060.230169
## iter 20 value 20047.713589
## final value 20047.577745
## converged
## # weights: 9
## initial value 22973.431145
## final value 20031.922000
## converged
## # weights: 25
## initial value 22455.695640
## final value 20031.922000
## converged
## # weights: 41
## initial value 23789.261173
## final value 20031.922000
## converged
## # weights: 9
## initial value 22967.398854
## iter 10 value 20039.346356
## final value 20037.431843
## converged
## # weights: 25
## initial value 22276.950381
## iter 10 value 20037.621297
## final value 20035.897741
## converged
## # weights: 41
## initial value 22130.485233
## iter 10 value 20035.956689
## final value 20035.238178
## converged
## # weights: 9
## initial value 23868.358917
## iter 10 value 20040.622708
## iter 20 value 20032.022312
## iter 20 value 20032.022272
## final value 20032.022272
```



```
## converged
## # weights: 25
## initial value 21514.982017
## iter 10 value 20041.816421
## iter 20 value 20032.036075
## final value 20031.934297
## converged
## # weights: 41
## initial value 23376.651072
## iter 10 value 20049.903890
## iter 20 value 20032.129317
## final value 20031.935136
## converged
## # weights: 9
## initial value 22111.110337
## final value 20058.152500
## converged
## # weights: 25
## initial value 23173.053854
## final value 20058.152500
## converged
## # weights: 41
## initial value 23156.213187
## final value 20058.152500
## converged
## # weights: 9
## initial value 22714.927053
## iter 10 value 20063.830823
## final value 20063.663664
## converged
## # weights: 25
## initial value 21588.069083
## iter 10 value 20063.256824
## iter 20 value 20062.129107
## iter 20 value 20062.129038
## iter 20 value 20062.129034
## final value 20062.129034
## converged
## # weights: 41
## initial value 22968.742715
## iter 10 value 20061.779344
## final value 20061.469472
## converged
## # weights: 9
## initial value 23222.242473
## iter 10 value 20069.737351
## iter 20 value 20058.286064
## iter 20 value 20058.286011
## final value 20058.286011
## converged
## # weights: 25
## initial value 22251.355998
```

```
## iter 10 value 20074.830446
## iter 20 value 20058.344784
## final value 20058.166775
## converged
## # weights: 41
## initial value 23631.829035
## iter 10 value 20077.029464
## iter 20 value 20058.370137
## final value 20058.163888
## converged
## # weights: 9
## initial value 22297.451931
## final value 20062.025200
## converged
## # weights: 25
## initial value 21452.709461
## final value 20062.025200
## converged
## # weights: 41
## initial value 21845.570047
## final value 20062.025200
## converged
## # weights: 9
## initial value 23732.865286
## iter 10 value 20067.853459
## final value 20067.536882
## converged
## # weights: 25
## initial value 22195.375581
## iter 10 value 20067.012985
## final value 20066.002131
## converged
## # weights: 41
## initial value 22406.875818
## iter 10 value 20077.690552
## iter 20 value 20065.345085
## final value 20065.342529
## converged
## # weights: 9
## initial value 22583.385096
## iter 10 value 20071.941216
## iter 20 value 20062.139524
## iter 20 value 20062.139478
## final value 20062.139478
## converged
## # weights: 25
## initial value 21880.859842
## iter 10 value 20075.702760
## iter 20 value 20062.182892
## final value 20062.038523
## converged
## # weights: 41
```

```
## initial value 22867.124679
## iter 10 value 20081.058907
## iter 20 value 20062.244644
## final value 20062.035842
## converged
## # weights: 9
## initial value 22394.124303
## final value 20014.728500
## converged
## # weights: 25
## initial value 21818.567875
## final value 20014.728500
## converged
## # weights: 41
## initial value 23377.511005
## final value 20014.728500
## converged
## # weights: 9
## initial value 22680.868048
## iter 10 value 20020.390382
## final value 20020.237787
## converged
## # weights: 25
## initial value 23209.320302
## iter 10 value 20019.784408
## final value 20018.703838
## converged
## # weights: 41
## initial value 23230.089597
## iter 10 value 20020.722792
## iter 20 value 20018.044739
## final value 20018.044374
## converged
## # weights: 9
## initial value 21673.908520
## iter 10 value 20022.184301
## iter 20 value 20014.814460
## iter 20 value 20014.814425
## final value 20014.814425
## converged
## # weights: 25
## initial value 23755.607968
## iter 10 value 20026.230436
## iter 20 value 20014.861108
## final value 20014.743182
## converged
## # weights: 41
## initial value 23266.285160
## iter 10 value 20034.669322
## iter 20 value 20014.958402
## final value 20014.738463
## converged
```

```
## # weights: 9
## initial value 22817.190319
## final value 19974.245200
## converged
## # weights: 25
## initial value 22931.725098
## final value 19974.245200
## converged
## # weights: 41
## initial value 21886.518570
## final value 19974.245200
## converged
## # weights: 9
## initial value 23518.843890
## iter 10 value 19980.290220
## final value 19979.753628
## converged
## # weights: 25
## initial value 22918.777716
## iter 10 value 19979.593454
## final value 19978.219913
## converged
## # weights: 41
## initial value 22410.793309
## iter 10 value 19978.407756
## final value 19977.560678
## converged
## # weights: 9
## initial value 22950.216635
## iter 10 value 19985.184021
## iter 20 value 19974.371316
## iter 20 value 19974.371266
## final value 19974.371266
## converged
## # weights: 25
## initial value 22937.789399
## iter 10 value 19986.804852
## iter 20 value 19974.390003
## final value 19974.260903
## converged
## # weights: 41
## initial value 23043.420968
## iter 10 value 19994.124268
## iter 20 value 19974.474390
## final value 19974.255186
## converged
## # weights: 9
## initial value 22227.643852
## final value 20053.435700
## converged
## # weights: 25
## initial value 22705.913597
```

```
## final value 20053.435700
## converged
## # weights: 41
## initial value 23410.139707
## final value 20053.435700
## converged
## # weights: 9
## initial value 23345.572178
## iter 10 value 20061.314133
## final value 20058.946515
## converged
## # weights: 25
## initial value 22159.843941
## iter 10 value 20060.020037
## iter 20 value 20057.413791
## final value 20057.411986
## converged
## # weights: 41
## initial value 22473.271615
## iter 10 value 20059.637032
## iter 20 value 20056.752772
## final value 20056.752426
## converged
## # weights: 9
## initial value 23617.511355
## iter 10 value 20061.991702
## iter 20 value 20053.534344
## iter 20 value 20053.534305
## final value 20053.534305
## converged
## # weights: 25
## initial value 23489.698153
## iter 10 value 20065.469156
## iter 20 value 20053.574436
## final value 20053.452938
## converged
## # weights: 41
## initial value 23732.838015
## iter 10 value 20067.799259
## iter 20 value 20053.601301
## final value 20053.449786
## converged
## # weights: 9
## initial value 23205.194222
## final value 20053.184500
## converged
## # weights: 25
## initial value 22502.671304
## final value 20053.184500
## converged
## # weights: 41
## initial value 24573.772083
```

```
## final value 20053.184500
## converged
## # weights: 9
## initial value 23964.349733
## iter 10 value 20060.042318
## final value 20058.695226
## converged
## # weights: 25
## initial value 22649.542189
## iter 10 value 20057.342969
## final value 20057.160695
## converged
## # weights: 41
## initial value 22466.036429
## iter 10 value 20058.830964
## iter 20 value 20056.501482
## final value 20056.501161
## converged
## # weights: 9
## initial value 23648.993506
## iter 10 value 20061.658744
## iter 20 value 20053.282201
## iter 20 value 20053.282162
## final value 20053.282162
## converged
## # weights: 25
## initial value 22246.220494
## iter 10 value 20065.139532
## iter 20 value 20053.322332
## final value 20053.198096
## converged
## # weights: 41
## initial value 22193.681244
## iter 10 value 20071.688952
## iter 20 value 20053.397842
## final value 20053.194886
## converged
## # weights: 9
## initial value 22285.847987
## final value 20050.496500
## converged
## # weights: 25
## initial value 22364.344644
## final value 20050.496500
## converged
## # weights: 41
## initial value 24415.868721
## final value 20050.496500
## converged
## # weights: 9
## initial value 23196.621162
## iter 10 value 20057.819411
```

```
## final value 20056.007154
## converged
## # weights: 25
## initial value 21551.961673
## iter 10 value 20056.090955
## final value 20054.472713
## converged
## # weights: 41
## initial value 22205.547444
## iter 10 value 20054.614326
## final value 20053.813179
## converged
## # weights: 9
## initial value 23183.948516
## iter 10 value 20060.768313
## iter 20 value 20050.614926
## iter 20 value 20050.614879
## final value 20050.614879
## converged
## # weights: 25
## initial value 22386.828450
## iter 10 value 20064.479310
## iter 20 value 20050.657711
## final value 20050.508966
## converged
## # weights: 41
## initial value 22430.927900
## iter 10 value 20069.871471
## iter 20 value 20050.719878
## final value 20050.506195
## converged
## # weights: 9
## initial value 22752.888872
## final value 19932.296500
## converged
## # weights: 25
## initial value 22581.639965
## final value 19932.296500
## converged
## # weights: 41
## initial value 21959.838982
## final value 19932.296500
## converged
## # weights: 9
## initial value 23548.483699
## iter 10 value 19950.388442
## iter 20 value 19937.804410
## iter 20 value 19937.804342
## final value 19937.804342
## converged
## # weights: 25
## initial value 21822.989176
```

```
## iter 10 value 19936.780827
## final value 19936.270883
## converged
## # weights: 41
## initial value 22662.890690
## iter 10 value 19937.271248
## final value 19935.611719
## converged
## # weights: 9
## initial value 21589.618475
## iter 10 value 19940.093764
## iter 20 value 19932.386396
## iter 20 value 19932.386360
## final value 19932.386360
## converged
## # weights: 25
## initial value 24000.640932
## iter 10 value 19942.844644
## iter 20 value 19932.418112
## final value 19932.315754
## converged
## # weights: 41
## initial value 22734.523009
## iter 10 value 19949.393830
## iter 20 value 19932.493619
## final value 19932.308483
## converged
## # weights: 9
## initial value 23164.928407
## final value 20051.745700
## converged
## # weights: 25
## initial value 22283.468125
## final value 20051.745700
## converged
## # weights: 41
## initial value 23537.490840
## final value 20051.745700
## converged
## # weights: 9
## initial value 22880.526858
## iter 10 value 20057.620210
## final value 20057.256374
## converged
## # weights: 25
## initial value 22813.668637
## iter 10 value 20056.964488
## final value 20055.721951
## converged
## # weights: 41
## initial value 22848.426618
## iter 10 value 20056.201314
```



```
## final value 20055.062415
## converged
## # weights: 9
## initial value 22061.626167
## iter 10 value 20060.155280
## iter 20 value 20051.842656
## iter 20 value 20051.842617
## final value 20051.842617
## converged
## # weights: 25
## initial value 23363.083263
## iter 10 value 20066.080540
## iter 20 value 20051.910969
## final value 20051.762698
## converged
## # weights: 41
## initial value 23985.767969
## iter 10 value 20066.126731
## iter 20 value 20051.911502
## final value 20051.769404
## converged
## # weights: 9
## initial value 23002.866456
## final value 20054.702000
## converged
## # weights: 25
## initial value 23188.238627
## final value 20054.702000
## converged
## # weights: 41
## initial value 21952.347798
## final value 20054.702000
## converged
## # weights: 9
## initial value 23598.241546
## iter 10 value 20060.782532
## final value 20060.212885
## converged
## # weights: 25
## initial value 23135.702221
## iter 10 value 20061.502763
## iter 20 value 20058.678737
## final value 20058.678331
## converged
## # weights: 41
## initial value 23014.831767
## iter 10 value 20059.355461
## final value 20058.018760
## converged
## # weights: 9
## initial value 22353.301175
## iter 10 value 20064.070968
```

```
## iter 20 value 20054.810017
## iter 20 value 20054.809974
## final value 20054.809974
## converged
## # weights: 25
## initial value 22956.080570
## iter 10 value 20069.980842
## iter 20 value 20054.878153
## final value 20054.714350
## converged
## # weights: 41
## initial value 23467.497680
## iter 10 value 20072.951549
## iter 20 value 20054.912403
## final value 20054.713459
## converged
## # weights: 9
## initial value 23215.225097
## final value 19970.818000
## converged
## # weights: 25
## initial value 23484.378161
## final value 19970.818000
## converged
## # weights: 41
## initial value 24113.480735
## final value 19970.818000
## converged
## # weights: 9
## initial value 23098.863335
## iter 10 value 19978.633724
## final value 19976.326232
## converged
## # weights: 25
## initial value 23127.640368
## iter 10 value 19975.022864
## final value 19974.792565
## converged
## # weights: 41
## initial value 22348.290436
## iter 10 value 19987.800029
## iter 20 value 19974.133892
## final value 19974.133267
## converged
## # weights: 9
## initial value 21660.455523
## iter 10 value 19978.870041
## iter 20 value 19970.910834
## iter 20 value 19970.910797
## final value 19970.910797
## converged
## # weights: 25
```

```
## initial value 24074.968192
## iter 10 value 19980.004347
## iter 20 value 19970.923911
## final value 19970.835348
## converged
## # weights: 41
## initial value 22693.822830
## iter 10 value 19989.166230
## iter 20 value 19971.029541
## final value 19970.827191
## converged
## # weights: 9
## initial value 21782.678035
## final value 20062.993700
## converged
## # weights: 25
## initial value 21633.548381
## final value 20062.993700
## converged
## # weights: 41
## initial value 23319.731740
## final value 20062.993700
## converged
## # weights: 9
## initial value 23682.715316
## iter 10 value 20070.665463
## final value 20068.505465
## converged
## # weights: 25
## initial value 23452.792475
## iter 10 value 20068.349702
## final value 20066.970617
## converged
## # weights: 41
## initial value 22933.359463
## iter 10 value 20079.932608
## iter 20 value 20066.311364
## final value 20066.310938
## converged
## # weights: 9
## initial value 22100.488552
## iter 10 value 20071.375120
## iter 20 value 20063.090331
## iter 20 value 20063.090293
## final value 20063.090293
## converged
## # weights: 25
## initial value 23465.016698
## iter 10 value 20076.536351
## iter 20 value 20063.149836
## final value 20063.016326
## converged
```

```
## # weights: 41
## initial value 23336.533957
## iter 10 value 20083.283885
## iter 20 value 20063.227630
## final value 20063.003820
## converged
## # weights: 9
## initial value 23479.947494
## final value 20051.473700
## converged
## # weights: 25
## initial value 22593.869353
## final value 20051.473700
## converged
## # weights: 41
## initial value 24722.726069
## final value 20051.473700
## converged
## # weights: 9
## initial value 23204.895511
## iter 10 value 20058.055677
## final value 20056.984403
## converged
## # weights: 25
## initial value 23060.468518
## iter 10 value 20061.632769
## iter 20 value 20055.450254
## final value 20055.449929
## converged
## # weights: 41
## initial value 23289.165351
## iter 10 value 20061.454542
## iter 20 value 20054.790857
## final value 20054.790388
## converged
## # weights: 9
## initial value 23187.824564
## iter 10 value 20061.423177
## iter 20 value 20051.588410
## iter 20 value 20051.588364
## final value 20051.588364
## converged
## # weights: 25
## initial value 22012.442805
## iter 10 value 20063.875367
## iter 20 value 20051.616681
## final value 20051.486507
## converged
## # weights: 41
## initial value 23759.284778
## iter 10 value 20067.158195
## iter 20 value 20051.654530
```

```
## final value 20051.485305
## converged
## # weights: 9
## initial value 22705.956368
## final value 20015.422000
## converged
## # weights: 25
## initial value 21912.358670
## final value 20015.422000
## converged
## # weights: 41
## initial value 22779.639338
## final value 20015.422000
## converged
## # weights: 9
## initial value 22256.642055
## iter 10 value 20021.051469
## final value 20020.931328
## converged
## # weights: 25
## initial value 21478.347906
## iter 10 value 20020.383283
## final value 20019.397337
## converged
## # weights: 41
## initial value 23471.969352
## iter 10 value 20033.248181
## iter 20 value 20018.760019
## final value 20018.737897
## converged
## # weights: 9
## initial value 23621.929654
## iter 10 value 20024.463163
## iter 20 value 20015.526238
## iter 20 value 20015.526196
## final value 20015.526196
## converged
## # weights: 25
## initial value 23218.786805
## iter 10 value 20030.690560
## iter 20 value 20015.598035
## final value 20015.436636
## converged
## # weights: 41
## initial value 20956.358109
## iter 10 value 20021.770139
## iter 20 value 20015.495189
## final value 20015.430665
## converged
## # weights: 9
## initial value 22353.468122
## final value 20028.123700
```

```
## converged
## # weights: 25
## initial value 23034.705444
## final value 20028.123700
## converged
## # weights: 41
## initial value 22516.197540
## final value 20028.123700
## converged
## # weights: 9
## initial value 22044.053658
## iter 10 value 20034.870273
## final value 20033.633427
## converged
## # weights: 25
## initial value 22653.306942
## iter 10 value 20033.062415
## final value 20032.099236
## converged
## # weights: 41
## initial value 22981.613499
## iter 10 value 20046.484590
## iter 20 value 20031.440647
## final value 20031.439823
## converged
## # weights: 9
## initial value 23106.232987
## iter 10 value 20038.736497
## iter 20 value 20028.246057
## iter 20 value 20028.246008
## final value 20028.246008
## converged
## # weights: 25
## initial value 21914.155346
## iter 10 value 20040.239325
## iter 20 value 20028.263384
## final value 20028.136084
## converged
## # weights: 41
## initial value 22163.843581
## iter 10 value 20047.699147
## iter 20 value 20028.349390
## final value 20028.134677
## converged
## # weights: 9
## initial value 22186.361355
## final value 20047.960100
## converged
## # weights: 25
## initial value 21802.010317
## final value 20047.960100
## converged
```

```
## # weights: 41
## initial value 22213.898567
## final value 20047.960100
## converged
## # weights: 9
## initial value 22762.033860
## iter 10 value 20053.788953
## final value 20053.470615
## converged
## # weights: 25
## initial value 22661.950697
## iter 10 value 20052.982363
## final value 20051.936278
## converged
## # weights: 41
## initial value 21456.228335
## iter 10 value 20063.487720
## iter 20 value 20051.278103
## final value 20051.276691
## converged
## # weights: 9
## initial value 23176.617040
## iter 10 value 20057.457307
## iter 20 value 20048.069595
## iter 20 value 20048.069552
## final value 20048.069552
## converged
## # weights: 25
## initial value 21695.320996
## iter 10 value 20058.799074
## iter 20 value 20048.085065
## final value 20047.972753
## converged
## # weights: 41
## initial value 23695.848096
## iter 10 value 20062.948010
## iter 20 value 20048.132899
## final value 20047.971781
## converged
## # weights: 9
## initial value 23881.181306
## final value 20028.947600
## converged
## # weights: 25
## initial value 22610.122356
## final value 20028.947600
## converged
## # weights: 41
## initial value 21862.557395
## final value 20028.947600
## converged
## # weights: 9
```

```
## initial value 22551.249506
## iter 10 value 20035.217999
## final value 20034.457313
## converged
## # weights: 25
## initial value 23687.902210
## iter 10 value 20034.091006
## final value 20032.923155
## converged
## # weights: 41
## initial value 22786.301119
## iter 10 value 20033.546921
## iter 20 value 20032.263868
## iter 20 value 20032.263750
## iter 20 value 20032.263713
## final value 20032.263713
## converged
## # weights: 9
## initial value 22292.530581
## iter 10 value 20039.570663
## iter 20 value 20029.070076
## iter 20 value 20029.070027
## final value 20029.070027
## converged
## # weights: 25
## initial value 22819.689212
## iter 10 value 20044.186410
## iter 20 value 20029.123292
## final value 20028.962117
## converged
## # weights: 41
## initial value 23894.154714
## iter 10 value 20042.674617
## iter 20 value 20029.105862
## final value 20028.962855
## converged
## # weights: 9
## initial value 22831.894788
## final value 19944.142000
## converged
## # weights: 25
## initial value 23384.673159
## final value 19944.142000
## converged
## # weights: 41
## initial value 22155.543267
## final value 19944.142000
## converged
## # weights: 9
## initial value 23395.537561
## iter 10 value 19949.777951
## final value 19949.649909
```



```
## converged
## # weights: 25
## initial value 23360.928949
## iter 10 value 19949.837096
## final value 19948.116422
## converged
## # weights: 41
## initial value 22334.902902
## iter 10 value 19948.119768
## final value 19947.457185
## converged
## # weights: 9
## initial value 23994.336192
## iter 10 value 19951.733522
## iter 20 value 19944.229524
## iter 20 value 19944.229489
## final value 19944.229489
## converged
## # weights: 25
## initial value 23062.725018
## iter 10 value 19960.107257
## iter 20 value 19944.326067
## final value 19944.158640
## converged
## # weights: 41
## initial value 23636.470391
## iter 10 value 19960.433093
## iter 20 value 19944.329824
## final value 19944.152960
## converged
## # weights: 9
## initial value 24106.814685
## final value 20063.162000
## converged
## # weights: 25
## initial value 24106.042436
## final value 20063.162000
## converged
## # weights: 41
## initial value 23688.749145
## final value 20063.162000
## converged
## # weights: 9
## initial value 23036.529588
## iter 10 value 20068.855944
## final value 20068.674098
## converged
## # weights: 25
## initial value 23348.048587
## iter 10 value 20073.023411
## iter 20 value 20067.140074
## final value 20067.139249
```

```
## converged
## # weights: 41
## initial value 21682.419776
## iter 10 value 20067.170006
## final value 20066.479479
## converged
## # weights: 9
## initial value 23491.602030
## iter 10 value 20072.516201
## iter 20 value 20063.269847
## iter 20 value 20063.269803
## final value 20063.269803
## converged
## # weights: 25
## initial value 23078.890576
## iter 10 value 20079.693427
## iter 20 value 20063.352594
## final value 20063.178489
## converged
## # weights: 41
## initial value 22370.458150
## iter 10 value 20080.489996
## iter 20 value 20063.361778
## final value 20063.170841
## converged
## # weights: 9
## initial value 23107.540305
## final value 20043.633700
## converged
## # weights: 25
## initial value 22941.466204
## final value 20043.633700
## converged
## # weights: 41
## initial value 23577.254190
## final value 20043.633700
## converged
## # weights: 9
## initial value 22959.404864
## iter 10 value 20049.919844
## final value 20049.143945
## converged
## # weights: 25
## initial value 22569.309948
## iter 10 value 20049.223023
## final value 20047.609578
## converged
## # weights: 41
## initial value 21741.291751
## iter 10 value 20049.959749
## iter 20 value 20046.950160
## iter 20 value 20046.950083
```

```
## iter 20 value 20046.950077
## final value 20046.950077
## converged
## # weights: 9
## initial value 22775.551099
## iter 10 value 20053.424135
## iter 20 value 20043.746576
## iter 20 value 20043.746531
## final value 20043.746531
## converged
## # weights: 25
## initial value 22429.752365
## iter 10 value 20059.750991
## iter 20 value 20043.819520
## final value 20043.649686
## converged
## # weights: 41
## initial value 21601.623556
## iter 10 value 20057.040132
## iter 20 value 20043.788266
## final value 20043.643716
## converged
## # weights: 9
## initial value 23215.456087
## final value 20045.446000
## converged
## # weights: 25
## initial value 22523.211499
## final value 20045.446000
## converged
## # weights: 41
## initial value 22619.920261
## final value 20045.446000
## converged
## # weights: 9
## initial value 23179.301946
## iter 10 value 20051.764186
## final value 20050.956404
## converged
## # weights: 25
## initial value 22638.080432
## iter 10 value 20051.348392
## final value 20049.422054
## converged
## # weights: 41
## initial value 22442.734202
## iter 10 value 20049.858072
## iter 20 value 20048.762752
## iter 20 value 20048.762582
## iter 20 value 20048.762535
## final value 20048.762535
## converged
```

```
## # weights: 9
## initial value 23369.873213
## iter 10 value 20056.435447
## iter 20 value 20045.572700
## iter 20 value 20045.572649
## final value 20045.572649
## converged
## # weights: 25
## initial value 22890.373538
## iter 10 value 20060.552425
## iter 20 value 20045.620165
## final value 20045.457960
## converged
## # weights: 41
## initial value 22312.107485
## iter 10 value 20065.396775
## iter 20 value 20045.676017
## final value 20045.457609
## converged
## # weights: 9
## initial value 22549.102217
## final value 20009.587700
## converged
## # weights: 25
## initial value 23800.869840
## final value 20009.587700
## converged
## # weights: 41
## initial value 24292.071132
## final value 20009.587700
## converged
## # weights: 9
## initial value 22717.183956
## iter 10 value 20015.509159
## final value 20015.096890
## converged
## # weights: 25
## initial value 23445.707757
## iter 10 value 20014.882367
## iter 20 value 20013.563081
## iter 20 value 20013.562917
## iter 20 value 20013.562896
## final value 20013.562896
## converged
## # weights: 41
## initial value 22127.161930
## iter 10 value 20021.703986
## iter 20 value 20012.905653
## final value 20012.903552
## converged
## # weights: 9
## initial value 21937.394732
```

```
## iter 10 value 20019.084678
## iter 20 value 20009.697193
## iter 20 value 20009.697149
## final value 20009.697149
## converged
## # weights: 25
## initial value 23667.586906
## iter 10 value 20021.778374
## iter 20 value 20009.728249
## final value 20009.602050
## converged
## # weights: 41
## initial value 23758.824341
## iter 10 value 20024.572640
## iter 20 value 20009.760465
## final value 20009.601191
## converged
## # weights: 9
## initial value 22002.490804
## final value 20023.227700
## converged
## # weights: 25
## initial value 22628.924213
## final value 20023.227700
## converged
## # weights: 41
## initial value 24121.511840
## final value 20023.227700
## converged
## # weights: 9
## initial value 21935.692119
## iter 10 value 20029.133687
## final value 20028.737261
## converged
## # weights: 25
## initial value 23459.873323
## iter 10 value 20035.210675
## iter 20 value 20027.204447
## final value 20027.203218
## converged
## # weights: 41
## initial value 22115.745081
## iter 10 value 20027.933721
## final value 20026.543839
## converged
## # weights: 9
## initial value 22266.718635
## iter 10 value 20033.158119
## iter 20 value 20023.342190
## iter 20 value 20023.342144
## final value 20023.342144
## converged
```

```
## # weights: 25
## initial value 22988.795644
## iter 10 value 20041.581328
## iter 20 value 20023.439303
## final value 20023.242217
## converged
## # weights: 41
## initial value 23356.357169
## iter 10 value 20039.152969
## iter 20 value 20023.411306
## final value 20023.238426
## converged
## # weights: 9
## initial value 21938.024071
## final value 20062.497700
## converged
## # weights: 25
## initial value 23070.386418
## final value 20062.497700
## converged
## # weights: 41
## initial value 23058.329046
## final value 20062.497700
## converged
## # weights: 9
## initial value 23167.844239
## iter 10 value 20068.541181
## final value 20068.009582
## converged
## # weights: 25
## initial value 23345.071667
## iter 10 value 20094.031872
## iter 20 value 20066.536250
## final value 20066.474858
## converged
## # weights: 41
## initial value 22916.733982
## iter 10 value 20066.147207
## final value 20065.815151
## converged
## # weights: 9
## initial value 22447.227211
## iter 10 value 20072.606401
## iter 20 value 20062.614245
## iter 20 value 20062.614199
## final value 20062.614199
## converged
## # weights: 25
## initial value 23291.642009
## iter 10 value 20077.300588
## iter 20 value 20062.668366
## final value 20062.512826
```

```
## converged
## # weights: 41
## initial value 23305.181733
## iter 10 value 20079.300817
## iter 20 value 20062.691427
## final value 20062.507766
## converged
## # weights: 9
## initial value 22335.925674
## final value 20007.369200
## converged
## # weights: 25
## initial value 22877.182164
## final value 20007.369200
## converged
## # weights: 41
## initial value 23295.830525
## final value 20007.369200
## converged
## # weights: 9
## initial value 22568.603864
## iter 10 value 20015.155412
## final value 20012.878346
## converged
## # weights: 25
## initial value 23208.404820
## iter 10 value 20011.905833
## final value 20011.344552
## converged
## # weights: 41
## initial value 22154.467185
## iter 10 value 20021.721935
## iter 20 value 20010.685872
## final value 20010.685005
## converged
## # weights: 9
## initial value 23757.505517
## iter 10 value 20017.053795
## iter 20 value 20007.480856
## iter 20 value 20007.480811
## final value 20007.480811
## converged
## # weights: 25
## initial value 23368.945988
## iter 10 value 20021.044087
## iter 20 value 20007.526861
## final value 20007.383009
## converged
## # weights: 41
## initial value 21834.228955
## iter 10 value 20022.483124
## iter 20 value 20007.543452
```

```
## final value 20007.378035
## converged
## # weights: 9
## initial value 23282.753849
## final value 20016.930100
## converged
## # weights: 25
## initial value 22935.690032
## final value 20016.930100
## converged
## # weights: 41
## initial value 24152.690625
## final value 20016.930100
## converged
## # weights: 9
## initial value 22286.990752
## iter 10 value 20022.477473
## final value 20022.439479
## converged
## # weights: 25
## initial value 23717.815798
## iter 10 value 20021.522050
## final value 20020.905500
## converged
## # weights: 41
## initial value 22628.267567
## iter 10 value 20021.289658
## final value 20020.246048
## converged
## # weights: 9
## initial value 22248.958663
## iter 10 value 20027.470558
## iter 20 value 20017.051623
## iter 20 value 20017.051575
## final value 20017.051575
## converged
## # weights: 25
## initial value 21913.931136
## iter 10 value 20031.094907
## iter 20 value 20017.093409
## final value 20016.942778
## converged
## # weights: 41
## initial value 21766.562654
## iter 10 value 20030.933431
## iter 20 value 20017.091547
## final value 20016.940268
## converged
## # weights: 9
## initial value 22671.694886
## final value 20047.960100
## converged
```



```
## # weights: 25
## initial value 22416.029056
## final value 20047.960100
## converged
## # weights: 41
## initial value 22678.848602
## final value 20047.960100
## converged
## # weights: 9
## initial value 21800.487044
## iter 10 value 20057.336542
## final value 20053.470631
## converged
## # weights: 25
## initial value 22600.309719
## iter 10 value 20053.327906
## final value 20051.936263
## converged
## # weights: 41
## initial value 22942.778320
## iter 10 value 20052.456922
## iter 20 value 20051.276824
## iter 20 value 20051.276706
## iter 20 value 20051.276700
## final value 20051.276700
## converged
## # weights: 9
## initial value 23807.488925
## iter 10 value 20056.749715
## iter 20 value 20048.061437
## iter 20 value 20048.061397
## final value 20048.061397
## converged
## # weights: 25
## initial value 22488.024346
## iter 10 value 20065.276134
## iter 20 value 20048.159740
## final value 20047.976469
## converged
## # weights: 41
## initial value 22205.828272
## iter 10 value 20066.047297
## iter 20 value 20048.168631
## final value 20047.970645
## converged
## # weights: 9
## initial value 22450.267708
## final value 20001.547600
## converged
## # weights: 25
## initial value 22584.294823
## final value 20001.547600
```

```
## converged
## # weights: 41
## initial value 22875.921768
## final value 20001.547600
## converged
## # weights: 9
## initial value 22784.693514
## iter 10 value 20007.784648
## final value 20007.056601
## converged
## # weights: 25
## initial value 23192.171616
## iter 10 value 20007.217074
## iter 20 value 20005.522676
## iter 20 value 20005.522663
## iter 20 value 20005.522661
## final value 20005.522661
## converged
## # weights: 41
## initial value 22341.821371
## iter 10 value 20017.458658
## iter 20 value 20004.864068
## final value 20004.863375
## converged
## # weights: 9
## initial value 21714.404315
## iter 10 value 20008.676094
## iter 20 value 20001.629786
## iter 20 value 20001.629753
## final value 20001.629753
## converged
## # weights: 25
## initial value 23391.406702
## iter 10 value 20018.016473
## iter 20 value 20001.737473
## final value 20001.563147
## converged
## # weights: 41
## initial value 23157.302256
## iter 10 value 20020.636813
## iter 20 value 20001.767684
## final value 20001.560550
## converged
## # weights: 9
## initial value 23281.709346
## final value 19999.010000
## converged
## # weights: 25
## initial value 23212.577290
## final value 19999.010000
## converged
## # weights: 41
```

```
## initial value 23350.089426
## final value 19999.010000
## converged
## # weights: 9
## initial value 22140.235795
## iter 10 value 20007.681042
## final value 20004.518952
## converged
## # weights: 25
## initial value 22612.445345
## iter 10 value 20004.983617
## final value 20002.985117
## converged
## # weights: 41
## initial value 22716.710016
## iter 10 value 20014.777519
## iter 20 value 20002.325972
## iter 20 value 20002.325852
## iter 20 value 20002.325842
## final value 20002.325842
## converged
## # weights: 9
## initial value 23320.497551
## iter 10 value 20008.835706
## iter 20 value 19999.123283
## iter 20 value 19999.123237
## final value 19999.123237
## converged
## # weights: 25
## initial value 22062.506301
## iter 10 value 20012.572382
## iter 20 value 19999.166364
## final value 19999.022095
## converged
## # weights: 41
## initial value 22077.978637
## iter 10 value 20016.204579
## iter 20 value 19999.208240
## final value 19999.020088
## converged
## # weights: 9
## initial value 22897.532972
## final value 19909.658000
## converged
## # weights: 25
## initial value 22765.533880
## final value 19909.658000
## converged
## # weights: 41
## initial value 23626.534101
## final value 19909.658000
## converged
```

```
## # weights: 9
## initial value 22466.721297
## iter 10 value 19915.428719
## final value 19915.165302
## converged
## # weights: 25
## initial value 23362.984504
## iter 10 value 19914.837005
## final value 19913.631961
## converged
## # weights: 41
## initial value 21955.361918
## iter 10 value 19913.818349
## final value 19912.972867
## converged
## # weights: 9
## initial value 21888.865058
## iter 10 value 19918.469866
## iter 20 value 19909.759594
## iter 20 value 19909.759553
## final value 19909.759553
## converged
## # weights: 25
## initial value 22050.496064
## iter 10 value 19921.810620
## iter 20 value 19909.798110
## final value 19909.670537
## converged
## # weights: 41
## initial value 23010.855929
## iter 10 value 19925.970407
## iter 20 value 19909.846069
## final value 19909.671473
## converged
## # weights: 9
## initial value 22257.636791
## final value 20014.310000
## converged
## # weights: 25
## initial value 22540.040320
## final value 20014.310000
## converged
## # weights: 41
## initial value 23531.634004
## final value 20014.310000
## converged
## # weights: 9
## initial value 23409.918298
## iter 10 value 20021.337358
## final value 20019.819317
## converged
## # weights: 25
```

```
## initial value 21718.908636
## iter 10 value 20024.336730
## iter 20 value 20018.285528
## final value 20018.285265
## converged
## # weights: 41
## initial value 24267.205450
## iter 10 value 20020.809758
## iter 20 value 20017.629528
## final value 20017.625886
## converged
## # weights: 9
## initial value 22912.487472
## iter 10 value 20025.852432
## iter 20 value 20014.443075
## iter 20 value 20014.443022
## final value 20014.443022
## converged
## # weights: 25
## initial value 22867.410650
## iter 10 value 20028.943957
## iter 20 value 20014.478718
## final value 20014.329645
## converged
## # weights: 41
## initial value 21807.366823
## iter 10 value 20027.604604
## iter 20 value 20014.463276
## final value 20014.320208
## converged
## # weights: 9
## initial value 23264.710066
## final value 19991.598500
## converged
## # weights: 25
## initial value 21258.110203
## final value 19991.598500
## converged
## # weights: 41
## initial value 24090.797094
## final value 19991.598500
## converged
## # weights: 9
## initial value 21885.058665
## iter 10 value 19997.278808
## final value 19997.107289
## converged
## # weights: 25
## initial value 22243.156873
## iter 10 value 19997.799950
## iter 20 value 19995.573519
## iter 20 value 19995.573485
```

```
## iter 20 value 19995.573476
## final value 19995.573476
## converged
## # weights: 41
## initial value 22301.043557
## iter 10 value 19995.359561
## final value 19994.914167
## converged
## # weights: 9
## initial value 22575.880914
## iter 10 value 20002.692504
## iter 20 value 19991.726405
## iter 20 value 19991.726354
## final value 19991.726354
## converged
## # weights: 25
## initial value 23108.286581
## iter 10 value 20006.931669
## iter 20 value 19991.775279
## final value 19991.611659
## converged
## # weights: 41
## initial value 22156.363603
## iter 10 value 20012.105817
## iter 20 value 19991.834933
## final value 19991.609322
## converged
## # weights: 9
## initial value 23678.787966
## final value 20032.920100
## converged
## # weights: 25
## initial value 21948.025122
## final value 20032.920100
## converged
## # weights: 41
## initial value 21647.848127
## final value 20032.920100
## converged
## # weights: 9
## initial value 21736.295520
## iter 10 value 20038.870929
## final value 20038.429973
## converged
## # weights: 25
## initial value 21780.055582
## iter 10 value 20037.281818
## final value 20036.895833
## converged
## # weights: 41
## initial value 23860.072248
## iter 10 value 20054.684980
```

```
## iter 20 value 20036.237388
## final value 20036.236303
## converged
## # weights: 9
## initial value 23262.808612
## iter 10 value 20042.353115
## iter 20 value 20033.028855
## iter 20 value 20033.028812
## final value 20033.028812
## converged
## # weights: 25
## initial value 22537.360484
## iter 10 value 20047.451422
## iter 20 value 20033.087635
## final value 20032.930848
## converged
## # weights: 41
## initial value 21667.780796
## iter 10 value 20045.324299
## iter 20 value 20033.063111
## final value 20032.928911
## converged
## # weights: 9
## initial value 21927.241981
## final value 20042.739700
## converged
## # weights: 25
## initial value 22650.549148
## final value 20042.739700
## converged
## # weights: 41
## initial value 24021.385762
## final value 20042.739700
## converged
## # weights: 9
## initial value 22793.700453
## iter 10 value 20052.701007
## iter 20 value 20048.249945
## iter 20 value 20048.249941
## final value 20048.249941
## converged
## # weights: 25
## initial value 23191.488871
## iter 10 value 20047.410281
## final value 20046.715602
## converged
## # weights: 41
## initial value 22961.648831
## iter 10 value 20054.232521
## iter 20 value 20046.057364
## final value 20046.056130
## converged
```

```
## # weights: 9
## initial value 23459.859034
## iter 10 value 20052.556003
## iter 20 value 20042.852874
## iter 20 value 20042.852829
## final value 20042.852829
## converged
## # weights: 25
## initial value 23008.855391
## iter 10 value 20059.407774
## iter 20 value 20042.931870
## final value 20042.758498
## converged
## # weights: 41
## initial value 21627.091040
## iter 10 value 20056.314391
## iter 20 value 20042.896206
## final value 20042.749233
## converged
## # weights: 9
## initial value 21505.492408
## final value 19928.378000
## converged
## # weights: 25
## initial value 23494.732214
## final value 19928.378000
## converged
## # weights: 41
## initial value 21755.172715
## final value 19928.378000
## converged
## # weights: 9
## initial value 21533.561577
## iter 10 value 19934.013203
## final value 19933.885725
## converged
## # weights: 25
## initial value 22025.204028
## iter 10 value 19933.071551
## final value 19932.352318
## converged
## # weights: 41
## initial value 23526.445435
## iter 10 value 19933.235543
## final value 19931.693275
## converged
## # weights: 9
## initial value 22713.311169
## iter 10 value 19938.214267
## iter 20 value 19928.491404
## iter 20 value 19928.491359
## final value 19928.491359
```



```
## converged
## # weights: 25
## initial value 21949.845282
## iter 10 value 19941.651654
## iter 20 value 19928.531035
## final value 19928.390648
## converged
## # weights: 41
## initial value 23382.060072
## iter 10 value 19944.986038
## iter 20 value 19928.569478
## final value 19928.390123
## converged
## # weights: 9
## initial value 21668.706887
## final value 20036.130100
## converged
## # weights: 25
## initial value 23151.124022
## final value 20036.130100
## converged
## # weights: 41
## initial value 22794.299538
## final value 20036.130100
## converged
## # weights: 9
## initial value 21691.034808
## iter 10 value 20043.713364
## final value 20041.640101
## converged
## # weights: 25
## initial value 22643.864610
## iter 10 value 20040.780251
## final value 20040.105942
## converged
## # weights: 41
## initial value 24825.942834
## iter 10 value 20107.688430
## iter 20 value 20039.617727
## final value 20039.446369
## converged
## # weights: 9
## initial value 21842.980736
## iter 10 value 20043.639562
## iter 20 value 20036.216678
## iter 20 value 20036.216644
## final value 20036.216644
## converged
## # weights: 25
## initial value 22222.804629
## iter 10 value 20050.001287
## iter 20 value 20036.290024
```

```
## final value 20036.143416
## converged
## # weights: 41
## initial value 21466.804824
## iter 10 value 20048.012120
## iter 20 value 20036.267090
## final value 20036.140010
## converged
## # weights: 9
## initial value 21758.418184
## final value 20006.167600
## converged
## # weights: 25
## initial value 22561.868180
## final value 20006.167600
## converged
## # weights: 41
## initial value 23016.323977
## final value 20006.167600
## converged
## # weights: 9
## initial value 22330.647531
## iter 10 value 20011.755316
## final value 20011.676670
## converged
## # weights: 25
## initial value 22368.808096
## iter 10 value 20017.192250
## iter 20 value 20010.143364
## final value 20010.142692
## converged
## # weights: 41
## initial value 22607.292269
## iter 10 value 20010.676419
## final value 20009.483388
## converged
## # weights: 9
## initial value 21706.139637
## iter 10 value 20014.093285
## iter 20 value 20006.258977
## iter 20 value 20006.258940
## final value 20006.258940
## converged
## # weights: 25
## initial value 22476.145163
## iter 10 value 20019.668933
## iter 20 value 20006.323260
## final value 20006.182881
## converged
## # weights: 41
## initial value 23473.936823
## iter 10 value 20023.157857
```

```
## iter 20 value 20006.363484
## final value 20006.178664
## converged
## # weights: 9
## initial value 22734.014379
## final value 19970.240500
## converged
## # weights: 25
## initial value 21266.612070
## final value 19970.240500
## converged
## # weights: 41
## initial value 23630.692527
## final value 19970.240500
## converged
## # weights: 9
## initial value 22065.747768
## iter 10 value 19976.421857
## final value 19975.748893
## converged
## # weights: 25
## initial value 23150.622938
## iter 10 value 19975.130018
## iter 20 value 19974.224847
## final value 19974.215234
## converged
## # weights: 41
## initial value 23225.646831
## iter 10 value 19985.995665
## iter 20 value 19973.556261
## final value 19973.555963
## converged
## # weights: 9
## initial value 21991.577716
## iter 10 value 19979.284621
## iter 20 value 19970.344772
## iter 20 value 19970.344730
## final value 19970.344730
## converged
## # weights: 25
## initial value 23426.460919
## iter 10 value 19983.371511
## iter 20 value 19970.391890
## final value 19970.254728
## converged
## # weights: 41
## initial value 22463.645761
## iter 10 value 19988.535191
## iter 20 value 19970.451423
## final value 19970.250837
## converged
## # weights: 9
```

```
## initial value 22064.288231
## final value 20018.280100
## converged
## # weights: 25
## initial value 22326.652914
## final value 20018.280100
## converged
## # weights: 41
## initial value 21846.992120
## final value 20018.280100
## converged
## # weights: 9
## initial value 23116.786881
## iter 10 value 20023.837076
## final value 20023.789521
## converged
## # weights: 25
## initial value 23420.971658
## iter 10 value 20026.125002
## iter 20 value 20022.270332
## final value 20022.255473
## converged
## # weights: 41
## initial value 21680.260660
## iter 10 value 20022.608754
## final value 20021.596081
## converged
## # weights: 9
## initial value 23327.019236
## iter 10 value 20027.555597
## iter 20 value 20018.387039
## iter 20 value 20018.386996
## final value 20018.386996
## converged
## # weights: 25
## initial value 22036.115523
## iter 10 value 20031.150894
## iter 20 value 20018.428490
## final value 20018.293266
## converged
## # weights: 41
## initial value 23556.703912
## iter 10 value 20034.245225
## iter 20 value 20018.464165
## final value 20018.290744
## converged
## # weights: 9
## initial value 22415.585207
## final value 20051.405200
## converged
## # weights: 25
## initial value 21961.013588
```

```
## final value 20051.405200
## converged
## # weights: 41
## initial value 23186.192022
## final value 20051.405200
## converged
## # weights: 9
## initial value 22582.285360
## iter 10 value 20059.321346
## final value 20056.915945
## converged
## # weights: 25
## initial value 23036.427168
## iter 10 value 20056.283264
## iter 20 value 20055.382022
## final value 20055.381478
## converged
## # weights: 41
## initial value 21527.676079
## iter 10 value 20056.121729
## final value 20054.721960
## converged
## # weights: 9
## initial value 22145.405718
## iter 10 value 20061.225823
## iter 20 value 20051.518424
## iter 20 value 20051.518379
## final value 20051.518379
## converged
## # weights: 25
## initial value 24024.819982
## iter 10 value 20060.399241
## iter 20 value 20051.508894
## final value 20051.421861
## converged
## # weights: 41
## initial value 23341.792189
## iter 10 value 20069.432554
## iter 20 value 20051.613041
## final value 20051.418319
## converged
## # weights: 9
## initial value 22519.527447
## final value 19996.910500
## converged
## # weights: 25
## initial value 22513.094484
## final value 19996.910500
## converged
## # weights: 41
## initial value 23968.734087
## final value 19996.910500
```

```
## converged
## # weights: 9
## initial value 22961.285389
## iter 10 value 20003.638151
## final value 20002.419404
## converged
## # weights: 25
## initial value 24163.854597
## iter 10 value 20003.974189
## iter 20 value 20000.890231
## final value 20000.885550
## converged
## # weights: 41
## initial value 21139.959100
## iter 10 value 20002.738977
## final value 20000.226296
## converged
## # weights: 9
## initial value 22505.978206
## iter 10 value 20008.551548
## iter 20 value 19997.044712
## iter 20 value 19997.044658
## final value 19997.044658
## converged
## # weights: 25
## initial value 23932.488938
## iter 10 value 20008.444291
## iter 20 value 19997.043476
## final value 19996.926399
## converged
## # weights: 41
## initial value 23353.831479
## iter 10 value 20014.605247
## iter 20 value 19997.114507
## final value 19996.920902
## converged
## # weights: 9
## initial value 22677.288267
## final value 20014.030000
## converged
## # weights: 25
## initial value 22346.329632
## final value 20014.030000
## converged
## # weights: 41
## initial value 23012.148025
## final value 20014.030000
## converged
## # weights: 9
## initial value 23486.507793
## iter 10 value 20020.294214
## final value 20019.539284
```

```
## converged
## # weights: 25
## initial value 22226.694214
## iter 10 value 20019.166923
## final value 20018.005272
## converged
## # weights: 41
## initial value 23292.735124
## iter 10 value 20018.094205
## final value 20017.345848
## converged
## # weights: 9
## initial value 21983.903575
## iter 10 value 20023.660574
## iter 20 value 20014.141033
## iter 20 value 20014.140989
## final value 20014.140989
## converged
## # weights: 25
## initial value 22825.044205
## iter 10 value 20029.006174
## iter 20 value 20014.202664
## final value 20014.041894
## converged
## # weights: 41
## initial value 21488.022694
## iter 10 value 20026.302711
## iter 20 value 20014.171495
## final value 20014.039339
## converged
## # weights: 9
## initial value 21917.802771
## final value 20020.659700
## converged
## # weights: 25
## initial value 21863.141845
## final value 20020.659700
## converged
## # weights: 41
## initial value 22709.732467
## final value 20020.659700
## converged
## # weights: 9
## initial value 23093.766984
## iter 10 value 20028.183600
## final value 20026.169155
## converged
## # weights: 25
## initial value 23165.852590
## iter 10 value 20033.573510
## iter 20 value 20024.635145
## iter 20 value 20024.635084
```

```
## iter 20 value 20024.635061
## final value 20024.635061
## converged
## # weights: 41
## initial value 24172.293706
## iter 10 value 20033.186747
## iter 20 value 20023.977574
## final value 20023.975636
## converged
## # weights: 9
## initial value 22985.611724
## iter 10 value 20032.397748
## iter 20 value 20020.795030
## iter 20 value 20020.794976
## final value 20020.794976
## converged
## # weights: 25
## initial value 23463.025469
## iter 10 value 20035.420470
## iter 20 value 20020.829880
## final value 20020.675586
## converged
## # weights: 41
## initial value 21082.918268
## iter 10 value 20028.031776
## iter 20 value 20020.744694
## final value 20020.668320
## converged
## # weights: 9
## initial value 23319.586350
## final value 19950.385700
## converged
## # weights: 25
## initial value 21430.033580
## final value 19950.385700
## converged
## # weights: 41
## initial value 22117.079475
## final value 19950.385700
## converged
## # weights: 9
## initial value 22859.236060
## iter 10 value 19956.004115
## final value 19955.893615
## converged
## # weights: 25
## initial value 23598.137100
## iter 10 value 19954.732374
## final value 19954.360081
## converged
## # weights: 41
## initial value 21393.927815
```



```
## iter 10 value 19955.553690
## final value 19953.700893
## converged
## # weights: 9
## initial value 22449.123161
## iter 10 value 19960.273082
## iter 20 value 19950.499694
## iter 20 value 19950.499648
## final value 19950.499648
## converged
## # weights: 25
## initial value 21796.284378
## iter 10 value 19962.004931
## iter 20 value 19950.519661
## final value 19950.397773
## converged
## # weights: 41
## initial value 21301.195992
## iter 10 value 19959.690028
## iter 20 value 19950.492972
## final value 19950.395326
## converged
## # weights: 9
## initial value 22161.682663
## final value 20051.473700
## converged
## # weights: 25
## initial value 22411.589122
## final value 20051.473700
## converged
## # weights: 41
## initial value 23321.411522
## final value 20051.473700
## converged
## # weights: 9
## initial value 21768.925951
## iter 10 value 20058.337407
## final value 20056.984322
## converged
## # weights: 25
## initial value 22866.637677
## iter 10 value 20060.617967
## iter 20 value 20055.451636
## final value 20055.449826
## converged
## # weights: 41
## initial value 22057.317831
## iter 10 value 20070.456874
## iter 20 value 20054.793061
## final value 20054.790284
## converged
## # weights: 9
```

```
## initial value 22449.662955
## iter 10 value 20062.644927
## iter 20 value 20051.602495
## iter 20 value 20051.602444
## final value 20051.602444
## converged
## # weights: 25
## initial value 22930.056751
## iter 10 value 20065.358036
## iter 20 value 20051.633775
## final value 20051.491527
## converged
## # weights: 41
## initial value 22555.821589
## iter 10 value 20069.894605
## iter 20 value 20051.686079
## final value 20051.488260
## converged
## # weights: 9
## initial value 23294.938029
## final value 20061.657200
## converged
## # weights: 25
## initial value 21564.810855
## final value 20061.657200
## converged
## # weights: 41
## initial value 22038.573203
## final value 20061.657200
## converged
## # weights: 9
## initial value 21697.358992
## iter 10 value 20067.550822
## final value 20067.168763
## converged
## # weights: 25
## initial value 23618.849876
## iter 10 value 20065.984157
## final value 20065.634126
## converged
## # weights: 41
## initial value 24000.563025
## iter 10 value 20072.763156
## iter 20 value 20064.976716
## final value 20064.974382
## converged
## # weights: 9
## initial value 22482.877307
## iter 10 value 20071.841279
## iter 20 value 20061.774614
## iter 20 value 20061.774567
## final value 20061.774567
```

```
## converged
## # weights: 25
## initial value 22776.553475
## iter 10 value 20077.230060
## iter 20 value 20061.836743
## final value 20061.675427
## converged
## # weights: 41
## initial value 23013.240687
## iter 10 value 20080.168637
## iter 20 value 20061.870622
## final value 20061.666752
## converged
## # weights: 9
## initial value 23078.929328
## final value 20007.369200
## converged
## # weights: 25
## initial value 23348.661520
## final value 20007.369200
## converged
## # weights: 41
## initial value 22880.939703
## final value 20007.369200
## converged
## # weights: 9
## initial value 23747.960542
## iter 10 value 20013.479111
## final value 20012.878354
## converged
## # weights: 25
## initial value 22858.635674
## iter 10 value 20014.532937
## iter 20 value 20011.344623
## iter 20 value 20011.344442
## iter 20 value 20011.344435
## final value 20011.344435
## converged
## # weights: 41
## initial value 24288.040274
## iter 10 value 20017.115858
## iter 20 value 20010.685417
## final value 20010.685009
## converged
## # weights: 9
## initial value 22358.378310
## iter 10 value 20017.022677
## iter 20 value 20007.480497
## iter 20 value 20007.480452
## final value 20007.480452
## converged
## # weights: 25
```

```
## initial value 22001.469317
## iter 10 value 20020.805797
## iter 20 value 20007.524113
## final value 20007.382120
## converged
## # weights: 41
## initial value 21728.391509
## iter 10 value 20020.602363
## iter 20 value 20007.521768
## final value 20007.377614
## converged
## # weights: 9
## initial value 23774.251372
## final value 20003.880100
## converged
## # weights: 25
## initial value 23332.464638
## final value 20003.880100
## converged
## # weights: 41
## initial value 21916.356611
## final value 20003.880100
## converged
## # weights: 9
## initial value 23162.828972
## iter 10 value 20009.923534
## final value 20009.389124
## converged
## # weights: 25
## initial value 22345.033337
## iter 10 value 20010.882125
## iter 20 value 20007.857375
## final value 20007.855155
## converged
## # weights: 41
## initial value 22990.206845
## iter 10 value 20009.355283
## iter 20 value 20007.196054
## iter 20 value 20007.195897
## iter 20 value 20007.195880
## final value 20007.195880
## converged
## # weights: 9
## initial value 21640.335508
## iter 10 value 20011.901873
## iter 20 value 20003.972585
## iter 20 value 20003.972548
## final value 20003.972548
## converged
## # weights: 25
## initial value 23927.457080
## iter 10 value 20013.074781
```

```
## iter 20 value 20003.986107
## final value 20003.899611
## converged
## # weights: 41
## initial value 23723.804677
## iter 10 value 20019.809896
## iter 20 value 20004.063758
## final value 20003.894625
## converged
## # weights: 9
## initial value 23286.406736
## final value 19948.680100
## converged
## # weights: 25
## initial value 22222.313582
## final value 19948.680100
## converged
## # weights: 41
## initial value 21901.537559
## final value 19948.680100
## converged
## # weights: 9
## initial value 22055.772182
## iter 10 value 19955.228301
## final value 19954.187976
## converged
## # weights: 25
## initial value 22308.858610
## iter 10 value 19953.280624
## iter 20 value 19952.656667
## final value 19952.654401
## converged
## # weights: 41
## initial value 22275.291566
## iter 10 value 19963.327346
## iter 20 value 19952.005522
## final value 19951.995237
## converged
## # weights: 9
## initial value 21971.570068
## iter 10 value 19957.555144
## iter 20 value 19948.782422
## iter 20 value 19948.782381
## final value 19948.782381
## converged
## # weights: 25
## initial value 23448.381831
## iter 10 value 19960.518949
## iter 20 value 19948.816593
## final value 19948.694648
## converged
## # weights: 41
```

```
## initial value 23397.980142
## iter 10 value 19964.859256
## iter 20 value 19948.866633
## final value 19948.691727
## converged
## # weights: 9
## initial value 22514.451030
## final value 20032.256500
## converged
## # weights: 25
## initial value 23943.993258
## final value 20032.256500
## converged
## # weights: 41
## initial value 23100.995094
## final value 20032.256500
## converged
## # weights: 9
## initial value 22892.047777
## iter 10 value 20039.099507
## final value 20037.766357
## converged
## # weights: 25
## initial value 21865.341650
## iter 10 value 20037.486319
## final value 20036.232212
## converged
## # weights: 41
## initial value 22554.541356
## iter 10 value 20044.126184
## final value 20035.572782
## converged
## # weights: 9
## initial value 22199.577434
## iter 10 value 20041.450890
## iter 20 value 20032.362504
## iter 20 value 20032.362462
## final value 20032.362462
## converged
## # weights: 25
## initial value 22347.167749
## iter 10 value 20048.470166
## iter 20 value 20032.443431
## final value 20032.269485
## converged
## # weights: 41
## initial value 22876.564444
## iter 10 value 20051.754820
## iter 20 value 20032.481300
## final value 20032.266787
## converged
## # weights: 9
```

```
## initial value 23194.819956
## final value 20014.867600
## converged
## # weights: 25
## initial value 23008.031967
## final value 20014.867600
## converged
## # weights: 41
## initial value 21463.521704
## final value 20014.867600
## converged
## # weights: 9
## initial value 21846.067877
## iter 10 value 20020.610770
## final value 20020.376925
## converged
## # weights: 25
## initial value 21702.393084
## iter 10 value 20020.507349
## final value 20018.842888
## converged
## # weights: 41
## initial value 23227.667237
## iter 10 value 20033.426366
## iter 20 value 20018.184741
## final value 20018.183514
## converged
## # weights: 9
## initial value 23236.923105
## iter 10 value 20024.505145
## iter 20 value 20014.978713
## iter 20 value 20014.978669
## final value 20014.978669
## converged
## # weights: 25
## initial value 22406.806943
## iter 10 value 20031.780443
## iter 20 value 20015.062592
## final value 20014.879869
## converged
## # weights: 41
## initial value 20993.871033
## iter 10 value 20021.130285
## iter 20 value 20014.939804
## final value 20014.876781
## converged
## # weights: 9
## initial value 22550.026150
## final value 20044.421200
## converged
## # weights: 25
## initial value 22287.679651
```

```
## final value 20044.421200
## converged
## # weights: 41
## initial value 23159.589826
## final value 20044.421200
## converged
## # weights: 9
## initial value 22477.032572
## iter 10 value 20050.200981
## final value 20049.931538
## converged
## # weights: 25
## initial value 23078.624550
## iter 10 value 20049.302113
## final value 20048.397182
## converged
## # weights: 41
## initial value 23512.836235
## iter 10 value 20049.027869
## final value 20047.737816
## converged
## # weights: 9
## initial value 22796.683817
## iter 10 value 20056.603285
## iter 20 value 20044.561650
## iter 20 value 20044.561594
## final value 20044.561594
## converged
## # weights: 25
## initial value 22237.811399
## iter 10 value 20059.083153
## iter 20 value 20044.590241
## final value 20044.433113
## converged
## # weights: 41
## initial value 23901.019417
## iter 10 value 20060.800435
## iter 20 value 20044.610040
## final value 20044.432964
## converged
## # weights: 9
## initial value 22073.664175
## final value 20048.654000
## converged
## # weights: 25
## initial value 23556.636307
## final value 20048.654000
## converged
## # weights: 41
## initial value 21594.529188
## final value 20048.654000
## converged
```



```
## # weights: 9
## initial value 22262.329765
## iter 10 value 20058.403365
## final value 20054.164541
## converged
## # weights: 25
## initial value 23751.841832
## iter 10 value 20063.667480
## iter 20 value 20052.633686
## final value 20052.630124
## converged
## # weights: 41
## initial value 24285.678844
## iter 10 value 20053.684895
## iter 20 value 20051.971168
## final value 20051.970570
## converged
## # weights: 9
## initial value 22292.499012
## iter 10 value 20057.859095
## iter 20 value 20048.760128
## iter 20 value 20048.760085
## final value 20048.760085
## converged
## # weights: 25
## initial value 23557.442920
## iter 10 value 20062.406740
## iter 20 value 20048.812558
## final value 20048.669163
## converged
## # weights: 41
## initial value 22110.112634
## iter 10 value 20066.299146
## iter 20 value 20048.857435
## final value 20048.664267
## converged
## # weights: 9
## initial value 22569.222592
## final value 20050.709200
## converged
## # weights: 25
## initial value 23342.548378
## final value 20050.709200
## converged
## # weights: 41
## initial value 23574.077696
## final value 20050.709200
## converged
## # weights: 9
## initial value 23622.960887
## iter 10 value 20056.378584
## final value 20056.219797
```

```
## converged
## # weights: 25
## initial value 22416.724015
## iter 10 value 20055.960206
## final value 20054.685329
## converged
## # weights: 41
## initial value 21841.167154
## iter 10 value 20055.441115
## iter 20 value 20054.026191
## final value 20054.025760
## converged
## # weights: 9
## initial value 22736.970323
## iter 10 value 20062.388186
## iter 20 value 20050.843850
## iter 20 value 20050.843796
## final value 20050.843796
## converged
## # weights: 25
## initial value 23657.933874
## iter 10 value 20061.798547
## iter 20 value 20050.837051
## final value 20050.724720
## converged
## # weights: 41
## initial value 22994.339255
## iter 10 value 20069.702775
## iter 20 value 20050.928181
## final value 20050.721802
## converged
## # weights: 9
## initial value 23208.713568
## final value 20001.390500
## converged
## # weights: 25
## initial value 23226.676270
## final value 20001.390500
## converged
## # weights: 41
## initial value 21581.525149
## final value 20001.390500
## converged
## # weights: 9
## initial value 23239.503133
## iter 10 value 20008.995610
## final value 20006.899469
## converged
## # weights: 25
## initial value 23090.757811
## iter 10 value 20011.657460
## iter 20 value 20005.366320
```

```
## final value 20005.365560
## converged
## # weights: 41
## initial value 22894.105030
## iter 10 value 20005.871159
## final value 20004.706238
## converged
## # weights: 9
## initial value 23443.771834
## iter 10 value 20010.114129
## iter 20 value 20001.491077
## iter 20 value 20001.491036
## final value 20001.491036
## converged
## # weights: 25
## initial value 23405.468174
## iter 10 value 20014.851735
## iter 20 value 20001.545697
## final value 20001.410581
## converged
## # weights: 41
## initial value 21626.538874
## iter 10 value 20013.538235
## iter 20 value 20001.530554
## final value 20001.399626
## converged
## # weights: 9
## initial value 21935.172040
## final value 20008.558000
## converged
## # weights: 25
## initial value 22218.783247
## final value 20008.558000
## converged
## # weights: 41
## initial value 22512.423434
## final value 20008.558000
## converged
## # weights: 9
## initial value 22965.034658
## iter 10 value 20017.256157
## final value 20014.067189
## converged
## # weights: 25
## initial value 23925.310280
## iter 10 value 20013.970933
## final value 20012.533275
## converged
## # weights: 41
## initial value 22213.775266
## iter 10 value 20025.241729
## iter 20 value 20011.874059
```

```
## iter 20 value 20011.873917
## iter 20 value 20011.873912
## final value 20011.873912
## converged
## # weights: 9
## initial value 23673.475238
## iter 10 value 20017.357046
## iter 20 value 20008.659446
## iter 20 value 20008.659406
## final value 20008.659406
## converged
## # weights: 25
## initial value 22863.904839
## iter 10 value 20027.357314
## iter 20 value 20008.774741
## final value 20008.570593
## converged
## # weights: 41
## initial value 23102.849237
## iter 10 value 20027.428673
## iter 20 value 20008.775564
## final value 20008.570556
## converged
## # weights: 9
## initial value 22847.542107
## final value 20042.193700
## converged
## # weights: 25
## initial value 22374.749165
## final value 20042.193700
## converged
## # weights: 41
## initial value 22885.254711
## final value 20042.193700
## converged
## # weights: 9
## initial value 22722.363564
## iter 10 value 20047.928811
## final value 20047.703948
## converged
## # weights: 25
## initial value 22023.929869
## iter 10 value 20047.642912
## final value 20046.169805
## converged
## # weights: 41
## initial value 22677.897538
## iter 10 value 20046.508622
## iter 20 value 20045.510526
## final value 20045.510160
## converged
## # weights: 9
```

```
## initial value 22092.651928
## iter 10 value 20051.287577
## iter 20 value 20042.298545
## iter 20 value 20042.298503
## final value 20042.298503
## converged
## # weights: 25
## initial value 22972.922653
## iter 10 value 20059.242901
## iter 20 value 20042.390264
## final value 20042.209605
## converged
## # weights: 41
## initial value 23821.698057
## iter 10 value 20057.528732
## iter 20 value 20042.370501
## final value 20042.208850
## converged
## # weights: 9
## initial value 23274.888896
## final value 19991.259700
## converged
## # weights: 25
## initial value 22594.895476
## final value 19991.259700
## converged
## # weights: 41
## initial value 23263.256558
## final value 19991.259700
## converged
## # weights: 9
## initial value 23693.759161
## iter 10 value 19997.586201
## final value 19996.768364
## converged
## # weights: 25
## initial value 22369.683873
## iter 10 value 19995.799693
## final value 19995.234555
## converged
## # weights: 41
## initial value 22879.544692
## iter 10 value 20008.542758
## iter 20 value 19994.575704
## final value 19994.575191
## converged
## # weights: 9
## initial value 23388.864646
## iter 10 value 20000.003027
## iter 20 value 19991.360504
## iter 20 value 19991.360463
## final value 19991.360463
```

```
## converged
## # weights: 25
## initial value 22841.213181
## iter 10 value 20005.796784
## iter 20 value 19991.427301
## final value 19991.273042
## converged
## # weights: 41
## initial value 21329.948824
## iter 10 value 20002.927454
## iter 20 value 19991.394220
## final value 19991.269098
## converged
## # weights: 9
## initial value 22731.735878
## final value 20021.567600
## converged
## # weights: 25
## initial value 23266.302598
## final value 20021.567600
## converged
## # weights: 41
## initial value 22592.339103
## final value 20021.567600
## converged
## # weights: 9
## initial value 23072.635571
## iter 10 value 20027.663579
## final value 20027.077116
## converged
## # weights: 25
## initial value 21778.835935
## iter 10 value 20026.296829
## final value 20025.543027
## converged
## # weights: 41
## initial value 22110.916139
## iter 10 value 20027.398781
## iter 20 value 20024.883711
## iter 20 value 20024.883641
## iter 20 value 20024.883620
## final value 20024.883620
## converged
## # weights: 9
## initial value 21627.304116
## iter 10 value 20028.369671
## iter 20 value 20021.646023
## iter 20 value 20021.645991
## final value 20021.645991
## converged
## # weights: 25
## initial value 23774.968052
```

```
## iter 10 value 20032.887251
## iter 20 value 20021.698107
## final value 20021.584673
## converged
## # weights: 41
## initial value 24213.849086
## iter 10 value 20032.463317
## iter 20 value 20021.693219
## final value 20021.583090
## converged
## # weights: 9
## initial value 22768.818227
## final value 19931.150000
## converged
## # weights: 25
## initial value 22197.040487
## final value 19931.150000
## converged
## # weights: 41
## initial value 22691.221572
## final value 19931.150000
## converged
## # weights: 9
## initial value 22360.353682
## iter 10 value 19937.355277
## final value 19936.657748
## converged
## # weights: 25
## initial value 23547.001345
## iter 10 value 19940.939669
## iter 20 value 19935.127184
## final value 19935.124310
## converged
## # weights: 41
## initial value 23054.979943
## iter 10 value 19935.941001
## iter 20 value 19934.465345
## iter 20 value 19934.465170
## iter 20 value 19934.465159
## final value 19934.465159
## converged
## # weights: 9
## initial value 22130.415264
## iter 10 value 19941.223518
## iter 20 value 19931.266140
## iter 20 value 19931.266093
## final value 19931.266093
## converged
## # weights: 25
## initial value 22320.928963
## iter 10 value 19946.576468
## iter 20 value 19931.327855
```

```
## final value 19931.164808
## converged
## # weights: 41
## initial value 22867.043227
## iter 10 value 19954.034571
## iter 20 value 19931.413841
## final value 19931.161414
## converged
## # weights: 9
## initial value 23125.692747
## final value 20048.115700
## converged
## # weights: 25
## initial value 23174.583810
## final value 20048.115700
## converged
## # weights: 41
## initial value 23522.623294
## final value 20048.115700
## converged
## # weights: 9
## initial value 22853.268901
## iter 10 value 20054.629641
## final value 20053.626202
## converged
## # weights: 25
## initial value 23398.483505
## iter 10 value 20054.742321
## iter 20 value 20052.092055
## iter 20 value 20052.091883
## iter 20 value 20052.091843
## final value 20052.091843
## converged
## # weights: 41
## initial value 21671.597526
## iter 10 value 20063.085518
## iter 20 value 20051.436110
## final value 20051.432243
## converged
## # weights: 9
## initial value 23347.831693
## iter 10 value 20059.087885
## iter 20 value 20048.242201
## iter 20 value 20048.242150
## final value 20048.242150
## converged
## # weights: 25
## initial value 22823.030275
## iter 10 value 20062.863375
## iter 20 value 20048.285729
## final value 20048.127502
## converged
```



```
## # weights: 41
## initial value 21976.413395
## iter 10 value 20061.326136
## iter 20 value 20048.268006
## final value 20048.125195
## converged
## # weights: 9
## initial value 21707.828736
## final value 20053.498000
## converged
## # weights: 25
## initial value 22990.790623
## final value 20053.498000
## converged
## # weights: 41
## initial value 22480.644186
## final value 20053.498000
## converged
## # weights: 9
## initial value 23135.154916
## iter 10 value 20061.559463
## final value 20059.008760
## converged
## # weights: 25
## initial value 23856.538554
## iter 10 value 20059.134558
## final value 20057.474286
## converged
## # weights: 41
## initial value 22898.426726
## iter 10 value 20063.871654
## iter 20 value 20056.815420
## final value 20056.814739
## converged
## # weights: 9
## initial value 22960.734017
## iter 10 value 20063.769958
## iter 20 value 20053.616428
## iter 20 value 20053.616380
## final value 20053.616380
## converged
## # weights: 25
## initial value 22844.586804
## iter 10 value 20065.663474
## iter 20 value 20053.638258
## final value 20053.513572
## converged
## # weights: 41
## initial value 22068.705575
## iter 10 value 20069.261580
## iter 20 value 20053.679742
## final value 20053.507758
```

```
## converged
## # weights: 9
## initial value 22036.491963
## final value 20036.130100
## converged
## # weights: 25
## initial value 22960.354019
## final value 20036.130100
## converged
## # weights: 41
## initial value 23384.039767
## final value 20036.130100
## converged
## # weights: 9
## initial value 23014.231024
## iter 10 value 20044.585762
## final value 20041.640087
## converged
## # weights: 25
## initial value 21472.240449
## iter 10 value 20046.927873
## iter 20 value 20040.106286
## final value 20040.105813
## converged
## # weights: 41
## initial value 22167.264475
## iter 10 value 20040.225179
## final value 20039.446423
## converged
## # weights: 9
## initial value 22974.560267
## iter 10 value 20045.878716
## iter 20 value 20036.242494
## iter 20 value 20036.242449
## final value 20036.242449
## converged
## # weights: 25
## initial value 22227.601345
## iter 10 value 20050.185625
## iter 20 value 20036.292149
## final value 20036.142475
## converged
## # weights: 41
## initial value 22700.987027
## iter 10 value 20056.412780
## iter 20 value 20036.363943
## final value 20036.144265
## converged
## # weights: 9
## initial value 23620.892627
## final value 20044.680100
## converged
```

```
## # weights: 25
## initial value 22102.949375
## final value 20044.680100
## converged
## # weights: 41
## initial value 23039.364480
## final value 20044.680100
## converged
## # weights: 9
## initial value 22598.644319
## iter 10 value 20050.702401
## final value 20050.190445
## converged
## # weights: 25
## initial value 22538.729893
## iter 10 value 20049.790545
## final value 20048.656212
## converged
## # weights: 41
## initial value 21463.908000
## iter 10 value 20049.667022
## iter 20 value 20047.996760
## iter 20 value 20047.996637
## iter 20 value 20047.996619
## final value 20047.996619
## converged
## # weights: 9
## initial value 23286.741874
## iter 10 value 20054.217353
## iter 20 value 20044.790057
## iter 20 value 20044.790013
## final value 20044.790013
## converged
## # weights: 25
## initial value 23630.552401
## iter 10 value 20059.119151
## iter 20 value 20044.846571
## final value 20044.698498
## converged
## # weights: 41
## initial value 23238.009075
## iter 10 value 20062.896591
## iter 20 value 20044.890122
## final value 20044.690301
## converged
## # weights: 9
## initial value 23576.887731
## final value 20046.605200
## converged
## # weights: 25
## initial value 24271.317066
## final value 20046.605200
```

```
## converged
## # weights: 41
## initial value 23255.371218
## final value 20046.605200
## converged
## # weights: 9
## initial value 22904.223802
## iter 10 value 20054.852400
## final value 20052.115627
## converged
## # weights: 25
## initial value 22533.502512
## iter 10 value 20051.782114
## final value 20050.581254
## converged
## # weights: 41
## initial value 21984.070457
## iter 10 value 20063.279108
## iter 20 value 20049.922078
## iter 20 value 20049.921898
## iter 20 value 20049.921820
## final value 20049.921820
## converged
## # weights: 9
## initial value 23131.020765
## iter 10 value 20056.875026
## iter 20 value 20046.723603
## iter 20 value 20046.723556
## final value 20046.723556
## converged
## # weights: 25
## initial value 22254.973894
## iter 10 value 20059.735471
## iter 20 value 20046.756582
## final value 20046.620435
## converged
## # weights: 41
## initial value 22138.639884
## iter 10 value 20063.522066
## iter 20 value 20046.800238
## final value 20046.617096
## converged
## # weights: 9
## initial value 23264.566251
## final value 20050.065700
## converged
## # weights: 25
## initial value 23242.459223
## final value 20050.065700
## converged
## # weights: 41
## initial value 22607.059335
```

```
## final value 20050.065700
## converged
## # weights: 9
## initial value 23257.241895
## iter 10 value 20056.103226
## final value 20055.576331
## converged
## # weights: 25
## initial value 22945.297487
## iter 10 value 20054.887746
## final value 20054.041954
## converged
## # weights: 41
## initial value 21496.161202
## iter 10 value 20053.910713
## final value 20053.382374
## converged
## # weights: 9
## initial value 22650.245532
## iter 10 value 20060.164684
## iter 20 value 20050.182133
## iter 20 value 20050.182087
## final value 20050.182087
## converged
## # weights: 25
## initial value 22582.779050
## iter 10 value 20067.279256
## iter 20 value 20050.264159
## final value 20050.077235
## converged
## # weights: 41
## initial value 22192.453783
## iter 10 value 20066.992640
## iter 20 value 20050.260854
## final value 20050.074957
## converged
## # weights: 9
## initial value 22911.570898
## final value 20042.467600
## converged
## # weights: 25
## initial value 23736.978282
## final value 20042.467600
## converged
## # weights: 41
## initial value 22248.564343
## final value 20042.467600
## converged
## # weights: 9
## initial value 22416.906247
## iter 10 value 20048.477733
## final value 20047.977835
```

```
## converged
## # weights: 25
## initial value 21593.223664
## iter 10 value 20047.288321
## final value 20046.443451
## converged
## # weights: 41
## initial value 23380.048326
## iter 10 value 20050.282157
## iter 20 value 20045.785373
## final value 20045.783941
## converged
## # weights: 9
## initial value 23280.056249
## iter 10 value 20051.716245
## iter 20 value 20042.574230
## iter 20 value 20042.574187
## final value 20042.574187
## converged
## # weights: 25
## initial value 23396.457384
## iter 10 value 20054.448203
## iter 20 value 20042.605727
## final value 20042.484174
## converged
## # weights: 41
## initial value 21668.431280
## iter 10 value 20057.394185
## iter 20 value 20042.639692
## final value 20042.477901
## converged
## # weights: 9
## initial value 22445.641836
## final value 20062.464500
## converged
## # weights: 25
## initial value 22509.511327
## final value 20062.464500
## converged
## # weights: 41
## initial value 21650.389613
## final value 20062.464500
## converged
## # weights: 9
## initial value 22688.182907
## iter 10 value 20068.711872
## final value 20067.977118
## converged
## # weights: 25
## initial value 23627.966756
## iter 10 value 20068.186686
## iter 20 value 20066.445363
```

```
## final value 20066.442315
## converged
## # weights: 41
## initial value 22656.200384
## iter 10 value 20070.464636
## iter 20 value 20065.782671
## iter 20 value 20065.782511
## iter 20 value 20065.782463
## final value 20065.782463
## converged
## # weights: 9
## initial value 22098.300467
## iter 10 value 20071.830568
## iter 20 value 20062.572483
## iter 20 value 20062.572440
## final value 20062.572440
## converged
## # weights: 25
## initial value 23005.510827
## iter 10 value 20079.926456
## iter 20 value 20062.665823
## final value 20062.482656
## converged
## # weights: 41
## initial value 20824.505724
## iter 10 value 20067.782927
## iter 20 value 20062.525817
## final value 20062.473106
## converged
## # weights: 9
## initial value 22816.396493
## final value 20006.167600
## converged
## # weights: 25
## initial value 23619.502464
## final value 20006.167600
## converged
## # weights: 41
## initial value 22454.928967
## final value 20006.167600
## converged
## # weights: 9
## initial value 23668.667526
## iter 10 value 20012.687846
## final value 20011.676703
## converged
## # weights: 25
## initial value 22251.396060
## iter 10 value 20016.518322
## iter 20 value 20010.253441
## final value 20010.142745
## converged
```

```
## # weights: 41
## initial value 23797.719873
## iter 10 value 20018.608256
## iter 20 value 20009.484007
## final value 20009.483390
## converged
## # weights: 9
## initial value 22020.044731
## iter 10 value 20015.134554
## iter 20 value 20006.270982
## iter 20 value 20006.270941
## final value 20006.270941
## converged
## # weights: 25
## initial value 22841.455907
## iter 10 value 20019.508105
## iter 20 value 20006.321406
## final value 20006.179904
## converged
## # weights: 41
## initial value 22277.331067
## iter 10 value 20025.323152
## iter 20 value 20006.388448
## final value 20006.178194
## converged
## # weights: 9
## initial value 22271.406487
## final value 20057.069200
## converged
## # weights: 25
## initial value 22442.365800
## final value 20057.069200
## converged
## # weights: 41
## initial value 23720.587852
## final value 20057.069200
## converged
## # weights: 9
## initial value 22221.096560
## iter 10 value 20065.791488
## final value 20062.580234
## converged
## # weights: 25
## initial value 23569.626194
## iter 10 value 20062.400283
## final value 20061.045669
## converged
## # weights: 41
## initial value 23166.795797
## iter 10 value 20079.896903
## iter 20 value 20060.388733
## final value 20060.386062
```



```
## converged
## # weights: 9
## initial value 22168.889580
## iter 10 value 20067.728476
## iter 20 value 20057.192093
## iter 20 value 20057.192044
## final value 20057.192044
## converged
## # weights: 25
## initial value 23012.027717
## iter 10 value 20072.476818
## iter 20 value 20057.246838
## final value 20057.084950
## converged
## # weights: 41
## initial value 22990.523475
## iter 10 value 20076.266589
## iter 20 value 20057.290531
## final value 20057.079486
## converged
## # weights: 9
## initial value 23173.385342
## final value 19999.489700
## converged
## # weights: 25
## initial value 22950.363699
## final value 19999.489700
## converged
## # weights: 41
## initial value 23020.313356
## final value 19999.489700
## converged
## # weights: 9
## initial value 22263.972073
## iter 10 value 20007.215283
## final value 20004.998643
## converged
## # weights: 25
## initial value 22029.348282
## iter 10 value 20004.059269
## iter 20 value 20003.464844
## iter 20 value 20003.464743
## iter 20 value 20003.464740
## final value 20003.464740
## converged
## # weights: 41
## initial value 22781.346510
## iter 10 value 20020.165258
## iter 20 value 20002.809664
## final value 20002.805412
## converged
## # weights: 9
```

```
## initial value 21750.158060
## iter 10 value 20007.626756
## iter 20 value 19999.583514
## iter 20 value 19999.583476
## final value 19999.583476
## converged
## # weights: 25
## initial value 22036.826879
## iter 10 value 20012.364802
## iter 20 value 19999.638140
## final value 19999.503769
## converged
## # weights: 41
## initial value 22995.729389
## iter 10 value 20017.202409
## iter 20 value 19999.693914
## final value 19999.499576
## converged
## # weights: 9
## initial value 22501.359567
## final value 19999.170100
## converged
## # weights: 25
## initial value 23361.566309
## final value 19999.170100
## converged
## # weights: 41
## initial value 21066.368450
## final value 19999.170100
## converged
## # weights: 9
## initial value 22137.464293
## iter 10 value 20005.958309
## final value 20004.679048
## converged
## # weights: 25
## initial value 24009.716514
## iter 10 value 20005.030262
## final value 20003.145247
## converged
## # weights: 41
## initial value 23656.171553
## iter 10 value 20018.939820
## iter 20 value 20002.491289
## final value 20002.485825
## converged
## # weights: 9
## initial value 22007.059149
## iter 10 value 20008.374018
## iter 20 value 19999.276214
## iter 20 value 19999.276172
## final value 19999.276172
```

```
## converged
## # weights: 25
## initial value 21949.102466
## iter 10 value 20010.614045
## iter 20 value 19999.302040
## final value 19999.184001
## converged
## # weights: 41
## initial value 23339.327726
## iter 10 value 20017.861704
## iter 20 value 19999.385600
## final value 19999.182360
## converged
## # weights: 9
## initial value 23208.916469
## final value 20031.585700
## converged
## # weights: 25
## initial value 23771.799147
## final value 20031.585700
## converged
## # weights: 41
## initial value 22841.192343
## final value 20031.585700
## converged
## # weights: 9
## initial value 22737.935715
## iter 10 value 20037.116773
## final value 20037.095534
## converged
## # weights: 25
## initial value 22181.277132
## iter 10 value 20036.738455
## final value 20035.561341
## converged
## # weights: 41
## initial value 22045.340209
## iter 10 value 20036.053728
## final value 20034.901865
## converged
## # weights: 9
## initial value 23236.711968
## iter 10 value 20041.492653
## iter 20 value 20031.699919
## iter 20 value 20031.699874
## final value 20031.699874
## converged
## # weights: 25
## initial value 23261.212228
## iter 10 value 20047.224089
## iter 20 value 20031.765998
## final value 20031.602310
```

```
## converged
## # weights: 41
## initial value 23592.265464
## iter 10 value 20049.763544
## iter 20 value 20031.795276
## final value 20031.599987
## converged
## # weights: 9
## initial value 22317.426134
## final value 20031.021200
## converged
## # weights: 25
## initial value 21936.583960
## final value 20031.021200
## converged
## # weights: 41
## initial value 24256.603731
## final value 20031.021200
## converged
## # weights: 9
## initial value 22555.302329
## iter 10 value 20038.870543
## final value 20036.531014
## converged
## # weights: 25
## initial value 22953.987626
## iter 10 value 20036.276732
## final value 20034.996896
## converged
## # weights: 41
## initial value 23456.716516
## iter 10 value 20047.505813
## iter 20 value 20034.353012
## final value 20034.337437
## converged
## # weights: 9
## initial value 22424.511335
## iter 10 value 20040.473392
## iter 20 value 20031.130176
## iter 20 value 20031.130133
## final value 20031.130133
## converged
## # weights: 25
## initial value 23012.698673
## iter 10 value 20046.986826
## iter 20 value 20031.205271
## final value 20031.034838
## converged
## # weights: 41
## initial value 23349.331437
## iter 10 value 20047.980070
## iter 20 value 20031.216722
```

```
## final value 20031.031484
## converged
## # weights: 9
## initial value 22447.793977
## final value 20038.070000
## converged
## # weights: 25
## initial value 23533.357999
## final value 20038.070000
## converged
## # weights: 41
## initial value 21935.363125
## final value 20038.070000
## converged
## # weights: 9
## initial value 23376.906571
## iter 10 value 20045.306500
## iter 20 value 20043.580104
## iter 20 value 20043.580068
## final value 20043.580068
## converged
## # weights: 25
## initial value 22535.171354
## iter 10 value 20042.885862
## final value 20042.045762
## converged
## # weights: 41
## initial value 21168.588423
## iter 10 value 20042.244969
## final value 20041.386281
## converged
## # weights: 9
## initial value 23421.388787
## iter 10 value 20047.224137
## iter 20 value 20038.175540
## iter 20 value 20038.175498
## final value 20038.175498
## converged
## # weights: 25
## initial value 22210.899572
## iter 10 value 20052.601780
## iter 20 value 20038.237540
## final value 20038.082692
## converged
## # weights: 41
## initial value 23001.045186
## iter 10 value 20060.038337
## iter 20 value 20038.323278
## final value 20038.080732
## converged
## # weights: 9
## initial value 22861.412680
```

```
## final value 19994.114000
## converged
## # weights: 25
## initial value 23335.730021
## final value 19994.114000
## converged
## # weights: 41
## initial value 21333.890262
## final value 19994.114000
## converged
## # weights: 9
## initial value 22201.444060
## iter 10 value 20001.133025
## final value 19999.622837
## converged
## # weights: 25
## initial value 23751.005662
## iter 10 value 20005.820091
## iter 20 value 19998.089595
## final value 19998.088993
## converged
## # weights: 41
## initial value 22008.837189
## iter 10 value 19999.076037
## final value 19997.429886
## converged
## # weights: 9
## initial value 21552.455000
## iter 10 value 20001.017598
## iter 20 value 19994.193593
## iter 20 value 19994.193561
## final value 19994.193561
## converged
## # weights: 25
## initial value 22094.433661
## iter 10 value 20006.965115
## iter 20 value 19994.262163
## final value 19994.127544
## converged
## # weights: 41
## initial value 22496.982029
## iter 10 value 20011.720195
## iter 20 value 19994.316986
## final value 19994.124956
## converged
## # weights: 9
## initial value 21879.426784
## final value 20006.318500
## converged
## # weights: 25
## initial value 21895.127202
## final value 20006.318500
```

```
## converged
## # weights: 41
## initial value 22315.742639
## final value 20006.318500
## converged
## # weights: 9
## initial value 22858.582571
## iter 10 value 20011.951467
## final value 20011.827670
## converged
## # weights: 25
## initial value 22100.480164
## iter 10 value 20011.734486
## iter 20 value 20010.294198
## final value 20010.293621
## converged
## # weights: 41
## initial value 24047.065652
## iter 10 value 20011.028443
## iter 20 value 20009.634360
## iter 20 value 20009.634287
## iter 20 value 20009.634253
## final value 20009.634253
## converged
## # weights: 9
## initial value 21911.895148
## iter 10 value 20014.677130
## iter 20 value 20006.414868
## iter 20 value 20006.414830
## final value 20006.414830
## converged
## # weights: 25
## initial value 23245.169818
## iter 10 value 20021.422359
## iter 20 value 20006.492636
## final value 20006.336680
## converged
## # weights: 41
## initial value 22249.315061
## iter 10 value 20023.899543
## iter 20 value 20006.521196
## final value 20006.329457
## converged
## # weights: 9
## initial value 21578.585499
## final value 20046.523700
## converged
## # weights: 25
## initial value 22390.316191
## final value 20046.523700
## converged
## # weights: 41
```

```
## initial value 23667.687594
## final value 20046.523700
## converged
## # weights: 9
## initial value 23162.413307
## iter 10 value 20053.454952
## final value 20052.034167
## converged
## # weights: 25
## initial value 23440.731833
## iter 10 value 20059.901127
## iter 20 value 20050.507185
## final value 20050.499768
## converged
## # weights: 41
## initial value 24587.474759
## iter 10 value 20061.801669
## iter 20 value 20049.850461
## final value 20049.840296
## converged
## # weights: 9
## initial value 22987.113583
## iter 10 value 20057.366665
## iter 20 value 20046.648711
## iter 20 value 20046.648661
## final value 20046.648661
## converged
## # weights: 25
## initial value 22933.977119
## iter 10 value 20061.806921
## iter 20 value 20046.699904
## final value 20046.535302
## converged
## # weights: 41
## initial value 22294.500266
## iter 10 value 20065.358608
## iter 20 value 20046.740852
## final value 20046.532560
## converged
## # weights: 9
## initial value 22119.250564
## final value 20002.330100
## converged
## # weights: 25
## initial value 23447.332129
## final value 20002.330100
## converged
## # weights: 41
## initial value 23703.127947
## final value 20002.330100
## converged
## # weights: 9
```



```
## initial value 22776.657267
## iter 10 value 20009.724386
## final value 20007.839094
## converged
## # weights: 25
## initial value 23367.367470
## iter 10 value 20006.542025
## iter 20 value 20006.306317
## final value 20006.305148
## converged
## # weights: 41
## initial value 22876.635643
## iter 10 value 20007.078952
## iter 20 value 20005.645908
## iter 20 value 20005.645825
## iter 20 value 20005.645815
## final value 20005.645815
## converged
## # weights: 9
## initial value 22712.320616
## iter 10 value 20012.342700
## iter 20 value 20002.445537
## iter 20 value 20002.445491
## final value 20002.445491
## converged
## # weights: 25
## initial value 21738.383305
## iter 10 value 20012.672738
## iter 20 value 20002.449342
## final value 20002.341794
## converged
## # weights: 41
## initial value 22187.667524
## iter 10 value 20019.549757
## iter 20 value 20002.528629
## final value 20002.341022
## converged
## # weights: 9
## initial value 21851.375623
## final value 20020.005200
## converged
## # weights: 25
## initial value 22624.016659
## final value 20020.005200
## converged
## # weights: 41
## initial value 23172.589468
## final value 20020.005200
## converged
## # weights: 9
## initial value 23083.735845
## iter 10 value 20026.529032
```

```
## final value 20025.514673
## converged
## # weights: 25
## initial value 22549.106546
## iter 10 value 20024.929747
## final value 20023.980636
## converged
## # weights: 41
## initial value 21484.095369
## iter 10 value 20035.513909
## iter 20 value 20023.336695
## final value 20023.321269
## converged
## # weights: 9
## initial value 22403.016332
## iter 10 value 20030.332151
## iter 20 value 20020.124262
## iter 20 value 20020.124214
## final value 20020.124214
## converged
## # weights: 25
## initial value 23600.808294
## iter 10 value 20031.489837
## iter 20 value 20020.137609
## final value 20020.021191
## converged
## # weights: 41
## initial value 23167.876094
## iter 10 value 20039.082560
## iter 20 value 20020.225147
## final value 20020.016666
## converged
## # weights: 9
## initial value 23474.694924
## final value 20022.593200
## converged
## # weights: 25
## initial value 21506.649000
## final value 20022.593200
## converged
## # weights: 41
## initial value 24399.884308
## final value 20022.593200
## converged
## # weights: 9
## initial value 23826.707641
## iter 10 value 20028.561597
## final value 20028.102745
## converged
## # weights: 25
## initial value 22799.285408
## iter 10 value 20027.669442
```

```
## final value 20026.568696
## converged
## # weights: 41
## initial value 22111.907587
## iter 10 value 20031.185577
## final value 20025.909390
## converged
## # weights: 9
## initial value 21847.550312
## iter 10 value 20030.791663
## iter 20 value 20022.687722
## iter 20 value 20022.687684
## final value 20022.687684
## converged
## # weights: 25
## initial value 22361.098871
## iter 10 value 20037.350455
## iter 20 value 20022.763340
## final value 20022.606679
## converged
## # weights: 41
## initial value 22541.090578
## iter 10 value 20043.521644
## iter 20 value 20022.834489
## final value 20022.603754
## converged
## # weights: 9
## initial value 22451.865921
## final value 20028.713200
## converged
## # weights: 25
## initial value 22417.642367
## final value 20028.713200
## converged
## # weights: 41
## initial value 22140.728225
## final value 20028.713200
## converged
## # weights: 9
## initial value 22680.955534
## iter 10 value 20051.030353
## iter 20 value 20034.231861
## final value 20034.222979
## converged
## # weights: 25
## initial value 22365.767509
## iter 10 value 20033.227154
## final value 20032.688754
## converged
## # weights: 41
## initial value 23513.330341
## iter 10 value 20041.773715
```

```
## iter 20 value 20032.030282
## final value 20032.029412
## converged
## # weights: 9
## initial value 23916.508025
## iter 10 value 20037.511236
## iter 20 value 20028.814634
## iter 20 value 20028.814594
## final value 20028.814594
## converged
## # weights: 25
## initial value 22520.070448
## iter 10 value 20042.825590
## iter 20 value 20028.875905
## final value 20028.725943
## converged
## # weights: 41
## initial value 23403.601172
## iter 10 value 20046.711465
## iter 20 value 20028.920706
## final value 20028.723543
## converged
## # weights: 9
## initial value 23585.506378
## final value 19949.321200
## converged
## # weights: 25
## initial value 22462.924553
## final value 19949.321200
## converged
## # weights: 41
## initial value 23471.548712
## final value 19949.321200
## converged
## # weights: 9
## initial value 22219.636420
## iter 10 value 19956.953960
## final value 19954.829272
## converged
## # weights: 25
## initial value 22132.235261
## iter 10 value 19954.648706
## final value 19953.295824
## converged
## # weights: 41
## initial value 22959.271216
## iter 10 value 19965.920841
## iter 20 value 19952.640674
## final value 19952.636527
## converged
## # weights: 9
## initial value 22718.745673
```

```
## iter 10 value 19959.089140
## iter 20 value 19949.433817
## iter 20 value 19949.433772
## final value 19949.433772
## converged
## # weights: 25
## initial value 22760.657444
## iter 10 value 19965.339743
## iter 20 value 19949.505881
## final value 19949.341024
## converged
## # weights: 41
## initial value 23163.574065
## iter 10 value 19967.905801
## iter 20 value 19949.535466
## final value 19949.335271
## converged
## # weights: 9
## initial value 22396.827041
## final value 20028.595700
## converged
## # weights: 25
## initial value 22848.884339
## final value 20028.595700
## converged
## # weights: 41
## initial value 22472.636177
## final value 20028.595700
## converged
## # weights: 9
## initial value 21662.154394
## iter 10 value 20034.508561
## final value 20034.105431
## converged
## # weights: 25
## initial value 22874.164003
## iter 10 value 20033.441711
## final value 20032.571249
## converged
## # weights: 41
## initial value 22871.053370
## iter 10 value 20045.601048
## iter 20 value 20031.912141
## final value 20031.911829
## converged
## # weights: 9
## initial value 22125.669611
## iter 10 value 20038.049949
## iter 20 value 20028.704700
## iter 20 value 20028.704656
## final value 20028.704656
## converged
```

```
## # weights: 25
## initial value 22979.200513
## iter 10 value 20044.526383
## iter 20 value 20028.779368
## final value 20028.612375
## converged
## # weights: 41
## initial value 23649.280358
## iter 10 value 20044.728873
## iter 20 value 20028.781703
## final value 20028.607429
## converged
## # weights: 9
## initial value 22288.469449
## final value 20011.474000
## converged
## # weights: 25
## initial value 22329.805885
## final value 20011.474000
## converged
## # weights: 41
## initial value 23530.833996
## final value 20011.474000
## converged
## # weights: 9
## initial value 21899.047798
## iter 10 value 20017.976805
## final value 20016.983193
## converged
## # weights: 25
## initial value 22299.320672
## iter 10 value 20017.012262
## iter 20 value 20015.450031
## final value 20015.449162
## converged
## # weights: 41
## initial value 23499.042989
## iter 10 value 20025.221146
## iter 20 value 20014.790288
## final value 20014.789830
## converged
## # weights: 9
## initial value 23245.852813
## iter 10 value 20022.852965
## iter 20 value 20011.605191
## iter 20 value 20011.605138
## final value 20011.605138
## converged
## # weights: 25
## initial value 21932.874135
## iter 10 value 20023.618985
## iter 20 value 20011.614022
```

```
## final value 20011.485818
## converged
## # weights: 41
## initial value 23634.917920
## iter 10 value 20025.323975
## iter 20 value 20011.633679
## final value 20011.487097
## converged
## # weights: 9
## initial value 22544.489125
## final value 20001.233200
## converged
## # weights: 25
## initial value 22527.635709
## final value 20001.233200
## converged
## # weights: 41
## initial value 21677.209741
## final value 20001.233200
## converged
## # weights: 9
## initial value 22743.776517
## iter 10 value 20008.098610
## final value 20006.742158
## converged
## # weights: 25
## initial value 23713.723056
## iter 10 value 20007.930651
## iter 20 value 20005.208836
## final value 20005.208293
## converged
## # weights: 41
## initial value 21944.728502
## iter 10 value 20004.951204
## final value 20004.548868
## converged
## # weights: 9
## initial value 22253.109573
## iter 10 value 20010.355412
## iter 20 value 20001.338372
## iter 20 value 20001.338330
## final value 20001.338330
## converged
## # weights: 25
## initial value 23108.643375
## iter 10 value 20016.736628
## iter 20 value 20001.411942
## final value 20001.246270
## converged
## # weights: 41
## initial value 23304.486283
## iter 10 value 20020.860012
```

```
## iter 20 value 20001.459482
## final value 20001.244058
## converged
## # weights: 9
## initial value 22256.169043
## final value 19993.614500
## converged
## # weights: 25
## initial value 23063.889106
## final value 19993.614500
## converged
## # weights: 41
## initial value 23558.269728
## final value 19993.614500
## converged
## # weights: 9
## initial value 23081.400249
## iter 10 value 20000.146771
## final value 19999.123547
## converged
## # weights: 25
## initial value 21894.970631
## iter 10 value 19999.073812
## iter 20 value 19997.589878
## final value 19997.589453
## converged
## # weights: 41
## initial value 21314.045671
## iter 10 value 19997.870914
## final value 19996.930237
## converged
## # weights: 9
## initial value 22654.376976
## iter 10 value 20003.513144
## iter 20 value 19993.728624
## iter 20 value 19993.728578
## final value 19993.728578
## converged
## # weights: 25
## initial value 22102.858650
## iter 10 value 20006.116399
## iter 20 value 19993.758637
## final value 19993.627601
## converged
## # weights: 41
## initial value 22470.158991
## iter 10 value 20012.153443
## iter 20 value 19993.828239
## final value 19993.624885
## converged
## # weights: 9
## initial value 21767.285884
```



```
## final value 19957.697200
## converged
## # weights: 25
## initial value 22504.596833
## final value 19957.697200
## converged
## # weights: 41
## initial value 21526.019925
## final value 19957.697200
## converged
## # weights: 9
## initial value 23555.527484
## iter 10 value 19963.528931
## final value 19963.205140
## converged
## # weights: 25
## initial value 23083.106610
## iter 10 value 19966.218577
## iter 20 value 19961.676842
## final value 19961.671481
## converged
## # weights: 41
## initial value 22715.340064
## iter 10 value 19961.844477
## final value 19961.012327
## converged
## # weights: 9
## initial value 22471.585820
## iter 10 value 19967.093326
## iter 20 value 19957.805530
## iter 20 value 19957.805487
## final value 19957.805487
## converged
## # weights: 25
## initial value 21943.507487
## iter 10 value 19970.519213
## iter 20 value 19957.845028
## final value 19957.710040
## converged
## # weights: 41
## initial value 23624.490188
## iter 10 value 19975.581778
## iter 20 value 19957.903395
## final value 19957.708357
## converged
## # weights: 9
## initial value 22049.755312
## final value 20032.699700
## converged
## # weights: 25
## initial value 24381.164234
## final value 20032.699700
```

```
## converged
## # weights: 41
## initial value 21738.604454
## final value 20032.699700
## converged
## # weights: 9
## initial value 22138.708044
## iter 10 value 20039.271215
## final value 20038.209574
## converged
## # weights: 25
## initial value 22314.400010
## iter 10 value 20037.076417
## final value 20036.675349
## converged
## # weights: 41
## initial value 22565.508033
## iter 10 value 20040.933570
## iter 20 value 20036.016890
## final value 20036.015902
## converged
## # weights: 9
## initial value 22709.471250
## iter 10 value 20042.893517
## iter 20 value 20032.817227
## iter 20 value 20032.817180
## final value 20032.817180
## converged
## # weights: 25
## initial value 23409.365654
## iter 10 value 20045.730224
## iter 20 value 20032.849932
## final value 20032.718553
## converged
## # weights: 41
## initial value 23744.780242
## iter 10 value 20048.609675
## iter 20 value 20032.883130
## final value 20032.713037
## converged
## # weights: 9
## initial value 22389.126479
## final value 20047.488500
## converged
## # weights: 25
## initial value 22507.653356
## final value 20047.488500
## converged
## # weights: 41
## initial value 22504.828937
## final value 20047.488500
## converged
```

```
## # weights: 9
## initial value 22763.691153
## iter 10 value 20053.120701
## final value 20052.998976
## converged
## # weights: 25
## initial value 21809.930689
## iter 10 value 20052.077917
## final value 20051.464632
## converged
## # weights: 41
## initial value 23121.136954
## iter 10 value 20056.660411
## iter 20 value 20050.823550
## final value 20050.805072
## converged
## # weights: 9
## initial value 21836.913520
## iter 10 value 20055.478468
## iter 20 value 20047.580618
## iter 20 value 20047.580581
## final value 20047.580581
## converged
## # weights: 25
## initial value 22648.727938
## iter 10 value 20062.834426
## iter 20 value 20047.665426
## final value 20047.504557
## converged
## # weights: 41
## initial value 23737.169420
## iter 10 value 20062.166776
## iter 20 value 20047.657729
## final value 20047.499939
## converged
## # weights: 9
## initial value 23536.019460
## final value 20051.129200
## converged
## # weights: 25
## initial value 22470.310978
## final value 20051.129200
## converged
## # weights: 41
## initial value 21496.145154
## final value 20051.129200
## converged
## # weights: 9
## initial value 23717.038940
## iter 10 value 20067.433355
## iter 20 value 20056.640577
## final value 20056.639843
```

```
## converged
## # weights: 25
## initial value 21976.328503
## iter 10 value 20060.335756
## iter 20 value 20055.105808
## final value 20055.105427
## converged
## # weights: 41
## initial value 23509.318853
## iter 10 value 20060.969062
## iter 20 value 20054.447238
## final value 20054.445853
## converged
## # weights: 9
## initial value 23208.288695
## iter 10 value 20060.749807
## iter 20 value 20051.240118
## iter 20 value 20051.240074
## final value 20051.240074
## converged
## # weights: 25
## initial value 21755.547718
## iter 10 value 20061.741464
## iter 20 value 20051.251551
## final value 20051.140898
## converged
## # weights: 41
## initial value 24201.271933
## iter 10 value 20062.105184
## iter 20 value 20051.255744
## final value 20051.143264
## converged
## # weights: 9
## initial value 22602.486382
## final value 20008.262000
## converged
## # weights: 25
## initial value 22537.453361
## final value 20008.262000
## converged
## # weights: 41
## initial value 23116.462199
## final value 20008.262000
## converged
## # weights: 9
## initial value 22933.882031
## iter 10 value 20014.585068
## final value 20013.771146
## converged
## # weights: 25
## initial value 21852.188289
## iter 10 value 20013.000252
```

```
## final value 20012.237227
## converged
## # weights: 41
## initial value 23561.646151
## iter 10 value 20012.516670
## final value 20011.577802
## converged
## # weights: 9
## initial value 21833.572155
## iter 10 value 20017.272586
## iter 20 value 20008.365885
## iter 20 value 20008.365843
## final value 20008.365843
## converged
## # weights: 25
## initial value 22544.648532
## iter 10 value 20023.644389
## iter 20 value 20008.439347
## final value 20008.276825
## converged
## # weights: 41
## initial value 22879.367899
## iter 10 value 20028.423172
## iter 20 value 20008.494442
## final value 20008.271328
## converged
## # weights: 9
## initial value 22227.892792
## final value 20032.920100
## converged
## # weights: 25
## initial value 22449.862337
## final value 20032.920100
## converged
## # weights: 41
## initial value 22703.824627
## final value 20032.920100
## converged
## # weights: 9
## initial value 22366.220475
## iter 10 value 20040.388882
## final value 20038.429975
## converged
## # weights: 25
## initial value 22255.070791
## iter 10 value 20039.125014
## iter 20 value 20036.895986
## iter 20 value 20036.895820
## iter 20 value 20036.895814
## final value 20036.895814
## converged
## # weights: 41
```

```
## initial value 22237.578790
## iter 10 value 20044.940533
## iter 20 value 20036.238403
## final value 20036.236322
## converged
## # weights: 9
## initial value 22872.649664
## iter 10 value 20042.551964
## iter 20 value 20033.031148
## iter 20 value 20033.031103
## final value 20033.031103
## converged
## # weights: 25
## initial value 21569.108425
## iter 10 value 20040.939435
## iter 20 value 20033.012557
## final value 20032.931307
## converged
## # weights: 41
## initial value 22362.180343
## iter 10 value 20049.454600
## iter 20 value 20033.110730
## final value 20032.929361
## converged
## # weights: 9
## initial value 22445.550803
## final value 19990.238500
## converged
## # weights: 25
## initial value 22569.422489
## final value 19990.238500
## converged
## # weights: 41
## initial value 21687.645984
## final value 19990.238500
## converged
## # weights: 9
## initial value 22244.046467
## iter 10 value 20000.456201
## final value 19995.747172
## converged
## # weights: 25
## initial value 23299.531290
## iter 10 value 19995.022672
## final value 19994.213323
## converged
## # weights: 41
## initial value 23486.592571
## iter 10 value 19995.819991
## iter 20 value 19993.554259
## iter 20 value 19993.554091
## iter 20 value 19993.554062
```

```
## final value 19993.554062
## converged
## # weights: 9
## initial value 23288.704420
## iter 10 value 19999.708656
## iter 20 value 19990.347683
## iter 20 value 19990.347640
## final value 19990.347640
## converged
## # weights: 25
## initial value 21328.084322
## iter 10 value 19999.000500
## iter 20 value 19990.339519
## final value 19990.249745
## converged
## # weights: 41
## initial value 22614.305271
## iter 10 value 20008.554966
## iter 20 value 19990.449674
## final value 19990.247829
## converged
## # weights: 9
## initial value 22240.044746
## final value 20019.345700
## converged
## # weights: 25
## initial value 22412.038461
## final value 20019.345700
## converged
## # weights: 41
## initial value 22100.278742
## final value 20019.345700
## converged
## # weights: 9
## initial value 21986.182617
## iter 10 value 20026.566361
## final value 20024.855154
## converged
## # weights: 25
## initial value 22755.669797
## iter 10 value 20026.097101
## iter 20 value 20023.355899
## final value 20023.321111
## converged
## # weights: 41
## initial value 21452.254439
## iter 10 value 20023.367736
## final value 20022.661754
## converged
## # weights: 9
## initial value 22966.071104
## iter 10 value 20030.368953
```

```
## iter 20 value 20019.472789
## iter 20 value 20019.472739
## final value 20019.472739
## converged
## # weights: 25
## initial value 21592.717107
## iter 10 value 20029.051004
## iter 20 value 20019.457595
## final value 20019.357528
## converged
## # weights: 41
## initial value 22975.613037
## iter 10 value 20036.413839
## iter 20 value 20019.542482
## final value 20019.355974
## converged
## # weights: 9
## initial value 22911.755318
## final value 20056.041200
## converged
## # weights: 25
## initial value 23592.761520
## final value 20056.041200
## converged
## # weights: 41
## initial value 23353.301110
## final value 20056.041200
## converged
## # weights: 9
## initial value 22477.670057
## iter 10 value 20061.690665
## final value 20061.552297
## converged
## # weights: 25
## initial value 23345.445690
## iter 10 value 20061.854824
## iter 20 value 20060.017780
## iter 20 value 20060.017742
## iter 20 value 20060.017729
## final value 20060.017729
## converged
## # weights: 41
## initial value 22204.318809
## iter 10 value 20059.806065
## final value 20059.358134
## converged
## # weights: 9
## initial value 23865.059814
## iter 10 value 20065.010348
## iter 20 value 20056.144607
## iter 20 value 20056.144566
## final value 20056.144566
```



```
## converged
## # weights: 25
## initial value 23087.689453
## iter 10 value 20072.524501
## iter 20 value 20056.231240
## final value 20056.056720
## converged
## # weights: 41
## initial value 23734.975163
## iter 10 value 20070.920129
## iter 20 value 20056.212742
## final value 20056.052796
## converged
## # weights: 9
## initial value 22484.623917
## final value 20033.576500
## converged
## # weights: 25
## initial value 22849.596501
## final value 20033.576500
## converged
## # weights: 41
## initial value 22733.614851
## final value 20033.576500
## converged
## # weights: 9
## initial value 22830.568979
## iter 10 value 20044.524644
## final value 20039.086364
## converged
## # weights: 25
## initial value 21582.852784
## iter 10 value 20040.645351
## iter 20 value 20037.552451
## final value 20037.552151
## converged
## # weights: 41
## initial value 23579.337552
## iter 10 value 20037.699721
## final value 20036.892677
## converged
## # weights: 9
## initial value 22326.032884
## iter 10 value 20043.518789
## iter 20 value 20033.691127
## iter 20 value 20033.691081
## final value 20033.691081
## converged
## # weights: 25
## initial value 22677.384929
## iter 10 value 20048.201018
## iter 20 value 20033.745109
```

```
## final value 20033.589662
## converged
## # weights: 41
## initial value 21588.411004
## iter 10 value 20046.074425
## iter 20 value 20033.720591
## final value 20033.586321
## converged
## # weights: 9
## initial value 22290.419862
## final value 20045.781200
## converged
## # weights: 25
## initial value 22563.768310
## final value 20045.781200
## converged
## # weights: 41
## initial value 22984.839784
## final value 20045.781200
## converged
## # weights: 9
## initial value 23753.407445
## iter 10 value 20051.668936
## final value 20051.291570
## converged
## # weights: 25
## initial value 22603.661207
## iter 10 value 20050.552164
## iter 20 value 20049.757618
## final value 20049.757183
## converged
## # weights: 41
## initial value 23581.086502
## iter 10 value 20056.853054
## iter 20 value 20049.103623
## final value 20049.097676
## converged
## # weights: 9
## initial value 21958.705294
## iter 10 value 20055.305595
## iter 20 value 20045.891009
## iter 20 value 20045.890965
## final value 20045.890965
## converged
## # weights: 25
## initial value 22189.300952
## iter 10 value 20059.563543
## iter 20 value 20045.940100
## final value 20045.795580
## converged
## # weights: 41
## initial value 23363.549291
```

```
## iter 10 value 20063.276151
## iter 20 value 20045.982903
## final value 20045.791809
## converged
## # weights: 9
## initial value 22497.150732
## final value 20032.699700
## converged
## # weights: 25
## initial value 22645.290249
## final value 20032.699700
## converged
## # weights: 41
## initial value 21867.298398
## final value 20032.699700
## converged
## # weights: 9
## initial value 23755.523080
## iter 10 value 20039.739593
## final value 20038.209563
## converged
## # weights: 25
## initial value 23059.601437
## iter 10 value 20037.124130
## final value 20036.675366
## converged
## # weights: 41
## initial value 24775.777704
## iter 10 value 20044.414241
## iter 20 value 20036.016908
## final value 20036.015874
## converged
## # weights: 9
## initial value 22222.624555
## iter 10 value 20043.304292
## iter 20 value 20032.821963
## iter 20 value 20032.821914
## final value 20032.821914
## converged
## # weights: 25
## initial value 22192.122597
## iter 10 value 20046.284356
## iter 20 value 20032.856320
## final value 20032.713815
## converged
## # weights: 41
## initial value 21025.219674
## iter 10 value 20038.683477
## iter 20 value 20032.768688
## final value 20032.708652
## converged
## # weights: 9
```

```
## initial value 22263.139613
## final value 19977.237200
## converged
## # weights: 25
## initial value 23341.173652
## final value 19977.237200
## converged
## # weights: 41
## initial value 22030.323690
## final value 19977.237200
## converged
## # weights: 9
## initial value 22220.235100
## iter 10 value 19994.942175
## iter 20 value 19982.746684
## final value 19982.745724
## converged
## # weights: 25
## initial value 22973.046953
## iter 10 value 19982.093816
## final value 19981.212027
## converged
## # weights: 41
## initial value 21153.688436
## iter 10 value 19992.378188
## iter 20 value 19980.554716
## final value 19980.552746
## converged
## # weights: 9
## initial value 23105.476658
## iter 10 value 19988.404008
## iter 20 value 19977.365945
## iter 20 value 19977.365893
## final value 19977.365893
## converged
## # weights: 25
## initial value 24008.083727
## iter 10 value 19986.289132
## iter 20 value 19977.341562
## final value 19977.256553
## converged
## # weights: 41
## initial value 22191.907902
## iter 10 value 19995.070060
## iter 20 value 19977.442799
## final value 19977.249016
## converged
## # weights: 9
## initial value 22572.804675
## final value 19935.480100
## converged
## # weights: 25
```

```
## initial value 23523.717128
## final value 19935.480100
## converged
## # weights: 41
## initial value 21717.374538
## final value 19935.480100
## converged
## # weights: 9
## initial value 22633.924987
## iter 10 value 19942.227933
## final value 19940.987936
## converged
## # weights: 25
## initial value 22646.332466
## iter 10 value 19951.241577
## iter 20 value 19939.455662
## final value 19939.454620
## converged
## # weights: 41
## initial value 21751.311498
## iter 10 value 19950.755159
## iter 20 value 19938.796666
## final value 19938.795387
## converged
## # weights: 9
## initial value 22189.509434
## iter 10 value 19945.638568
## iter 20 value 19935.597219
## iter 20 value 19935.597172
## final value 19935.597172
## converged
## # weights: 25
## initial value 22855.139484
## iter 10 value 19950.371707
## iter 20 value 19935.651789
## final value 19935.492107
## converged
## # weights: 41
## initial value 22998.079374
## iter 10 value 19956.038676
## iter 20 value 19935.717124
## final value 19935.495036
## converged
## # weights: 9
## initial value 21933.116289
## final value 20037.869200
## converged
## # weights: 25
## initial value 23229.125492
## final value 20037.869200
## converged
## # weights: 41
```

```
## initial value 23818.872063
## final value 20037.869200
## converged
## # weights: 9
## initial value 21757.385608
## iter 10 value 20044.275972
## final value 20043.379254
## converged
## # weights: 25
## initial value 23359.508133
## iter 10 value 20043.494154
## iter 20 value 20041.848393
## final value 20041.844975
## converged
## # weights: 41
## initial value 23707.658118
## iter 10 value 20045.811568
## iter 20 value 20041.185627
## iter 20 value 20041.185520
## iter 20 value 20041.185516
## final value 20041.185516
## converged
## # weights: 9
## initial value 21610.496922
## iter 10 value 20045.783376
## iter 20 value 20037.960444
## iter 20 value 20037.960408
## final value 20037.960408
## converged
## # weights: 25
## initial value 21735.171604
## iter 10 value 20047.462460
## iter 20 value 20037.979803
## final value 20037.881620
## converged
## # weights: 41
## initial value 22839.405245
## iter 10 value 20058.561697
## iter 20 value 20038.107768
## final value 20037.879867
## converged
## # weights: 9
## initial value 22619.574924
## final value 20032.589200
## converged
## # weights: 25
## initial value 22257.082882
## final value 20032.589200
## converged
## # weights: 41
## initial value 22519.236016
## final value 20032.589200
```

```
## converged
## # weights: 9
## initial value 22437.365960
## iter 10 value 20039.605719
## final value 20038.099076
## converged
## # weights: 25
## initial value 21808.901661
## iter 10 value 20038.586727
## iter 20 value 20036.574270
## final value 20036.564920
## converged
## # weights: 41
## initial value 22671.793726
## iter 10 value 20037.646849
## iter 20 value 20035.905688
## iter 20 value 20035.905563
## iter 20 value 20035.905486
## final value 20035.905486
## converged
## # weights: 9
## initial value 22390.014215
## iter 10 value 20043.219744
## iter 20 value 20032.711762
## iter 20 value 20032.711713
## final value 20032.711713
## converged
## # weights: 25
## initial value 22442.412933
## iter 10 value 20047.030007
## iter 20 value 20032.755691
## final value 20032.604516
## converged
## # weights: 41
## initial value 23409.302391
## iter 10 value 20050.248553
## iter 20 value 20032.792798
## final value 20032.600083
## converged
## # weights: 9
## initial value 21718.565417
## final value 20021.696500
## converged
## # weights: 25
## initial value 22500.751014
## final value 20021.696500
## converged
## # weights: 41
## initial value 22852.596801
## final value 20021.696500
## converged
## # weights: 9
```

```
## initial value 23067.611090
## iter 10 value 20027.756066
## final value 20027.206009
## converged
## # weights: 25
## initial value 22081.284135
## iter 10 value 20026.668518
## iter 20 value 20025.672027
## iter 20 value 20025.671923
## iter 20 value 20025.671916
## final value 20025.671916
## converged
## # weights: 41
## initial value 21204.013916
## iter 10 value 20037.801177
## iter 20 value 20025.012817
## iter 20 value 20025.012631
## iter 20 value 20025.012622
## final value 20025.012622
## converged
## # weights: 9
## initial value 21431.286295
## iter 10 value 20028.314049
## iter 20 value 20021.772795
## iter 20 value 20021.772765
## final value 20021.772765
## converged
## # weights: 25
## initial value 23056.526611
## iter 10 value 20035.227934
## iter 20 value 20021.852507
## final value 20021.716282
## converged
## # weights: 41
## initial value 22581.280960
## iter 10 value 20038.769235
## iter 20 value 20021.893335
## final value 20021.708094
## converged
## # weights: 9
## initial value 22394.261049
## final value 20062.949200
## converged
## # weights: 25
## initial value 22420.049353
## final value 20062.949200
## converged
## # weights: 41
## initial value 23278.733234
## final value 20062.949200
## converged
## # weights: 9
```



```
## initial value 21690.662232
## iter 10 value 20068.802784
## final value 20068.461399
## converged
## # weights: 25
## initial value 23837.022952
## iter 10 value 20067.976432
## final value 20066.926486
## converged
## # weights: 41
## initial value 21398.397957
## iter 10 value 20080.237428
## iter 20 value 20066.268399
## final value 20066.266714
## converged
## # weights: 9
## initial value 23151.907141
## iter 10 value 20073.525388
## iter 20 value 20063.071135
## iter 20 value 20063.071086
## final value 20063.071086
## converged
## # weights: 25
## initial value 22031.118524
## iter 10 value 20075.929782
## iter 20 value 20063.098856
## final value 20062.961508
## converged
## # weights: 41
## initial value 22733.427054
## iter 10 value 20080.806996
## iter 20 value 20063.155086
## final value 20062.958467
## converged
## # weights: 9
## initial value 23703.694330
## final value 19997.722000
## converged
## # weights: 25
## initial value 23239.085949
## final value 19997.722000
## converged
## # weights: 41
## initial value 21660.995154
## final value 19997.722000
## converged
## # weights: 9
## initial value 22232.766046
## iter 10 value 20003.749538
## final value 20003.230900
## converged
## # weights: 25
```

```
## initial value 22302.698113
## iter 10 value 20002.364703
## final value 20001.697001
## converged
## # weights: 41
## initial value 22924.255840
## iter 10 value 20002.435628
## final value 20001.037657
## converged
## # weights: 9
## initial value 23315.268014
## iter 10 value 20007.279353
## iter 20 value 19997.832189
## iter 20 value 19997.832145
## final value 19997.832145
## converged
## # weights: 25
## initial value 22974.094330
## iter 10 value 20011.531678
## iter 20 value 19997.881215
## final value 19997.734119
## converged
## # weights: 41
## initial value 22548.975685
## iter 10 value 20016.687733
## iter 20 value 19997.940660
## final value 19997.732465
## converged
## # weights: 9
## initial value 23058.273231
## final value 20002.797200
## converged
## # weights: 25
## initial value 23767.524042
## final value 20002.797200
## converged
## # weights: 41
## initial value 22563.907214
## final value 20002.797200
## converged
## # weights: 9
## initial value 23453.911477
## iter 10 value 20008.734169
## final value 20008.306236
## converged
## # weights: 25
## initial value 23433.444256
## iter 10 value 20007.367247
## final value 20006.772368
## converged
## # weights: 41
## initial value 21770.621792
```

```
## iter 10 value 20007.184323
## final value 20006.113001
## converged
## # weights: 9
## initial value 21377.701546
## iter 10 value 20009.432680
## iter 20 value 20002.873702
## iter 20 value 20002.873671
## final value 20002.873671
## converged
## # weights: 25
## initial value 23854.683307
## iter 10 value 20014.793982
## iter 20 value 20002.935513
## final value 20002.813540
## converged
## # weights: 41
## initial value 23403.404651
## iter 10 value 20020.923078
## iter 20 value 20003.006177
## final value 20002.807358
## converged
## # weights: 9
## initial value 23414.809412
## final value 20054.760100
## converged
## # weights: 25
## initial value 22992.293638
## final value 20054.760100
## converged
## # weights: 41
## initial value 22069.322223
## final value 20054.760100
## converged
## # weights: 9
## initial value 22777.403582
## iter 10 value 20060.731936
## final value 20060.270989
## converged
## # weights: 25
## initial value 22916.157138
## iter 10 value 20059.870774
## final value 20058.736485
## converged
## # weights: 41
## initial value 22303.976665
## iter 10 value 20072.484294
## iter 20 value 20058.077492
## final value 20058.076926
## converged
## # weights: 9
## initial value 22057.447174
```

```
## iter 10 value 20064.387403
## iter 20 value 20054.871095
## iter 20 value 20054.871051
## final value 20054.871051
## converged
## # weights: 25
## initial value 23528.051554
## iter 10 value 20067.899525
## iter 20 value 20054.911587
## final value 20054.775919
## converged
## # weights: 41
## initial value 22831.003258
## iter 10 value 20072.577038
## iter 20 value 20054.965515
## final value 20054.769952
## converged
## # weights: 9
## initial value 21813.993560
## final value 19972.730000
## converged
## # weights: 25
## initial value 22492.427598
## final value 19972.730000
## converged
## # weights: 41
## initial value 22755.604849
## final value 19972.730000
## converged
## # weights: 9
## initial value 22972.425617
## iter 10 value 19979.981847
## final value 19978.238388
## converged
## # weights: 25
## initial value 21418.994993
## iter 10 value 19977.661250
## final value 19976.704717
## converged
## # weights: 41
## initial value 24035.569178
## iter 10 value 19986.263537
## iter 20 value 19976.052943
## final value 19976.045425
## converged
## # weights: 9
## initial value 22299.166830
## iter 10 value 19983.169209
## iter 20 value 19972.850356
## iter 20 value 19972.850308
## final value 19972.850308
## converged
```

```
## # weights: 25
## initial value 21309.786002
## iter 10 value 19980.647953
## iter 20 value 19972.821288
## final value 19972.741876
## converged
## # weights: 41
## initial value 22318.203947
## iter 10 value 19991.998499
## iter 20 value 19972.952151
## final value 19972.739463
## converged
## # weights: 9
## initial value 21989.551730
## final value 20020.136500
## converged
## # weights: 25
## initial value 23652.352382
## final value 20020.136500
## converged
## # weights: 41
## initial value 22653.328535
## final value 20020.136500
## converged
## # weights: 9
## initial value 22968.905177
## iter 10 value 20028.519531
## final value 20025.646024
## converged
## # weights: 25
## initial value 23146.721678
## iter 10 value 20028.654627
## iter 20 value 20024.112382
## final value 20024.111915
## converged
## # weights: 41
## initial value 22756.280533
## iter 10 value 20028.827398
## iter 20 value 20023.457865
## final value 20023.452491
## converged
## # weights: 9
## initial value 22589.605238
## iter 10 value 20031.598571
## iter 20 value 20020.268649
## iter 20 value 20020.268596
## final value 20020.268596
## converged
## # weights: 25
## initial value 21347.111137
## iter 10 value 20028.959230
## iter 20 value 20020.238219
```

```
## final value 20020.148342
## converged
## # weights: 41
## initial value 20976.683512
## iter 10 value 20026.828636
## iter 20 value 20020.213655
## final value 20020.145596
## converged
## # weights: 9
## initial value 23914.592240
## final value 19953.339700
## converged
## # weights: 25
## initial value 21947.987434
## final value 19953.339700
## converged
## # weights: 41
## initial value 22030.522487
## final value 19953.339700
## converged
## # weights: 9
## initial value 21565.693822
## iter 10 value 19960.106249
## final value 19958.847817
## converged
## # weights: 25
## initial value 23777.691649
## iter 10 value 19961.492756
## iter 20 value 19957.315909
## final value 19957.314404
## converged
## # weights: 41
## initial value 21325.029297
## iter 10 value 19959.211510
## iter 20 value 19956.655054
## iter 20 value 19956.655015
## iter 20 value 19956.655012
## final value 19956.655012
## converged
## # weights: 9
## initial value 21902.497868
## iter 10 value 19961.283225
## iter 20 value 19953.431283
## iter 20 value 19953.431246
## final value 19953.431246
## converged
## # weights: 25
## initial value 22675.797338
## iter 10 value 19969.992380
## iter 20 value 19953.531692
## final value 19953.352727
## converged
```

```
## # weights: 41
## initial value 22782.984592
## iter 10 value 19972.332126
## iter 20 value 19953.558668
## final value 19953.349728
## converged
## # weights: 9
## initial value 23191.953326
## final value 19973.110000
## converged
## # weights: 25
## initial value 23532.935563
## final value 19973.110000
## converged
## # weights: 41
## initial value 22552.413575
## final value 19973.110000
## converged
## # weights: 9
## initial value 22043.145265
## iter 10 value 19981.266131
## final value 19978.618400
## converged
## # weights: 25
## initial value 23053.342757
## iter 10 value 19978.834673
## iter 20 value 19977.084717
## iter 20 value 19977.084682
## iter 20 value 19977.084682
## final value 19977.084682
## converged
## # weights: 41
## initial value 22410.992784
## iter 10 value 19982.957110
## iter 20 value 19976.435105
## final value 19976.425461
## converged
## # weights: 9
## initial value 23885.682956
## iter 10 value 19980.877007
## iter 20 value 19973.199547
## iter 20 value 19973.199512
## final value 19973.199512
## converged
## # weights: 25
## initial value 21419.093844
## iter 10 value 19982.011158
## iter 20 value 19973.212623
## final value 19973.121218
## converged
## # weights: 41
## initial value 23828.771955
```

```
## iter 10 value 19986.501022
## iter 20 value 19973.264388
## final value 19973.123607
## converged
## # weights: 9
## initial value 23280.840832
## final value 19967.717200
## converged
## # weights: 25
## initial value 23723.980955
## final value 19967.717200
## converged
## # weights: 41
## initial value 22143.668124
## final value 19967.717200
## converged
## # weights: 9
## initial value 22464.897994
## iter 10 value 19979.550763
## iter 20 value 19973.226133
## final value 19973.225531
## converged
## # weights: 25
## initial value 22794.874377
## iter 10 value 19973.103080
## iter 20 value 19971.691871
## iter 20 value 19971.691841
## iter 20 value 19971.691829
## final value 19971.691829
## converged
## # weights: 41
## initial value 21051.113487
## iter 10 value 19980.244462
## iter 20 value 19971.037996
## final value 19971.032611
## converged
## # weights: 9
## initial value 23900.294799
## iter 10 value 19975.450225
## iter 20 value 19967.806356
## iter 20 value 19967.806320
## final value 19967.806320
## converged
## # weights: 25
## initial value 22423.318883
## iter 10 value 19983.426579
## iter 20 value 19967.898317
## final value 19967.734751
## converged
## # weights: 41
## initial value 22904.707577
## iter 10 value 19987.578231
```



```
## iter 20 value 19967.946182
## final value 19967.731954
## converged
## # weights: 9
## initial value 23400.404850
## final value 20019.080500
## converged
## # weights: 25
## initial value 21320.826909
## final value 20019.080500
## converged
## # weights: 41
## initial value 23747.683574
## final value 20019.080500
## converged
## # weights: 9
## initial value 22816.130814
## iter 10 value 20024.671731
## final value 20024.590002
## converged
## # weights: 25
## initial value 21152.540422
## iter 10 value 20023.693645
## final value 20023.055892
## converged
## # weights: 41
## initial value 24036.260084
## iter 10 value 20036.039444
## iter 20 value 20022.397098
## final value 20022.396512
## converged
## # weights: 9
## initial value 23015.641433
## iter 10 value 20029.167286
## iter 20 value 20019.196793
## iter 20 value 20019.196746
## final value 20019.196746
## converged
## # weights: 25
## initial value 21895.243809
## iter 10 value 20030.900112
## iter 20 value 20019.216771
## final value 20019.095068
## converged
## # weights: 41
## initial value 22092.155436
## iter 10 value 20035.303024
## iter 20 value 20019.267533
## final value 20019.090623
## converged
## # weights: 9
## initial value 23032.490787
```

```
## final value 20038.865200
## converged
## # weights: 25
## initial value 23463.643840
## final value 20038.865200
## converged
## # weights: 41
## initial value 22228.061537
## final value 20038.865200
## converged
## # weights: 9
## initial value 23055.965186
## iter 10 value 20046.601430
## final value 20044.375299
## converged
## # weights: 25
## initial value 23839.899004
## iter 10 value 20049.470598
## iter 20 value 20042.842516
## final value 20042.841046
## converged
## # weights: 41
## initial value 23553.210283
## iter 10 value 20051.820394
## iter 20 value 20042.181869
## final value 20042.181568
## converged
## # weights: 9
## initial value 23298.366277
## iter 10 value 20050.339700
## iter 20 value 20038.997492
## iter 20 value 20038.997439
## final value 20038.997439
## converged
## # weights: 25
## initial value 22663.069542
## iter 10 value 20052.867248
## iter 20 value 20039.026633
## final value 20038.880515
## converged
## # weights: 41
## initial value 21477.519401
## iter 10 value 20049.960635
## iter 20 value 20038.993122
## final value 20038.874658
## converged
## # weights: 9
## initial value 22591.361130
## final value 20028.478000
## converged
## # weights: 25
## initial value 22470.258982
```

```
## final value 20028.478000
## converged
## # weights: 41
## initial value 21616.521123
## final value 20028.478000
## converged
## # weights: 9
## initial value 21818.331403
## iter 10 value 20034.786257
## final value 20033.987720
## converged
## # weights: 25
## initial value 22093.910376
## iter 10 value 20033.554050
## final value 20032.453633
## converged
## # weights: 41
## initial value 21619.158623
## iter 10 value 20044.804001
## iter 20 value 20031.803406
## final value 20031.794175
## converged
## # weights: 9
## initial value 22643.282532
## iter 10 value 20039.797105
## iter 20 value 20028.608500
## iter 20 value 20028.608448
## final value 20028.608448
## converged
## # weights: 25
## initial value 21940.211919
## iter 10 value 20041.024200
## iter 20 value 20028.622648
## final value 20028.491129
## converged
## # weights: 41
## initial value 21766.106035
## iter 10 value 20045.117084
## iter 20 value 20028.669836
## final value 20028.487639
## converged
## # weights: 9
## initial value 21996.256816
## final value 20018.146000
## converged
## # weights: 25
## initial value 22033.335848
## final value 20018.146000
## converged
## # weights: 41
## initial value 22721.920379
## final value 20018.146000
```

```
## converged
## # weights: 9
## initial value 22485.977748
## iter 10 value 20026.364183
## final value 20023.655404
## converged
## # weights: 25
## initial value 22978.298624
## iter 10 value 20023.067426
## final value 20022.121401
## converged
## # weights: 41
## initial value 22967.462306
## iter 10 value 20022.482012
## iter 20 value 20021.462031
## iter 20 value 20021.461959
## iter 20 value 20021.461955
## final value 20021.461955
## converged
## # weights: 9
## initial value 22822.656135
## iter 10 value 20028.617182
## iter 20 value 20018.266725
## iter 20 value 20018.266676
## final value 20018.266676
## converged
## # weights: 25
## initial value 21996.535208
## iter 10 value 20030.168127
## iter 20 value 20018.284606
## final value 20018.157729
## converged
## # weights: 41
## initial value 21809.906723
## iter 10 value 20034.383999
## iter 20 value 20018.333211
## final value 20018.156100
## converged
## # weights: 9
## initial value 23314.737365
## final value 20021.050000
## converged
## # weights: 25
## initial value 22612.916710
## final value 20021.050000
## converged
## # weights: 41
## initial value 22194.783201
## final value 20021.050000
## converged
## # weights: 9
## initial value 21992.596568
```

```
## iter 10 value 20027.712274
## final value 20026.559405
## converged
## # weights: 25
## initial value 22989.184778
## iter 10 value 20025.884610
## final value 20025.025328
## converged
## # weights: 41
## initial value 22730.862688
## iter 10 value 20028.640573
## iter 20 value 20024.366379
## final value 20024.365922
## converged
## # weights: 9
## initial value 22385.990014
## iter 10 value 20032.023235
## iter 20 value 20021.176513
## iter 20 value 20021.176462
## final value 20021.176462
## converged
## # weights: 25
## initial value 22661.251861
## iter 10 value 20037.038299
## iter 20 value 20021.234333
## final value 20021.065626
## converged
## # weights: 41
## initial value 22178.833171
## iter 10 value 20039.195975
## iter 20 value 20021.259209
## final value 20021.062080
## converged
## # weights: 9
## initial value 22356.998285
## final value 19978.346000
## converged
## # weights: 25
## initial value 22158.112953
## final value 19978.346000
## converged
## # weights: 41
## initial value 22323.305339
## final value 19978.346000
## converged
## # weights: 9
## initial value 22163.036820
## iter 10 value 19984.887256
## final value 19983.854535
## converged
## # weights: 25
## initial value 22154.472597
```

```
## iter 10 value 19982.799389
## iter 20 value 19982.320972
## iter 20 value 19982.320835
## iter 20 value 19982.320814
## final value 19982.320814
## converged
## # weights: 41
## initial value 24541.192563
## iter 10 value 19984.869693
## iter 20 value 19981.661669
## iter 20 value 19981.661532
## iter 20 value 19981.661525
## final value 19981.661525
## converged
## # weights: 9
## initial value 23762.231813
## iter 10 value 19987.015168
## iter 20 value 19978.445949
## iter 20 value 19978.445909
## final value 19978.445909
## converged
## # weights: 25
## initial value 23164.208376
## iter 10 value 19991.358377
## iter 20 value 19978.496022
## final value 19978.361016
## converged
## # weights: 41
## initial value 22406.817459
## iter 10 value 19999.620086
## iter 20 value 19978.591274
## final value 19978.357770
## converged
## # weights: 9
## initial value 23566.642925
## final value 19930.229200
## converged
## # weights: 25
## initial value 23122.384632
## final value 19930.229200
## converged
## # weights: 41
## initial value 23085.531463
## final value 19930.229200
## converged
## # weights: 9
## initial value 22708.340930
## iter 10 value 19937.419852
## final value 19935.736854
## converged
## # weights: 25
## initial value 22431.168404
```

```
## iter 10 value 19938.816067
## iter 20 value 19934.208395
## final value 19934.203400
## converged
## # weights: 41
## initial value 23993.066376
## iter 10 value 19937.413358
## iter 20 value 19933.544481
## iter 20 value 19933.544319
## iter 20 value 19933.544303
## final value 19933.544303
## converged
## # weights: 9
## initial value 21639.443663
## iter 10 value 19938.517223
## iter 20 value 19930.324754
## iter 20 value 19930.324716
## final value 19930.324716
## converged
## # weights: 25
## initial value 23031.059638
## iter 10 value 19946.578660
## iter 20 value 19930.417696
## final value 19930.243334
## converged
## # weights: 41
## initial value 22494.624081
## iter 10 value 19949.525123
## iter 20 value 19930.451667
## final value 19930.238533
## converged
## # weights: 9
## initial value 22786.035940
## final value 19993.947700
## converged
## # weights: 25
## initial value 23478.711092
## final value 19993.947700
## converged
## # weights: 41
## initial value 22851.900646
## final value 19993.947700
## converged
## # weights: 9
## initial value 23121.473328
## iter 10 value 20000.005618
## final value 19999.456538
## converged
## # weights: 25
## initial value 22373.398302
## iter 10 value 19998.357618
## final value 19997.922764
```

```
## converged
## # weights: 41
## initial value 22779.253832
## iter 10 value 20011.176827
## iter 20 value 19997.268327
## final value 19997.263459
## converged
## # weights: 9
## initial value 23523.329736
## iter 10 value 20003.621961
## iter 20 value 19994.059237
## iter 20 value 19994.059192
## final value 19994.059192
## converged
## # weights: 25
## initial value 21179.510071
## iter 10 value 20001.187810
## iter 20 value 19994.031173
## final value 19993.959605
## converged
## # weights: 41
## initial value 21548.584032
## iter 10 value 20006.056984
## iter 20 value 19994.087311
## final value 19993.957424
## converged
## # weights: 9
## initial value 22214.001852
## final value 20049.701200
## converged
## # weights: 25
## initial value 22924.047831
## final value 20049.701200
## converged
## # weights: 41
## initial value 23765.580758
## final value 20049.701200
## converged
## # weights: 9
## initial value 23070.149253
## iter 10 value 20058.562910
## final value 20055.211757
## converged
## # weights: 25
## initial value 21695.198066
## iter 10 value 20055.823479
## final value 20053.677305
## converged
## # weights: 41
## initial value 23636.151904
## iter 10 value 20053.442023
## final value 20053.017779
```



```
## converged
## # weights: 9
## initial value 21946.781051
## iter 10 value 20058.405197
## iter 20 value 20049.801550
## iter 20 value 20049.801510
## final value 20049.801510
## converged
## # weights: 25
## initial value 22835.132853
## iter 10 value 20065.241083
## iter 20 value 20049.880363
## final value 20049.716684
## converged
## # weights: 41
## initial value 22417.921534
## iter 10 value 20065.814255
## iter 20 value 20049.886971
## iter 30 value 20049.710927
## iter 30 value 20049.710924
## iter 30 value 20049.710923
## final value 20049.710923
## converged
## # weights: 9
## initial value 23464.928232
## final value 20059.445200
## converged
## # weights: 25
## initial value 22741.893166
## final value 20059.445200
## converged
## # weights: 41
## initial value 23194.584433
## final value 20059.445200
## converged
## # weights: 9
## initial value 23315.981272
## iter 10 value 20065.338582
## final value 20064.956621
## converged
## # weights: 25
## initial value 22960.702041
## iter 10 value 20065.618796
## iter 20 value 20063.422567
## final value 20063.422008
## converged
## # weights: 41
## initial value 21972.405148
## iter 10 value 20077.344728
## iter 20 value 20062.762650
## iter 20 value 20062.762509
## iter 20 value 20062.762493
```

```
## final value 20062.762493
## converged
## # weights: 9
## initial value 22582.804941
## iter 10 value 20069.703701
## iter 20 value 20059.563472
## iter 20 value 20059.563425
## final value 20059.563425
## converged
## # weights: 25
## initial value 23641.652555
## iter 10 value 20070.842926
## iter 20 value 20059.576607
## final value 20059.459507
## converged
## # weights: 41
## initial value 23187.719049
## iter 10 value 20080.492838
## iter 20 value 20059.687863
## final value 20059.460352
## converged
## # weights: 9
## initial value 22416.676857
## final value 20056.253200
## converged
## # weights: 25
## initial value 22963.456393
## final value 20056.253200
## converged
## # weights: 41
## initial value 23298.359331
## final value 20056.253200
## converged
## # weights: 9
## initial value 23333.061735
## iter 10 value 20062.128463
## final value 20061.764268
## converged
## # weights: 25
## initial value 23110.328336
## iter 10 value 20061.706338
## iter 20 value 20060.229930
## iter 20 value 20060.229783
## iter 20 value 20060.229733
## final value 20060.229733
## converged
## # weights: 41
## initial value 22703.491453
## iter 10 value 20060.412992
## final value 20059.570107
## converged
## # weights: 9
```

```
## initial value 22987.024649
## iter 10 value 20066.487430
## iter 20 value 20056.371193
## iter 20 value 20056.371145
## final value 20056.371145
## converged
## # weights: 25
## initial value 22109.616552
## iter 10 value 20069.703916
## iter 20 value 20056.408276
## final value 20056.265355
## converged
## # weights: 41
## initial value 21563.450674
## iter 10 value 20067.586571
## iter 20 value 20056.383865
## final value 20056.262288
## converged
## # weights: 9
## initial value 21637.270968
## final value 20041.267700
## converged
## # weights: 25
## initial value 21828.895992
## final value 20041.267700
## converged
## # weights: 41
## initial value 22490.245255
## final value 20041.267700
## converged
## # weights: 9
## initial value 23688.535632
## iter 10 value 20049.758377
## final value 20046.777876
## converged
## # weights: 25
## initial value 21577.984611
## iter 10 value 20045.947476
## final value 20045.243584
## converged
## # weights: 41
## initial value 22030.212707
## iter 10 value 20045.166968
## final value 20044.584074
## converged
## # weights: 9
## initial value 23692.577587
## iter 10 value 20049.943548
## iter 20 value 20041.367726
## iter 20 value 20041.367686
## final value 20041.367686
## converged
```

```
## # weights: 25
## initial value 23106.852753
## iter 10 value 20055.556676
## iter 20 value 20041.432441
## final value 20041.283986
## converged
## # weights: 41
## initial value 22856.407157
## iter 10 value 20060.557268
## iter 20 value 20041.490094
## final value 20041.278587
## converged
## # weights: 9
## initial value 23253.213644
## final value 20011.041700
## converged
## # weights: 25
## initial value 22794.538574
## final value 20011.041700
## converged
## # weights: 41
## initial value 22886.634628
## final value 20011.041700
## converged
## # weights: 9
## initial value 23245.581014
## iter 10 value 20017.629318
## final value 20016.550959
## converged
## # weights: 25
## initial value 22928.108361
## iter 10 value 20015.942712
## final value 20015.016956
## converged
## # weights: 41
## initial value 23679.226550
## iter 10 value 20029.239546
## iter 20 value 20014.358463
## final value 20014.357550
## converged
## # weights: 9
## initial value 22629.227399
## iter 10 value 20020.779071
## iter 20 value 20011.153964
## iter 20 value 20011.153919
## final value 20011.153919
## converged
## # weights: 25
## initial value 21735.328701
## iter 10 value 20020.781177
## iter 20 value 20011.153989
## final value 20011.054920
```

```
## converged
## # weights: 41
## initial value 21665.437365
## iter 10 value 20023.448890
## iter 20 value 20011.184745
## final value 20011.051531
## converged
## # weights: 9
## initial value 23698.935540
## final value 20062.773200
## converged
## # weights: 25
## initial value 22821.180137
## final value 20062.773200
## converged
## # weights: 41
## initial value 23898.771376
## final value 20062.773200
## converged
## # weights: 9
## initial value 22874.508356
## iter 10 value 20069.551565
## final value 20068.285690
## converged
## # weights: 25
## initial value 22219.288670
## iter 10 value 20067.634551
## final value 20066.750738
## converged
## # weights: 41
## initial value 23584.666109
## iter 10 value 20067.110827
## final value 20066.090971
## converged
## # weights: 9
## initial value 22606.229668
## iter 10 value 20073.606302
## iter 20 value 20062.898097
## iter 20 value 20062.898047
## final value 20062.898047
## converged
## # weights: 25
## initial value 23523.014464
## iter 10 value 20074.859697
## iter 20 value 20062.912548
## final value 20062.787420
## converged
## # weights: 41
## initial value 22527.973170
## iter 10 value 20081.958334
## iter 20 value 20062.994390
## final value 20062.786076
```

```
## converged
## # weights: 9
## initial value 23184.219093
## final value 20030.566000
## converged
## # weights: 25
## initial value 22829.931079
## final value 20030.566000
## converged
## # weights: 41
## initial value 21742.340486
## final value 20030.566000
## converged
## # weights: 9
## initial value 22372.741915
## iter 10 value 20036.493916
## final value 20036.075794
## converged
## # weights: 25
## initial value 22177.690421
## iter 10 value 20036.132449
## final value 20034.541688
## converged
## # weights: 41
## initial value 22610.696570
## iter 10 value 20034.387724
## final value 20033.882189
## converged
## # weights: 9
## initial value 23387.968712
## iter 10 value 20041.240344
## iter 20 value 20030.689067
## iter 20 value 20030.689018
## final value 20030.689018
## converged
## # weights: 25
## initial value 22526.582968
## iter 10 value 20046.553679
## iter 20 value 20030.750325
## final value 20030.584407
## converged
## # weights: 41
## initial value 24036.864403
## iter 10 value 20042.680354
## iter 20 value 20030.705669
## final value 20030.581649
## converged
## # weights: 9
## initial value 22902.278493
## final value 20030.566000
## converged
## # weights: 25
```

```
## initial value 22706.970061
## final value 20030.566000
## converged
## # weights: 41
## initial value 22365.983446
## final value 20030.566000
## converged
## # weights: 9
## initial value 23494.534218
## iter 10 value 20037.781027
## final value 20036.075789
## converged
## # weights: 25
## initial value 23025.572309
## iter 10 value 20035.412703
## final value 20034.541610
## converged
## # weights: 41
## initial value 21969.840828
## iter 10 value 20044.797830
## iter 20 value 20033.883229
## final value 20033.882135
## converged
## # weights: 9
## initial value 23723.562370
## iter 10 value 20039.225740
## iter 20 value 20030.665840
## iter 20 value 20030.665800
## final value 20030.665800
## converged
## # weights: 25
## initial value 23054.988456
## iter 10 value 20045.323358
## iter 20 value 20030.736141
## final value 20030.592496
## converged
## # weights: 41
## initial value 22880.610183
## iter 10 value 20049.219035
## iter 20 value 20030.781055
## final value 20030.576440
## converged
## # weights: 9
## initial value 21756.702668
## final value 20023.480100
## converged
## # weights: 25
## initial value 22709.118131
## final value 20023.480100
## converged
## # weights: 41
## initial value 22960.703258
```

```
## final value 20023.480100
## converged
## # weights: 9
## initial value 23526.690565
## iter 10 value 20029.653665
## final value 20028.989674
## converged
## # weights: 25
## initial value 23225.987037
## iter 10 value 20027.785413
## final value 20027.455543
## converged
## # weights: 41
## initial value 23004.795678
## iter 10 value 20028.078599
## final value 20026.796201
## converged
## # weights: 9
## initial value 22076.809663
## iter 10 value 20032.817798
## iter 20 value 20023.587756
## iter 20 value 20023.587713
## final value 20023.587713
## converged
## # weights: 25
## initial value 21621.683529
## iter 10 value 20034.237908
## iter 20 value 20023.604129
## final value 20023.490646
## converged
## # weights: 41
## initial value 23679.051205
## iter 10 value 20037.535005
## iter 20 value 20023.642142
## final value 20023.492718
## converged
## # weights: 9
## initial value 22276.689185
## final value 19953.339700
## converged
## # weights: 25
## initial value 23057.897855
## final value 19953.339700
## converged
## # weights: 41
## initial value 21528.788703
## final value 19953.339700
## converged
## # weights: 9
## initial value 22085.690907
## iter 10 value 19960.910844
## final value 19958.847774
```



```
## converged
## # weights: 25
## initial value 23085.777331
## iter 10 value 19959.487075
## iter 20 value 19957.314630
## final value 19957.314194
## converged
## # weights: 41
## initial value 22005.806969
## iter 10 value 19970.870874
## final value 19956.655102
## converged
## # weights: 9
## initial value 22162.972766
## iter 10 value 19963.299837
## iter 20 value 19953.454533
## iter 20 value 19953.454487
## final value 19953.454487
## converged
## # weights: 25
## initial value 21386.734501
## iter 10 value 19961.488598
## iter 20 value 19953.433650
## final value 19953.350908
## converged
## # weights: 41
## initial value 22045.267429
## iter 10 value 19969.620732
## iter 20 value 19953.527408
## final value 19953.350477
## converged
## # weights: 9
## initial value 23258.307145
## final value 20014.030000
## converged
## # weights: 25
## initial value 23524.395879
## final value 20014.030000
## converged
## # weights: 41
## initial value 21771.974003
## final value 20014.030000
## converged
## # weights: 9
## initial value 21769.668288
## iter 10 value 20031.016137
## iter 20 value 20019.539375
## iter 20 value 20019.539315
## final value 20019.539315
## converged
## # weights: 25
## initial value 22074.261105
```

```
## iter 10 value 20019.397306
## final value 20018.005264
## converged
## # weights: 41
## initial value 22772.037524
## iter 10 value 20032.757052
## iter 20 value 20017.347492
## final value 20017.345891
## converged
## # weights: 9
## initial value 22073.340939
## iter 10 value 20022.559458
## iter 20 value 20014.128338
## iter 20 value 20014.128299
## final value 20014.128299
## converged
## # weights: 25
## initial value 23175.132813
## iter 10 value 20028.771016
## iter 20 value 20014.199952
## final value 20014.044157
## converged
## # weights: 41
## initial value 23984.432288
## iter 10 value 20026.843385
## iter 20 value 20014.177728
## final value 20014.044095
## converged
## # weights: 9
## initial value 23001.078838
## final value 19931.150000
## converged
## # weights: 25
## initial value 22566.569811
## final value 19931.150000
## converged
## # weights: 41
## initial value 22445.560507
## final value 19931.150000
## converged
## # weights: 9
## initial value 22446.817814
## iter 10 value 19938.719296
## final value 19936.657767
## converged
## # weights: 25
## initial value 21995.162982
## iter 10 value 19936.859793
## final value 19935.124345
## converged
## # weights: 41
## initial value 21572.231818
```

```
## iter 10 value 19935.686479
## iter 20 value 19934.465357
## iter 20 value 19934.465205
## iter 20 value 19934.465172
## final value 19934.465172
## converged
## # weights: 9
## initial value 21360.531076
## iter 10 value 19937.126336
## iter 20 value 19931.218902
## iter 20 value 19931.218875
## final value 19931.218875
## converged
## # weights: 25
## initial value 22768.127680
## iter 10 value 19947.903104
## iter 20 value 19931.343150
## final value 19931.162262
## converged
## # weights: 41
## initial value 23609.702824
## iter 10 value 19945.379076
## iter 20 value 19931.314050
## final value 19931.163770
## converged
## # weights: 9
## initial value 21866.555027
## final value 19998.689200
## converged
## # weights: 25
## initial value 21634.241218
## final value 19998.689200
## converged
## # weights: 41
## initial value 21939.890204
## final value 19998.689200
## converged
## # weights: 9
## initial value 23490.219096
## iter 10 value 20004.777109
## final value 20004.198152
## converged
## # weights: 25
## initial value 23972.947251
## iter 10 value 20003.924024
## final value 20002.664288
## converged
## # weights: 41
## initial value 22484.420956
## iter 10 value 20009.351977
## iter 20 value 20002.006371
## final value 20002.004939
```

```
## converged
## # weights: 9
## initial value 22654.933690
## iter 10 value 20008.528734
## iter 20 value 19998.802642
## iter 20 value 19998.802597
## final value 19998.802597
## converged
## # weights: 25
## initial value 23333.898271
## iter 10 value 20012.573325
## iter 20 value 19998.849273
## final value 19998.708407
## converged
## # weights: 41
## initial value 23709.497838
## iter 10 value 20013.707185
## iter 20 value 19998.862346
## final value 19998.703579
## converged
## # weights: 9
## initial value 21570.704085
## final value 20034.225700
## converged
## # weights: 25
## initial value 21770.407973
## final value 20034.225700
## converged
## # weights: 41
## initial value 22893.303995
## final value 20034.225700
## converged
## # weights: 9
## initial value 21929.928689
## iter 10 value 20042.082965
## final value 20039.735629
## converged
## # weights: 25
## initial value 22134.025132
## iter 10 value 20039.632924
## final value 20038.201455
## converged
## # weights: 41
## initial value 23701.819429
## iter 10 value 20051.236782
## iter 20 value 20037.551085
## final value 20037.541971
## converged
## # weights: 9
## initial value 21936.531797
## iter 10 value 20042.391349
## iter 20 value 20034.319844
```

```
## iter 20 value 20034.319806
## final value 20034.319806
## converged
## # weights: 25
## initial value 23429.978397
## iter 10 value 20048.125016
## iter 20 value 20034.385948
## final value 20034.244295
## converged
## # weights: 41
## initial value 22133.399027
## iter 10 value 20051.852826
## iter 20 value 20034.428927
## final value 20034.235808
## converged
## # weights: 9
## initial value 24053.455387
## final value 20062.170100
## converged
## # weights: 25
## initial value 23147.876700
## final value 20062.170100
## converged
## # weights: 41
## initial value 22860.157124
## final value 20062.170100
## converged
## # weights: 9
## initial value 23815.364317
## iter 10 value 20068.310483
## final value 20067.683117
## converged
## # weights: 25
## initial value 23078.905044
## iter 10 value 20067.835882
## iter 20 value 20066.151907
## final value 20066.148279
## converged
## # weights: 41
## initial value 23151.962902
## iter 10 value 20067.260430
## iter 20 value 20065.488699
## iter 20 value 20065.488576
## iter 20 value 20065.488464
## final value 20065.488464
## converged
## # weights: 9
## initial value 22793.220707
## iter 10 value 20072.754039
## iter 20 value 20062.292125
## iter 20 value 20062.292076
## final value 20062.292076
```

```
## converged
## # weights: 25
## initial value 23580.849711
## iter 10 value 20074.711366
## iter 20 value 20062.314691
## final value 20062.184098
## converged
## # weights: 41
## initial value 21912.891894
## iter 10 value 20076.929595
## iter 20 value 20062.340265
## final value 20062.180175
## converged
## # weights: 9
## initial value 22803.925629
## final value 20020.398500
## converged
## # weights: 25
## initial value 23016.886279
## final value 20020.398500
## converged
## # weights: 41
## initial value 23292.233093
## final value 20020.398500
## converged
## # weights: 9
## initial value 21879.491419
## iter 10 value 20026.690384
## final value 20025.907981
## converged
## # weights: 25
## initial value 22879.546332
## iter 10 value 20029.273089
## iter 20 value 20024.374055
## iter 20 value 20024.373940
## iter 20 value 20024.373912
## final value 20024.373912
## converged
## # weights: 41
## initial value 22097.588138
## iter 10 value 20033.689706
## iter 20 value 20023.715538
## final value 20023.714523
## converged
## # weights: 9
## initial value 23004.715000
## iter 10 value 20030.786125
## iter 20 value 20020.518261
## iter 20 value 20020.518213
## final value 20020.518213
## converged
## # weights: 25
```

```
## initial value 21922.963750
## iter 10 value 20031.625075
## iter 20 value 20020.527934
## final value 20020.411985
## converged
## # weights: 41
## initial value 22852.828963
## iter 10 value 20040.886637
## iter 20 value 20020.634712
## final value 20020.408791
## converged
## # weights: 9
## initial value 22940.769647
## final value 20041.918000
## converged
## # weights: 25
## initial value 22541.515034
## final value 20041.918000
## converged
## # weights: 41
## initial value 22341.367379
## final value 20041.918000
## converged
## # weights: 9
## initial value 22155.585815
## iter 10 value 20047.961942
## final value 20047.428223
## converged
## # weights: 25
## initial value 23485.602914
## iter 10 value 20047.775416
## iter 20 value 20045.893935
## iter 20 value 20045.893892
## iter 20 value 20045.893887
## final value 20045.893887
## converged
## # weights: 41
## initial value 23160.602590
## iter 10 value 20046.450570
## final value 20045.234408
## converged
## # weights: 9
## initial value 22695.276619
## iter 10 value 20052.279651
## iter 20 value 20042.037462
## iter 20 value 20042.037414
## final value 20042.037414
## converged
## # weights: 25
## initial value 23289.209038
## iter 10 value 20057.896505
## iter 20 value 20042.102220
```

```
## final value 20041.933536
## converged
## # weights: 41
## initial value 22858.907327
## iter 10 value 20061.577282
## iter 20 value 20042.144656
## final value 20041.928600
## converged
## # weights: 9
## initial value 22712.568465
## final value 19973.299700
## converged
## # weights: 25
## initial value 23032.122690
## final value 19973.299700
## converged
## # weights: 41
## initial value 23664.475005
## final value 19973.299700
## converged
## # weights: 9
## initial value 22518.966889
## iter 10 value 19979.932279
## final value 19978.808132
## converged
## # weights: 25
## initial value 23349.788572
## iter 10 value 19977.803448
## final value 19977.274530
## converged
## # weights: 41
## initial value 21480.987473
## iter 10 value 19991.096512
## iter 20 value 19976.616482
## final value 19976.615175
## converged
## # weights: 9
## initial value 23211.240399
## iter 10 value 19982.883945
## iter 20 value 19973.410199
## iter 20 value 19973.410155
## final value 19973.410155
## converged
## # weights: 25
## initial value 21585.284804
## iter 10 value 19983.586854
## iter 20 value 19973.418303
## final value 19973.312379
## converged
## # weights: 41
## initial value 21977.142674
## iter 10 value 19992.386344
```



```
## iter 20 value 19973.519754
## final value 19973.310047
## converged
## # weights: 9
## initial value 23155.481282
## final value 19969.854500
## converged
## # weights: 25
## initial value 21341.491461
## final value 19969.854500
## converged
## # weights: 41
## initial value 22783.517439
## final value 19969.854500
## converged
## # weights: 9
## initial value 22826.571998
## iter 10 value 19979.901732
## final value 19975.362892
## converged
## # weights: 25
## initial value 21150.443979
## iter 10 value 19975.576000
## final value 19973.829283
## converged
## # weights: 41
## initial value 22634.519311
## iter 10 value 19974.357680
## iter 20 value 19973.170137
## iter 20 value 19973.169985
## iter 20 value 19973.169974
## final value 19973.169974
## converged
## # weights: 9
## initial value 23064.269551
## iter 10 value 19980.875406
## iter 20 value 19969.981562
## iter 20 value 19969.981512
## final value 19969.981512
## converged
## # weights: 25
## initial value 21783.656777
## iter 10 value 19981.092505
## iter 20 value 19969.984065
## final value 19969.866520
## converged
## # weights: 41
## initial value 21892.058547
## iter 10 value 19984.707044
## iter 20 value 19970.025738
## final value 19969.865206
## converged
```

```
## # weights: 9
## initial value 22497.253418
## final value 20017.201700
## converged
## # weights: 25
## initial value 22851.992367
## final value 20017.201700
## converged
## # weights: 41
## initial value 23717.350361
## final value 20017.201700
## converged
## # weights: 9
## initial value 22683.996803
## iter 10 value 20024.700682
## final value 20022.711051
## converged
## # weights: 25
## initial value 22264.451662
## iter 10 value 20021.690955
## final value 20021.177104
## converged
## # weights: 41
## initial value 22106.228029
## iter 10 value 20021.579832
## final value 20020.517627
## converged
## # weights: 9
## initial value 23679.841629
## iter 10 value 20026.920362
## iter 20 value 20017.313749
## iter 20 value 20017.313704
## final value 20017.313704
## converged
## # weights: 25
## initial value 23288.452771
## iter 10 value 20030.086947
## iter 20 value 20017.350257
## final value 20017.214319
## converged
## # weights: 41
## initial value 23027.782853
## iter 10 value 20034.347569
## iter 20 value 20017.399378
## final value 20017.213752
## converged
## # weights: 9
## initial value 22190.290278
## final value 20047.646500
## converged
## # weights: 25
## initial value 24093.539719
```

```
## final value 20047.646500
## converged
## # weights: 41
## initial value 23293.447098
## final value 20047.646500
## converged
## # weights: 9
## initial value 22206.163170
## iter 10 value 20055.375150
## final value 20053.156979
## converged
## # weights: 25
## initial value 21445.931085
## iter 10 value 20052.755511
## final value 20051.622626
## converged
## # weights: 41
## initial value 23143.491056
## iter 10 value 20059.494184
## iter 20 value 20050.964579
## final value 20050.963172
## converged
## # weights: 9
## initial value 22412.001324
## iter 10 value 20057.555024
## iter 20 value 20047.760738
## iter 20 value 20047.760692
## final value 20047.760692
## converged
## # weights: 25
## initial value 23160.739372
## iter 10 value 20061.990612
## iter 20 value 20047.811876
## final value 20047.659234
## converged
## # weights: 41
## initial value 23723.603972
## iter 10 value 20061.960208
## iter 20 value 20047.811526
## final value 20047.657410
## converged
## # weights: 9
## initial value 23571.878683
## final value 20021.825200
## converged
## # weights: 25
## initial value 23767.645536
## final value 20021.825200
## converged
## # weights: 41
## initial value 22635.636298
## final value 20021.825200
```

```
## converged
## # weights: 9
## initial value 22933.864628
## iter 10 value 20028.619845
## final value 20027.334759
## converged
## # weights: 25
## initial value 21610.638497
## iter 10 value 20026.351038
## final value 20025.800614
## converged
## # weights: 41
## initial value 22894.648306
## iter 10 value 20026.947243
## final value 20025.141265
## converged
## # weights: 9
## initial value 22957.746803
## iter 10 value 20032.171397
## iter 20 value 20021.944484
## iter 20 value 20021.944436
## final value 20021.944436
## converged
## # weights: 25
## initial value 23825.121046
## iter 10 value 20034.501103
## iter 20 value 20021.971343
## final value 20021.840937
## converged
## # weights: 41
## initial value 21757.800425
## iter 10 value 20034.872399
## iter 20 value 20021.975624
## final value 20021.834270
## converged
## # weights: 9
## initial value 23018.017064
## final value 20049.182500
## converged
## # weights: 25
## initial value 23692.905550
## final value 20049.182500
## converged
## # weights: 41
## initial value 22154.491897
## final value 20049.182500
## converged
## # weights: 9
## initial value 22346.944326
## iter 10 value 20055.278322
## final value 20054.693048
## converged
```

```
## # weights: 25
## initial value 22490.810593
## iter 10 value 20066.232049
## iter 20 value 20053.160659
## final value 20053.158611
## converged
## # weights: 41
## initial value 22916.553934
## iter 10 value 20053.559420
## final value 20052.499124
## converged
## # weights: 9
## initial value 22928.133887
## iter 10 value 20060.392298
## iter 20 value 20049.311740
## iter 20 value 20049.311688
## final value 20049.311688
## converged
## # weights: 25
## initial value 24172.248800
## iter 10 value 20057.563278
## iter 20 value 20049.279124
## final value 20049.202157
## converged
## # weights: 41
## initial value 22592.200144
## iter 10 value 20071.026578
## iter 20 value 20049.434345
## final value 20049.193506
## converged
## # weights: 9
## initial value 23584.654924
## final value 20044.507700
## converged
## # weights: 25
## initial value 22033.677755
## final value 20044.507700
## converged
## # weights: 41
## initial value 22049.171841
## final value 20044.507700
## converged
## # weights: 9
## initial value 22596.819862
## iter 10 value 20050.872618
## final value 20050.018032
## converged
## # weights: 25
## initial value 22666.697948
## iter 10 value 20049.398507
## final value 20048.483716
## converged
```

```
## # weights: 41
## initial value 21964.673090
## iter 10 value 20049.004815
## final value 20047.824187
## converged
## # weights: 9
## initial value 22922.785585
## iter 10 value 20056.153859
## iter 20 value 20044.641971
## iter 20 value 20044.641917
## final value 20044.641917
## converged
## # weights: 25
## initial value 22940.482763
## iter 10 value 20057.260474
## iter 20 value 20044.654729
## final value 20044.519744
## converged
## # weights: 41
## initial value 22705.364444
## iter 10 value 20063.908338
## iter 20 value 20044.731374
## final value 20044.520597
## converged
## # weights: 9
## initial value 22765.145870
## final value 19983.067600
## converged
## # weights: 25
## initial value 23357.843511
## final value 19983.067600
## converged
## # weights: 41
## initial value 22755.488920
## final value 19983.067600
## converged
## # weights: 9
## initial value 22300.096149
## iter 10 value 19989.654679
## final value 19988.576197
## converged
## # weights: 25
## initial value 22890.298445
## iter 10 value 19988.378978
## iter 20 value 19987.042518
## iter 20 value 19987.042420
## iter 20 value 19987.042404
## final value 19987.042404
## converged
## # weights: 41
## initial value 21413.355886
## iter 10 value 19990.490472
```

```
## final value 19986.383273
## converged
## # weights: 9
## initial value 23547.426886
## iter 10 value 19993.021986
## iter 20 value 19983.182366
## iter 20 value 19983.182320
## final value 19983.182320
## converged
## # weights: 25
## initial value 22863.503666
## iter 10 value 19998.251736
## iter 20 value 19983.242661
## final value 19983.085553
## converged
## # weights: 41
## initial value 21557.289094
## iter 10 value 19996.393969
## iter 20 value 19983.221243
## final value 19983.076586
## converged
## # weights: 9
## initial value 23383.895864
## final value 19980.905200
## converged
## # weights: 25
## initial value 22025.728868
## final value 19980.905200
## converged
## # weights: 41
## initial value 23028.715934
## final value 19980.905200
## converged
## # weights: 9
## initial value 23062.427233
## iter 10 value 19989.829876
## iter 20 value 19986.413934
## iter 20 value 19986.413835
## final value 19986.413835
## converged
## # weights: 25
## initial value 22735.392513
## iter 10 value 19987.093449
## final value 19984.880139
## converged
## # weights: 41
## initial value 21638.816198
## iter 10 value 19995.963268
## iter 20 value 19984.224252
## final value 19984.220727
## converged
## # weights: 9
```

```
## initial value 23186.521668
## iter 10 value 19991.679201
## iter 20 value 19981.029416
## iter 20 value 19981.029366
## final value 19981.029366
## converged
## # weights: 25
## initial value 22371.179931
## iter 10 value 19996.376666
## iter 20 value 19981.083574
## final value 19980.916388
## converged
## # weights: 41
## initial value 22045.218571
## iter 10 value 19996.940974
## iter 20 value 19981.090080
## final value 19980.915815
## converged
## # weights: 9
## initial value 22522.806449
## final value 20004.187700
## converged
## # weights: 25
## initial value 23432.758553
## final value 20004.187700
## converged
## # weights: 41
## initial value 22326.885925
## final value 20004.187700
## converged
## # weights: 9
## initial value 22947.496288
## iter 10 value 20012.353454
## iter 20 value 20009.697042
## iter 20 value 20009.696882
## final value 20009.696882
## converged
## # weights: 25
## initial value 22371.928665
## iter 10 value 20009.054592
## final value 20008.162860
## converged
## # weights: 41
## initial value 21492.322984
## iter 10 value 20022.484238
## iter 20 value 20007.504334
## final value 20007.503491
## converged
## # weights: 9
## initial value 23658.627482
## iter 10 value 20012.808358
## iter 20 value 20004.287089
```



```
## iter 20 value 20004.287050
## final value 20004.287050
## converged
## # weights: 25
## initial value 24112.044176
## iter 10 value 20012.811226
## iter 20 value 20004.287122
## final value 20004.207942
## converged
## # weights: 41
## initial value 22560.835305
## iter 10 value 20023.303808
## iter 20 value 20004.408094
## final value 20004.197525
## converged
## # weights: 9
## initial value 23893.757040
## final value 20037.869200
## converged
## # weights: 25
## initial value 23554.249178
## final value 20037.869200
## converged
## # weights: 41
## initial value 24172.892411
## final value 20037.869200
## converged
## # weights: 9
## initial value 23675.291914
## iter 10 value 20046.010851
## final value 20043.379264
## converged
## # weights: 25
## initial value 22329.984713
## iter 10 value 20043.067689
## final value 20041.844981
## converged
## # weights: 41
## initial value 23529.687301
## iter 10 value 20048.413830
## iter 20 value 20041.186095
## final value 20041.185502
## converged
## # weights: 9
## initial value 23148.467822
## iter 10 value 20049.419512
## iter 20 value 20038.002366
## iter 20 value 20038.002313
## final value 20038.002313
## converged
## # weights: 25
## initial value 23275.536583
```

```
## iter 10 value 20051.581985
## iter 20 value 20038.027298
## final value 20037.881658
## converged
## # weights: 41
## initial value 22850.900561
## iter 10 value 20056.254506
## iter 20 value 20038.081168
## final value 20037.880422
## converged
## # weights: 9
## initial value 23183.095312
## final value 20013.185200
## converged
## # weights: 25
## initial value 22400.844055
## final value 20013.185200
## converged
## # weights: 41
## initial value 21139.959798
## final value 20013.185200
## converged
## # weights: 9
## initial value 21696.504827
## iter 10 value 20018.833084
## final value 20018.694464
## converged
## # weights: 25
## initial value 21824.530379
## iter 10 value 20018.022619
## iter 20 value 20017.160455
## iter 20 value 20017.160429
## iter 20 value 20017.160426
## final value 20017.160426
## converged
## # weights: 41
## initial value 23329.507187
## iter 10 value 20030.603072
## iter 20 value 20016.509295
## final value 20016.501164
## converged
## # weights: 9
## initial value 22942.283341
## iter 10 value 20023.581671
## iter 20 value 20013.305063
## iter 20 value 20013.305015
## final value 20013.305015
## converged
## # weights: 25
## initial value 22808.255718
## iter 10 value 20031.333334
## iter 20 value 20013.394434
```

```
## final value 20013.201257
## converged
## # weights: 41
## initial value 22620.735844
## iter 10 value 20031.932145
## iter 20 value 20013.401338
## final value 20013.195177
## converged
## # weights: 9
## initial value 22504.808275
## final value 19939.738000
## converged
## # weights: 25
## initial value 23520.966168
## final value 19939.738000
## converged
## # weights: 41
## initial value 24061.963316
## final value 19939.738000
## converged
## # weights: 9
## initial value 22208.034571
## iter 10 value 19949.644636
## final value 19945.245919
## converged
## # weights: 25
## initial value 22764.380486
## iter 10 value 19945.196036
## final value 19943.712494
## converged
## # weights: 41
## initial value 22272.308581
## iter 10 value 19955.212170
## iter 20 value 19943.072939
## final value 19943.053258
## converged
## # weights: 9
## initial value 23061.781809
## iter 10 value 19950.454421
## iter 20 value 19939.861552
## iter 20 value 19939.861503
## final value 19939.861503
## converged
## # weights: 25
## initial value 22417.862251
## iter 10 value 19955.152338
## iter 20 value 19939.915715
## final value 19939.750174
## converged
## # weights: 41
## initial value 21801.993677
## iter 10 value 19954.779831
```

```
## iter 20 value 19939.911421
## final value 19939.747957
## converged
## # weights: 9
## initial value 22131.222175
## final value 20002.486000
## converged
## # weights: 25
## initial value 23541.791695
## final value 20002.486000
## converged
## # weights: 41
## initial value 24148.175921
## final value 20002.486000
## converged
## # weights: 9
## initial value 23493.949198
## iter 10 value 20010.072735
## final value 20007.995034
## converged
## # weights: 25
## initial value 22264.661079
## iter 10 value 20007.163645
## final value 20006.461152
## converged
## # weights: 41
## initial value 22599.014633
## iter 10 value 20007.020121
## final value 20005.801776
## converged
## # weights: 9
## initial value 21802.372329
## iter 10 value 20009.968605
## iter 20 value 20002.572269
## iter 20 value 20002.572234
## final value 20002.572234
## converged
## # weights: 25
## initial value 23720.914370
## iter 10 value 20014.019561
## iter 20 value 20002.618973
## final value 20002.503409
## converged
## # weights: 41
## initial value 21961.139672
## iter 10 value 20020.069628
## iter 20 value 20002.688725
## final value 20002.496472
## converged
## # weights: 9
## initial value 21734.481519
## final value 20031.021200
```

```
## converged
## # weights: 25
## initial value 21871.361716
## final value 20031.021200
## converged
## # weights: 41
## initial value 23768.100677
## final value 20031.021200
## converged
## # weights: 9
## initial value 22821.827426
## iter 10 value 20040.479701
## iter 20 value 20036.531037
## iter 20 value 20036.530971
## final value 20036.530971
## converged
## # weights: 25
## initial value 22130.308952
## iter 10 value 20035.286814
## final value 20034.996715
## converged
## # weights: 41
## initial value 23183.359205
## iter 10 value 20035.101579
## final value 20034.337270
## converged
## # weights: 9
## initial value 22391.901439
## iter 10 value 20040.418355
## iter 20 value 20031.129542
## iter 20 value 20031.129498
## final value 20031.129498
## converged
## # weights: 25
## initial value 23320.287479
## iter 10 value 20044.691069
## iter 20 value 20031.178803
## final value 20031.035178
## converged
## # weights: 41
## initial value 23432.452726
## iter 10 value 20050.753777
## iter 20 value 20031.248701
## final value 20031.034979
## converged
## # weights: 9
## initial value 23098.637963
## final value 20020.136500
## converged
## # weights: 25
## initial value 22826.034023
## final value 20020.136500
```

```
## converged
## # weights: 41
## initial value 22513.598093
## final value 20020.136500
## converged
## # weights: 9
## initial value 23546.064716
## iter 10 value 20026.599693
## final value 20025.645972
## converged
## # weights: 25
## initial value 22325.404937
## iter 10 value 20025.348731
## iter 20 value 20024.112055
## iter 20 value 20024.111955
## iter 20 value 20024.111940
## final value 20024.111940
## converged
## # weights: 41
## initial value 23694.601929
## iter 10 value 20024.087040
## final value 20023.452496
## converged
## # weights: 9
## initial value 23665.886714
## iter 10 value 20028.837098
## iter 20 value 20020.236811
## iter 20 value 20020.236771
## final value 20020.236771
## converged
## # weights: 25
## initial value 23064.153576
## iter 10 value 20033.383116
## iter 20 value 20020.289223
## final value 20020.153357
## converged
## # weights: 41
## initial value 22941.151663
## iter 10 value 20039.499476
## iter 20 value 20020.359740
## final value 20020.147569
## converged
## # weights: 9
## initial value 23418.508836
## final value 19912.371700
## converged
## # weights: 25
## initial value 21613.233600
## final value 19912.371700
## converged
## # weights: 41
## initial value 23300.204563
```

```
## final value 19912.371700
## converged
## # weights: 9
## initial value 22086.698039
## iter 10 value 19918.009031
## final value 19917.879107
## converged
## # weights: 25
## initial value 24035.144222
## iter 10 value 19918.473202
## final value 19916.345793
## converged
## # weights: 41
## initial value 23796.731027
## iter 10 value 19916.265539
## final value 19915.686634
## converged
## # weights: 9
## initial value 22338.636155
## iter 10 value 19923.171250
## iter 20 value 19912.496210
## iter 20 value 19912.496161
## final value 19912.496161
## converged
## # weights: 25
## initial value 23810.394203
## iter 10 value 19922.561684
## iter 20 value 19912.489183
## final value 19912.391031
## converged
## # weights: 41
## initial value 22585.381515
## iter 10 value 19933.455103
## iter 20 value 19912.614775
## final value 19912.382216
## converged
## # weights: 9
## initial value 22116.120980
## final value 20024.357200
## converged
## # weights: 25
## initial value 22590.074707
## final value 20024.357200
## converged
## # weights: 41
## initial value 21947.737883
## final value 20024.357200
## converged
## # weights: 9
## initial value 22980.584873
## iter 10 value 20029.914589
## final value 20029.866790
```

```
## converged
## # weights: 25
## initial value 21700.944779
## iter 10 value 20030.595945
## iter 20 value 20028.332732
## iter 20 value 20028.332642
## iter 20 value 20028.332640
## final value 20028.332640
## converged
## # weights: 41
## initial value 22382.269440
## iter 10 value 20039.530223
## iter 20 value 20027.673887
## final value 20027.673315
## converged
## # weights: 9
## initial value 22098.754275
## iter 10 value 20032.727438
## iter 20 value 20024.453702
## iter 20 value 20024.453664
## final value 20024.453664
## converged
## # weights: 25
## initial value 22746.892471
## iter 10 value 20041.055629
## iter 20 value 20024.549720
## final value 20024.371442
## converged
## # weights: 41
## initial value 22307.383233
## iter 10 value 20042.507912
## iter 20 value 20024.566463
## final value 20024.367628
## converged
## # weights: 9
## initial value 22739.409351
## final value 20052.994000
## converged
## # weights: 25
## initial value 22260.653546
## final value 20052.994000
## converged
## # weights: 41
## initial value 24107.613021
## final value 20052.994000
## converged
## # weights: 9
## initial value 23979.457369
## iter 10 value 20060.111858
## final value 20058.504757
## converged
## # weights: 25
```



```
## initial value 22877.526233
## iter 10 value 20057.671811
## final value 20056.970283
## converged
## # weights: 41
## initial value 22234.393868
## iter 10 value 20059.058725
## iter 20 value 20056.311806
## final value 20056.310749
## converged
## # weights: 9
## initial value 22139.265458
## iter 10 value 20062.782542
## iter 20 value 20053.106854
## iter 20 value 20053.106809
## final value 20053.106809
## converged
## # weights: 25
## initial value 23424.811961
## iter 10 value 20065.726738
## iter 20 value 20053.140798
## final value 20053.007901
## converged
## # weights: 41
## initial value 23669.364623
## iter 10 value 20069.952946
## iter 20 value 20053.189523
## final value 20053.005480
## converged
## # weights: 9
## initial value 22265.518151
## final value 20053.560100
## converged
## # weights: 25
## initial value 22572.224939
## final value 20053.560100
## converged
## # weights: 41
## initial value 22414.279856
## final value 20053.560100
## converged
## # weights: 9
## initial value 23681.971425
## iter 10 value 20059.374326
## final value 20059.070979
## converged
## # weights: 25
## initial value 23084.383995
## iter 10 value 20060.240743
## final value 20057.536461
## converged
## # weights: 41
```

```
## initial value 22647.904751
## iter 10 value 20057.937487
## final value 20056.876982
## converged
## # weights: 9
## initial value 22306.547686
## iter 10 value 20063.949297
## iter 20 value 20053.679879
## iter 20 value 20053.679831
## final value 20053.679831
## converged
## # weights: 25
## initial value 22157.492933
## iter 10 value 20065.916067
## iter 20 value 20053.702555
## final value 20053.576238
## converged
## # weights: 41
## initial value 23521.334336
## iter 10 value 20069.991782
## iter 20 value 20053.749544
## final value 20053.577591
## converged
## # weights: 9
## initial value 22206.640163
## final value 20060.859700
## converged
## # weights: 25
## initial value 22355.200777
## final value 20060.859700
## converged
## # weights: 41
## initial value 22046.222095
## final value 20060.859700
## converged
## # weights: 9
## initial value 22133.200904
## iter 10 value 20083.302417
## iter 20 value 20066.393881
## final value 20066.371282
## converged
## # weights: 25
## initial value 21920.871203
## iter 10 value 20065.974360
## final value 20064.836607
## converged
## # weights: 41
## initial value 21716.938619
## iter 10 value 20074.813365
## iter 20 value 20064.179336
## final value 20064.176985
## converged
```

```
## # weights: 9
## initial value 22586.751981
## iter 10 value 20071.772295
## iter 20 value 20060.985514
## iter 20 value 20060.985463
## final value 20060.985463
## converged
## # weights: 25
## initial value 22460.029839
## iter 10 value 20076.635203
## iter 20 value 20061.041579
## final value 20060.872074
## converged
## # weights: 41
## initial value 23907.008059
## iter 10 value 20076.712035
## iter 20 value 20061.042465
## final value 20060.872375
## converged
## # weights: 9
## initial value 22368.327845
## final value 20056.305700
## converged
## # weights: 25
## initial value 22338.187663
## final value 20056.305700
## converged
## # weights: 41
## initial value 23981.084866
## final value 20056.305700
## converged
## # weights: 9
## initial value 22964.821085
## iter 10 value 20087.265497
## iter 20 value 20061.823505
## final value 20061.816727
## converged
## # weights: 25
## initial value 23656.002225
## iter 10 value 20061.885745
## iter 20 value 20060.282458
## iter 20 value 20060.282270
## iter 20 value 20060.282251
## final value 20060.282251
## converged
## # weights: 41
## initial value 23129.531217
## iter 10 value 20060.863353
## iter 20 value 20059.622708
## iter 20 value 20059.622587
## iter 20 value 20059.622562
## final value 20059.622562
```

```
## converged
## # weights: 9
## initial value 21981.646654
## iter 10 value 20065.303790
## iter 20 value 20056.409441
## iter 20 value 20056.409399
## final value 20056.409399
## converged
## # weights: 25
## initial value 22115.308214
## iter 10 value 20070.724016
## iter 20 value 20056.471932
## final value 20056.317259
## converged
## # weights: 41
## initial value 23579.794846
## iter 10 value 20073.224883
## iter 20 value 20056.500765
## final value 20056.317567
## converged
## # weights: 9
## initial value 22175.193999
## final value 20033.793700
## converged
## # weights: 25
## initial value 23049.822572
## final value 20033.793700
## converged
## # weights: 41
## initial value 23676.203733
## final value 20033.793700
## converged
## # weights: 9
## initial value 22342.578413
## iter 10 value 20039.616200
## final value 20039.303616
## converged
## # weights: 25
## initial value 23156.049745
## iter 10 value 20044.598018
## iter 20 value 20037.769629
## final value 20037.769380
## converged
## # weights: 41
## initial value 23144.550505
## iter 10 value 20047.425923
## iter 20 value 20037.111774
## final value 20037.109951
## converged
## # weights: 9
## initial value 23010.848098
## iter 10 value 20044.783703
```

```
## iter 20 value 20033.920406
## iter 20 value 20033.920355
## final value 20033.920355
## converged
## # weights: 25
## initial value 22956.608595
## iter 10 value 20048.993195
## iter 20 value 20033.968938
## final value 20033.808213
## converged
## # weights: 41
## initial value 22278.168950
## iter 10 value 20051.457077
## iter 20 value 20033.997345
## final value 20033.803509
## converged
## # weights: 9
## initial value 23329.006903
## final value 20042.376500
## converged
## # weights: 25
## initial value 21419.574428
## final value 20042.376500
## converged
## # weights: 41
## initial value 22037.213991
## final value 20042.376500
## converged
## # weights: 9
## initial value 22016.479097
## iter 10 value 20048.059180
## final value 20047.886759
## converged
## # weights: 25
## initial value 23010.222348
## iter 10 value 20048.248680
## iter 20 value 20046.352505
## iter 20 value 20046.352440
## iter 20 value 20046.352437
## final value 20046.352437
## converged
## # weights: 41
## initial value 22901.366786
## iter 10 value 20046.768835
## iter 20 value 20045.695422
## final value 20045.692949
## converged
## # weights: 9
## initial value 23496.698671
## iter 10 value 20052.232485
## iter 20 value 20042.490132
## iter 20 value 20042.490086
```

```
## final value 20042.490086
## converged
## # weights: 25
## initial value 22778.809109
## iter 10 value 20054.835592
## iter 20 value 20042.520144
## final value 20042.388643
## converged
## # weights: 41
## initial value 21984.074164
## iter 10 value 20060.381418
## iter 20 value 20042.584083
## final value 20042.387520
## converged
## # weights: 9
## initial value 23511.390051
## final value 20038.766500
## converged
## # weights: 25
## initial value 23633.062469
## final value 20038.766500
## converged
## # weights: 41
## initial value 22852.201754
## final value 20038.766500
## converged
## # weights: 9
## initial value 22743.977600
## iter 10 value 20045.044039
## final value 20044.276608
## converged
## # weights: 25
## initial value 21734.914559
## iter 10 value 20044.322053
## iter 20 value 20042.742556
## final value 20042.742308
## converged
## # weights: 41
## initial value 23040.733145
## iter 10 value 20044.262916
## final value 20042.082992
## converged
## # weights: 9
## initial value 22568.250046
## iter 10 value 20048.820679
## iter 20 value 20038.882417
## iter 20 value 20038.882370
## final value 20038.882370
## converged
## # weights: 25
## initial value 22907.807143
## iter 10 value 20052.536843
```

```
## iter 20 value 20038.925261
## final value 20038.778428
## converged
## # weights: 41
## initial value 21906.217535
## iter 10 value 20052.773712
## iter 20 value 20038.927992
## final value 20038.776665
## converged
## # weights: 9
## initial value 22954.832672
## final value 20053.560100
## converged
## # weights: 25
## initial value 23337.712355
## final value 20053.560100
## converged
## # weights: 41
## initial value 22078.839260
## final value 20053.560100
## converged
## # weights: 9
## initial value 22758.843963
## iter 10 value 20082.018570
## iter 20 value 20059.078533
## final value 20059.070990
## converged
## # weights: 25
## initial value 22084.764563
## iter 10 value 20058.713719
## final value 20057.536387
## converged
## # weights: 41
## initial value 21619.453053
## iter 10 value 20070.242165
## iter 20 value 20056.877069
## iter 20 value 20056.876889
## iter 20 value 20056.876864
## final value 20056.876864
## converged
## # weights: 9
## initial value 22635.283716
## iter 10 value 20063.721857
## iter 20 value 20053.677257
## iter 20 value 20053.677210
## final value 20053.677210
## converged
## # weights: 25
## initial value 24290.696396
## iter 10 value 20062.062468
## iter 20 value 20053.658126
## final value 20053.581205
```

```
## converged
## # weights: 41
## initial value 23556.729432
## iter 10 value 20071.050092
## iter 20 value 20053.761746
## final value 20053.573718
## converged
## # weights: 9
## initial value 22671.977729
## final value 20062.067600
## converged
## # weights: 25
## initial value 22787.413446
## final value 20062.067600
## converged
## # weights: 41
## initial value 21835.616919
## final value 20062.067600
## converged
## # weights: 9
## initial value 22131.367264
## iter 10 value 20068.603779
## final value 20067.579248
## converged
## # weights: 25
## initial value 21875.899612
## iter 10 value 20074.511547
## iter 20 value 20066.044718
## iter 20 value 20066.044625
## iter 20 value 20066.044583
## final value 20066.044583
## converged
## # weights: 41
## initial value 23722.299590
## iter 10 value 20080.692355
## iter 20 value 20065.385060
## iter 20 value 20065.384941
## iter 20 value 20065.384913
## final value 20065.384913
## converged
## # weights: 9
## initial value 21742.304770
## iter 10 value 20070.175524
## iter 20 value 20062.161078
## iter 20 value 20062.161041
## final value 20062.161041
## converged
## # weights: 25
## initial value 23126.417439
## iter 10 value 20076.999494
## iter 20 value 20062.239753
## final value 20062.084247
```



```
## converged
## # weights: 41
## initial value 21871.570728
## iter 10 value 20075.253798
## iter 20 value 20062.219627
## final value 20062.077877
## converged
## # weights: 9
## initial value 22190.360249
## final value 20003.262500
## converged
## # weights: 25
## initial value 23535.044833
## final value 20003.262500
## converged
## # weights: 41
## initial value 21302.754821
## final value 20003.262500
## converged
## # weights: 9
## initial value 21895.393360
## iter 10 value 20010.634602
## final value 20008.771523
## converged
## # weights: 25
## initial value 22867.053190
## iter 10 value 20008.332998
## final value 20007.237607
## converged
## # weights: 41
## initial value 23516.141610
## iter 10 value 20006.922170
## final value 20006.578236
## converged
## # weights: 9
## initial value 22807.401955
## iter 10 value 20013.416793
## iter 20 value 20003.379571
## iter 20 value 20003.379524
## final value 20003.379524
## converged
## # weights: 25
## initial value 22907.294129
## iter 10 value 20018.334201
## iter 20 value 20003.436265
## final value 20003.279016
## converged
## # weights: 41
## initial value 21450.134511
## iter 10 value 20015.582093
## iter 20 value 20003.404535
## final value 20003.271507
```

```
## converged
## # weights: 9
## initial value 22436.642118
## final value 20041.267700
## converged
## # weights: 25
## initial value 23577.135057
## final value 20041.267700
## converged
## # weights: 41
## initial value 22774.784490
## final value 20041.267700
## converged
## # weights: 9
## initial value 22408.596741
## iter 10 value 20047.573295
## final value 20046.777899
## converged
## # weights: 25
## initial value 22854.169283
## iter 10 value 20046.462239
## final value 20045.243590
## converged
## # weights: 41
## initial value 22932.144077
## iter 10 value 20045.470764
## final value 20044.584077
## converged
## # weights: 9
## initial value 23241.035358
## iter 10 value 20051.401510
## iter 20 value 20041.384535
## iter 20 value 20041.384488
## final value 20041.384488
## converged
## # weights: 25
## initial value 22651.618011
## iter 10 value 20057.526002
## iter 20 value 20041.455145
## final value 20041.281644
## converged
## # weights: 41
## initial value 22798.443896
## iter 10 value 20059.087263
## iter 20 value 20041.473146
## final value 20041.279320
## converged
## # weights: 9
## initial value 22451.660477
## final value 20047.409200
## converged
## # weights: 25
```

```
## initial value 22627.066320
## final value 20047.409200
## converged
## # weights: 41
## initial value 24268.254320
## final value 20047.409200
## converged
## # weights: 9
## initial value 23361.405309
## iter 10 value 20053.729648
## final value 20052.919722
## converged
## # weights: 25
## initial value 23121.075023
## iter 10 value 20052.688490
## iter 20 value 20051.387793
## final value 20051.385312
## converged
## # weights: 41
## initial value 23457.325362
## iter 10 value 20071.531584
## iter 20 value 20050.726518
## final value 20050.725953
## converged
## # weights: 9
## initial value 22631.379843
## iter 10 value 20057.775948
## iter 20 value 20047.528720
## iter 20 value 20047.528673
## final value 20047.528673
## converged
## # weights: 25
## initial value 22134.883483
## iter 10 value 20061.757713
## iter 20 value 20047.574627
## final value 20047.424426
## converged
## # weights: 41
## initial value 23877.331832
## iter 10 value 20062.670603
## iter 20 value 20047.585152
## final value 20047.422465
## converged
## # weights: 9
## initial value 22083.725609
## final value 20011.474000
## converged
## # weights: 25
## initial value 22766.191741
## final value 20011.474000
## converged
## # weights: 41
```

```
## initial value 21483.658081
## final value 20011.474000
## converged
## # weights: 9
## initial value 23489.184429
## iter 10 value 20017.869235
## final value 20016.983248
## converged
## # weights: 25
## initial value 21644.161527
## iter 10 value 20017.074006
## iter 20 value 20015.449312
## iter 20 value 20015.449234
## iter 20 value 20015.449231
## final value 20015.449231
## converged
## # weights: 41
## initial value 23239.595152
## iter 10 value 20015.465020
## final value 20014.789880
## converged
## # weights: 9
## initial value 22538.976220
## iter 10 value 20021.382574
## iter 20 value 20011.588238
## iter 20 value 20011.588192
## final value 20011.588192
## converged
## # weights: 25
## initial value 22856.785119
## iter 10 value 20025.387338
## iter 20 value 20011.634410
## final value 20011.486568
## converged
## # weights: 41
## initial value 21962.967912
## iter 10 value 20027.315999
## iter 20 value 20011.656646
## final value 20011.485378
## converged
## # weights: 9
## initial value 22213.255509
## final value 20017.201700
## converged
## # weights: 25
## initial value 21323.062059
## final value 20017.201700
## converged
## # weights: 41
## initial value 23202.029953
## final value 20017.201700
## converged
```

```
## # weights: 9
## initial value 21929.134847
## iter 10 value 20022.935955
## final value 20022.711052
## converged
## # weights: 25
## initial value 23036.172183
## iter 10 value 20022.585152
## iter 20 value 20021.177018
## iter 20 value 20021.176983
## iter 20 value 20021.176971
## final value 20021.176971
## converged
## # weights: 41
## initial value 21863.767036
## iter 10 value 20022.901466
## iter 20 value 20020.517903
## final value 20020.517612
## converged
## # weights: 9
## initial value 22560.404901
## iter 10 value 20028.739374
## iter 20 value 20017.334720
## iter 20 value 20017.334667
## final value 20017.334667
## converged
## # weights: 25
## initial value 23053.184347
## iter 10 value 20030.157588
## iter 20 value 20017.351071
## final value 20017.217586
## converged
## # weights: 41
## initial value 22047.648606
## iter 10 value 20031.849689
## iter 20 value 20017.370580
## final value 20017.212229
## converged
## # weights: 9
## initial value 22647.278644
## final value 20059.089700
## converged
## # weights: 25
## initial value 22712.587104
## final value 20059.089700
## converged
## # weights: 41
## initial value 22060.268371
## final value 20059.089700
## converged
## # weights: 9
## initial value 23563.731172
```

```
## iter 10 value 20065.445499
## final value 20064.600843
## converged
## # weights: 25
## initial value 22427.851362
## iter 10 value 20063.459129
## final value 20063.066198
## converged
## # weights: 41
## initial value 22219.602460
## iter 10 value 20066.921918
## iter 20 value 20062.407356
## final value 20062.406629
## converged
## # weights: 9
## initial value 23394.607119
## iter 10 value 20069.248505
## iter 20 value 20059.206823
## iter 20 value 20059.206776
## final value 20059.206776
## converged
## # weights: 25
## initial value 23266.854984
## iter 10 value 20073.761128
## iter 20 value 20059.258850
## final value 20059.108299
## converged
## # weights: 41
## initial value 22665.050771
## iter 10 value 20079.313971
## iter 20 value 20059.322870
## final value 20059.099786
## converged
## # weights: 9
## initial value 21862.035739
## final value 20051.880500
## converged
## # weights: 25
## initial value 22775.528582
## final value 20051.880500
## converged
## # weights: 41
## initial value 21690.460707
## final value 20051.880500
## converged
## # weights: 9
## initial value 23286.006095
## iter 10 value 20058.616520
## final value 20057.391219
## converged
## # weights: 25
## initial value 21782.387731
```

```
## iter 10 value 20056.246890
## final value 20055.856748
## converged
## # weights: 41
## initial value 23369.794043
## iter 10 value 20056.381450
## final value 20055.197201
## converged
## # weights: 9
## initial value 24061.085219
## iter 10 value 20059.934033
## iter 20 value 20051.973351
## iter 20 value 20051.973314
## final value 20051.973314
## converged
## # weights: 25
## initial value 23689.816205
## iter 10 value 20064.047145
## iter 20 value 20052.020772
## final value 20051.897953
## converged
## # weights: 41
## initial value 22709.321321
## iter 10 value 20071.522106
## iter 20 value 20052.106952
## final value 20051.892844
## converged
## # weights: 9
## initial value 23415.510273
## final value 19992.778000
## converged
## # weights: 25
## initial value 24110.290518
## final value 19992.778000
## converged
## # weights: 41
## initial value 23359.852826
## final value 19992.778000
## converged
## # weights: 9
## initial value 22413.116574
## iter 10 value 19998.362526
## final value 19998.286825
## converged
## # weights: 25
## initial value 23167.936862
## iter 10 value 19998.246598
## final value 19996.753006
## converged
## # weights: 41
## initial value 22839.744848
## iter 10 value 19997.393498
```

```
## iter 20 value 19996.093717
## iter 20 value 19996.093651
## iter 20 value 19996.093638
## final value 19996.093638
## converged
## # weights: 9
## initial value 23190.614823
## iter 10 value 20004.069992
## iter 20 value 19992.908188
## iter 20 value 19992.908136
## final value 19992.908136
## converged
## # weights: 25
## initial value 23469.029110
## iter 10 value 20006.355749
## iter 20 value 19992.934541
## final value 19992.795596
## converged
## # weights: 41
## initial value 22804.071948
## iter 10 value 20010.348033
## iter 20 value 19992.980569
## final value 19992.790636
## converged
## # weights: 9
## initial value 22436.214822
## final value 19941.288500
## converged
## # weights: 25
## initial value 23490.381710
## final value 19941.288500
## converged
## # weights: 41
## initial value 22523.714140
## final value 19941.288500
## converged
## # weights: 9
## initial value 21987.572532
## iter 10 value 19950.109187
## final value 19946.796420
## converged
## # weights: 25
## initial value 22492.291731
## iter 10 value 19951.573581
## iter 20 value 19945.264399
## final value 19945.263039
## converged
## # weights: 41
## initial value 21862.653185
## iter 10 value 19946.268124
## final value 19944.603782
## converged
```



```
## # weights: 9
## initial value 22409.078031
## iter 10 value 19953.108434
## iter 20 value 19941.424775
## iter 20 value 19941.424720
## final value 19941.424720
## converged
## # weights: 25
## initial value 22321.049065
## iter 10 value 19955.581117
## iter 20 value 19941.453283
## final value 19941.302100
## converged
## # weights: 41
## initial value 23196.955753
## iter 10 value 19956.449241
## iter 20 value 19941.463291
## final value 19941.304040
## converged
## # weights: 9
## initial value 23155.394002
## final value 20010.897200
## converged
## # weights: 25
## initial value 22733.044356
## final value 20010.897200
## converged
## # weights: 41
## initial value 21788.862874
## final value 20010.897200
## converged
## # weights: 9
## initial value 22330.278610
## iter 10 value 20016.740366
## final value 20016.406418
## converged
## # weights: 25
## initial value 22258.793256
## iter 10 value 20016.197879
## final value 20014.872454
## converged
## # weights: 41
## initial value 24034.419271
## iter 10 value 20025.034135
## iter 20 value 20014.221268
## final value 20014.213101
## converged
## # weights: 9
## initial value 22289.880871
## iter 10 value 20020.281128
## iter 20 value 20011.005389
## iter 20 value 20011.005346
```

```
## final value 20011.005346
## converged
## # weights: 25
## initial value 23349.181379
## iter 10 value 20024.844709
## iter 20 value 20011.058004
## final value 20010.910149
## converged
## # weights: 41
## initial value 24001.940574
## iter 10 value 20024.124310
## iter 20 value 20011.049698
## final value 20010.909393
## converged
## # weights: 9
## initial value 22701.498459
## final value 20048.501200
## converged
## # weights: 25
## initial value 22295.039699
## final value 20048.501200
## converged
## # weights: 41
## initial value 21414.699212
## final value 20048.501200
## converged
## # weights: 9
## initial value 23620.286516
## iter 10 value 20054.688175
## final value 20054.011722
## converged
## # weights: 25
## initial value 23136.071796
## iter 10 value 20053.468309
## final value 20052.477269
## converged
## # weights: 41
## initial value 23570.223931
## iter 10 value 20057.807631
## iter 20 value 20051.817925
## iter 20 value 20051.817824
## iter 20 value 20051.817781
## final value 20051.817781
## converged
## # weights: 9
## initial value 22339.932661
## iter 10 value 20058.037322
## iter 20 value 20048.611144
## iter 20 value 20048.611100
## final value 20048.611100
## converged
## # weights: 25
```

```
## initial value 23044.008446
## iter 10 value 20065.576138
## iter 20 value 20048.698061
## final value 20048.516502
## converged
## # weights: 41
## initial value 21401.443866
## iter 10 value 20057.957974
## iter 20 value 20048.610229
## final value 20048.511023
## converged
## # weights: 9
## initial value 21898.893036
## final value 20061.374500
## converged
## # weights: 25
## initial value 21984.893499
## final value 20061.374500
## converged
## # weights: 41
## initial value 22643.480072
## final value 20061.374500
## converged
## # weights: 9
## initial value 23907.243484
## iter 10 value 20069.147248
## final value 20066.886009
## converged
## # weights: 25
## initial value 23375.468972
## iter 10 value 20065.941902
## final value 20065.351289
## converged
## # weights: 41
## initial value 23811.393007
## iter 10 value 20066.022222
## iter 20 value 20064.691693
## iter 20 value 20064.691637
## iter 20 value 20064.691633
## final value 20064.691633
## converged
## # weights: 9
## initial value 22894.186635
## iter 10 value 20071.891828
## iter 20 value 20061.495757
## iter 20 value 20061.495708
## final value 20061.495708
## converged
## # weights: 25
## initial value 22533.164107
## iter 10 value 20077.466400
## iter 20 value 20061.560027
```

```
## final value 20061.386232
## converged
## # weights: 41
## initial value 22424.586714
## iter 10 value 20080.905846
## iter 20 value 20061.599681
## final value 20061.384679
## converged
## # weights: 9
## initial value 22429.964282
## final value 20040.797200
## converged
## # weights: 25
## initial value 21693.354804
## final value 20040.797200
## converged
## # weights: 41
## initial value 22955.118788
## final value 20040.797200
## converged
## # weights: 9
## initial value 23568.161139
## iter 10 value 20049.332409
## final value 20046.307389
## converged
## # weights: 25
## initial value 23383.075209
## iter 10 value 20047.659177
## iter 20 value 20044.775766
## final value 20044.773140
## converged
## # weights: 41
## initial value 23478.397746
## iter 10 value 20044.959632
## final value 20044.113573
## converged
## # weights: 9
## initial value 22335.109937
## iter 10 value 20051.691035
## iter 20 value 20040.922797
## iter 20 value 20040.922747
## final value 20040.922747
## converged
## # weights: 25
## initial value 23246.660275
## iter 10 value 20053.209607
## iter 20 value 20040.940305
## final value 20040.812669
## converged
## # weights: 41
## initial value 22642.158076
## iter 10 value 20060.394684
```

```
## iter 20 value 20041.023144
## final value 20040.807218
## converged
## # weights: 9
## initial value 22732.761327
## final value 20052.014500
## converged
## # weights: 25
## initial value 21726.576762
## final value 20052.014500
## converged
## # weights: 41
## initial value 21599.924574
## final value 20052.014500
## converged
## # weights: 9
## initial value 22690.720480
## iter 10 value 20057.652135
## final value 20057.525249
## converged
## # weights: 25
## initial value 23288.986038
## iter 10 value 20057.154054
## final value 20055.990846
## converged
## # weights: 41
## initial value 21507.729489
## iter 10 value 20056.287202
## final value 20055.331314
## converged
## # weights: 9
## initial value 23178.647881
## iter 10 value 20061.355505
## iter 20 value 20052.122194
## iter 20 value 20052.122151
## final value 20052.122151
## converged
## # weights: 25
## initial value 23622.857179
## iter 10 value 20064.649158
## iter 20 value 20052.160168
## final value 20052.028600
## converged
## # weights: 41
## initial value 22267.770508
## iter 10 value 20070.698730
## iter 20 value 20052.229915
## final value 20052.023943
## converged
## # weights: 9
## initial value 23110.867550
## final value 19987.480100
```

```
## converged
## # weights: 25
## initial value 21555.064471
## final value 19987.480100
## converged
## # weights: 41
## initial value 22503.943382
## final value 19987.480100
## converged
## # weights: 9
## initial value 23131.140990
## iter 10 value 19993.587538
## final value 19992.988811
## converged
## # weights: 25
## initial value 23869.346298
## iter 10 value 19996.686681
## iter 20 value 19991.456252
## final value 19991.455057
## converged
## # weights: 41
## initial value 23066.222998
## iter 10 value 19991.481354
## iter 20 value 19990.795773
## iter 20 value 19990.795694
## iter 20 value 19990.795690
## final value 19990.795690
## converged
## # weights: 9
## initial value 22758.936481
## iter 10 value 19997.487683
## iter 20 value 19987.595480
## iter 20 value 19987.595433
## final value 19987.595433
## converged
## # weights: 25
## initial value 22244.777792
## iter 10 value 20002.092042
## iter 20 value 19987.648564
## final value 19987.498073
## converged
## # weights: 41
## initial value 22781.723785
## iter 10 value 20008.615728
## iter 20 value 19987.723777
## final value 19987.491134
## converged
## # weights: 9
## initial value 22622.221906
## final value 19970.625700
## converged
## # weights: 25
```

```
## initial value 21394.036408
## final value 19970.625700
## converged
## # weights: 41
## initial value 23086.323696
## final value 19970.625700
## converged
## # weights: 9
## initial value 22698.696317
## iter 10 value 19977.965403
## final value 19976.134074
## converged
## # weights: 25
## initial value 22483.971160
## iter 10 value 19979.565429
## iter 20 value 19974.602856
## final value 19974.600482
## converged
## # weights: 41
## initial value 23378.188106
## iter 10 value 19986.124051
## iter 20 value 19973.944636
## final value 19973.941153
## converged
## # weights: 9
## initial value 23314.289343
## iter 10 value 19980.453381
## iter 20 value 19970.739005
## iter 20 value 19970.738960
## final value 19970.738960
## converged
## # weights: 25
## initial value 23572.205623
## iter 10 value 19984.374080
## iter 20 value 19970.784208
## final value 19970.639757
## converged
## # weights: 41
## initial value 21927.197610
## iter 10 value 19986.310354
## iter 20 value 19970.806532
## final value 19970.635610
## converged
## # weights: 9
## initial value 22608.816191
## final value 19971.202000
## converged
## # weights: 25
## initial value 23092.433847
## final value 19971.202000
## converged
## # weights: 41
```

```
## initial value 23615.375340
## final value 19971.202000
## converged
## # weights: 9
## initial value 23747.766397
## iter 10 value 19978.321269
## final value 19976.710411
## converged
## # weights: 25
## initial value 22592.156597
## iter 10 value 19977.294416
## iter 20 value 19975.181204
## final value 19975.176752
## converged
## # weights: 41
## initial value 22779.822216
## iter 10 value 19975.899266
## iter 20 value 19974.517776
## final value 19974.517453
## converged
## # weights: 9
## initial value 22939.970291
## iter 10 value 19982.508880
## iter 20 value 19971.332359
## iter 20 value 19971.332307
## final value 19971.332307
## converged
## # weights: 25
## initial value 22264.868819
## iter 10 value 19984.366137
## iter 20 value 19971.353772
## final value 19971.213315
## converged
## # weights: 41
## initial value 22019.671627
## iter 10 value 19987.497525
## iter 20 value 19971.389875
## iter 30 value 19971.211768
## iter 30 value 19971.211766
## iter 30 value 19971.211764
## final value 19971.211764
## converged
## # weights: 9
## initial value 22340.214660
## final value 20033.685200
## converged
## # weights: 25
## initial value 22755.594302
## final value 20033.685200
## converged
## # weights: 41
## initial value 23036.072839
```



```
## final value 20033.685200
## converged
## # weights: 9
## initial value 22850.389467
## iter 10 value 20040.994205
## final value 20039.195105
## converged
## # weights: 25
## initial value 22267.045943
## iter 10 value 20040.685475
## iter 20 value 20037.660953
## iter 20 value 20037.660885
## iter 20 value 20037.660883
## final value 20037.660883
## converged
## # weights: 41
## initial value 23066.844150
## iter 10 value 20038.770855
## iter 20 value 20037.001635
## iter 20 value 20037.001470
## iter 20 value 20037.001450
## final value 20037.001450
## converged
## # weights: 9
## initial value 22415.568727
## iter 10 value 20043.172906
## iter 20 value 20033.794586
## iter 20 value 20033.794542
## final value 20033.794542
## converged
## # weights: 25
## initial value 22575.527384
## iter 10 value 20049.220643
## iter 20 value 20033.864311
## final value 20033.696664
## converged
## # weights: 41
## initial value 22312.162878
## iter 10 value 20050.480060
## iter 20 value 20033.878832
## final value 20033.695715
## converged
## # weights: 9
## initial value 22247.274992
## final value 20021.050000
## converged
## # weights: 25
## initial value 22382.767155
## final value 20021.050000
## converged
## # weights: 41
## initial value 24381.729767
```

```
## final value 20021.050000
## converged
## # weights: 9
## initial value 23209.774763
## iter 10 value 20026.781987
## final value 20026.559502
## converged
## # weights: 25
## initial value 21932.590003
## iter 10 value 20034.798434
## iter 20 value 20025.025986
## final value 20025.025411
## converged
## # weights: 41
## initial value 23248.035924
## iter 10 value 20027.019406
## iter 20 value 20024.366089
## iter 20 value 20024.366006
## iter 20 value 20024.366003
## final value 20024.366003
## converged
## # weights: 9
## initial value 23513.827050
## iter 10 value 20031.366626
## iter 20 value 20021.168943
## iter 20 value 20021.168895
## final value 20021.168895
## converged
## # weights: 25
## initial value 23783.077094
## iter 10 value 20032.861427
## iter 20 value 20021.186176
## final value 20021.065676
## converged
## # weights: 41
## initial value 22756.511955
## iter 10 value 20036.889477
## iter 20 value 20021.232617
## final value 20021.062396
## converged
## # weights: 9
## initial value 23039.510531
## final value 20057.167600
## converged
## # weights: 25
## initial value 22448.290206
## final value 20057.167600
## converged
## # weights: 41
## initial value 22978.347314
## final value 20057.167600
## converged
```

```
## # weights: 9
## initial value 21962.224396
## iter 10 value 20064.441522
## final value 20062.678670
## converged
## # weights: 25
## initial value 22748.892699
## iter 10 value 20062.911849
## iter 20 value 20061.144349
## final value 20061.144061
## converged
## # weights: 41
## initial value 22590.076724
## iter 10 value 20060.790300
## final value 20060.484518
## converged
## # weights: 9
## initial value 21977.913204
## iter 10 value 20065.070366
## iter 20 value 20057.258713
## iter 20 value 20057.258676
## final value 20057.258676
## converged
## # weights: 25
## initial value 22185.736746
## iter 10 value 20070.308355
## iter 20 value 20057.319103
## final value 20057.183030
## converged
## # weights: 41
## initial value 23759.032473
## iter 10 value 20070.915226
## iter 20 value 20057.326099
## final value 20057.180345
## converged
## # weights: 9
## initial value 21979.679738
## final value 20053.560100
## converged
## # weights: 25
## initial value 22681.731240
## final value 20053.560100
## converged
## # weights: 41
## initial value 22041.186400
## final value 20053.560100
## converged
## # weights: 9
## initial value 21864.012729
## iter 10 value 20060.332474
## final value 20059.070948
## converged
```

```
## # weights: 25
## initial value 23216.474326
## iter 10 value 20067.172494
## iter 20 value 20057.553441
## final value 20057.536478
## converged
## # weights: 41
## initial value 21203.004748
## iter 10 value 20068.647766
## iter 20 value 20056.877681
## final value 20056.876854
## converged
## # weights: 9
## initial value 21817.610126
## iter 10 value 20062.606086
## iter 20 value 20053.664393
## iter 20 value 20053.664351
## final value 20053.664351
## converged
## # weights: 25
## initial value 21960.553349
## iter 10 value 20064.058271
## iter 20 value 20053.681136
## final value 20053.573992
## converged
## # weights: 41
## initial value 23834.184357
## iter 10 value 20069.359031
## iter 20 value 20053.742249
## final value 20053.571447
## converged
## # weights: 9
## initial value 22032.689542
## final value 20030.907700
## converged
## # weights: 25
## initial value 23142.934510
## final value 20030.907700
## converged
## # weights: 41
## initial value 23446.131681
## final value 20030.907700
## converged
## # weights: 9
## initial value 22277.759381
## iter 10 value 20037.277863
## final value 20036.417476
## converged
## # weights: 25
## initial value 22263.941706
## iter 10 value 20035.901344
## final value 20034.883367
```

```
## converged
## # weights: 41
## initial value 23159.186695
## iter 10 value 20034.853219
## final value 20034.223825
## converged
## # weights: 9
## initial value 21960.854663
## iter 10 value 20040.003183
## iter 20 value 20031.012564
## iter 20 value 20031.012522
## final value 20031.012522
## converged
## # weights: 25
## initial value 22052.963702
## iter 10 value 20045.915042
## iter 20 value 20031.080723
## final value 20030.921873
## converged
## # weights: 41
## initial value 23506.593623
## iter 10 value 20048.742100
## iter 20 value 20031.113317
## final value 20030.922176
## converged
## # weights: 9
## initial value 21949.672960
## final value 20016.930100
## converged
## # weights: 25
## initial value 23009.894828
## final value 20016.930100
## converged
## # weights: 41
## initial value 23200.076060
## final value 20016.930100
## converged
## # weights: 9
## initial value 22098.467785
## iter 10 value 20022.894807
## final value 20022.439456
## converged
## # weights: 25
## initial value 21894.019200
## iter 10 value 20022.673485
## final value 20020.905406
## converged
## # weights: 41
## initial value 21869.446379
## iter 10 value 20025.166782
## iter 20 value 20020.246271
## final value 20020.246002
```

```
## converged
## # weights: 9
## initial value 22860.623859
## iter 10 value 20028.412848
## iter 20 value 20017.062487
## iter 20 value 20017.062434
## final value 20017.062434
## converged
## # weights: 25
## initial value 23082.272441
## iter 10 value 20030.842851
## iter 20 value 20017.090503
## final value 20016.946551
## converged
## # weights: 41
## initial value 22747.011793
## iter 10 value 20037.135014
## iter 20 value 20017.163047
## final value 20016.941055
## converged
## # weights: 9
## initial value 22978.878772
## final value 20004.034000
## converged
## # weights: 25
## initial value 23713.180417
## final value 20004.034000
## converged
## # weights: 41
## initial value 22905.860965
## final value 20004.034000
## converged
## # weights: 9
## initial value 22188.048944
## iter 10 value 20009.913547
## final value 20009.543068
## converged
## # weights: 25
## initial value 23893.503048
## iter 10 value 20009.223869
## iter 20 value 20008.009184
## iter 20 value 20008.009125
## iter 20 value 20008.009122
## final value 20008.009122
## converged
## # weights: 41
## initial value 22469.811442
## iter 10 value 20008.064142
## final value 20007.349907
## converged
## # weights: 9
## initial value 22166.190639
```

```
## iter 10 value 20012.816933
## iter 20 value 20004.135260
## iter 20 value 20004.135220
## final value 20004.135220
## converged
## # weights: 25
## initial value 22050.448217
## iter 10 value 20017.144584
## iter 20 value 20004.185155
## final value 20004.047629
## converged
## # weights: 41
## initial value 24175.947803
## iter 10 value 20013.922658
## iter 20 value 20004.148008
## final value 20004.054987
## converged
## # weights: 9
## initial value 22060.513594
## final value 20043.810100
## converged
## # weights: 25
## initial value 22459.709666
## final value 20043.810100
## converged
## # weights: 41
## initial value 23121.498309
## final value 20043.810100
## converged
## # weights: 9
## initial value 23106.207332
## iter 10 value 20051.005573
## final value 20049.320423
## converged
## # weights: 25
## initial value 22172.823829
## iter 10 value 20055.478911
## iter 20 value 20047.786584
## final value 20047.786032
## converged
## # weights: 41
## initial value 22340.615539
## iter 10 value 20050.997425
## iter 20 value 20047.127076
## final value 20047.126544
## converged
## # weights: 9
## initial value 23777.193366
## iter 10 value 20051.632738
## iter 20 value 20043.900289
## iter 20 value 20043.900253
## final value 20043.900253
```

```
## converged
## # weights: 25
## initial value 21629.301179
## iter 10 value 20054.172820
## iter 20 value 20043.929574
## final value 20043.821800
## converged
## # weights: 41
## initial value 21208.111800
## iter 10 value 20051.890390
## iter 20 value 20043.903259
## final value 20043.819049
## converged
## # weights: 9
## initial value 22485.168114
## final value 19959.334000
## converged
## # weights: 25
## initial value 23877.700643
## final value 19959.334000
## converged
## # weights: 41
## initial value 22899.464897
## final value 19959.334000
## converged
## # weights: 9
## initial value 21580.774251
## iter 10 value 19965.238946
## final value 19964.842206
## converged
## # weights: 25
## initial value 23074.010076
## iter 10 value 19963.805943
## final value 19963.308735
## converged
## # weights: 41
## initial value 21556.406816
## iter 10 value 19976.203997
## iter 20 value 19962.650159
## final value 19962.649376
## converged
## # weights: 9
## initial value 22891.604626
## iter 10 value 19970.339077
## iter 20 value 19959.460880
## iter 20 value 19959.460829
## final value 19959.460829
## converged
## # weights: 25
## initial value 23327.872842
## iter 10 value 19972.677180
## iter 20 value 19959.487836
```



```
## final value 19959.348825
## converged
## # weights: 41
## initial value 22852.815496
## iter 10 value 19980.023586
## iter 20 value 19959.572535
## final value 19959.343721
## converged
## # weights: 9
## initial value 21724.795390
## final value 20045.864500
## converged
## # weights: 25
## initial value 23555.573086
## final value 20045.864500
## converged
## # weights: 41
## initial value 22287.877013
## final value 20045.864500
## converged
## # weights: 9
## initial value 22536.714737
## iter 10 value 20053.093256
## final value 20051.374881
## converged
## # weights: 25
## initial value 21487.848255
## iter 10 value 20051.741191
## iter 20 value 20049.840642
## iter 20 value 20049.840531
## iter 20 value 20049.840498
## final value 20049.840498
## converged
## # weights: 41
## initial value 22250.208024
## iter 10 value 20064.708429
## iter 20 value 20049.187007
## final value 20049.181043
## converged
## # weights: 9
## initial value 23284.015024
## iter 10 value 20055.312067
## iter 20 value 20045.973423
## iter 20 value 20045.973379
## final value 20045.973379
## converged
## # weights: 25
## initial value 23411.477280
## iter 10 value 20058.401086
## iter 20 value 20046.009037
## final value 20045.878477
## converged
```

```
## # weights: 41
## initial value 21891.856178
## iter 10 value 20060.145366
## iter 20 value 20046.029147
## final value 20045.874757
## converged
## # weights: 9
## initial value 22671.791209
## final value 20012.902000
## converged
## # weights: 25
## initial value 23420.245574
## final value 20012.902000
## converged
## # weights: 41
## initial value 23312.657049
## final value 20012.902000
## converged
## # weights: 9
## initial value 22773.886535
## iter 10 value 20021.607738
## final value 20018.411277
## converged
## # weights: 25
## initial value 21897.380710
## iter 10 value 20019.378371
## final value 20016.877306
## converged
## # weights: 41
## initial value 22398.588412
## iter 10 value 20017.938918
## iter 20 value 20016.218156
## final value 20016.217868
## converged
## # weights: 9
## initial value 23763.690948
## iter 10 value 20021.662494
## iter 20 value 20013.003002
## iter 20 value 20013.002961
## final value 20013.002961
## converged
## # weights: 25
## initial value 22114.276313
## iter 10 value 20026.339841
## iter 20 value 20013.056928
## final value 20012.916139
## converged
## # weights: 41
## initial value 22999.449384
## iter 10 value 20033.527747
## iter 20 value 20013.139799
## final value 20012.912186
```

```
## converged
## # weights: 9
## initial value 22526.142836
## final value 19915.790500
## converged
## # weights: 25
## initial value 23870.205165
## final value 19915.790500
## converged
## # weights: 41
## initial value 23854.991614
## final value 19915.790500
## converged
## # weights: 9
## initial value 22851.036446
## iter 10 value 19921.525818
## final value 19921.297945
## converged
## # weights: 25
## initial value 22985.585915
## iter 10 value 19927.447671
## iter 20 value 19919.765601
## final value 19919.764589
## converged
## # weights: 41
## initial value 23428.946008
## iter 10 value 19921.552349
## iter 20 value 19919.107715
## final value 19919.105600
## converged
## # weights: 9
## initial value 21868.668445
## iter 10 value 19925.472832
## iter 20 value 19915.902130
## iter 20 value 19915.902085
## final value 19915.902085
## converged
## # weights: 25
## initial value 22182.837189
## iter 10 value 19929.644172
## iter 20 value 19915.950222
## final value 19915.806166
## converged
## # weights: 41
## initial value 21012.770021
## iter 10 value 19923.908564
## iter 20 value 19915.884095
## final value 19915.799631
## converged
## # weights: 9
## initial value 23181.227064
## final value 20004.647600
```

```
## converged
## # weights: 25
## initial value 23667.113953
## final value 20004.647600
## converged
## # weights: 41
## initial value 23885.142075
## final value 20004.647600
## converged
## # weights: 9
## initial value 22084.447347
## iter 10 value 20010.262385
## final value 20010.156677
## converged
## # weights: 25
## initial value 23158.846352
## iter 10 value 20009.048106
## iter 20 value 20008.622852
## iter 20 value 20008.622784
## iter 20 value 20008.622765
## final value 20008.622765
## converged
## # weights: 41
## initial value 22535.349900
## iter 10 value 20022.156956
## iter 20 value 20007.981254
## final value 20007.963379
## converged
## # weights: 9
## initial value 21881.695624
## iter 10 value 20013.245946
## iter 20 value 20004.746732
## iter 20 value 20004.746693
## final value 20004.746693
## converged
## # weights: 25
## initial value 22065.900406
## iter 10 value 20018.277683
## iter 20 value 20004.804744
## final value 20004.662628
## converged
## # weights: 41
## initial value 22393.145759
## iter 10 value 20021.378626
## iter 20 value 20004.840496
## final value 20004.657817
## converged
## # weights: 9
## initial value 23585.437520
## final value 19992.105200
## converged
## # weights: 25
```

```
## initial value 23420.140696
## final value 19992.105200
## converged
## # weights: 41
## initial value 23181.071848
## final value 19992.105200
## converged
## # weights: 9
## initial value 21847.085260
## iter 10 value 19997.716929
## final value 19997.613956
## converged
## # weights: 25
## initial value 22108.910091
## iter 10 value 20006.475018
## iter 20 value 19996.080193
## iter 20 value 19996.080152
## iter 20 value 19996.080129
## final value 19996.080129
## converged
## # weights: 41
## initial value 22008.259483
## iter 10 value 20008.760790
## iter 20 value 19995.422401
## final value 19995.420803
## converged
## # weights: 9
## initial value 22295.111997
## iter 10 value 20003.054657
## iter 20 value 19992.231439
## iter 20 value 19992.231388
## final value 19992.231388
## converged
## # weights: 25
## initial value 21157.098449
## iter 10 value 19999.661392
## iter 20 value 19992.192317
## final value 19992.116257
## converged
## # weights: 41
## initial value 23267.244864
## iter 10 value 20010.605874
## iter 20 value 19992.318498
## final value 19992.118791
## converged
## # weights: 9
## initial value 22708.119402
## final value 20042.649200
## converged
## # weights: 25
## initial value 23580.797504
## final value 20042.649200
```

```
## converged
## # weights: 41
## initial value 22508.768954
## final value 20042.649200
## converged
## # weights: 9
## initial value 22918.192868
## iter 10 value 20049.782834
## final value 20048.159474
## converged
## # weights: 25
## initial value 21870.431600
## iter 10 value 20048.506169
## final value 20046.625222
## converged
## # weights: 41
## initial value 22460.928657
## iter 10 value 20047.604754
## iter 20 value 20045.965937
## final value 20045.965613
## converged
## # weights: 9
## initial value 21572.628607
## iter 10 value 20049.227350
## iter 20 value 20042.725041
## iter 20 value 20042.725011
## final value 20042.725011
## converged
## # weights: 25
## initial value 22741.467898
## iter 10 value 20057.988912
## iter 20 value 20042.826055
## final value 20042.664408
## converged
## # weights: 41
## initial value 23631.611140
## iter 10 value 20058.899010
## iter 20 value 20042.836548
## final value 20042.663497
## converged
## # weights: 9
## initial value 22539.797319
## final value 19993.947700
## converged
## # weights: 25
## initial value 21885.413788
## final value 19993.947700
## converged
## # weights: 41
## initial value 22850.585917
## final value 19993.947700
## converged
```

```
## # weights: 9
## initial value 21873.774602
## iter 10 value 19999.605275
## final value 19999.456526
## converged
## # weights: 25
## initial value 22343.482372
## iter 10 value 19998.300265
## final value 19997.922672
## converged
## # weights: 41
## initial value 22828.627073
## iter 10 value 20011.669336
## iter 20 value 19997.264213
## final value 19997.263420
## converged
## # weights: 9
## initial value 23840.327435
## iter 10 value 20002.058393
## iter 20 value 19994.041210
## iter 20 value 19994.041173
## final value 19994.041173
## converged
## # weights: 25
## initial value 23597.078746
## iter 10 value 20005.382088
## iter 20 value 19994.079530
## final value 19993.961656
## converged
## # weights: 41
## initial value 21896.428816
## iter 10 value 20007.695499
## iter 20 value 19994.106201
## final value 19993.958156
## converged
## # weights: 9
## initial value 22181.267740
## final value 19988.865700
## converged
## # weights: 25
## initial value 21400.546649
## final value 19988.865700
## converged
## # weights: 41
## initial value 23024.879972
## final value 19988.865700
## converged
## # weights: 9
## initial value 23602.063009
## iter 10 value 19994.708257
## final value 19994.374355
## converged
```

```
## # weights: 25
## initial value 22920.999495
## iter 10 value 19996.409152
## final value 19992.840592
## converged
## # weights: 41
## initial value 22117.867627
## iter 10 value 19993.047044
## final value 19992.181242
## converged
## # weights: 9
## initial value 22224.893964
## iter 10 value 19998.857248
## iter 20 value 19988.980895
## iter 20 value 19988.980849
## final value 19988.980849
## converged
## # weights: 25
## initial value 22764.230088
## iter 10 value 20002.838007
## iter 20 value 19989.026790
## final value 19988.883290
## converged
## # weights: 41
## initial value 23898.297282
## iter 10 value 20003.885995
## iter 20 value 19989.038872
## final value 19988.881122
## converged
## # weights: 9
## initial value 22476.061460
## final value 20022.720500
## converged
## # weights: 25
## initial value 23087.474852
## final value 20022.720500
## converged
## # weights: 41
## initial value 22565.987704
## final value 20022.720500
## converged
## # weights: 9
## initial value 22586.934727
## iter 10 value 20030.553152
## final value 20028.229990
## converged
## # weights: 25
## initial value 21974.242976
## iter 10 value 20027.615042
## final value 20026.695868
## converged
## # weights: 41
```



```
## initial value 23501.440928
## iter 10 value 20039.155989
## iter 20 value 20026.036958
## final value 20026.036495
## converged
## # weights: 9
## initial value 23335.859055
## iter 10 value 20033.255824
## iter 20 value 20022.841964
## iter 20 value 20022.841915
## final value 20022.841915
## converged
## # weights: 25
## initial value 23259.079809
## iter 10 value 20035.597810
## iter 20 value 20022.868965
## final value 20022.733068
## converged
## # weights: 41
## initial value 23957.841819
## iter 10 value 20036.303057
## iter 20 value 20022.877096
## final value 20022.735868
## converged
## # weights: 9
## initial value 23498.057759
## final value 20054.818000
## converged
## # weights: 25
## initial value 23397.501254
## final value 20054.818000
## converged
## # weights: 41
## initial value 22232.953849
## final value 20054.818000
## converged
## # weights: 9
## initial value 23429.219758
## iter 10 value 20061.736299
## final value 20060.328897
## converged
## # weights: 25
## initial value 23226.694458
## iter 10 value 20059.353488
## final value 20058.794400
## converged
## # weights: 41
## initial value 21269.001313
## iter 10 value 20073.636638
## final value 20058.134910
## converged
## # weights: 9
```

```
## initial value 22197.791869
## iter 10 value 20065.271227
## iter 20 value 20054.938518
## iter 20 value 20054.938469
## final value 20054.938469
## converged
## # weights: 25
## initial value 23422.730406
## iter 10 value 20067.459979
## iter 20 value 20054.963752
## final value 20054.830635
## converged
## # weights: 41
## initial value 24477.673285
## iter 10 value 20063.566280
## iter 20 value 20054.918861
## final value 20054.833310
## converged
## # weights: 9
## initial value 21850.151376
## final value 19976.494000
## converged
## # weights: 25
## initial value 23642.484037
## final value 19976.494000
## converged
## # weights: 41
## initial value 23802.875493
## final value 19976.494000
## converged
## # weights: 9
## initial value 22668.535571
## iter 10 value 20006.100931
## iter 20 value 19982.005289
## final value 19982.002487
## converged
## # weights: 25
## initial value 22681.084675
## iter 10 value 19982.514495
## iter 20 value 19980.468885
## iter 20 value 19980.468756
## iter 20 value 19980.468755
## final value 19980.468755
## converged
## # weights: 41
## initial value 22939.490485
## iter 10 value 19980.676939
## final value 19979.809422
## converged
## # weights: 9
## initial value 23625.207617
## iter 10 value 19985.142246
```

```
## iter 20 value 19976.593707
## iter 20 value 19976.593668
## final value 19976.593668
## converged
## # weights: 25
## initial value 22918.750582
## iter 10 value 19992.193594
## iter 20 value 19976.675004
## final value 19976.507167
## converged
## # weights: 41
## initial value 22596.780725
## iter 10 value 19995.713443
## iter 20 value 19976.715585
## final value 19976.504754
## converged
## # weights: 9
## initial value 21957.143957
## final value 19941.950000
## converged
## # weights: 25
## initial value 22633.182680
## final value 19941.950000
## converged
## # weights: 41
## initial value 22821.819350
## final value 19941.950000
## converged
## # weights: 9
## initial value 22857.302224
## iter 10 value 19949.645131
## final value 19947.457871
## converged
## # weights: 25
## initial value 22439.753342
## iter 10 value 19947.812488
## iter 20 value 19945.924444
## iter 20 value 19945.924373
## iter 20 value 19945.924367
## final value 19945.924367
## converged
## # weights: 41
## initial value 23150.173542
## iter 10 value 19946.639020
## final value 19945.265219
## converged
## # weights: 9
## initial value 21970.059734
## iter 10 value 19951.692344
## iter 20 value 19942.062322
## iter 20 value 19942.062277
## final value 19942.062277
```

```
## converged
## # weights: 25
## initial value 22917.382124
## iter 10 value 19957.003795
## iter 20 value 19942.123558
## final value 19941.965744
## converged
## # weights: 41
## initial value 23765.577128
## iter 10 value 19955.731584
## iter 20 value 19942.108891
## final value 19941.964205
## converged
## # weights: 9
## initial value 22273.970210
## final value 20049.627700
## converged
## # weights: 25
## initial value 23557.939890
## final value 20049.627700
## converged
## # weights: 41
## initial value 21823.683958
## final value 20049.627700
## converged
## # weights: 9
## initial value 23183.528587
## iter 10 value 20076.933214
## iter 20 value 20055.161214
## final value 20055.138324
## converged
## # weights: 25
## initial value 22826.135702
## iter 10 value 20055.229214
## final value 20053.603939
## converged
## # weights: 41
## initial value 22450.975646
## iter 10 value 20058.437350
## iter 20 value 20052.944714
## final value 20052.944360
## converged
## # weights: 9
## initial value 22152.167550
## iter 10 value 20060.342384
## iter 20 value 20049.751232
## iter 20 value 20049.751182
## final value 20049.751182
## converged
## # weights: 25
## initial value 22970.576949
## iter 10 value 20065.551142
```

```
## iter 20 value 20049.811285
## final value 20049.643695
## converged
## # weights: 41
## initial value 24196.415447
## iter 10 value 20060.458639
## iter 20 value 20049.752572
## final value 20049.640130
## converged
## # weights: 9
## initial value 23161.286420
## final value 20016.657700
## converged
## # weights: 25
## initial value 22523.228208
## final value 20016.657700
## converged
## # weights: 41
## initial value 22192.983339
## final value 20016.657700
## converged
## # weights: 9
## initial value 22438.238874
## iter 10 value 20025.090141
## final value 20022.167089
## converged
## # weights: 25
## initial value 21189.833645
## iter 10 value 20022.021796
## final value 20020.633078
## converged
## # weights: 41
## initial value 23256.660833
## iter 10 value 20024.185219
## iter 20 value 20019.974799
## final value 20019.973734
## converged
## # weights: 9
## initial value 22595.213607
## iter 10 value 20028.189346
## iter 20 value 20016.790651
## iter 20 value 20016.790598
## final value 20016.790598
## converged
## # weights: 25
## initial value 23703.098099
## iter 10 value 20028.884980
## iter 20 value 20016.798671
## final value 20016.672518
## converged
## # weights: 41
## initial value 23101.925057
```

```
## iter 10 value 20034.777430
## iter 20 value 20016.866606
## final value 20016.668626
## converged
## # weights: 9
## initial value 22847.729959
## final value 20002.641700
## converged
## # weights: 25
## initial value 23026.274241
## final value 20002.641700
## converged
## # weights: 41
## initial value 21927.487633
## final value 20002.641700
## converged
## # weights: 9
## initial value 21779.553041
## iter 10 value 20008.904111
## final value 20008.150779
## converged
## # weights: 25
## initial value 23022.556370
## iter 10 value 20007.921529
## iter 20 value 20006.616988
## iter 20 value 20006.616809
## iter 20 value 20006.616800
## final value 20006.616800
## converged
## # weights: 41
## initial value 23351.132695
## iter 10 value 20006.744548
## final value 20005.957433
## converged
## # weights: 9
## initial value 21942.725082
## iter 10 value 20011.190078
## iter 20 value 20002.740256
## iter 20 value 20002.740217
## final value 20002.740217
## converged
## # weights: 25
## initial value 21885.053792
## iter 10 value 20013.237153
## iter 20 value 20002.763857
## final value 20002.654061
## converged
## # weights: 41
## initial value 23055.471201
## iter 10 value 20022.284846
## iter 20 value 20002.868170
## final value 20002.652027
```

```
## converged
## # weights: 9
## initial value 22163.789697
## final value 19982.170100
## converged
## # weights: 25
## initial value 22231.046024
## final value 19982.170100
## converged
## # weights: 41
## initial value 21506.870060
## final value 19982.170100
## converged
## # weights: 9
## initial value 23264.620594
## iter 10 value 19988.632602
## final value 19987.678682
## converged
## # weights: 25
## initial value 22510.755159
## iter 10 value 19987.386736
## final value 19986.144914
## converged
## # weights: 41
## initial value 22259.948295
## iter 10 value 19989.103126
## iter 20 value 19985.486482
## final value 19985.485622
## converged
## # weights: 9
## initial value 22645.878468
## iter 10 value 19993.211068
## iter 20 value 19982.297394
## iter 20 value 19982.297343
## final value 19982.297343
## converged
## # weights: 25
## initial value 21415.289486
## iter 10 value 19990.406726
## iter 20 value 19982.265062
## final value 19982.181859
## converged
## # weights: 41
## initial value 23100.776805
## iter 10 value 19998.946726
## iter 20 value 19982.363521
## final value 19982.182174
## converged
## # weights: 9
## initial value 22166.417552
## final value 20028.360100
## converged
```

```
## # weights: 25
## initial value 23651.816143
## final value 20028.360100
## converged
## # weights: 41
## initial value 22400.477421
## final value 20028.360100
## converged
## # weights: 9
## initial value 21788.924201
## iter 10 value 20034.264222
## final value 20033.869793
## converged
## # weights: 25
## initial value 22104.908476
## iter 10 value 20033.284018
## final value 20032.335663
## converged
## # weights: 41
## initial value 22743.844920
## iter 10 value 20044.489811
## iter 20 value 20031.676328
## iter 20 value 20031.676211
## iter 20 value 20031.676193
## final value 20031.676193
## converged
## # weights: 9
## initial value 21573.473868
## iter 10 value 20035.138676
## iter 20 value 20028.438252
## iter 20 value 20028.438220
## final value 20028.438220
## converged
## # weights: 25
## initial value 22195.659874
## iter 10 value 20041.636465
## iter 20 value 20028.513166
## final value 20028.372442
## converged
## # weights: 41
## initial value 22354.865896
## iter 10 value 20045.539393
## iter 20 value 20028.558164
## final value 20028.370197
## converged
## # weights: 9
## initial value 23596.905809
## final value 20046.848500
## converged
## # weights: 25
## initial value 22302.151503
## final value 20046.848500
```



```
## converged
## # weights: 41
## initial value 22410.938619
## final value 20046.848500
## converged
## # weights: 9
## initial value 23419.665456
## iter 10 value 20052.409020
## final value 20052.358952
## converged
## # weights: 25
## initial value 23448.162361
## iter 10 value 20052.076638
## final value 20050.824561
## converged
## # weights: 41
## initial value 24439.108452
## iter 10 value 20055.583962
## iter 20 value 20050.165154
## iter 20 value 20050.165049
## iter 20 value 20050.165045
## final value 20050.165045
## converged
## # weights: 9
## initial value 24076.496323
## iter 10 value 20054.246245
## iter 20 value 20046.933790
## iter 20 value 20046.933756
## final value 20046.933756
## converged
## # weights: 25
## initial value 23706.082734
## iter 10 value 20058.708775
## iter 20 value 20046.985240
## final value 20046.863406
## converged
## # weights: 41
## initial value 22943.406947
## iter 10 value 20069.000801
## iter 20 value 20047.103899
## final value 20046.861155
## converged
## # weights: 9
## initial value 22748.660771
## final value 20044.160500
## converged
## # weights: 25
## initial value 22728.355756
## final value 20044.160500
## converged
## # weights: 41
## initial value 22752.282414
```

```
## final value 20044.160500
## converged
## # weights: 9
## initial value 23501.971483
## iter 10 value 20050.064397
## final value 20049.670809
## converged
## # weights: 25
## initial value 22983.766984
## iter 10 value 20048.310244
## final value 20048.136531
## converged
## # weights: 41
## initial value 23241.993401
## iter 10 value 20051.592261
## iter 20 value 20047.484233
## final value 20047.476996
## converged
## # weights: 9
## initial value 22220.360652
## iter 10 value 20054.875425
## iter 20 value 20044.284035
## iter 20 value 20044.283985
## final value 20044.283985
## converged
## # weights: 25
## initial value 21359.291109
## iter 10 value 20052.260013
## iter 20 value 20044.253881
## final value 20044.172158
## converged
## # weights: 41
## initial value 22795.242166
## iter 10 value 20063.987199
## iter 20 value 20044.389086
## final value 20044.170522
## converged
## # weights: 9
## initial value 22429.115520
## final value 20046.767600
## converged
## # weights: 25
## initial value 23151.101276
## final value 20046.767600
## converged
## # weights: 41
## initial value 22666.455215
## final value 20046.767600
## converged
## # weights: 9
## initial value 22497.289792
## iter 10 value 20055.280983
```

```
## final value 20052.278054
## converged
## # weights: 25
## initial value 21884.750896
## iter 10 value 20051.700892
## iter 20 value 20050.743775
## iter 20 value 20050.743698
## iter 20 value 20050.743670
## final value 20050.743670
## converged
## # weights: 41
## initial value 22277.971799
## iter 10 value 20064.178203
## iter 20 value 20050.084372
## iter 20 value 20050.084256
## iter 20 value 20050.084243
## final value 20050.084243
## converged
## # weights: 9
## initial value 22467.773423
## iter 10 value 20058.166103
## iter 20 value 20046.899016
## iter 20 value 20046.898963
## final value 20046.898963
## converged
## # weights: 25
## initial value 23798.636334
## iter 10 value 20057.198976
## iter 20 value 20046.887866
## final value 20046.785298
## converged
## # weights: 41
## initial value 23141.424808
## iter 10 value 20068.094188
## iter 20 value 20047.013479
## final value 20046.777600
## converged
## # weights: 9
## initial value 22453.285658
## final value 19996.584500
## converged
## # weights: 25
## initial value 23953.521491
## final value 19996.584500
## converged
## # weights: 41
## initial value 21542.174885
## final value 19996.584500
## converged
## # weights: 9
## initial value 22357.902098
## iter 10 value 20002.746170
```

```
## final value 20002.093254
## converged
## # weights: 25
## initial value 22055.212194
## iter 10 value 20001.377257
## final value 20000.559464
## converged
## # weights: 41
## initial value 23292.571174
## iter 10 value 20011.026693
## iter 20 value 19999.900843
## final value 19999.900089
## converged
## # weights: 9
## initial value 23043.362363
## iter 10 value 20006.914499
## iter 20 value 19996.703597
## iter 20 value 19996.703549
## final value 19996.703549
## converged
## # weights: 25
## initial value 22352.537981
## iter 10 value 20010.892637
## iter 20 value 19996.749462
## final value 19996.596543
## converged
## # weights: 41
## initial value 22504.875081
## iter 10 value 20014.072487
## iter 20 value 19996.786123
## final value 19996.596174
## converged
## # weights: 9
## initial value 22447.883543
## final value 20055.771700
## converged
## # weights: 25
## initial value 22568.294737
## final value 20055.771700
## converged
## # weights: 41
## initial value 23927.593897
## final value 20055.771700
## converged
## # weights: 9
## initial value 22124.065980
## iter 10 value 20062.484266
## final value 20061.282666
## converged
## # weights: 25
## initial value 21514.526073
## iter 10 value 20067.267518
```

```
## iter 20 value 20059.762539
## final value 20059.748134
## converged
## # weights: 41
## initial value 23239.516574
## iter 10 value 20070.755203
## iter 20 value 20059.089957
## final value 20059.088503
## converged
## # weights: 9
## initial value 23372.124181
## iter 10 value 20064.859721
## iter 20 value 20055.876478
## iter 20 value 20055.876436
## final value 20055.876436
## converged
## # weights: 25
## initial value 22141.388110
## iter 10 value 20067.332180
## iter 20 value 20055.904983
## final value 20055.783916
## converged
## # weights: 41
## initial value 22206.911521
## iter 10 value 20072.612015
## iter 20 value 20055.965856
## final value 20055.782024
## converged
## # weights: 9
## initial value 23333.744830
## final value 20009.734000
## converged
## # weights: 25
## initial value 21735.473028
## final value 20009.734000
## converged
## # weights: 41
## initial value 21257.269688
## final value 20009.734000
## converged
## # weights: 9
## initial value 21502.251660
## iter 10 value 20018.116719
## iter 20 value 20015.252281
## final value 20015.243200
## converged
## # weights: 25
## initial value 21708.839585
## iter 10 value 20014.993186
## iter 20 value 20013.710146
## final value 20013.709364
## converged
```

```
## # weights: 41
## initial value 22876.178492
## iter 10 value 20013.847004
## final value 20013.049867
## converged
## # weights: 9
## initial value 22452.053794
## iter 10 value 20020.929923
## iter 20 value 20009.863080
## iter 20 value 20009.863029
## final value 20009.863029
## converged
## # weights: 25
## initial value 23586.030007
## iter 10 value 20021.308476
## iter 20 value 20009.867445
## final value 20009.757738
## converged
## # weights: 41
## initial value 23862.853757
## iter 10 value 20026.287919
## iter 20 value 20009.924854
## final value 20009.747239
## converged
## # weights: 9
## initial value 22114.382048
## final value 20041.640500
## converged
## # weights: 25
## initial value 21674.277101
## final value 20041.640500
## converged
## # weights: 41
## initial value 22799.268058
## final value 20041.640500
## converged
## # weights: 9
## initial value 23657.577315
## iter 10 value 20047.566997
## final value 20047.150724
## converged
## # weights: 25
## initial value 22629.444881
## iter 10 value 20046.678958
## final value 20045.616391
## converged
## # weights: 41
## initial value 23748.097506
## iter 10 value 20049.054665
## iter 20 value 20044.958865
## final value 20044.956948
## converged
```

```
## # weights: 9
## initial value 22860.230568
## iter 10 value 20052.752925
## iter 20 value 20041.768618
## iter 20 value 20041.768566
## final value 20041.768566
## converged
## # weights: 25
## initial value 23460.758523
## iter 10 value 20055.099163
## iter 20 value 20041.795668
## final value 20041.655637
## converged
## # weights: 41
## initial value 22651.014854
## iter 10 value 20060.148136
## iter 20 value 20041.853879
## final value 20041.649953
## converged
## # weights: 9
## initial value 22535.897789
## final value 19989.553700
## converged
## # weights: 25
## initial value 22369.435455
## final value 19989.553700
## converged
## # weights: 41
## initial value 23623.144480
## final value 19989.553700
## converged
## # weights: 9
## initial value 23193.015494
## iter 10 value 19995.238184
## final value 19995.062453
## converged
## # weights: 25
## initial value 22658.195601
## iter 10 value 19994.267012
## final value 19993.528653
## converged
## # weights: 41
## initial value 21531.669426
## iter 10 value 19995.202252
## final value 19992.869410
## converged
## # weights: 9
## initial value 23265.457066
## iter 10 value 20000.580264
## iter 20 value 19989.680828
## iter 20 value 19989.680777
## final value 19989.680777
```

```
## converged
## # weights: 25
## initial value 22911.980299
## iter 10 value 20005.973140
## iter 20 value 19989.743003
## final value 19989.565626
## converged
## # weights: 41
## initial value 22532.683505
## iter 10 value 20008.727179
## iter 20 value 19989.774755
## final value 19989.566078
## converged
## # weights: 9
## initial value 22924.841378
## final value 20018.146000
## converged
## # weights: 25
## initial value 23574.997711
## final value 20018.146000
## converged
## # weights: 41
## initial value 22515.101520
## final value 20018.146000
## converged
## # weights: 9
## initial value 22205.272077
## iter 10 value 20024.199061
## final value 20023.655413
## converged
## # weights: 25
## initial value 22033.575832
## iter 10 value 20023.000762
## final value 20022.121407
## converged
## # weights: 41
## initial value 22441.204168
## iter 10 value 20025.822867
## iter 20 value 20021.462605
## final value 20021.461940
## converged
## # weights: 9
## initial value 22848.748440
## iter 10 value 20028.846656
## iter 20 value 20018.269370
## iter 20 value 20018.269321
## final value 20018.269321
## converged
## # weights: 25
## initial value 23347.288941
## iter 10 value 20031.232699
## iter 20 value 20018.296879
```



```
## final value 20018.159879
## converged
## # weights: 41
## initial value 23159.621362
## iter 10 value 20037.462794
## iter 20 value 20018.368707
## final value 20018.157049
## converged
## # weights: 9
## initial value 21882.770266
## final value 20052.930100
## converged
## # weights: 25
## initial value 23893.902721
## final value 20052.930100
## converged
## # weights: 41
## initial value 21960.733366
## final value 20052.930100
## converged
## # weights: 9
## initial value 22899.213732
## iter 10 value 20059.084990
## final value 20058.440955
## converged
## # weights: 25
## initial value 22310.317769
## iter 10 value 20057.547589
## final value 20056.906471
## converged
## # weights: 41
## initial value 22007.090793
## iter 10 value 20057.860746
## iter 20 value 20056.246963
## iter 20 value 20056.246911
## iter 20 value 20056.246908
## final value 20056.246908
## converged
## # weights: 9
## initial value 22899.652779
## iter 10 value 20064.077807
## iter 20 value 20053.058624
## iter 20 value 20053.058573
## final value 20053.058573
## converged
## # weights: 25
## initial value 24043.969750
## iter 10 value 20064.174477
## iter 20 value 20053.059739
## final value 20052.947840
## converged
## # weights: 41
```

```
## initial value 22636.978121
## iter 10 value 20071.857301
## iter 20 value 20053.148316
## final value 20052.941425
## converged
## # weights: 9
## initial value 21951.129034
## final value 20004.341200
## converged
## # weights: 25
## initial value 23237.501010
## final value 20004.341200
## converged
## # weights: 41
## initial value 22124.072890
## final value 20004.341200
## converged
## # weights: 9
## initial value 21721.902834
## iter 10 value 20010.126982
## final value 20009.850251
## converged
## # weights: 25
## initial value 22947.053585
## iter 10 value 20008.400294
## final value 20008.316413
## converged
## # weights: 41
## initial value 22905.105352
## iter 10 value 20008.061687
## final value 20007.656940
## converged
## # weights: 9
## initial value 21731.969541
## iter 10 value 20012.102782
## iter 20 value 20004.430685
## iter 20 value 20004.430649
## final value 20004.430649
## converged
## # weights: 25
## initial value 22306.916223
## iter 10 value 20019.760495
## iter 20 value 20004.518972
## iter 30 value 20004.355029
## iter 30 value 20004.354921
## iter 30 value 20004.354916
## final value 20004.354916
## converged
## # weights: 41
## initial value 23808.355069
## iter 10 value 20021.090919
## iter 20 value 20004.534311
```

```
## final value 20004.353400
## converged
## # weights: 9
## initial value 23591.293609
## final value 20057.069200
## converged
## # weights: 25
## initial value 21905.243488
## final value 20057.069200
## converged
## # weights: 41
## initial value 23277.482925
## final value 20057.069200
## converged
## # weights: 9
## initial value 23354.225754
## iter 10 value 20062.889961
## final value 20062.580206
## converged
## # weights: 25
## initial value 22432.470076
## iter 10 value 20061.890197
## final value 20061.045680
## converged
## # weights: 41
## initial value 24276.273969
## iter 10 value 20063.821513
## iter 20 value 20060.388798
## final value 20060.386155
## converged
## # weights: 9
## initial value 22779.500154
## iter 10 value 20068.637626
## iter 20 value 20057.202575
## iter 20 value 20057.202522
## final value 20057.202522
## converged
## # weights: 25
## initial value 23539.741324
## iter 10 value 20070.390106
## iter 20 value 20057.222780
## final value 20057.089141
## converged
## # weights: 41
## initial value 22466.584619
## iter 10 value 20075.564065
## iter 20 value 20057.282431
## final value 20057.079337
## converged
## # weights: 9
## initial value 22946.040180
## final value 20046.195700
```

```
## converged
## # weights: 25
## initial value 22009.855739
## final value 20046.195700
## converged
## # weights: 41
## initial value 24275.492044
## final value 20046.195700
## converged
## # weights: 9
## initial value 22164.291426
## iter 10 value 20053.235105
## final value 20051.706090
## converged
## # weights: 25
## initial value 23101.935959
## iter 10 value 20050.659595
## iter 20 value 20050.172112
## iter 20 value 20050.171920
## iter 20 value 20050.171917
## final value 20050.171917
## converged
## # weights: 41
## initial value 23004.534523
## iter 10 value 20061.838486
## final value 20049.512305
## converged
## # weights: 9
## initial value 23406.817461
## iter 10 value 20056.830849
## iter 20 value 20046.318315
## iter 20 value 20046.318266
## final value 20046.318266
## converged
## # weights: 25
## initial value 22041.119102
## iter 10 value 20058.704700
## iter 20 value 20046.339919
## final value 20046.206737
## converged
## # weights: 41
## initial value 21818.303051
## iter 10 value 20063.003526
## iter 20 value 20046.389481
## final value 20046.205121
## converged
## # weights: 9
## initial value 23228.028468
## final value 20018.681200
## converged
## # weights: 25
## initial value 21994.897472
```

```
## final value 20018.681200
## converged
## # weights: 41
## initial value 22681.517403
## final value 20018.681200
## converged
## # weights: 9
## initial value 22831.849531
## iter 10 value 20025.416448
## final value 20024.190615
## converged
## # weights: 25
## initial value 23137.239815
## iter 10 value 20023.964477
## final value 20022.656541
## converged
## # weights: 41
## initial value 23658.562848
## iter 10 value 20027.137636
## iter 20 value 20021.997693
## final value 20021.997162
## converged
## # weights: 9
## initial value 23585.140354
## iter 10 value 20028.188977
## iter 20 value 20018.790817
## iter 20 value 20018.790773
## final value 20018.790773
## converged
## # weights: 25
## initial value 22021.712927
## iter 10 value 20031.477064
## iter 20 value 20018.828726
## final value 20018.696632
## converged
## # weights: 41
## initial value 22253.094892
## iter 10 value 20036.359341
## iter 20 value 20018.885015
## final value 20018.695055
## converged
## # weights: 9
## initial value 23724.829019
## final value 20040.986000
## converged
## # weights: 25
## initial value 22252.165742
## final value 20040.986000
## converged
## # weights: 41
## initial value 21907.847484
## final value 20040.986000
```

```
## converged
## # weights: 9
## initial value 23326.094626
## iter 10 value 20047.142445
## final value 20046.496189
## converged
## # weights: 25
## initial value 22526.402246
## iter 10 value 20046.109871
## iter 20 value 20044.962037
## iter 20 value 20044.961875
## iter 20 value 20044.961869
## final value 20044.961869
## converged
## # weights: 41
## initial value 23164.693805
## iter 10 value 20055.708392
## iter 20 value 20044.307402
## final value 20044.302384
## converged
## # weights: 9
## initial value 23281.078663
## iter 10 value 20050.504637
## iter 20 value 20041.095742
## iter 20 value 20041.095699
## final value 20041.095699
## converged
## # weights: 25
## initial value 23263.513051
## iter 10 value 20055.118360
## iter 20 value 20041.148935
## final value 20040.998493
## converged
## # weights: 41
## initial value 22320.219287
## iter 10 value 20059.606378
## iter 20 value 20041.200678
## final value 20040.996442
## converged
## # weights: 9
## initial value 22844.568089
## final value 20034.333200
## converged
## # weights: 25
## initial value 22686.178383
## final value 20034.333200
## converged
## # weights: 41
## initial value 22382.612809
## final value 20034.333200
## converged
## # weights: 9
```

```
## initial value 22104.358204
## iter 10 value 20041.046541
## final value 20039.843130
## converged
## # weights: 25
## initial value 21856.776241
## iter 10 value 20039.909605
## iter 20 value 20038.308971
## iter 20 value 20038.308884
## iter 20 value 20038.308875
## final value 20038.308875
## converged
## # weights: 41
## initial value 23088.733309
## iter 10 value 20042.123316
## final value 20037.649445
## converged
## # weights: 9
## initial value 23497.364620
## iter 10 value 20044.504307
## iter 20 value 20034.450465
## iter 20 value 20034.450418
## final value 20034.450418
## converged
## # weights: 25
## initial value 22069.327520
## iter 10 value 20047.449508
## iter 20 value 20034.484421
## final value 20034.348112
## converged
## # weights: 41
## initial value 23152.002752
## iter 10 value 20053.791662
## iter 20 value 20034.557541
## final value 20034.343672
## converged
## # weights: 9
## initial value 22849.475360
## final value 20017.337200
## converged
## # weights: 25
## initial value 22790.300352
## final value 20017.337200
## converged
## # weights: 41
## initial value 21940.715701
## final value 20017.337200
## converged
## # weights: 9
## initial value 23758.992696
## iter 10 value 20023.252646
## final value 20022.846598
```

```
## converged
## # weights: 25
## initial value 23384.592643
## iter 10 value 20022.128975
## final value 20021.312554
## converged
## # weights: 41
## initial value 23646.792786
## iter 10 value 20032.726699
## iter 20 value 20020.655618
## final value 20020.653175
## converged
## # weights: 9
## initial value 22218.771245
## iter 10 value 20027.424343
## iter 20 value 20017.453497
## iter 20 value 20017.453450
## final value 20017.453450
## converged
## # weights: 25
## initial value 23148.220594
## iter 10 value 20031.151977
## iter 20 value 20017.496474
## final value 20017.356030
## converged
## # weights: 41
## initial value 21885.570530
## iter 10 value 20033.426518
## iter 20 value 20017.522697
## final value 20017.346133
## converged
## # weights: 9
## initial value 22229.288737
## final value 20027.767600
## converged
## # weights: 25
## initial value 22252.949275
## final value 20027.767600
## converged
## # weights: 41
## initial value 22882.175770
## final value 20027.767600
## converged
## # weights: 9
## initial value 23336.157996
## iter 10 value 20111.746894
## iter 20 value 20033.300706
## final value 20033.277303
## converged
## # weights: 25
## initial value 22821.758677
## iter 10 value 20033.217555
```



```
## final value 20031.743173
## converged
## # weights: 41
## initial value 22177.278898
## iter 10 value 20047.497302
## iter 20 value 20031.084045
## iter 20 value 20031.083880
## iter 20 value 20031.083793
## final value 20031.083793
## converged
## # weights: 9
## initial value 21946.100459
## iter 10 value 20037.766989
## iter 20 value 20027.882885
## iter 20 value 20027.882839
## final value 20027.882839
## converged
## # weights: 25
## initial value 22369.656195
## iter 10 value 20045.158437
## iter 20 value 20027.968103
## final value 20027.780660
## converged
## # weights: 41
## initial value 23712.353289
## iter 10 value 20042.981830
## iter 20 value 20027.943008
## final value 20027.780244
## converged
## # weights: 9
## initial value 22119.242326
## final value 20044.594000
## converged
## # weights: 25
## initial value 22562.555842
## final value 20044.594000
## converged
## # weights: 41
## initial value 21736.619021
## final value 20044.594000
## converged
## # weights: 9
## initial value 21745.909506
## iter 10 value 20050.423126
## final value 20050.104327
## converged
## # weights: 25
## initial value 22250.247863
## iter 10 value 20049.229459
## final value 20048.569985
## converged
## # weights: 41
```

```
## initial value 23488.928891
## iter 10 value 20052.491861
## iter 20 value 20047.911035
## final value 20047.910510
## converged
## # weights: 9
## initial value 23036.591555
## iter 10 value 20054.408541
## iter 20 value 20044.707154
## iter 20 value 20044.707109
## final value 20044.707109
## converged
## # weights: 25
## initial value 23852.758173
## iter 10 value 20056.745026
## iter 20 value 20044.734092
## final value 20044.609739
## converged
## # weights: 41
## initial value 22765.913179
## iter 10 value 20065.567868
## iter 20 value 20044.835812
## final value 20044.605680
## converged
## # weights: 9
## initial value 22622.498695
## final value 19997.560100
## converged
## # weights: 25
## initial value 21943.077655
## final value 19997.560100
## converged
## # weights: 41
## initial value 22778.586799
## final value 19997.560100
## converged
## # weights: 9
## initial value 23348.570927
## iter 10 value 20003.164638
## final value 20003.069003
## converged
## # weights: 25
## initial value 22518.571364
## iter 10 value 20003.831087
## iter 20 value 20001.535227
## iter 20 value 20001.535123
## iter 20 value 20001.535102
## final value 20001.535102
## converged
## # weights: 41
## initial value 23064.353030
## iter 10 value 20010.556089
```

```
## iter 20 value 20000.876300
## final value 20000.875836
## converged
## # weights: 9
## initial value 23653.558579
## iter 10 value 20007.027784
## iter 20 value 19997.669255
## iter 20 value 19997.669211
## final value 19997.669211
## converged
## # weights: 25
## initial value 21609.840727
## iter 10 value 20008.674777
## iter 20 value 19997.688243
## final value 19997.572783
## converged
## # weights: 41
## initial value 22170.820197
## iter 10 value 20015.084556
## iter 20 value 19997.762143
## final value 19997.571312
## converged
## # weights: 9
## initial value 21710.238854
## final value 20039.841200
## converged
## # weights: 25
## initial value 22423.431400
## final value 20039.841200
## converged
## # weights: 41
## initial value 22046.479202
## final value 20039.841200
## converged
## # weights: 9
## initial value 23365.070512
## iter 10 value 20047.309036
## final value 20045.351317
## converged
## # weights: 25
## initial value 22006.434774
## iter 10 value 20050.686734
## iter 20 value 20043.831615
## final value 20043.817035
## converged
## # weights: 41
## initial value 22225.346587
## iter 10 value 20056.750682
## iter 20 value 20043.160272
## final value 20043.157574
## converged
## # weights: 9
```

```
## initial value 23311.278265
## iter 10 value 20049.919849
## iter 20 value 20039.957399
## iter 20 value 20039.957352
## final value 20039.957352
## converged
## # weights: 25
## initial value 21487.242032
## iter 10 value 20048.996806
## iter 20 value 20039.946757
## final value 20039.851979
## converged
## # weights: 41
## initial value 22022.944242
## iter 10 value 20058.029634
## iter 20 value 20040.050898
## final value 20039.851556
## converged
## # weights: 9
## initial value 23959.847567
## final value 20032.589200
## converged
## # weights: 25
## initial value 23159.248146
## final value 20032.589200
## converged
## # weights: 41
## initial value 22641.282060
## final value 20032.589200
## converged
## # weights: 9
## initial value 22451.528811
## iter 10 value 20039.489681
## final value 20038.099054
## converged
## # weights: 25
## initial value 22418.070339
## iter 10 value 20038.486105
## iter 20 value 20036.565234
## final value 20036.564833
## converged
## # weights: 41
## initial value 22568.807960
## iter 10 value 20036.885898
## final value 20035.905404
## converged
## # weights: 9
## initial value 23534.964329
## iter 10 value 20043.159861
## iter 20 value 20032.711071
## iter 20 value 20032.711023
## final value 20032.711023
```

```
## converged
## # weights: 25
## initial value 21520.327924
## iter 10 value 20041.677937
## iter 20 value 20032.693986
## final value 20032.600923
## converged
## # weights: 41
## initial value 22447.540404
## iter 10 value 20052.531183
## iter 20 value 20032.819115
## final value 20032.598479
## converged
## # weights: 9
## initial value 22303.385720
## final value 20047.090000
## converged
## # weights: 25
## initial value 22448.850214
## final value 20047.090000
## converged
## # weights: 41
## initial value 22511.983694
## final value 20047.090000
## converged
## # weights: 9
## initial value 23235.251690
## iter 10 value 20052.678388
## iter 20 value 20052.600512
## iter 20 value 20052.600492
## final value 20052.600492
## converged
## # weights: 25
## initial value 23025.808234
## iter 10 value 20055.133854
## iter 20 value 20051.066633
## final value 20051.066090
## converged
## # weights: 41
## initial value 23863.449331
## iter 10 value 20064.402238
## iter 20 value 20050.410919
## final value 20050.406590
## converged
## # weights: 9
## initial value 22393.506688
## iter 10 value 20057.693601
## iter 20 value 20047.212251
## iter 20 value 20047.212202
## final value 20047.212202
## converged
## # weights: 25
```

```
## initial value 22754.806515
## iter 10 value 20063.607168
## iter 20 value 20047.280430
## final value 20047.102744
## converged
## # weights: 41
## initial value 22289.390602
## iter 10 value 20063.641479
## iter 20 value 20047.280826
## final value 20047.098755
## converged
## # weights: 9
## initial value 22874.658165
## final value 19942.390000
## converged
## # weights: 25
## initial value 21872.034158
## final value 19942.390000
## converged
## # weights: 41
## initial value 23391.130305
## final value 19942.390000
## converged
## # weights: 9
## initial value 23029.976713
## iter 10 value 19948.711250
## final value 19947.897898
## converged
## # weights: 25
## initial value 22675.686606
## iter 10 value 19947.232707
## final value 19946.364428
## converged
## # weights: 41
## initial value 22346.030756
## iter 10 value 19959.323414
## iter 20 value 19945.705361
## iter 20 value 19945.705271
## iter 20 value 19945.705242
## final value 19945.705242
## converged
## # weights: 9
## initial value 22619.776039
## iter 10 value 19953.101142
## iter 20 value 19942.513491
## iter 20 value 19942.513442
## final value 19942.513442
## converged
## # weights: 25
## initial value 22483.573899
## iter 10 value 19956.477394
## iter 20 value 19942.552417
```

```
## final value 19942.406720
## converged
## # weights: 41
## initial value 21792.378029
## iter 10 value 19956.195093
## iter 20 value 19942.549162
## final value 19942.400109
## converged
## # weights: 9
## initial value 21939.418451
## final value 20050.567600
## converged
## # weights: 25
## initial value 22220.937975
## final value 20050.567600
## converged
## # weights: 41
## initial value 21941.314192
## final value 20050.567600
## converged
## # weights: 9
## initial value 22045.865285
## iter 10 value 20056.264407
## final value 20056.078249
## converged
## # weights: 25
## initial value 23239.876981
## iter 10 value 20056.341855
## iter 20 value 20054.544373
## final value 20054.543807
## converged
## # weights: 41
## initial value 22940.214833
## iter 10 value 20067.334770
## iter 20 value 20053.885726
## final value 20053.884317
## converged
## # weights: 9
## initial value 21504.387857
## iter 10 value 20057.720838
## iter 20 value 20050.650071
## iter 20 value 20050.650038
## final value 20050.650038
## converged
## # weights: 25
## initial value 22568.643486
## iter 10 value 20065.172231
## iter 20 value 20050.735980
## final value 20050.581413
## converged
## # weights: 41
## initial value 21729.836581
```

```
## iter 10 value 20062.474601
## iter 20 value 20050.704878
## final value 20050.578207
## converged
## # weights: 9
## initial value 23393.341670
## final value 19919.649700
## converged
## # weights: 25
## initial value 23313.387963
## final value 19919.649700
## converged
## # weights: 41
## initial value 23118.722443
## final value 19919.649700
## converged
## # weights: 9
## initial value 22898.938142
## iter 10 value 19926.401348
## final value 19925.157281
## converged
## # weights: 25
## initial value 22129.018335
## iter 10 value 19925.035238
## final value 19923.623910
## converged
## # weights: 41
## initial value 23042.673801
## iter 10 value 19926.128921
## iter 20 value 19922.965025
## final value 19922.964749
## converged
## # weights: 9
## initial value 23278.023593
## iter 10 value 19930.684972
## iter 20 value 19919.776928
## iter 20 value 19919.776877
## final value 19919.776877
## converged
## # weights: 25
## initial value 22953.447133
## iter 10 value 19933.411732
## iter 20 value 19919.808365
## final value 19919.664007
## converged
## # weights: 41
## initial value 21933.469882
## iter 10 value 19935.465545
## iter 20 value 19919.832044
## final value 19919.659472
## converged
## # weights: 9
```



```
## initial value 22250.645205
## final value 19981.448500
## converged
## # weights: 25
## initial value 23146.621804
## final value 19981.448500
## converged
## # weights: 41
## initial value 22845.353697
## final value 19981.448500
## converged
## # weights: 9
## initial value 23339.827674
## iter 10 value 19987.282850
## final value 19986.957100
## converged
## # weights: 25
## initial value 23185.430300
## iter 10 value 19987.826667
## final value 19985.423356
## converged
## # weights: 41
## initial value 24053.782479
## iter 10 value 19985.422743
## final value 19984.764062
## converged
## # weights: 9
## initial value 23177.544092
## iter 10 value 19990.981014
## iter 20 value 19981.558402
## iter 20 value 19981.558358
## final value 19981.558358
## converged
## # weights: 25
## initial value 21600.653509
## iter 10 value 19992.089862
## iter 20 value 19981.571187
## final value 19981.460548
## converged
## # weights: 41
## initial value 22066.583297
## iter 10 value 19997.337774
## iter 20 value 19981.631691
## final value 19981.457242
## converged
## # weights: 9
## initial value 23205.672514
## final value 20024.481700
## converged
## # weights: 25
## initial value 22945.410069
## final value 20024.481700
```

```
## converged
## # weights: 41
## initial value 23072.039750
## final value 20024.481700
## converged
## # weights: 9
## initial value 22608.184616
## iter 10 value 20030.304867
## final value 20029.991302
## converged
## # weights: 25
## initial value 22839.958240
## iter 10 value 20030.646751
## iter 20 value 20028.457536
## final value 20028.457184
## converged
## # weights: 41
## initial value 21975.885033
## iter 10 value 20040.532286
## iter 20 value 20027.802082
## final value 20027.797750
## converged
## # weights: 9
## initial value 21978.747440
## iter 10 value 20033.415363
## iter 20 value 20024.584698
## iter 20 value 20024.584657
## final value 20024.584657
## converged
## # weights: 25
## initial value 23086.919567
## iter 10 value 20040.103493
## iter 20 value 20024.661807
## final value 20024.493629
## converged
## # weights: 41
## initial value 22878.677068
## iter 10 value 20043.170436
## iter 20 value 20024.697166
## final value 20024.493210
## converged
## # weights: 9
## initial value 23301.495639
## final value 20031.021200
## converged
## # weights: 25
## initial value 22304.497655
## final value 20031.021200
## converged
## # weights: 41
## initial value 24054.193708
## final value 20031.021200
```

```
## converged
## # weights: 9
## initial value 22300.977807
## iter 10 value 20038.131321
## final value 20036.531005
## converged
## # weights: 25
## initial value 22931.223809
## iter 10 value 20036.094063
## iter 20 value 20034.996897
## iter 20 value 20034.996815
## iter 20 value 20034.996808
## final value 20034.996808
## converged
## # weights: 41
## initial value 22308.160363
## iter 10 value 20035.728765
## iter 20 value 20034.337671
## iter 20 value 20034.337498
## iter 20 value 20034.337483
## final value 20034.337483
## converged
## # weights: 9
## initial value 22549.027267
## iter 10 value 20041.686011
## iter 20 value 20031.144157
## iter 20 value 20031.144108
## final value 20031.144108
## converged
## # weights: 25
## initial value 22779.723148
## iter 10 value 20044.295482
## iter 20 value 20031.174242
## final value 20031.036780
## converged
## # weights: 41
## initial value 21126.659497
## iter 10 value 20039.015514
## iter 20 value 20031.113368
## final value 20031.029892
## converged
## # weights: 9
## initial value 22441.666470
## final value 20028.005200
## converged
## # weights: 25
## initial value 23023.202346
## final value 20028.005200
## converged
## # weights: 41
## initial value 22139.392450
## final value 20028.005200
```

```
## converged
## # weights: 9
## initial value 23435.860930
## iter 10 value 20033.764856
## final value 20033.514910
## converged
## # weights: 25
## initial value 22173.649818
## iter 10 value 20033.178799
## final value 20031.980736
## converged
## # weights: 41
## initial value 21639.995283
## iter 10 value 20037.353976
## iter 20 value 20031.321507
## iter 20 value 20031.321347
## iter 20 value 20031.321341
## final value 20031.321341
## converged
## # weights: 9
## initial value 23301.798314
## iter 10 value 20037.783508
## iter 20 value 20028.117936
## iter 20 value 20028.117891
## final value 20028.117891
## converged
## # weights: 25
## initial value 22234.904858
## iter 10 value 20042.291491
## iter 20 value 20028.169910
## final value 20028.018105
## converged
## # weights: 41
## initial value 22203.875183
## iter 10 value 20042.813456
## iter 20 value 20028.175928
## final value 20028.015025
## converged
## # weights: 9
## initial value 21620.094058
## final value 20016.930100
## converged
## # weights: 25
## initial value 21806.255507
## final value 20016.930100
## converged
## # weights: 41
## initial value 22085.742847
## final value 20016.930100
## converged
## # weights: 9
## initial value 21764.431750
```

```
## iter 10 value 20022.708207
## final value 20022.439492
## converged
## # weights: 25
## initial value 23535.560108
## iter 10 value 20023.747687
## iter 20 value 20020.905540
## iter 20 value 20020.905482
## iter 20 value 20020.905459
## final value 20020.905459
## converged
## # weights: 41
## initial value 21788.912152
## iter 10 value 20028.829350
## iter 20 value 20020.249292
## final value 20020.246092
## converged
## # weights: 9
## initial value 22625.524188
## iter 10 value 20026.394121
## iter 20 value 20017.039213
## iter 20 value 20017.039169
## final value 20017.039169
## converged
## # weights: 25
## initial value 22210.197697
## iter 10 value 20030.121189
## iter 20 value 20017.082183
## final value 20016.942694
## converged
## # weights: 41
## initial value 22497.106995
## iter 10 value 20036.311900
## iter 20 value 20017.153557
## final value 20016.940323
## converged
## # weights: 9
## initial value 22726.570067
## final value 20024.481700
## converged
## # weights: 25
## initial value 21372.913860
## final value 20024.481700
## converged
## # weights: 41
## initial value 22591.554957
## final value 20024.481700
## converged
## # weights: 9
## initial value 22594.090402
## iter 10 value 20030.619308
## final value 20029.991286
```

```
## converged
## # weights: 25
## initial value 22703.254266
## iter 10 value 20044.929391
## iter 20 value 20028.474805
## final value 20028.457258
## converged
## # weights: 41
## initial value 21660.903940
## iter 10 value 20040.152164
## iter 20 value 20027.799175
## final value 20027.797742
## converged
## # weights: 9
## initial value 22079.834631
## iter 10 value 20033.767011
## iter 20 value 20024.588752
## iter 20 value 20024.588710
## final value 20024.588710
## converged
## # weights: 25
## initial value 22730.206177
## iter 10 value 20039.100200
## iter 20 value 20024.650240
## final value 20024.494977
## converged
## # weights: 41
## initial value 22847.516148
## iter 10 value 20042.421152
## iter 20 value 20024.688528
## final value 20024.492382
## converged
## # weights: 9
## initial value 22996.119711
## final value 20057.313700
## converged
## # weights: 25
## initial value 23380.565938
## final value 20057.313700
## converged
## # weights: 41
## initial value 23103.980193
## final value 20057.313700
## converged
## # weights: 9
## initial value 22465.080574
## iter 10 value 20064.312687
## final value 20062.824844
## converged
## # weights: 25
## initial value 23571.230140
## iter 10 value 20062.738117
```

```
## iter 20 value 20061.290331
## iter 20 value 20061.290279
## iter 20 value 20061.290268
## final value 20061.290268
## converged
## # weights: 41
## initial value 23352.654438
## iter 10 value 20065.511714
## iter 20 value 20060.631747
## final value 20060.630721
## converged
## # weights: 9
## initial value 23100.144230
## iter 10 value 20067.377852
## iter 20 value 20057.429732
## iter 20 value 20057.429685
## final value 20057.429685
## converged
## # weights: 25
## initial value 21566.362188
## iter 10 value 20066.965981
## iter 20 value 20057.424983
## final value 20057.325594
## converged
## # weights: 41
## initial value 22763.200626
## iter 10 value 20075.699421
## iter 20 value 20057.525673
## final value 20057.324058
## converged
## # weights: 9
## initial value 23111.808974
## final value 20059.710500
## converged
## # weights: 25
## initial value 21622.319058
## final value 20059.710500
## converged
## # weights: 41
## initial value 21888.566501
## final value 20059.710500
## converged
## # weights: 9
## initial value 22738.184434
## iter 10 value 20065.850103
## final value 20065.221787
## converged
## # weights: 25
## initial value 22769.156876
## iter 10 value 20066.061034
## final value 20063.687206
## converged
```

```
## # weights: 41
## initial value 23527.255836
## iter 10 value 20064.024020
## final value 20063.027672
## converged
## # weights: 9
## initial value 23301.116481
## iter 10 value 20068.976148
## iter 20 value 20059.817326
## iter 20 value 20059.817283
## final value 20059.817283
## converged
## # weights: 25
## initial value 22897.557702
## iter 10 value 20074.677070
## iter 20 value 20059.883053
## final value 20059.727237
## converged
## # weights: 41
## initial value 22045.258270
## iter 10 value 20074.516717
## iter 20 value 20059.881204
## final value 20059.721717
## converged
## # weights: 9
## initial value 22144.622066
## final value 19959.334000
## converged
## # weights: 25
## initial value 22256.080442
## final value 19959.334000
## converged
## # weights: 41
## initial value 22486.169636
## final value 19959.334000
## converged
## # weights: 9
## initial value 22656.998550
## iter 10 value 19966.023161
## final value 19964.842173
## converged
## # weights: 25
## initial value 22914.756618
## iter 10 value 19973.178612
## iter 20 value 19963.356413
## final value 19963.308539
## converged
## # weights: 41
## initial value 22372.088864
## iter 10 value 19975.383632
## iter 20 value 19962.652652
## final value 19962.649377
```



```
## converged
## # weights: 9
## initial value 23265.293971
## iter 10 value 19969.941594
## iter 20 value 19959.456297
## iter 20 value 19959.456248
## final value 19959.456248
## converged
## # weights: 25
## initial value 23220.121266
## iter 10 value 19973.459434
## iter 20 value 19959.496855
## final value 19959.349973
## converged
## # weights: 41
## initial value 21440.147802
## iter 10 value 19971.071127
## iter 20 value 19959.469320
## final value 19959.343064
## converged
## # weights: 9
## initial value 21766.463326
## final value 20017.742500
## converged
## # weights: 25
## initial value 23584.124705
## final value 20017.742500
## converged
## # weights: 41
## initial value 22477.183973
## final value 20017.742500
## converged
## # weights: 9
## initial value 22287.531521
## iter 10 value 20023.491306
## final value 20023.251829
## converged
## # weights: 25
## initial value 22720.315088
## iter 10 value 20022.397674
## final value 20021.717798
## converged
## # weights: 41
## initial value 21958.922227
## iter 10 value 20022.068202
## final value 20021.058413
## converged
## # weights: 9
## initial value 23777.602489
## iter 10 value 20026.493445
## iter 20 value 20017.843392
## iter 20 value 20017.843351
```

```
## final value 20017.843351
## converged
## # weights: 25
## initial value 23188.924892
## iter 10 value 20032.882107
## iter 20 value 20017.917048
## final value 20017.756714
## converged
## # weights: 41
## initial value 22454.006004
## iter 10 value 20035.095656
## iter 20 value 20017.942568
## final value 20017.751632
## converged
## # weights: 9
## initial value 22755.544197
## final value 20044.160500
## converged
## # weights: 25
## initial value 21390.868252
## final value 20044.160500
## converged
## # weights: 41
## initial value 22547.055280
## final value 20044.160500
## converged
## # weights: 9
## initial value 21529.265477
## iter 10 value 20049.910078
## final value 20049.670843
## converged
## # weights: 25
## initial value 22008.168871
## iter 10 value 20048.686593
## final value 20048.136480
## converged
## # weights: 41
## initial value 22580.976873
## iter 10 value 20048.197099
## final value 20047.476992
## converged
## # weights: 9
## initial value 22372.789734
## iter 10 value 20054.057172
## iter 20 value 20044.274601
## iter 20 value 20044.274555
## final value 20044.274555
## converged
## # weights: 25
## initial value 22426.504664
## iter 10 value 20059.187828
## iter 20 value 20044.333753
```

```
## final value 20044.174976
## converged
## # weights: 41
## initial value 23802.937784
## iter 10 value 20059.007976
## iter 20 value 20044.331680
## final value 20044.172080
## converged
## # weights: 9
## initial value 22795.003732
## final value 20027.529200
## converged
## # weights: 25
## initial value 23220.650082
## final value 20027.529200
## converged
## # weights: 41
## initial value 21977.961509
## final value 20027.529200
## converged
## # weights: 9
## initial value 23324.704423
## iter 10 value 20034.604904
## final value 20033.038894
## converged
## # weights: 25
## initial value 22397.841196
## iter 10 value 20032.400387
## final value 20031.504749
## converged
## # weights: 41
## initial value 22824.177454
## iter 10 value 20031.624011
## final value 20030.845279
## converged
## # weights: 9
## initial value 21976.149389
## iter 10 value 20037.236822
## iter 20 value 20027.641121
## iter 20 value 20027.641077
## final value 20027.641077
## converged
## # weights: 25
## initial value 22817.683333
## iter 10 value 20044.143942
## iter 20 value 20027.720755
## final value 20027.544237
## converged
## # weights: 41
## initial value 21199.371565
## iter 10 value 20035.762185
## iter 20 value 20027.624120
```

```
## final value 20027.538492
## converged
## # weights: 9
## initial value 22887.646717
## final value 20019.610100
## converged
## # weights: 25
## initial value 23388.697785
## final value 20019.610100
## converged
## # weights: 41
## initial value 23902.350180
## final value 20019.610100
## converged
## # weights: 9
## initial value 22148.170035
## iter 10 value 20026.679584
## final value 20025.119558
## converged
## # weights: 25
## initial value 22712.449039
## iter 10 value 20024.923126
## final value 20023.585497
## converged
## # weights: 41
## initial value 22374.930902
## iter 10 value 20039.980004
## iter 20 value 20022.927248
## final value 20022.926072
## converged
## # weights: 9
## initial value 23818.647122
## iter 10 value 20028.476314
## iter 20 value 20019.712320
## iter 20 value 20019.712280
## final value 20019.712280
## converged
## # weights: 25
## initial value 21833.674313
## iter 10 value 20031.257013
## iter 20 value 20019.744380
## final value 20019.624421
## converged
## # weights: 41
## initial value 22431.219634
## iter 10 value 20037.015577
## iter 20 value 20019.810771
## final value 20019.619961
## converged
## # weights: 9
## initial value 21976.700861
## final value 20020.529200
```

```
## converged
## # weights: 25
## initial value 22691.055392
## final value 20020.529200
## converged
## # weights: 41
## initial value 22651.559347
## final value 20020.529200
## converged
## # weights: 9
## initial value 22762.820370
## iter 10 value 20027.839044
## final value 20026.038688
## converged
## # weights: 25
## initial value 23342.146313
## iter 10 value 20025.378945
## final value 20024.504614
## converged
## # weights: 41
## initial value 23995.024138
## iter 10 value 20030.375138
## iter 20 value 20023.847336
## final value 20023.845264
## converged
## # weights: 9
## initial value 22130.482261
## iter 10 value 20029.898501
## iter 20 value 20020.637221
## iter 20 value 20020.637177
## final value 20020.637177
## converged
## # weights: 25
## initial value 23889.060383
## iter 10 value 20031.276464
## iter 20 value 20020.653108
## final value 20020.547379
## converged
## # weights: 41
## initial value 21896.138268
## iter 10 value 20036.795334
## iter 20 value 20020.716736
## final value 20020.539324
## converged
## # weights: 9
## initial value 21715.750506
## final value 20028.595700
## converged
## # weights: 25
## initial value 23285.171529
## final value 20028.595700
## converged
```

```
## # weights: 41
## initial value 22697.185468
## final value 20028.595700
## converged
## # weights: 9
## initial value 23506.270745
## iter 10 value 20034.519474
## final value 20034.105385
## converged
## # weights: 25
## initial value 21307.997869
## iter 10 value 20033.498993
## final value 20032.571339
## converged
## # weights: 41
## initial value 22822.296364
## iter 10 value 20047.138710
## iter 20 value 20031.912464
## final value 20031.911838
## converged
## # weights: 9
## initial value 22116.740462
## iter 10 value 20037.737834
## iter 20 value 20028.701102
## iter 20 value 20028.701059
## final value 20028.701059
## converged
## # weights: 25
## initial value 23740.279679
## iter 10 value 20039.057735
## iter 20 value 20028.716319
## final value 20028.609890
## converged
## # weights: 41
## initial value 24009.926406
## iter 10 value 20043.725133
## iter 20 value 20028.770130
## final value 20028.608531
## converged
## # weights: 9
## initial value 23415.640829
## final value 20027.409700
## converged
## # weights: 25
## initial value 22430.715073
## final value 20027.409700
## converged
## # weights: 41
## initial value 22967.669177
## final value 20027.409700
## converged
## # weights: 9
```

```
## initial value 22130.592667
## iter 10 value 20035.022208
## final value 20032.919387
## converged
## # weights: 25
## initial value 22606.087212
## iter 10 value 20031.619518
## final value 20031.385215
## converged
## # weights: 41
## initial value 22690.645828
## iter 10 value 20032.191092
## final value 20030.725889
## converged
## # weights: 9
## initial value 23425.720639
## iter 10 value 20036.819750
## iter 20 value 20027.518190
## iter 20 value 20027.518147
## final value 20027.518147
## converged
## # weights: 25
## initial value 22730.489799
## iter 10 value 20043.783126
## iter 20 value 20027.598473
## final value 20027.422192
## converged
## # weights: 41
## initial value 23017.642090
## iter 10 value 20048.433292
## iter 20 value 20027.652086
## final value 20027.422084
## converged
## # weights: 9
## initial value 21547.092278
## final value 20003.107600
## converged
## # weights: 25
## initial value 22983.266755
## final value 20003.107600
## converged
## # weights: 41
## initial value 23326.964992
## final value 20003.107600
## converged
## # weights: 9
## initial value 22902.741368
## iter 10 value 20011.653659
## iter 20 value 20008.616649
## iter 20 value 20008.616627
## final value 20008.616627
## converged
```

```
## # weights: 25
## initial value 21482.579633
## iter 10 value 20007.874707
## final value 20007.082709
## converged
## # weights: 41
## initial value 22282.169887
## iter 10 value 20020.484989
## final value 20006.423432
## converged
## # weights: 9
## initial value 22477.891351
## iter 10 value 20013.855756
## iter 20 value 20003.231518
## iter 20 value 20003.231468
## final value 20003.231468
## converged
## # weights: 25
## initial value 22224.838442
## iter 10 value 20016.499798
## iter 20 value 20003.262002
## final value 20003.120435
## converged
## # weights: 41
## initial value 22854.302465
## iter 10 value 20022.640519
## iter 20 value 20003.332799
## final value 20003.120843
## converged
## # weights: 9
## initial value 21504.829028
## final value 19991.090000
## converged
## # weights: 25
## initial value 22086.003328
## final value 19991.090000
## converged
## # weights: 41
## initial value 22233.886492
## final value 19991.090000
## converged
## # weights: 9
## initial value 21966.302047
## iter 10 value 19996.802616
## final value 19996.598792
## converged
## # weights: 25
## initial value 22582.153121
## iter 10 value 19995.773780
## final value 19995.065008
## converged
## # weights: 41
```



```
## initial value 23589.294977
## iter 10 value 19995.208875
## final value 19994.405712
## converged
## # weights: 9
## initial value 22087.526627
## iter 10 value 19999.914179
## iter 20 value 19991.191736
## iter 20 value 19991.191695
## final value 19991.191695
## converged
## # weights: 25
## initial value 21573.457266
## iter 10 value 20000.918934
## iter 20 value 19991.203320
## final value 19991.101774
## converged
## # weights: 41
## initial value 23551.288034
## iter 10 value 20006.415864
## iter 20 value 19991.266695
## final value 19991.101016
## converged
## # weights: 9
## initial value 21922.563616
## final value 20031.360500
## converged
## # weights: 25
## initial value 23526.050517
## final value 20031.360500
## converged
## # weights: 41
## initial value 22938.091089
## final value 20031.360500
## converged
## # weights: 9
## initial value 23782.128137
## iter 10 value 20037.446874
## final value 20036.870297
## converged
## # weights: 25
## initial value 23176.947719
## iter 10 value 20036.734935
## final value 20035.336094
## converged
## # weights: 41
## initial value 21292.117167
## iter 10 value 20041.580314
## final value 20034.676665
## converged
## # weights: 9
## initial value 22399.474862
```

```
## iter 10 value 20041.983555
## iter 20 value 20031.482975
## iter 20 value 20031.482927
## final value 20031.482927
## converged
## # weights: 25
## initial value 22503.254802
## iter 10 value 20047.070045
## iter 20 value 20031.541619
## final value 20031.372774
## converged
## # weights: 41
## initial value 21998.109660
## iter 10 value 20050.476409
## iter 20 value 20031.580891
## final value 20031.369595
## converged
## # weights: 9
## initial value 22149.363171
## final value 19946.097700
## converged
## # weights: 25
## initial value 21854.051479
## final value 19946.097700
## converged
## # weights: 41
## initial value 22260.236218
## final value 19946.097700
## converged
## # weights: 9
## initial value 22155.426439
## iter 10 value 19953.136435
## final value 19951.605690
## converged
## # weights: 25
## initial value 23969.843030
## iter 10 value 19952.384958
## iter 20 value 19950.072581
## final value 19950.072145
## converged
## # weights: 41
## initial value 21470.279802
## iter 10 value 19960.613893
## iter 20 value 19949.413204
## iter 20 value 19949.413036
## iter 20 value 19949.413026
## final value 19949.413026
## converged
## # weights: 9
## initial value 22280.876554
## iter 10 value 19957.646946
## iter 20 value 19946.230854
```

```
## iter 20 value 19946.230800
## final value 19946.230800
## converged
## # weights: 25
## initial value 24136.312021
## iter 10 value 19955.390995
## iter 20 value 19946.204844
## final value 19946.116919
## converged
## # weights: 41
## initial value 22952.906882
## iter 10 value 19962.447547
## iter 20 value 19946.286201
## final value 19946.108561
## converged
## # weights: 9
## initial value 22519.161463
## final value 19957.491700
## converged
## # weights: 25
## initial value 22502.709782
## final value 19957.491700
## converged
## # weights: 41
## initial value 24121.931279
## final value 19957.491700
## converged
## # weights: 9
## initial value 21840.933996
## iter 10 value 19963.432757
## final value 19962.999818
## converged
## # weights: 25
## initial value 21442.182090
## iter 10 value 19962.782733
## final value 19961.466230
## converged
## # weights: 41
## initial value 22567.425871
## iter 10 value 19961.740730
## final value 19960.807042
## converged
## # weights: 9
## initial value 23174.280563
## iter 10 value 19967.355155
## iter 20 value 19957.605418
## iter 20 value 19957.605372
## final value 19957.605372
## converged
## # weights: 25
## initial value 23699.372721
## iter 10 value 19971.642470
```

```
## iter 20 value 19957.654847
## final value 19957.507147
## converged
## # weights: 41
## initial value 22217.365484
## iter 10 value 19977.555838
## iter 20 value 19957.723024
## final value 19957.500866
## converged
## # weights: 9
## initial value 22389.105772
## final value 19927.214500
## converged
## # weights: 25
## initial value 22022.431177
## final value 19927.214500
## converged
## # weights: 41
## initial value 23327.640019
## final value 19927.214500
## converged
## # weights: 9
## initial value 22567.803653
## iter 10 value 19934.289077
## final value 19932.722092
## converged
## # weights: 25
## initial value 24042.736830
## iter 10 value 19931.978201
## final value 19931.188672
## converged
## # weights: 41
## initial value 21580.857188
## iter 10 value 19944.811040
## iter 20 value 19930.533247
## final value 19930.529511
## converged
## # weights: 9
## initial value 23183.586492
## iter 10 value 19938.167993
## iter 20 value 19927.340785
## iter 20 value 19927.340735
## final value 19927.340735
## converged
## # weights: 25
## initial value 22758.784527
## iter 10 value 19942.678538
## iter 20 value 19927.392788
## final value 19927.232703
## converged
## # weights: 41
## initial value 22948.320611
```

```
## iter 10 value 19949.448447
## iter 20 value 19927.470840
## final value 19927.228561
## converged
## # weights: 9
## initial value 23203.861852
## final value 20052.866000
## converged
## # weights: 25
## initial value 23044.467592
## final value 20052.866000
## converged
## # weights: 41
## initial value 23198.245252
## final value 20052.866000
## converged
## # weights: 9
## initial value 23156.780934
## iter 10 value 20059.601094
## final value 20058.376859
## converged
## # weights: 25
## initial value 23717.071173
## iter 10 value 20058.059329
## final value 20056.842308
## converged
## # weights: 41
## initial value 23182.978919
## iter 10 value 20064.834457
## iter 20 value 20056.183955
## final value 20056.182752
## converged
## # weights: 9
## initial value 22807.736811
## iter 10 value 20064.900241
## iter 20 value 20053.004745
## iter 20 value 20053.004690
## final value 20053.004690
## converged
## # weights: 25
## initial value 23719.286583
## iter 10 value 20064.959821
## iter 20 value 20053.005432
## final value 20052.880170
## converged
## # weights: 41
## initial value 22499.742968
## iter 10 value 20075.447719
## iter 20 value 20053.126349
## final value 20052.877310
## converged
## # weights: 9
```

```
## initial value 22745.141913
## final value 20011.186000
## converged
## # weights: 25
## initial value 21809.067050
## final value 20011.186000
## converged
## # weights: 41
## initial value 22915.136969
## final value 20011.186000
## converged
## # weights: 9
## initial value 22520.266967
## iter 10 value 20016.944067
## final value 20016.695227
## converged
## # weights: 25
## initial value 21428.155193
## iter 10 value 20017.181947
## final value 20015.161325
## converged
## # weights: 41
## initial value 23691.136128
## iter 10 value 20019.295891
## iter 20 value 20014.502369
## final value 20014.501855
## converged
## # weights: 9
## initial value 22498.901369
## iter 10 value 20020.936906
## iter 20 value 20011.298420
## iter 20 value 20011.298375
## final value 20011.298375
## converged
## # weights: 25
## initial value 22532.375954
## iter 10 value 20027.653377
## iter 20 value 20011.375856
## final value 20011.206294
## converged
## # weights: 41
## initial value 22257.701893
## iter 10 value 20030.773784
## iter 20 value 20011.411832
## final value 20011.197600
## converged
## # weights: 9
## initial value 22881.416248
## final value 20058.885200
## converged
## # weights: 25
## initial value 22738.006599
```

```
## final value 20058.885200
## converged
## # weights: 41
## initial value 23173.058777
## final value 20058.885200
## converged
## # weights: 9
## initial value 22156.654622
## iter 10 value 20065.360745
## final value 20064.396307
## converged
## # weights: 25
## initial value 22259.531720
## iter 10 value 20069.363274
## iter 20 value 20062.861801
## iter 20 value 20062.861698
## iter 20 value 20062.861685
## final value 20062.861685
## converged
## # weights: 41
## initial value 22075.534960
## iter 10 value 20063.160860
## final value 20062.202033
## converged
## # weights: 9
## initial value 22983.102780
## iter 10 value 20069.135534
## iter 20 value 20059.003378
## iter 20 value 20059.003331
## final value 20059.003331
## converged
## # weights: 25
## initial value 23315.998732
## iter 10 value 20073.931226
## iter 20 value 20059.058669
## final value 20058.900495
## converged
## # weights: 41
## initial value 23489.953586
## iter 10 value 20076.267457
## iter 20 value 20059.085604
## final value 20058.895987
## converged
## # weights: 9
## initial value 22022.578764
## final value 19963.569700
## converged
## # weights: 25
## initial value 22718.759584
## final value 19963.569700
## converged
## # weights: 41
```

```
## initial value 22361.077117
## final value 19963.569700
## converged
## # weights: 9
## initial value 22925.198450
## iter 10 value 19971.244644
## final value 19969.077726
## converged
## # weights: 25
## initial value 22405.974260
## iter 10 value 19970.357087
## iter 20 value 19967.544707
## final value 19967.544086
## converged
## # weights: 41
## initial value 23751.934713
## iter 10 value 19968.946140
## final value 19966.884861
## converged
## # weights: 9
## initial value 22293.742935
## iter 10 value 19973.154881
## iter 20 value 19963.680210
## iter 20 value 19963.680165
## final value 19963.680165
## converged
## # weights: 25
## initial value 22301.318370
## iter 10 value 19979.293824
## iter 20 value 19963.750987
## final value 19963.584928
## converged
## # weights: 41
## initial value 23758.155404
## iter 10 value 19977.241405
## iter 20 value 19963.727324
## final value 19963.583275
## converged
## # weights: 9
## initial value 22845.266085
## final value 19992.610100
## converged
## # weights: 25
## initial value 22246.412375
## final value 19992.610100
## converged
## # weights: 41
## initial value 22857.415347
## final value 19992.610100
## converged
## # weights: 9
## initial value 22789.159942
```



```
## iter 10 value 19999.833886
## final value 19998.118917
## converged
## # weights: 25
## initial value 22639.733786
## iter 10 value 19997.390014
## final value 19996.585164
## converged
## # weights: 41
## initial value 22430.223172
## iter 10 value 19996.909935
## final value 19995.925799
## converged
## # weights: 9
## initial value 22195.681303
## iter 10 value 20003.395151
## iter 20 value 19992.734443
## iter 20 value 19992.734393
## final value 19992.734393
## converged
## # weights: 25
## initial value 21307.859294
## iter 10 value 20001.095930
## iter 20 value 19992.707935
## final value 19992.621123
## converged
## # weights: 41
## initial value 22788.362257
## iter 10 value 20014.019204
## iter 20 value 19992.856930
## final value 19992.622784
## converged
## # weights: 9
## initial value 21717.511759
## final value 20005.865200
## converged
## # weights: 25
## initial value 22974.710390
## final value 20005.865200
## converged
## # weights: 41
## initial value 23381.290677
## final value 20005.865200
## converged
## # weights: 9
## initial value 23122.883308
## iter 10 value 20012.792792
## final value 20011.374318
## converged
## # weights: 25
## initial value 22460.540540
## iter 10 value 20010.390198
```

```
## final value 20009.840405
## converged
## # weights: 41
## initial value 23522.221679
## iter 10 value 20010.294800
## iter 20 value 20009.181102
## iter 20 value 20009.180998
## iter 20 value 20009.180991
## final value 20009.180991
## converged
## # weights: 9
## initial value 22738.127255
## iter 10 value 20015.596898
## iter 20 value 20005.977399
## iter 20 value 20005.977354
## final value 20005.977354
## converged
## # weights: 25
## initial value 23076.200825
## iter 10 value 20021.355726
## iter 20 value 20006.043794
## final value 20005.881897
## converged
## # weights: 41
## initial value 22240.309299
## iter 10 value 20023.056504
## iter 20 value 20006.063402
## final value 20005.874697
## converged
## # weights: 9
## initial value 23696.878949
## final value 20022.082000
## converged
## # weights: 25
## initial value 21556.545820
## final value 20022.082000
## converged
## # weights: 41
## initial value 21909.643948
## final value 20022.082000
## converged
## # weights: 9
## initial value 22465.110608
## iter 10 value 20027.987809
## final value 20027.591529
## converged
## # weights: 25
## initial value 22820.353644
## iter 10 value 20027.028247
## final value 20026.057416
## converged
## # weights: 41
```

```
## initial value 21898.528827
## iter 10 value 20026.140197
## final value 20025.398090
## converged
## # weights: 9
## initial value 23732.772011
## iter 10 value 20030.833721
## iter 20 value 20022.182900
## iter 20 value 20022.182860
## final value 20022.182860
## converged
## # weights: 25
## initial value 23822.927635
## iter 10 value 20033.670352
## iter 20 value 20022.215605
## final value 20022.098299
## converged
## # weights: 41
## initial value 22794.557422
## iter 10 value 20042.679487
## iter 20 value 20022.319473
## final value 20022.091580
## converged
## # weights: 9
## initial value 23394.101835
## final value 20044.851700
## converged
## # weights: 25
## initial value 24086.087692
## final value 20044.851700
## converged
## # weights: 41
## initial value 22113.696308
## final value 20044.851700
## converged
## # weights: 9
## initial value 23150.003967
## iter 10 value 20053.137971
## final value 20050.362025
## converged
## # weights: 25
## initial value 22572.077990
## iter 10 value 20051.490209
## iter 20 value 20048.827750
## iter 20 value 20048.827646
## iter 20 value 20048.827639
## final value 20048.827639
## converged
## # weights: 41
## initial value 24024.334156
## iter 10 value 20060.287779
## iter 20 value 20048.168822
```

```
## final value 20048.168183
## converged
## # weights: 9
## initial value 22030.832243
## iter 10 value 20054.239878
## iter 20 value 20044.959938
## iter 20 value 20044.959895
## final value 20044.959895
## converged
## # weights: 25
## initial value 22927.681218
## iter 10 value 20059.567588
## iter 20 value 20045.021363
## final value 20044.863436
## converged
## # weights: 41
## initial value 23119.154956
## iter 10 value 20063.896271
## iter 20 value 20045.071269
## final value 20044.863709
## converged
## # weights: 9
## initial value 23093.997039
## final value 19981.990000
## converged
## # weights: 25
## initial value 22242.110377
## final value 19981.990000
## converged
## # weights: 41
## initial value 22899.207662
## final value 19981.990000
## converged
## # weights: 9
## initial value 21739.005967
## iter 10 value 19988.026847
## final value 19987.498614
## converged
## # weights: 25
## initial value 23615.051025
## iter 10 value 19986.871432
## final value 19985.964872
## converged
## # weights: 41
## initial value 23971.887971
## iter 10 value 19986.015419
## iter 20 value 19985.305641
## iter 20 value 19985.305561
## iter 20 value 19985.305544
## final value 19985.305544
## converged
## # weights: 9
```

```
## initial value 23624.012393
## iter 10 value 19991.745741
## iter 20 value 19982.102476
## iter 20 value 19982.102431
## final value 19982.102431
## converged
## # weights: 25
## initial value 23363.748588
## iter 10 value 19995.429211
## iter 20 value 19982.144944
## final value 19982.003287
## converged
## # weights: 41
## initial value 24190.744213
## iter 10 value 19992.768377
## iter 20 value 19982.114266
## final value 19982.003785
## converged
## # weights: 9
## initial value 23989.654109
## final value 19943.705200
## converged
## # weights: 25
## initial value 21946.085563
## final value 19943.705200
## converged
## # weights: 41
## initial value 22984.734258
## final value 19943.705200
## converged
## # weights: 9
## initial value 22654.184151
## iter 10 value 19971.994078
## iter 20 value 19949.284699
## final value 19949.213101
## converged
## # weights: 25
## initial value 22010.369693
## iter 10 value 19948.842301
## final value 19947.679579
## converged
## # weights: 41
## initial value 23062.719693
## iter 10 value 19954.787131
## iter 20 value 19947.021340
## final value 19947.020421
## converged
## # weights: 9
## initial value 22781.074367
## iter 10 value 19955.453576
## iter 20 value 19943.840650
## iter 20 value 19943.840595
```

```
## final value 19943.840595
## converged
## # weights: 25
## initial value 24328.194451
## iter 10 value 19950.776618
## iter 20 value 19943.786728
## final value 19943.729263
## converged
## # weights: 41
## initial value 22083.306084
## iter 10 value 19960.195809
## iter 20 value 19943.895324
## final value 19943.716147
## converged
## # weights: 9
## initial value 22273.684754
## final value 20013.749200
## converged
## # weights: 25
## initial value 22666.694586
## final value 20013.749200
## converged
## # weights: 41
## initial value 22389.428231
## final value 20013.749200
## converged
## # weights: 9
## initial value 21638.848563
## iter 10 value 20020.280078
## final value 20019.258487
## converged
## # weights: 25
## initial value 22085.564259
## iter 10 value 20023.604522
## iter 20 value 20017.724757
## iter 20 value 20017.724584
## iter 20 value 20017.724530
## final value 20017.724530
## converged
## # weights: 41
## initial value 23380.979180
## iter 10 value 20018.599438
## iter 20 value 20017.065262
## iter 20 value 20017.065104
## iter 20 value 20017.065101
## final value 20017.065101
## converged
## # weights: 9
## initial value 21771.707215
## iter 10 value 20021.657025
## iter 20 value 20013.840371
## iter 20 value 20013.840335
```

```
## final value 20013.840335
## converged
## # weights: 25
## initial value 23672.557894
## iter 10 value 20026.259328
## iter 20 value 20013.893432
## final value 20013.765066
## converged
## # weights: 41
## initial value 23932.018955
## iter 10 value 20028.703408
## iter 20 value 20013.921610
## final value 20013.763658
## converged
## # weights: 9
## initial value 22573.855080
## final value 20048.881700
## converged
## # weights: 25
## initial value 22988.436637
## final value 20048.881700
## converged
## # weights: 41
## initial value 21803.347584
## final value 20048.881700
## converged
## # weights: 9
## initial value 23849.705172
## iter 10 value 20055.248081
## final value 20054.392275
## converged
## # weights: 25
## initial value 23242.710145
## iter 10 value 20053.311924
## iter 20 value 20052.859553
## final value 20052.857852
## converged
## # weights: 41
## initial value 22224.312376
## iter 10 value 20054.064294
## iter 20 value 20052.198478
## iter 20 value 20052.198345
## iter 20 value 20052.198332
## final value 20052.198332
## converged
## # weights: 9
## initial value 21862.834698
## iter 10 value 20057.200519
## iter 20 value 20048.977609
## iter 20 value 20048.977571
## final value 20048.977571
## converged
```

```
## # weights: 25
## initial value 22389.946397
## iter 10 value 20063.487799
## iter 20 value 20049.050097
## final value 20048.898340
## converged
## # weights: 41
## initial value 21216.492312
## iter 10 value 20057.883211
## iter 20 value 20048.985480
## final value 20048.891063
## converged
## # weights: 9
## initial value 22354.682986
## final value 20039.160100
## converged
## # weights: 25
## initial value 23647.598347
## final value 20039.160100
## converged
## # weights: 41
## initial value 23845.454027
## final value 20039.160100
## converged
## # weights: 9
## initial value 22037.586741
## iter 10 value 20045.506981
## final value 20044.670215
## converged
## # weights: 25
## initial value 22530.327422
## iter 10 value 20044.071118
## final value 20043.135958
## converged
## # weights: 41
## initial value 23661.484358
## iter 10 value 20054.784337
## iter 20 value 20042.479306
## final value 20042.476636
## converged
## # weights: 9
## initial value 23102.075626
## iter 10 value 20048.978611
## iter 20 value 20039.273300
## iter 20 value 20039.273254
## final value 20039.273254
## converged
## # weights: 25
## initial value 22433.584675
## iter 10 value 20055.306437
## iter 20 value 20039.346255
## final value 20039.173395
```



```
## converged
## # weights: 41
## initial value 22868.394373
## iter 10 value 20061.468726
## iter 20 value 20039.417301
## final value 20039.170381
## converged
## # weights: 9
## initial value 22175.051998
## final value 19995.272500
## converged
## # weights: 25
## initial value 22002.599986
## final value 19995.272500
## converged
## # weights: 41
## initial value 23880.147075
## final value 19995.272500
## converged
## # weights: 9
## initial value 22016.943146
## iter 10 value 20001.319192
## final value 20000.781389
## converged
## # weights: 25
## initial value 22018.851920
## iter 10 value 20000.157649
## final value 19999.247502
## converged
## # weights: 41
## initial value 23285.911623
## iter 10 value 20013.956509
## iter 20 value 19998.588750
## final value 19998.588265
## converged
## # weights: 9
## initial value 22145.869500
## iter 10 value 20005.047368
## iter 20 value 19995.385197
## iter 20 value 19995.385151
## final value 19995.385151
## converged
## # weights: 25
## initial value 22546.876921
## iter 10 value 20009.744796
## iter 20 value 19995.439354
## final value 19995.290837
## converged
## # weights: 41
## initial value 21817.859253
## iter 10 value 20010.699082
## iter 20 value 19995.450356
```

```
## final value 19995.282711
## converged
## # weights: 9
## initial value 23504.560201
## final value 19959.537700
## converged
## # weights: 25
## initial value 22494.091032
## final value 19959.537700
## converged
## # weights: 41
## initial value 22435.553560
## final value 19959.537700
## converged
## # weights: 9
## initial value 22286.559601
## iter 10 value 19965.165499
## final value 19965.045907
## converged
## # weights: 25
## initial value 22089.924322
## iter 10 value 19967.147108
## iter 20 value 19963.512996
## final value 19963.512302
## converged
## # weights: 41
## initial value 24049.189470
## iter 10 value 19976.090977
## iter 20 value 19962.853257
## iter 20 value 19962.853126
## iter 20 value 19962.853115
## final value 19962.853115
## converged
## # weights: 9
## initial value 21825.172404
## iter 10 value 19969.035193
## iter 20 value 19959.647199
## iter 20 value 19959.647155
## final value 19959.647155
## converged
## # weights: 25
## initial value 23055.429815
## iter 10 value 19973.481863
## iter 20 value 19959.698465
## final value 19959.550199
## converged
## # weights: 41
## initial value 22122.783372
## iter 10 value 19976.604630
## iter 20 value 19959.734468
## final value 19959.547892
## converged
```

```
## # weights: 9
## initial value 23179.186822
## final value 19990.409200
## converged
## # weights: 25
## initial value 22957.648306
## final value 19990.409200
## converged
## # weights: 41
## initial value 22794.248023
## final value 19990.409200
## converged
## # weights: 9
## initial value 23417.337077
## iter 10 value 19999.642211
## iter 20 value 19995.917916
## iter 20 value 19995.917907
## final value 19995.917907
## converged
## # weights: 25
## initial value 22078.148743
## iter 10 value 19995.238833
## final value 19994.384234
## converged
## # weights: 41
## initial value 21607.915376
## iter 10 value 20008.460427
## iter 20 value 19993.728590
## final value 19993.724810
## converged
## # weights: 9
## initial value 22448.833393
## iter 10 value 20001.744837
## iter 20 value 19990.539891
## iter 20 value 19990.539839
## final value 19990.539839
## converged
## # weights: 25
## initial value 22002.449402
## iter 10 value 20000.667736
## iter 20 value 19990.527473
## final value 19990.423103
## converged
## # weights: 41
## initial value 22012.534245
## iter 10 value 20008.671239
## iter 20 value 19990.619747
## final value 19990.419426
## converged
## # weights: 9
## initial value 22342.244378
## final value 20036.647600
```

```
## converged
## # weights: 25
## initial value 21860.369554
## final value 20036.647600
## converged
## # weights: 41
## initial value 22253.471473
## final value 20036.647600
## converged
## # weights: 9
## initial value 23039.888688
## iter 10 value 20044.038748
## final value 20042.157609
## converged
## # weights: 25
## initial value 21933.751424
## iter 10 value 20042.066702
## final value 20040.623529
## converged
## # weights: 41
## initial value 23916.901943
## iter 10 value 20053.526005
## iter 20 value 20039.970128
## final value 20039.963911
## converged
## # weights: 9
## initial value 23037.607580
## iter 10 value 20047.432852
## iter 20 value 20036.771945
## iter 20 value 20036.771896
## final value 20036.771896
## converged
## # weights: 25
## initial value 22816.872520
## iter 10 value 20049.997839
## iter 20 value 20036.801518
## final value 20036.662555
## converged
## # weights: 41
## initial value 23280.256940
## iter 10 value 20053.415497
## iter 20 value 20036.840921
## final value 20036.660695
## converged
## # weights: 9
## initial value 22000.248272
## final value 20029.530100
## converged
## # weights: 25
## initial value 22456.788377
## final value 20029.530100
## converged
```

```
## # weights: 41
## initial value 22346.666104
## final value 20029.530100
## converged
## # weights: 9
## initial value 23393.580926
## iter 10 value 20035.508924
## final value 20035.039884
## converged
## # weights: 25
## initial value 21253.423494
## iter 10 value 20041.216123
## iter 20 value 20033.511915
## final value 20033.505715
## converged
## # weights: 41
## initial value 23236.150752
## iter 10 value 20044.083165
## iter 20 value 20032.846905
## final value 20032.846310
## converged
## # weights: 9
## initial value 23813.642658
## iter 10 value 20037.010876
## iter 20 value 20029.616347
## iter 20 value 20029.616313
## final value 20029.616313
## converged
## # weights: 25
## initial value 22142.038164
## iter 10 value 20042.251964
## iter 20 value 20029.676773
## final value 20029.541699
## converged
## # weights: 41
## initial value 21395.976030
## iter 10 value 20039.862436
## iter 20 value 20029.649224
## final value 20029.539256
## converged
## # weights: 9
## initial value 23915.810066
## final value 19993.781200
## converged
## # weights: 25
## initial value 22106.555642
## final value 19993.781200
## converged
## # weights: 41
## initial value 21763.493315
## final value 19993.781200
## converged
```

```
## # weights: 9
## initial value 22138.969849
## iter 10 value 20016.601095
## iter 20 value 19999.293583
## iter 20 value 19999.293560
## final value 19999.293560
## converged
## # weights: 25
## initial value 22207.199267
## iter 10 value 19999.014222
## final value 19997.756169
## converged
## # weights: 41
## initial value 22994.593177
## iter 10 value 19997.780851
## final value 19997.096891
## converged
## # weights: 9
## initial value 23493.045235
## iter 10 value 20002.298020
## iter 20 value 19993.879392
## iter 20 value 19993.879353
## final value 19993.879353
## converged
## # weights: 25
## initial value 22390.367939
## iter 10 value 20007.455094
## iter 20 value 19993.938849
## final value 19993.794777
## converged
## # weights: 41
## initial value 22658.668646
## iter 10 value 20014.345502
## iter 20 value 19994.018290
## final value 19993.791457
## converged
## # weights: 9
## initial value 21931.148494
## final value 20018.011700
## converged
## # weights: 25
## initial value 22241.258890
## final value 20018.011700
## converged
## # weights: 41
## initial value 23412.254387
## final value 20018.011700
## converged
## # weights: 9
## initial value 23851.760266
## iter 10 value 20025.950983
## final value 20023.521091
```

```
## converged
## # weights: 25
## initial value 23423.052479
## iter 10 value 20031.258557
## iter 20 value 20021.987056
## iter 20 value 20021.987009
## iter 20 value 20021.987007
## final value 20021.987007
## converged
## # weights: 41
## initial value 22589.383187
## iter 10 value 20035.531107
## iter 20 value 20021.328238
## final value 20021.327722
## converged
## # weights: 9
## initial value 21855.345113
## iter 10 value 20026.759015
## iter 20 value 20018.112550
## iter 20 value 20018.112509
## final value 20018.112509
## converged
## # weights: 25
## initial value 23546.030793
## iter 10 value 20032.950943
## iter 20 value 20018.183938
## final value 20018.025803
## converged
## # weights: 41
## initial value 21877.969414
## iter 10 value 20034.073930
## iter 20 value 20018.196885
## final value 20018.022332
## converged
## # weights: 9
## initial value 23337.555142
## final value 20034.118000
## converged
## # weights: 25
## initial value 21583.249129
## final value 20034.118000
## converged
## # weights: 41
## initial value 22246.800152
## final value 20034.118000
## converged
## # weights: 9
## initial value 21851.110701
## iter 10 value 20041.630235
## final value 20039.627898
## converged
## # weights: 25
```

```
## initial value 24088.235393
## iter 10 value 20038.811561
## final value 20038.093682
## converged
## # weights: 41
## initial value 23647.402587
## iter 10 value 20045.699785
## iter 20 value 20037.436911
## final value 20037.434216
## converged
## # weights: 9
## initial value 23771.117000
## iter 10 value 20042.776205
## iter 20 value 20034.217822
## iter 20 value 20034.217782
## final value 20034.217782
## converged
## # weights: 25
## initial value 22978.373825
## iter 10 value 20049.160581
## iter 20 value 20034.291429
## final value 20034.129406
## converged
## # weights: 41
## initial value 22776.555621
## iter 10 value 20057.175581
## iter 20 value 20034.383836
## final value 20034.129815
## converged
## # weights: 9
## initial value 23129.442309
## final value 19849.133200
## converged
## # weights: 25
## initial value 23622.042995
## final value 19849.133200
## converged
## # weights: 41
## initial value 22862.917672
## final value 19849.133200
## converged
## # weights: 9
## initial value 23414.219113
## iter 10 value 19855.022567
## final value 19854.639896
## converged
## # weights: 25
## initial value 24138.101224
## iter 10 value 19855.457444
## iter 20 value 19853.107575
## final value 19853.106979
## converged
```



```
## # weights: 41
## initial value 22991.996161
## iter 10 value 19864.285004
## iter 20 value 19852.448536
## final value 19852.447835
## converged
## # weights: 9
## initial value 22047.769293
## iter 10 value 19859.739902
## iter 20 value 19849.255487
## iter 20 value 19849.255438
## final value 19849.255438
## converged
## # weights: 25
## initial value 22282.787530
## iter 10 value 19863.521598
## iter 20 value 19849.299087
## final value 19849.146027
## converged
## # weights: 41
## initial value 22568.465712
## iter 10 value 19868.601463
## iter 20 value 19849.357654
## final value 19849.143054
## converged
## # weights: 9
## initial value 21847.362464
## final value 20033.902000
## converged
## # weights: 25
## initial value 21206.017013
## final value 20033.902000
## converged
## # weights: 41
## initial value 23342.083963
## final value 20033.902000
## converged
## # weights: 9
## initial value 22621.259856
## iter 10 value 20039.661406
## final value 20039.411877
## converged
## # weights: 25
## initial value 23513.224101
## iter 10 value 20039.345363
## iter 20 value 20037.877679
## iter 20 value 20037.877653
## iter 20 value 20037.877643
## final value 20037.877643
## converged
## # weights: 41
## initial value 23348.168104
```

```
## iter 10 value 20050.218439
## iter 20 value 20037.218866
## final value 20037.218247
## converged
## # weights: 9
## initial value 23120.684601
## iter 10 value 20044.778307
## iter 20 value 20034.027395
## iter 20 value 20034.027345
## final value 20034.027345
## converged
## # weights: 25
## initial value 22087.271101
## iter 10 value 20049.147753
## iter 20 value 20034.077772
## final value 20033.917191
## converged
## # weights: 41
## initial value 23353.771312
## iter 10 value 20055.660786
## iter 20 value 20034.152862
## final value 20033.915148
## converged
## # weights: 9
## initial value 23305.721302
## final value 19980.723700
## converged
## # weights: 25
## initial value 23722.843649
## final value 19980.723700
## converged
## # weights: 41
## initial value 22371.805022
## final value 19980.723700
## converged
## # weights: 9
## initial value 23457.480981
## iter 10 value 19986.469142
## final value 19986.232244
## converged
## # weights: 25
## initial value 22026.425643
## iter 10 value 19986.346277
## final value 19984.698497
## converged
## # weights: 41
## initial value 23416.704384
## iter 10 value 19996.679863
## iter 20 value 19984.040044
## final value 19984.039178
## converged
## # weights: 9
```

```
## initial value 22656.343210
## iter 10 value 19991.381794
## iter 20 value 19980.846579
## iter 20 value 19980.846530
## final value 19980.846530
## converged
## # weights: 25
## initial value 22111.806175
## iter 10 value 19994.636339
## iter 20 value 19980.884102
## final value 19980.738447
## converged
## # weights: 41
## initial value 22701.484295
## iter 10 value 20003.974939
## iter 20 value 19980.991769
## final value 19980.734391
## converged
## # weights: 9
## initial value 23696.419556
## final value 20027.529200
## converged
## # weights: 25
## initial value 22207.317545
## final value 20027.529200
## converged
## # weights: 41
## initial value 21631.596869
## final value 20027.529200
## converged
## # weights: 9
## initial value 22776.770695
## iter 10 value 20036.763593
## final value 20033.038890
## converged
## # weights: 25
## initial value 21728.051192
## iter 10 value 20032.095990
## final value 20031.504754
## converged
## # weights: 41
## initial value 22356.209842
## iter 10 value 20046.485812
## iter 20 value 20030.845528
## iter 20 value 20030.845366
## iter 20 value 20030.845352
## final value 20030.845352
## converged
## # weights: 9
## initial value 23999.744519
## iter 10 value 20035.665627
## iter 20 value 20027.623007
```

```
## iter 20 value 20027.622969
## final value 20027.622969
## converged
## # weights: 25
## initial value 22083.117479
## iter 10 value 20039.902844
## iter 20 value 20027.671858
## final value 20027.540822
## converged
## # weights: 41
## initial value 21925.567969
## iter 10 value 20044.855284
## iter 20 value 20027.728956
## final value 20027.539930
## converged
## # weights: 9
## initial value 22756.070803
## final value 20039.550500
## converged
## # weights: 25
## initial value 21355.283112
## final value 20039.550500
## converged
## # weights: 41
## initial value 21698.707549
## final value 20039.550500
## converged
## # weights: 9
## initial value 22426.997324
## iter 10 value 20045.458499
## final value 20045.060623
## converged
## # weights: 25
## initial value 23977.470113
## iter 10 value 20044.027305
## final value 20043.526340
## converged
## # weights: 41
## initial value 23102.727135
## iter 10 value 20058.799175
## iter 20 value 20042.868434
## final value 20042.866928
## converged
## # weights: 9
## initial value 22279.672017
## iter 10 value 20050.269771
## iter 20 value 20039.674085
## iter 20 value 20039.674035
## final value 20039.674035
## converged
## # weights: 25
## initial value 23521.361441
```

```
## iter 10 value 20053.903528
## iter 20 value 20039.715979
## final value 20039.577291
## converged
## # weights: 41
## initial value 21967.407696
## iter 10 value 20056.546815
## iter 20 value 20039.746454
## final value 20039.561750
## converged
## # weights: 9
## initial value 22641.514683
## final value 20020.659700
## converged
## # weights: 25
## initial value 23411.872273
## final value 20020.659700
## converged
## # weights: 41
## initial value 21973.144943
## final value 20020.659700
## converged
## # weights: 9
## initial value 22820.095928
## iter 10 value 20043.661019
## iter 20 value 20026.174168
## final value 20026.169245
## converged
## # weights: 25
## initial value 22612.316805
## iter 10 value 20025.591232
## final value 20024.635088
## converged
## # weights: 41
## initial value 21250.252107
## iter 10 value 20033.927573
## iter 20 value 20023.977880
## final value 20023.975727
## converged
## # weights: 9
## initial value 23637.879234
## iter 10 value 20029.969431
## iter 20 value 20020.767034
## iter 20 value 20020.766991
## final value 20020.766991
## converged
## # weights: 25
## initial value 23394.306138
## iter 10 value 20035.789193
## iter 20 value 20020.834131
## final value 20020.674657
## converged
```

```
## # weights: 41
## initial value 21657.558469
## iter 10 value 20034.097202
## iter 20 value 20020.814624
## final value 20020.669134
## converged
## # weights: 9
## initial value 22320.699457
## final value 19996.584500
## converged
## # weights: 25
## initial value 23260.164033
## final value 19996.584500
## converged
## # weights: 41
## initial value 21731.854917
## final value 19996.584500
## converged
## # weights: 9
## initial value 23326.899080
## iter 10 value 20003.497193
## final value 20002.093317
## converged
## # weights: 25
## initial value 22182.432084
## iter 10 value 20000.964184
## final value 20000.559538
## converged
## # weights: 41
## initial value 23031.087867
## iter 10 value 20009.426075
## iter 20 value 19999.900433
## iter 20 value 19999.900236
## iter 20 value 19999.900173
## final value 19999.900173
## converged
## # weights: 9
## initial value 22492.355945
## iter 10 value 20006.911343
## iter 20 value 19996.703560
## iter 20 value 19996.703513
## final value 19996.703513
## converged
## # weights: 25
## initial value 21779.384363
## iter 10 value 20009.568306
## iter 20 value 19996.734193
## final value 19996.597869
## converged
## # weights: 41
## initial value 23249.825985
## iter 10 value 20014.676619
```

```
## iter 20 value 19996.793088
## final value 19996.595267
## converged
## # weights: 9
## initial value 21860.899863
## final value 19975.560500
## converged
## # weights: 25
## initial value 21963.133942
## final value 19975.560500
## converged
## # weights: 41
## initial value 22720.879661
## final value 19975.560500
## converged
## # weights: 9
## initial value 21717.433116
## iter 10 value 19981.811637
## final value 19981.069007
## converged
## # weights: 25
## initial value 21682.213605
## iter 10 value 19980.450377
## final value 19979.535359
## converged
## # weights: 41
## initial value 22352.572092
## iter 10 value 19983.737548
## iter 20 value 19978.876381
## final value 19978.876040
## converged
## # weights: 9
## initial value 23102.167366
## iter 10 value 19985.396643
## iter 20 value 19975.673903
## iter 20 value 19975.673858
## final value 19975.673858
## converged
## # weights: 25
## initial value 22033.855795
## iter 10 value 19991.567865
## iter 20 value 19975.745052
## final value 19975.573072
## converged
## # weights: 41
## initial value 22527.804314
## iter 10 value 19995.723259
## iter 20 value 19975.792961
## final value 19975.570654
## converged
## # weights: 9
## initial value 23756.545723
```

```
## final value 20060.414500
## converged
## # weights: 25
## initial value 23440.786208
## final value 20060.414500
## converged
## # weights: 41
## initial value 21493.625993
## final value 20060.414500
## converged
## # weights: 9
## initial value 22066.036001
## iter 10 value 20066.494885
## final value 20065.925954
## converged
## # weights: 25
## initial value 22513.968401
## iter 10 value 20065.136846
## final value 20064.391277
## converged
## # weights: 41
## initial value 23145.879997
## iter 10 value 20076.535607
## iter 20 value 20063.736627
## final value 20063.731779
## converged
## # weights: 9
## initial value 23188.157065
## iter 10 value 20071.064719
## iter 20 value 20060.537289
## iter 20 value 20060.537240
## final value 20060.537240
## converged
## # weights: 25
## initial value 21637.510540
## iter 10 value 20070.213217
## iter 20 value 20060.527472
## final value 20060.426072
## converged
## # weights: 41
## initial value 21610.148185
## iter 10 value 20072.615739
## iter 20 value 20060.555171
## final value 20060.423694
## converged
## # weights: 9
## initial value 21551.887723
## final value 19948.680100
## converged
## # weights: 25
## initial value 21914.139656
## final value 19948.680100
```



```
## converged
## # weights: 41
## initial value 23785.600124
## final value 19948.680100
## converged
## # weights: 9
## initial value 21690.608283
## iter 10 value 19955.589273
## final value 19954.188107
## converged
## # weights: 25
## initial value 23570.401043
## iter 10 value 19957.156069
## iter 20 value 19952.654810
## iter 20 value 19952.654693
## iter 20 value 19952.654652
## final value 19952.654652
## converged
## # weights: 41
## initial value 23612.563206
## iter 10 value 19964.227807
## iter 20 value 19951.996763
## final value 19951.995347
## converged
## # weights: 9
## initial value 22784.156317
## iter 10 value 19959.940121
## iter 20 value 19948.809919
## iter 20 value 19948.809867
## final value 19948.809867
## converged
## # weights: 25
## initial value 23060.053719
## iter 10 value 19965.316434
## iter 20 value 19948.871904
## final value 19948.696759
## converged
## # weights: 41
## initial value 22577.766959
## iter 10 value 19968.441544
## iter 20 value 19948.907934
## final value 19948.689664
## converged
## # weights: 9
## initial value 23814.898188
## final value 20049.554000
## converged
## # weights: 25
## initial value 22838.083500
## final value 20049.554000
## converged
## # weights: 41
```

```
## initial value 23344.285771
## final value 20049.554000
## converged
## # weights: 9
## initial value 23097.575516
## iter 10 value 20056.576439
## final value 20055.064613
## converged
## # weights: 25
## initial value 22501.561746
## iter 10 value 20056.445363
## iter 20 value 20053.530455
## iter 20 value 20053.530318
## iter 20 value 20053.530314
## final value 20053.530314
## converged
## # weights: 41
## initial value 22176.035452
## iter 10 value 20054.166982
## iter 20 value 20052.870740
## iter 20 value 20052.870645
## iter 20 value 20052.870628
## final value 20052.870628
## converged
## # weights: 9
## initial value 22162.966823
## iter 10 value 20059.521387
## iter 20 value 20049.668916
## iter 20 value 20049.668870
## final value 20049.668870
## converged
## # weights: 25
## initial value 21801.581270
## iter 10 value 20061.157303
## iter 20 value 20049.687777
## final value 20049.566308
## converged
## # weights: 41
## initial value 23851.945321
## iter 10 value 20067.613241
## iter 20 value 20049.762209
## final value 20049.566188
## converged
## # weights: 9
## initial value 22243.361105
## final value 20035.817200
## converged
## # weights: 25
## initial value 22048.543609
## final value 20035.817200
## converged
## # weights: 41
```

```
## initial value 23343.808044
## final value 20035.817200
## converged
## # weights: 9
## initial value 22792.971213
## iter 10 value 20046.883421
## iter 20 value 20041.327170
## iter 20 value 20041.327167
## final value 20041.327167
## converged
## # weights: 25
## initial value 22939.144132
## iter 10 value 20040.240410
## final value 20039.793068
## converged
## # weights: 41
## initial value 24104.724493
## iter 10 value 20049.520132
## iter 20 value 20039.133865
## final value 20039.133468
## converged
## # weights: 9
## initial value 21933.359689
## iter 10 value 20045.131011
## iter 20 value 20035.924581
## iter 20 value 20035.924538
## final value 20035.924538
## converged
## # weights: 25
## initial value 24482.241475
## iter 10 value 20041.540858
## iter 20 value 20035.883189
## final value 20035.842261
## converged
## # weights: 41
## initial value 22495.823586
## iter 10 value 20052.066504
## iter 20 value 20036.004542
## final value 20035.829310
## converged
## # weights: 9
## initial value 22040.144611
## final value 20058.547600
## converged
## # weights: 25
## initial value 22918.958683
## final value 20058.547600
## converged
## # weights: 41
## initial value 23520.958209
## final value 20058.547600
## converged
```

```
## # weights: 9
## initial value 22312.993771
## iter 10 value 20064.224927
## final value 20064.058752
## converged
## # weights: 25
## initial value 23081.244126
## iter 10 value 20063.216112
## iter 20 value 20062.525727
## final value 20062.524124
## converged
## # weights: 41
## initial value 23986.044880
## iter 10 value 20073.058120
## iter 20 value 20061.866890
## final value 20061.864523
## converged
## # weights: 9
## initial value 22299.761663
## iter 10 value 20069.451648
## iter 20 value 20058.673315
## iter 20 value 20058.673265
## final value 20058.673265
## converged
## # weights: 25
## initial value 21475.685598
## iter 10 value 20065.843922
## iter 20 value 20058.631721
## final value 20058.559466
## converged
## # weights: 41
## initial value 22785.891577
## iter 10 value 20078.274364
## iter 20 value 20058.775034
## final value 20058.557495
## converged
## # weights: 9
## initial value 22773.229472
## final value 19957.697200
## converged
## # weights: 25
## initial value 23117.882508
## final value 19957.697200
## converged
## # weights: 41
## initial value 23426.882203
## final value 19957.697200
## converged
## # weights: 9
## initial value 22226.281394
## iter 10 value 19963.574936
## final value 19963.205375
```

```
## converged
## # weights: 25
## initial value 22382.403182
## iter 10 value 19962.275003
## final value 19961.671773
## converged
## # weights: 41
## initial value 22147.452939
## iter 10 value 19962.062188
## final value 19961.012530
## converged
## # weights: 9
## initial value 22847.450902
## iter 10 value 19967.824845
## iter 20 value 19957.813964
## iter 20 value 19957.813917
## final value 19957.813917
## converged
## # weights: 25
## initial value 21666.862852
## iter 10 value 19968.330500
## iter 20 value 19957.819794
## final value 19957.710015
## converged
## # weights: 41
## initial value 21496.863597
## iter 10 value 19971.699232
## iter 20 value 19957.858632
## final value 19957.707264
## converged
## # weights: 9
## initial value 22105.418917
## final value 20047.250000
## converged
## # weights: 25
## initial value 23278.965272
## final value 20047.250000
## converged
## # weights: 41
## initial value 22858.529287
## final value 20047.250000
## converged
## # weights: 9
## initial value 23303.938454
## iter 10 value 20053.947330
## final value 20052.760452
## converged
## # weights: 25
## initial value 22843.920668
## iter 10 value 20051.661620
## final value 20051.226031
## converged
```

```
## # weights: 41
## initial value 22507.103266
## iter 10 value 20052.268414
## iter 20 value 20050.566781
## iter 20 value 20050.566634
## iter 20 value 20050.566561
## final value 20050.566561
## converged
## # weights: 9
## initial value 23507.367992
## iter 10 value 20056.761520
## iter 20 value 20047.359660
## iter 20 value 20047.359616
## final value 20047.359616
## converged
## # weights: 25
## initial value 23696.961579
## iter 10 value 20061.312279
## iter 20 value 20047.412127
## final value 20047.265409
## converged
## # weights: 41
## initial value 22041.012455
## iter 10 value 20062.254124
## iter 20 value 20047.422986
## final value 20047.259301
## converged
## # weights: 9
## initial value 23190.093610
## final value 19980.360100
## converged
## # weights: 25
## initial value 23105.531632
## final value 19980.360100
## converged
## # weights: 41
## initial value 21691.035601
## final value 19980.360100
## converged
## # weights: 9
## initial value 23558.962420
## iter 10 value 19986.445334
## final value 19985.868655
## converged
## # weights: 25
## initial value 22097.298859
## iter 10 value 19984.650933
## final value 19984.335012
## converged
## # weights: 41
## initial value 22607.826676
## iter 10 value 19984.685136
```

```
## iter 20 value 19983.678398
## final value 19983.675622
## converged
## # weights: 9
## initial value 22565.393049
## iter 10 value 19991.712633
## iter 20 value 19980.490986
## iter 20 value 19980.490933
## final value 19980.490933
## converged
## # weights: 25
## initial value 21799.515807
## iter 10 value 19992.257730
## iter 20 value 19980.497270
## final value 19980.371439
## converged
## # weights: 41
## initial value 22681.371209
## iter 10 value 19997.458416
## iter 20 value 19980.557230
## final value 19980.369730
## converged
## # weights: 9
## initial value 23421.366874
## final value 20040.702500
## converged
## # weights: 25
## initial value 23040.666675
## final value 20040.702500
## converged
## # weights: 41
## initial value 21290.362303
## final value 20040.702500
## converged
## # weights: 9
## initial value 22965.038129
## iter 10 value 20048.246364
## final value 20046.212610
## converged
## # weights: 25
## initial value 23882.446012
## iter 10 value 20046.272140
## final value 20044.678355
## converged
## # weights: 41
## initial value 22277.246444
## iter 10 value 20045.256553
## iter 20 value 20044.019192
## iter 20 value 20044.019002
## iter 20 value 20044.018913
## final value 20044.018913
## converged
```

```
## # weights: 9
## initial value 23287.109251
## iter 10 value 20050.364213
## iter 20 value 20040.813892
## iter 20 value 20040.813847
## final value 20040.813847
## converged
## # weights: 25
## initial value 21122.654095
## iter 10 value 20046.739399
## iter 20 value 20040.772101
## final value 20040.713329
## converged
## # weights: 41
## initial value 23044.203708
## iter 10 value 20060.141909
## iter 20 value 20040.926621
## final value 20040.712461
## converged
## # weights: 9
## initial value 21986.731925
## final value 20039.453200
## converged
## # weights: 25
## initial value 23815.592793
## final value 20039.453200
## converged
## # weights: 41
## initial value 23899.997600
## final value 20039.453200
## converged
## # weights: 9
## initial value 21809.472235
## iter 10 value 20046.004113
## final value 20044.963326
## converged
## # weights: 25
## initial value 21650.616122
## iter 10 value 20043.891030
## final value 20043.429022
## converged
## # weights: 41
## initial value 22337.819817
## iter 10 value 20047.718834
## iter 20 value 20042.769767
## iter 20 value 20042.769593
## iter 20 value 20042.769589
## final value 20042.769589
## converged
## # weights: 9
## initial value 22412.531204
## iter 10 value 20050.368026
```



```
## iter 20 value 20039.579039
## iter 20 value 20039.578989
## final value 20039.578989
## converged
## # weights: 25
## initial value 22551.589903
## iter 10 value 20055.640122
## iter 20 value 20039.639823
## final value 20039.466043
## converged
## # weights: 41
## initial value 22664.492991
## iter 10 value 20059.214032
## iter 20 value 20039.681027
## final value 20039.463094
## converged
## # weights: 9
## initial value 21898.346120
## final value 20019.213200
## converged
## # weights: 25
## initial value 21699.889734
## final value 20019.213200
## converged
## # weights: 41
## initial value 21703.307125
## final value 20019.213200
## converged
## # weights: 9
## initial value 23386.706686
## iter 10 value 20085.102294
## iter 20 value 20024.856375
## final value 20024.722609
## converged
## # weights: 25
## initial value 22937.864226
## iter 10 value 20024.175016
## final value 20023.188516
## converged
## # weights: 41
## initial value 24124.643814
## iter 10 value 20031.831541
## iter 20 value 20022.533756
## final value 20022.529236
## converged
## # weights: 9
## initial value 22837.304016
## iter 10 value 20030.961688
## iter 20 value 20019.348651
## iter 20 value 20019.348597
## final value 20019.348597
## converged
```

```
## # weights: 25
## initial value 22217.760790
## iter 10 value 20032.468926
## iter 20 value 20019.366028
## final value 20019.224570
## converged
## # weights: 41
## initial value 22045.848196
## iter 10 value 20035.021594
## iter 20 value 20019.395458
## final value 20019.223058
## converged
## # weights: 9
## initial value 23234.110505
## final value 20036.337700
## converged
## # weights: 25
## initial value 22193.042751
## final value 20036.337700
## converged
## # weights: 41
## initial value 22925.022224
## final value 20036.337700
## converged
## # weights: 9
## initial value 23104.200139
## iter 10 value 20042.959940
## final value 20041.847685
## converged
## # weights: 25
## initial value 22814.003065
## iter 10 value 20041.521446
## final value 20040.313441
## converged
## # weights: 41
## initial value 23463.568554
## iter 10 value 20040.431480
## final value 20039.654085
## converged
## # weights: 9
## initial value 22273.142842
## iter 10 value 20047.247293
## iter 20 value 20036.463479
## iter 20 value 20036.463429
## final value 20036.463429
## converged
## # weights: 25
## initial value 22962.743899
## iter 10 value 20052.256637
## iter 20 value 20036.521233
## final value 20036.357766
## converged
```

```
## # weights: 41
## initial value 23355.158044
## iter 10 value 20055.005979
## iter 20 value 20036.552931
## final value 20036.347933
## converged
## # weights: 9
## initial value 22835.516714
## final value 20045.781200
## converged
## # weights: 25
## initial value 21784.038094
## final value 20045.781200
## converged
## # weights: 41
## initial value 21203.410761
## final value 20045.781200
## converged
## # weights: 9
## initial value 22007.110621
## iter 10 value 20051.484707
## final value 20051.291593
## converged
## # weights: 25
## initial value 23559.674729
## iter 10 value 20051.274704
## final value 20049.757293
## converged
## # weights: 41
## initial value 22839.877845
## iter 10 value 20050.171347
## iter 20 value 20049.097766
## iter 20 value 20049.097680
## iter 20 value 20049.097676
## final value 20049.097676
## converged
## # weights: 9
## initial value 22059.429439
## iter 10 value 20055.971830
## iter 20 value 20045.898690
## iter 20 value 20045.898643
## final value 20045.898643
## converged
## # weights: 25
## initial value 23110.046034
## iter 10 value 20061.378842
## iter 20 value 20045.961029
## final value 20045.797657
## converged
## # weights: 41
## initial value 23187.296255
## iter 10 value 20066.515960
```

```
## iter 20 value 20046.020256
## final value 20045.796240
## converged
## # weights: 9
## initial value 22818.080390
## final value 20005.258000
## converged
## # weights: 25
## initial value 23674.793850
## final value 20005.258000
## converged
## # weights: 41
## initial value 22542.646626
## final value 20005.258000
## converged
## # weights: 9
## initial value 22096.006462
## iter 10 value 20012.991991
## final value 20010.767032
## converged
## # weights: 25
## initial value 23047.386525
## iter 10 value 20010.692259
## iter 20 value 20009.233160
## iter 20 value 20009.233087
## iter 20 value 20009.233067
## final value 20009.233067
## converged
## # weights: 41
## initial value 21472.913969
## iter 10 value 20013.169756
## iter 20 value 20008.574189
## final value 20008.573716
## converged
## # weights: 9
## initial value 22348.960026
## iter 10 value 20014.776700
## iter 20 value 20005.367743
## iter 20 value 20005.367699
## final value 20005.367699
## converged
## # weights: 25
## initial value 22005.963828
## iter 10 value 20017.895984
## iter 20 value 20005.403706
## final value 20005.270686
## converged
## # weights: 41
## initial value 21757.147072
## iter 10 value 20017.899124
## iter 20 value 20005.403742
## final value 20005.267272
```

```
## converged
## # weights: 9
## initial value 21998.449059
## final value 20038.469200
## converged
## # weights: 25
## initial value 22053.451128
## final value 20038.469200
## converged
## # weights: 41
## initial value 21857.698280
## final value 20038.469200
## converged
## # weights: 9
## initial value 23345.123430
## iter 10 value 20044.122088
## final value 20043.979290
## converged
## # weights: 25
## initial value 24403.941849
## iter 10 value 20043.805357
## iter 20 value 20042.466224
## final value 20042.445008
## converged
## # weights: 41
## initial value 22460.255681
## iter 10 value 20046.912701
## iter 20 value 20041.786046
## final value 20041.785497
## converged
## # weights: 9
## initial value 22442.244556
## iter 10 value 20050.070142
## iter 20 value 20038.602950
## iter 20 value 20038.602896
## final value 20038.602896
## converged
## # weights: 25
## initial value 22384.653310
## iter 10 value 20052.591808
## iter 20 value 20038.632023
## final value 20038.483619
## converged
## # weights: 41
## initial value 22349.289384
## iter 10 value 20055.350988
## iter 20 value 20038.663834
## final value 20038.478997
## converged
## # weights: 9
## initial value 21903.832280
## final value 19952.078500
```

```
## converged
## # weights: 25
## initial value 21972.042604
## final value 19952.078500
## converged
## # weights: 41
## initial value 22648.182007
## final value 19952.078500
## converged
## # weights: 9
## initial value 22428.933036
## iter 10 value 19961.624605
## final value 19957.586425
## converged
## # weights: 25
## initial value 21216.677015
## iter 10 value 19956.826774
## final value 19956.052954
## converged
## # weights: 41
## initial value 23207.064413
## iter 10 value 19956.049365
## final value 19955.393623
## converged
## # weights: 9
## initial value 23776.870134
## iter 10 value 19959.472334
## iter 20 value 19952.163745
## iter 20 value 19952.163711
## final value 19952.163711
## converged
## # weights: 25
## initial value 23555.021879
## iter 10 value 19964.946810
## iter 20 value 19952.226862
## final value 19952.097653
## converged
## # weights: 41
## initial value 22610.430900
## iter 10 value 19972.822658
## iter 20 value 19952.317664
## final value 19952.090572
## converged
## # weights: 9
## initial value 21624.460942
## final value 20020.920100
## converged
## # weights: 25
## initial value 23441.994993
## final value 20020.920100
## converged
## # weights: 41
```

```
## initial value 22803.655396
## final value 20020.920100
## converged
## # weights: 9
## initial value 22521.850927
## iter 10 value 20027.594811
## final value 20026.429594
## converged
## # weights: 25
## initial value 22871.728245
## iter 10 value 20026.937213
## final value 20024.895549
## converged
## # weights: 41
## initial value 22406.488737
## iter 10 value 20025.910612
## iter 20 value 20024.236457
## final value 20024.236099
## converged
## # weights: 9
## initial value 22159.749047
## iter 10 value 20029.982655
## iter 20 value 20021.024584
## iter 20 value 20021.024542
## final value 20021.024542
## converged
## # weights: 25
## initial value 23672.993194
## iter 10 value 20033.389924
## iter 20 value 20021.063867
## final value 20020.935292
## converged
## # weights: 41
## initial value 23349.899807
## iter 10 value 20039.101572
## iter 20 value 20021.129718
## final value 20020.932141
## converged
## # weights: 9
## initial value 22309.187114
## final value 20022.465700
## converged
## # weights: 25
## initial value 22950.342852
## final value 20022.465700
## converged
## # weights: 41
## initial value 24092.800240
## final value 20022.465700
## converged
## # weights: 9
## initial value 23657.511237
```

```
## iter 10 value 20028.424470
## final value 20027.975238
## converged
## # weights: 25
## initial value 21980.587386
## iter 10 value 20027.192407
## final value 20026.441187
## converged
## # weights: 41
## initial value 23629.455731
## iter 10 value 20036.018289
## iter 20 value 20025.792713
## final value 20025.781780
## converged
## # weights: 9
## initial value 21981.941349
## iter 10 value 20031.550199
## iter 20 value 20022.570437
## iter 20 value 20022.570395
## final value 20022.570395
## converged
## # weights: 25
## initial value 21956.785494
## iter 10 value 20035.039092
## iter 20 value 20022.610661
## final value 20022.478129
## converged
## # weights: 41
## initial value 21965.712355
## iter 10 value 20036.681524
## iter 20 value 20022.629597
## final value 20022.475501
## converged
## # weights: 9
## initial value 22820.459427
## final value 20016.794000
## converged
## # weights: 25
## initial value 22913.984244
## final value 20016.794000
## converged
## # weights: 41
## initial value 24160.024040
## final value 20016.794000
## converged
## # weights: 9
## initial value 22233.886948
## iter 10 value 20024.353111
## final value 20022.303384
## converged
## # weights: 25
## initial value 22489.413141
```



```
## iter 10 value 20022.532813
## iter 20 value 20020.769512
## iter 20 value 20020.769404
## iter 20 value 20020.769361
## final value 20020.769361
## converged
## # weights: 41
## initial value 23846.948409
## iter 10 value 20020.792970
## final value 20020.109937
## converged
## # weights: 9
## initial value 23137.154395
## iter 10 value 20026.115966
## iter 20 value 20016.901475
## iter 20 value 20016.901432
## final value 20016.901432
## converged
## # weights: 25
## initial value 22707.089428
## iter 10 value 20030.928737
## iter 20 value 20016.956962
## final value 20016.810295
## converged
## # weights: 41
## initial value 22510.036788
## iter 10 value 20034.731329
## iter 20 value 20017.000803
## final value 20016.805220
## converged
## # weights: 9
## initial value 21813.142864
## final value 20038.270000
## converged
## # weights: 25
## initial value 21131.807688
## final value 20038.270000
## converged
## # weights: 41
## initial value 22537.749198
## final value 20038.270000
## converged
## # weights: 9
## initial value 22619.209403
## iter 10 value 20043.996219
## final value 20043.780039
## converged
## # weights: 25
## initial value 22804.754809
## iter 10 value 20044.059661
## final value 20042.245865
## converged
```

```
## # weights: 41
## initial value 23982.462108
## iter 10 value 20046.777190
## iter 20 value 20041.586982
## final value 20041.586312
## converged
## # weights: 9
## initial value 22554.069555
## iter 10 value 20049.619417
## iter 20 value 20038.400850
## iter 20 value 20038.400798
## final value 20038.400798
## converged
## # weights: 25
## initial value 22907.410659
## iter 10 value 20053.583532
## iter 20 value 20038.446553
## final value 20038.283506
## converged
## # weights: 41
## initial value 22716.630457
## iter 10 value 20056.466506
## iter 20 value 20038.479791
## final value 20038.279753
## converged
## # weights: 9
## initial value 22647.452942
## final value 20007.965200
## converged
## # weights: 25
## initial value 23796.709038
## final value 20007.965200
## converged
## # weights: 41
## initial value 22716.436111
## final value 20007.965200
## converged
## # weights: 9
## initial value 23236.496668
## iter 10 value 20015.207148
## final value 20013.474294
## converged
## # weights: 25
## initial value 23247.062793
## iter 10 value 20013.534847
## final value 20011.940293
## converged
## # weights: 41
## initial value 22287.424133
## iter 10 value 20014.008862
## iter 20 value 20011.281169
## iter 20 value 20011.281004
```

```
## iter 20 value 20011.280990
## final value 20011.280990
## converged
## # weights: 9
## initial value 22960.160829
## iter 10 value 20019.477651
## iter 20 value 20008.097930
## iter 20 value 20008.097876
## final value 20008.097876
## converged
## # weights: 25
## initial value 23484.506473
## iter 10 value 20022.101161
## iter 20 value 20008.128177
## final value 20007.978229
## converged
## # weights: 41
## initial value 23579.440695
## iter 10 value 20026.142084
## iter 20 value 20008.174765
## final value 20007.977536
## converged
## # weights: 9
## initial value 23278.760596
## final value 20048.654000
## converged
## # weights: 25
## initial value 22928.676631
## final value 20048.654000
## converged
## # weights: 41
## initial value 21324.635061
## final value 20048.654000
## converged
## # weights: 9
## initial value 22589.113384
## iter 10 value 20054.748585
## final value 20054.164588
## converged
## # weights: 25
## initial value 23230.911735
## iter 10 value 20053.650940
## final value 20052.630258
## converged
## # weights: 41
## initial value 21723.009636
## iter 10 value 20065.241075
## iter 20 value 20051.970985
## iter 20 value 20051.970785
## iter 20 value 20051.970713
## final value 20051.970713
## converged
```

```
## # weights: 9
## initial value 22344.160056
## iter 10 value 20058.288935
## iter 20 value 20048.765083
## iter 20 value 20048.765039
## final value 20048.765039
## converged
## # weights: 25
## initial value 21776.552727
## iter 10 value 20060.593870
## iter 20 value 20048.791657
## final value 20048.666349
## converged
## # weights: 41
## initial value 23660.487984
## iter 10 value 20065.548969
## iter 20 value 20048.848786
## final value 20048.665909
## converged
## # weights: 9
## initial value 22547.389047
## final value 19999.649200
## converged
## # weights: 25
## initial value 21933.696342
## final value 19999.649200
## converged
## # weights: 41
## initial value 24328.556823
## final value 19999.649200
## converged
## # weights: 9
## initial value 23021.670842
## iter 10 value 20005.735339
## final value 20005.158207
## converged
## # weights: 25
## initial value 23963.177032
## iter 10 value 20006.435952
## iter 20 value 20003.624335
## iter 20 value 20003.624272
## iter 20 value 20003.624260
## final value 20003.624260
## converged
## # weights: 41
## initial value 22830.343744
## iter 10 value 20005.155577
## final value 20002.964933
## converged
## # weights: 9
## initial value 22394.590649
## iter 10 value 20009.795945
```

```
## iter 20 value 19999.766184
## iter 20 value 19999.766137
## final value 19999.766137
## converged
## # weights: 25
## initial value 21364.115579
## iter 10 value 20008.291118
## iter 20 value 19999.748835
## final value 19999.661042
## converged
## # weights: 41
## initial value 23982.525407
## iter 10 value 20014.069780
## iter 20 value 19999.815458
## final value 19999.661877
## converged
## # weights: 9
## initial value 22182.360449
## final value 20028.595700
## converged
## # weights: 25
## initial value 23315.399665
## final value 20028.595700
## converged
## # weights: 41
## initial value 22145.114734
## final value 20028.595700
## converged
## # weights: 9
## initial value 23658.401442
## iter 10 value 20034.665788
## final value 20034.105435
## converged
## # weights: 25
## initial value 23170.710869
## iter 10 value 20033.615038
## final value 20032.571278
## converged
## # weights: 41
## initial value 23808.604403
## iter 10 value 20034.044019
## iter 20 value 20031.912126
## final value 20031.911809
## converged
## # weights: 9
## initial value 22442.053596
## iter 10 value 20038.629621
## iter 20 value 20028.711383
## iter 20 value 20028.711337
## final value 20028.711337
## converged
## # weights: 25
```

```
## initial value 22717.723764
## iter 10 value 20043.215147
## iter 20 value 20028.764251
## final value 20028.610298
## converged
## # weights: 41
## initial value 22841.426109
## iter 10 value 20049.280660
## iter 20 value 20028.834181
## final value 20028.610339
## converged
## # weights: 9
## initial value 22116.275397
## final value 19929.305200
## converged
## # weights: 25
## initial value 23214.041401
## final value 19929.305200
## converged
## # weights: 41
## initial value 21915.804579
## final value 19929.305200
## converged
## # weights: 9
## initial value 22866.358481
## iter 10 value 19935.691461
## final value 19934.812943
## converged
## # weights: 25
## initial value 23224.893294
## iter 10 value 19934.894354
## iter 20 value 19933.279627
## iter 20 value 19933.279556
## iter 20 value 19933.279548
## final value 19933.279548
## converged
## # weights: 41
## initial value 22049.091491
## iter 10 value 19933.400948
## final value 19932.620411
## converged
## # weights: 9
## initial value 22871.673800
## iter 10 value 19939.698411
## iter 20 value 19929.425026
## iter 20 value 19929.424978
## final value 19929.424978
## converged
## # weights: 25
## initial value 22907.523904
## iter 10 value 19945.270994
## iter 20 value 19929.489273
```

```
## final value 19929.321327
## converged
## # weights: 41
## initial value 21640.458120
## iter 10 value 19944.416603
## iter 20 value 19929.479423
## final value 19929.315363
## converged
## # weights: 9
## initial value 22474.013916
## final value 19993.947700
## converged
## # weights: 25
## initial value 22933.071991
## final value 19993.947700
## converged
## # weights: 41
## initial value 24122.595217
## final value 19993.947700
## converged
## # weights: 9
## initial value 22860.902925
## iter 10 value 20003.783361
## final value 19999.456547
## converged
## # weights: 25
## initial value 21063.291416
## iter 10 value 19999.272031
## final value 19997.922865
## converged
## # weights: 41
## initial value 22003.443831
## iter 10 value 19998.575995
## final value 19997.263417
## converged
## # weights: 9
## initial value 23265.794850
## iter 10 value 20004.899354
## iter 20 value 19994.073964
## iter 20 value 19994.073913
## final value 19994.073913
## converged
## # weights: 25
## initial value 21890.002905
## iter 10 value 20005.836185
## iter 20 value 19994.084765
## final value 19993.961720
## converged
## # weights: 41
## initial value 21836.779864
## iter 10 value 20010.057787
## iter 20 value 19994.133437
```

```
## final value 19993.957741
## converged
## # weights: 9
## initial value 22561.847766
## final value 20004.800500
## converged
## # weights: 25
## initial value 22669.220170
## final value 20004.800500
## converged
## # weights: 41
## initial value 23601.719738
## final value 20004.800500
## converged
## # weights: 9
## initial value 22988.668184
## iter 10 value 20010.641302
## final value 20010.309581
## converged
## # weights: 25
## initial value 22202.619209
## iter 10 value 20009.838357
## final value 20008.775669
## converged
## # weights: 41
## initial value 21850.157396
## iter 10 value 20014.115881
## final value 20008.116439
## converged
## # weights: 9
## initial value 22008.182990
## iter 10 value 20013.108571
## iter 20 value 20004.896286
## iter 20 value 20004.896247
## final value 20004.896247
## converged
## # weights: 25
## initial value 23070.931948
## iter 10 value 20020.251456
## iter 20 value 20004.978637
## final value 20004.816069
## converged
## # weights: 41
## initial value 24006.908390
## iter 10 value 20017.336470
## iter 20 value 20004.945030
## final value 20004.812215
## converged
## # weights: 9
## initial value 21873.181814
## final value 19974.056500
## converged
```



```
## # weights: 25
## initial value 20889.074631
## final value 19974.056500
## converged
## # weights: 41
## initial value 22167.632110
## final value 19974.056500
## converged
## # weights: 9
## initial value 22129.526028
## iter 10 value 19982.028422
## final value 19979.564952
## converged
## # weights: 25
## initial value 22292.881457
## iter 10 value 19979.109632
## iter 20 value 19978.031432
## iter 20 value 19978.031263
## iter 20 value 19978.031246
## final value 19978.031246
## converged
## # weights: 41
## initial value 23603.488555
## iter 10 value 19982.243413
## iter 20 value 19977.372460
## final value 19977.371985
## converged
## # weights: 9
## initial value 21523.365079
## iter 10 value 19981.145290
## iter 20 value 19974.138228
## iter 20 value 19974.138196
## final value 19974.138196
## converged
## # weights: 25
## initial value 22076.520886
## iter 10 value 19987.665232
## iter 20 value 19974.213398
## final value 19974.072004
## converged
## # weights: 41
## initial value 22279.999229
## iter 10 value 19994.489699
## iter 20 value 19974.292079
## final value 19974.066286
## converged
## # weights: 9
## initial value 23219.448683
## final value 19908.416500
## converged
## # weights: 25
## initial value 23028.787570
```

```
## final value 19908.416500
## converged
## # weights: 41
## initial value 23026.404987
## final value 19908.416500
## converged
## # weights: 9
## initial value 21937.130872
## iter 10 value 19914.713406
## final value 19913.923805
## converged
## # weights: 25
## initial value 23329.102941
## iter 10 value 19913.800934
## final value 19912.390484
## converged
## # weights: 41
## initial value 23981.116161
## iter 10 value 19923.538187
## iter 20 value 19911.735810
## final value 19911.731380
## converged
## # weights: 9
## initial value 23522.851499
## iter 10 value 19917.051825
## iter 20 value 19908.516059
## iter 20 value 19908.516019
## final value 19908.516019
## converged
## # weights: 25
## initial value 21523.051527
## iter 10 value 19919.272147
## iter 20 value 19908.541657
## final value 19908.427844
## converged
## # weights: 41
## initial value 22072.451092
## iter 10 value 19926.070192
## iter 20 value 19908.620033
## final value 19908.426255
## converged
## # weights: 9
## initial value 22020.166320
## final value 19991.767600
## converged
## # weights: 25
## initial value 23555.316113
## final value 19991.767600
## converged
## # weights: 41
## initial value 22389.076645
## final value 19991.767600
```

```
## converged
## # weights: 9
## initial value 22509.714225
## iter 10 value 19998.440818
## final value 19997.276403
## converged
## # weights: 25
## initial value 23401.413085
## iter 10 value 19997.702686
## iter 20 value 19995.742823
## iter 20 value 19995.742664
## iter 20 value 19995.742615
## final value 19995.742615
## converged
## # weights: 41
## initial value 23229.815863
## iter 10 value 19996.505722
## final value 19995.083416
## converged
## # weights: 9
## initial value 22778.678720
## iter 10 value 20002.563789
## iter 20 value 19991.892072
## iter 20 value 19991.892022
## final value 19991.892022
## converged
## # weights: 25
## initial value 22925.484690
## iter 10 value 20007.746898
## iter 20 value 19991.951829
## final value 19991.787026
## converged
## # weights: 41
## initial value 22744.594863
## iter 10 value 20009.023846
## iter 20 value 19991.966551
## final value 19991.777614
## converged
## # weights: 9
## initial value 22761.133951
## final value 20044.680100
## converged
## # weights: 25
## initial value 23262.117893
## final value 20044.680100
## converged
## # weights: 41
## initial value 22621.463466
## final value 20044.680100
## converged
## # weights: 9
## initial value 22470.566797
```

```
## iter 10 value 20117.599776
## iter 20 value 20050.555096
## final value 20050.190466
## converged
## # weights: 25
## initial value 24008.645858
## iter 10 value 20050.138154
## iter 20 value 20048.656157
## iter 20 value 20048.656124
## iter 20 value 20048.656110
## final value 20048.656110
## converged
## # weights: 41
## initial value 22009.528447
## iter 10 value 20053.059884
## iter 20 value 20048.004960
## final value 20047.996652
## converged
## # weights: 9
## initial value 22734.468289
## iter 10 value 20054.823345
## iter 20 value 20044.797044
## iter 20 value 20044.796997
## final value 20044.796997
## converged
## # weights: 25
## initial value 22283.899198
## iter 10 value 20057.879698
## iter 20 value 20044.832281
## final value 20044.691712
## converged
## # weights: 41
## initial value 22907.495525
## iter 10 value 20065.212935
## iter 20 value 20044.916827
## final value 20044.693957
## converged
## # weights: 9
## initial value 22789.129773
## final value 20026.929700
## converged
## # weights: 25
## initial value 23294.933640
## final value 20026.929700
## converged
## # weights: 41
## initial value 23470.503261
## final value 20026.929700
## converged
## # weights: 9
## initial value 23240.273262
## iter 10 value 20036.914872
```

```
## final value 20032.439366
## converged
## # weights: 25
## initial value 21444.994956
## iter 10 value 20032.697894
## final value 20030.905292
## converged
## # weights: 41
## initial value 24407.011956
## iter 10 value 20041.994470
## iter 20 value 20030.246334
## final value 20030.245821
## converged
## # weights: 9
## initial value 21769.840124
## iter 10 value 20034.892275
## iter 20 value 20027.021502
## iter 20 value 20027.021466
## final value 20027.021466
## converged
## # weights: 25
## initial value 22647.807123
## iter 10 value 20043.753035
## iter 20 value 20027.123660
## final value 20026.941162
## converged
## # weights: 41
## initial value 22021.165250
## iter 10 value 20045.034247
## iter 20 value 20027.138431
## final value 20026.939893
## converged
## # weights: 9
## initial value 22639.775549
## final value 20056.513700
## converged
## # weights: 25
## initial value 23550.001520
## final value 20056.513700
## converged
## # weights: 41
## initial value 23539.451328
## final value 20056.513700
## converged
## # weights: 9
## initial value 22264.572579
## iter 10 value 20063.807558
## final value 20062.024825
## converged
## # weights: 25
## initial value 22106.908726
## iter 10 value 20061.683642
```

```
## final value 20060.490332
## converged
## # weights: 41
## initial value 22029.476915
## iter 10 value 20072.304790
## iter 20 value 20059.830968
## iter 20 value 20059.830785
## iter 20 value 20059.830778
## final value 20059.830778
## converged
## # weights: 9
## initial value 21900.413675
## iter 10 value 20064.770227
## iter 20 value 20056.608891
## iter 20 value 20056.608853
## final value 20056.608853
## converged
## # weights: 25
## initial value 21933.592666
## iter 10 value 20069.537503
## iter 20 value 20056.663854
## final value 20056.528341
## converged
## # weights: 41
## initial value 21776.470101
## iter 10 value 20070.886741
## iter 20 value 20056.679410
## final value 20056.523333
## converged
## # weights: 9
## initial value 22525.311763
## final value 19910.400500
## converged
## # weights: 25
## initial value 22984.877186
## final value 19910.400500
## converged
## # weights: 41
## initial value 22549.009063
## final value 19910.400500
## converged
## # weights: 9
## initial value 22475.186548
## iter 10 value 19916.533382
## final value 19915.907973
## converged
## # weights: 25
## initial value 23618.538807
## iter 10 value 19915.191674
## final value 19914.374695
## converged
## # weights: 41
```

```
## initial value 20882.221935
## iter 10 value 19916.329238
## iter 20 value 19913.715676
## iter 20 value 19913.715555
## iter 20 value 19913.715540
## final value 19913.715540
## converged
## # weights: 9
## initial value 21922.623196
## iter 10 value 19920.697605
## iter 20 value 19910.519218
## iter 20 value 19910.519170
## final value 19910.519170
## converged
## # weights: 25
## initial value 23030.048778
## iter 10 value 19924.874089
## iter 20 value 19910.567369
## final value 19910.413515
## converged
## # weights: 41
## initial value 22048.397842
## iter 10 value 19927.781870
## iter 20 value 19910.600894
## final value 19910.410780
## converged
## # weights: 9
## initial value 21742.974062
## final value 20053.121200
## converged
## # weights: 25
## initial value 22941.627341
## final value 20053.121200
## converged
## # weights: 41
## initial value 22546.781240
## final value 20053.121200
## converged
## # weights: 9
## initial value 23816.185717
## iter 10 value 20060.543026
## final value 20058.631944
## converged
## # weights: 25
## initial value 22005.051150
## iter 10 value 20059.287959
## iter 20 value 20057.102822
## final value 20057.097451
## converged
## # weights: 41
## initial value 23895.005450
## iter 10 value 20073.349471
```

```
## iter 20 value 20056.438767
## final value 20056.437931
## converged
## # weights: 9
## initial value 22184.743995
## iter 10 value 20062.075876
## iter 20 value 20053.224440
## iter 20 value 20053.224399
## final value 20053.224399
## converged
## # weights: 25
## initial value 22281.198970
## iter 10 value 20067.925274
## iter 20 value 20053.291879
## final value 20053.132970
## converged
## # weights: 41
## initial value 24541.551186
## iter 10 value 20061.216646
## iter 20 value 20053.214534
## final value 20053.136919
## converged
## # weights: 9
## initial value 22179.246297
## final value 20058.633200
## converged
## # weights: 25
## initial value 23551.498369
## final value 20058.633200
## converged
## # weights: 41
## initial value 23227.407099
## final value 20058.633200
## converged
## # weights: 9
## initial value 22628.329967
## iter 10 value 20065.608378
## final value 20064.144396
## converged
## # weights: 25
## initial value 22127.223894
## iter 10 value 20062.932081
## final value 20062.609802
## converged
## # weights: 41
## initial value 23405.432708
## iter 10 value 20076.536319
## iter 20 value 20061.951928
## final value 20061.950229
## converged
## # weights: 9
## initial value 21708.978875
```



```
## iter 10 value 20065.715442
## iter 20 value 20058.714853
## iter 20 value 20058.714820
## final value 20058.714820
## converged
## # weights: 25
## initial value 23125.644673
## iter 10 value 20073.287790
## iter 20 value 20058.802156
## final value 20058.646941
## converged
## # weights: 41
## initial value 23005.891893
## iter 10 value 20077.893961
## iter 20 value 20058.855261
## final value 20058.645037
## converged
## # weights: 9
## initial value 21907.055421
## final value 20002.797200
## converged
## # weights: 25
## initial value 22182.505204
## final value 20002.797200
## converged
## # weights: 41
## initial value 22293.436120
## final value 20002.797200
## converged
## # weights: 9
## initial value 23245.287647
## iter 10 value 20008.696976
## final value 20008.306232
## converged
## # weights: 25
## initial value 23590.551790
## iter 10 value 20012.089495
## iter 20 value 20006.787678
## final value 20006.772305
## converged
## # weights: 41
## initial value 23536.482886
## iter 10 value 20009.881247
## iter 20 value 20006.113183
## iter 20 value 20006.113038
## iter 20 value 20006.112992
## final value 20006.112992
## converged
## # weights: 9
## initial value 23223.182625
## iter 10 value 20012.791400
## iter 20 value 20002.912425
```

```
## iter 20 value 20002.912379
## final value 20002.912379
## converged
## # weights: 25
## initial value 21789.139832
## iter 10 value 20014.513492
## iter 20 value 20002.932280
## final value 20002.809345
## converged
## # weights: 41
## initial value 21672.906780
## iter 10 value 20014.886505
## iter 20 value 20002.936580
## final value 20002.806819
## converged
## # weights: 9
## initial value 22908.198841
## final value 20004.187700
## converged
## # weights: 25
## initial value 23507.411116
## final value 20004.187700
## converged
## # weights: 41
## initial value 22576.540200
## final value 20004.187700
## converged
## # weights: 9
## initial value 23558.647170
## iter 10 value 20012.892559
## final value 20009.696763
## converged
## # weights: 25
## initial value 24139.551327
## iter 10 value 20009.600845
## final value 20008.162857
## converged
## # weights: 41
## initial value 23532.642358
## iter 10 value 20008.674056
## iter 20 value 20007.503815
## final value 20007.503513
## converged
## # weights: 9
## initial value 21694.146212
## iter 10 value 20011.653843
## iter 20 value 20004.273779
## iter 20 value 20004.273744
## final value 20004.273744
## converged
## # weights: 25
## initial value 23584.557198
```

```
## iter 10 value 20015.969205
## iter 20 value 20004.323532
## final value 20004.210387
## converged
## # weights: 41
## initial value 23114.909047
## iter 10 value 20023.424980
## iter 20 value 20004.409491
## final value 20004.201284
## converged
## # weights: 9
## initial value 22577.850004
## final value 20045.107600
## converged
## # weights: 25
## initial value 22688.658592
## final value 20045.107600
## converged
## # weights: 41
## initial value 23665.188842
## final value 20045.107600
## converged
## # weights: 9
## initial value 21878.881826
## iter 10 value 20050.735304
## final value 20050.617986
## converged
## # weights: 25
## initial value 23183.328295
## iter 10 value 20050.965792
## final value 20049.083705
## converged
## # weights: 41
## initial value 23624.656006
## iter 10 value 20050.571144
## iter 20 value 20048.424536
## final value 20048.424099
## converged
## # weights: 9
## initial value 22438.805320
## iter 10 value 20056.117361
## iter 20 value 20045.234534
## iter 20 value 20045.234483
## final value 20045.234483
## converged
## # weights: 25
## initial value 21670.742232
## iter 10 value 20056.624112
## iter 20 value 20045.240376
## final value 20045.119385
## converged
## # weights: 41
```

```
## initial value 23730.517151
## iter 10 value 20060.494793
## iter 20 value 20045.285002
## final value 20045.121488
## converged
## # weights: 9
## initial value 22813.325153
## final value 19977.422500
## converged
## # weights: 25
## initial value 22934.356919
## final value 19977.422500
## converged
## # weights: 41
## initial value 22454.015191
## final value 19977.422500
## converged
## # weights: 9
## initial value 22181.130510
## iter 10 value 19984.639660
## final value 19982.931005
## converged
## # weights: 25
## initial value 22904.237583
## iter 10 value 19992.048777
## iter 20 value 19981.397555
## final value 19981.397273
## converged
## # weights: 41
## initial value 22375.209034
## iter 10 value 19981.889848
## iter 20 value 19980.738113
## iter 20 value 19980.737991
## iter 20 value 19980.737977
## final value 19980.737977
## converged
## # weights: 9
## initial value 23652.637714
## iter 10 value 19986.246088
## iter 20 value 19977.524229
## iter 20 value 19977.524188
## final value 19977.524188
## converged
## # weights: 25
## initial value 21723.034394
## iter 10 value 19989.505638
## iter 20 value 19977.561809
## final value 19977.435001
## converged
## # weights: 41
## initial value 22131.895508
## iter 10 value 19995.705408
```

```
## iter 20 value 19977.633288
## final value 19977.433520
## converged
## # weights: 9
## initial value 22178.844579
## final value 19972.920100
## converged
## # weights: 25
## initial value 23568.515765
## final value 19972.920100
## converged
## # weights: 41
## initial value 23948.022799
## final value 19972.920100
## converged
## # weights: 9
## initial value 22911.381622
## iter 10 value 19980.571316
## final value 19978.428509
## converged
## # weights: 25
## initial value 23493.259713
## iter 10 value 19979.914986
## iter 20 value 19976.896768
## final value 19976.894780
## converged
## # weights: 41
## initial value 23226.428058
## iter 10 value 19991.402064
## iter 20 value 19976.253554
## final value 19976.235543
## converged
## # weights: 9
## initial value 23694.693553
## iter 10 value 19981.227416
## iter 20 value 19973.015877
## iter 20 value 19973.015839
## final value 19973.015839
## converged
## # weights: 25
## initial value 23104.861464
## iter 10 value 19987.733982
## iter 20 value 19973.090892
## final value 19972.939750
## converged
## # weights: 41
## initial value 22936.532641
## iter 10 value 19992.111454
## iter 20 value 19973.141361
## final value 19972.935258
## converged
## # weights: 9
```

```
## initial value 23106.873261
## final value 20032.589200
## converged
## # weights: 25
## initial value 22648.320115
## final value 20032.589200
## converged
## # weights: 41
## initial value 21705.279942
## final value 20032.589200
## converged
## # weights: 9
## initial value 23015.829982
## iter 10 value 20038.281521
## final value 20038.099012
## converged
## # weights: 25
## initial value 23177.803303
## iter 10 value 20123.474388
## iter 20 value 20036.765406
## iter 30 value 20036.584909
## final value 20036.564795
## converged
## # weights: 41
## initial value 21548.714846
## iter 10 value 20039.703280
## iter 20 value 20035.905859
## final value 20035.905348
## converged
## # weights: 9
## initial value 22287.685963
## iter 10 value 20043.102168
## iter 20 value 20032.710406
## iter 20 value 20032.710358
## final value 20032.710358
## converged
## # weights: 25
## initial value 22179.991470
## iter 10 value 20046.396730
## iter 20 value 20032.748390
## final value 20032.601306
## converged
## # weights: 41
## initial value 22384.759571
## iter 10 value 20053.064673
## iter 20 value 20032.825266
## final value 20032.598902
## converged
## # weights: 9
## initial value 23759.743725
## final value 20038.369700
## converged
```

```
## # weights: 25
## initial value 21646.657746
## final value 20038.369700
## converged
## # weights: 41
## initial value 22440.697927
## final value 20038.369700
## converged
## # weights: 9
## initial value 22795.413250
## iter 10 value 20045.256300
## final value 20043.879782
## converged
## # weights: 25
## initial value 21842.560531
## iter 10 value 20043.390397
## final value 20042.345615
## converged
## # weights: 41
## initial value 22650.400758
## iter 10 value 20052.857035
## iter 20 value 20041.686943
## final value 20041.686098
## converged
## # weights: 9
## initial value 22726.380990
## iter 10 value 20048.939188
## iter 20 value 20038.491558
## iter 20 value 20038.491509
## final value 20038.491509
## converged
## # weights: 25
## initial value 23319.658944
## iter 10 value 20055.171144
## iter 20 value 20038.563407
## final value 20038.382603
## converged
## # weights: 41
## initial value 21637.063956
## iter 10 value 20051.758971
## iter 20 value 20038.524068
## final value 20038.378791
## converged
## # weights: 9
## initial value 21610.631969
## final value 19884.413200
## converged
## # weights: 25
## initial value 21956.468329
## final value 19884.413200
## converged
## # weights: 41
```

```
## initial value 22294.855392
## final value 19884.413200
## converged
## # weights: 9
## initial value 22096.306045
## iter 10 value 19893.873698
## final value 19889.920328
## converged
## # weights: 25
## initial value 23856.290440
## iter 10 value 19890.091865
## final value 19888.387196
## converged
## # weights: 41
## initial value 23278.814534
## iter 10 value 19899.858697
## iter 20 value 19887.729833
## final value 19887.728061
## converged
## # weights: 9
## initial value 22832.064559
## iter 10 value 19894.954487
## iter 20 value 19884.534733
## iter 20 value 19884.534684
## final value 19884.534684
## converged
## # weights: 25
## initial value 22263.958308
## iter 10 value 19900.023188
## iter 20 value 19884.593171
## final value 19884.430752
## converged
## # weights: 41
## initial value 22733.856409
## iter 10 value 19899.803484
## iter 20 value 19884.590638
## final value 19884.423387
## converged
## # weights: 9
## initial value 23078.785962
## final value 19968.886000
## converged
## # weights: 25
## initial value 22597.674719
## final value 19968.886000
## converged
## # weights: 41
## initial value 22318.507326
## final value 19968.886000
## converged
## # weights: 9
## initial value 23050.395158
```



```
## iter 10 value 19975.198836
## final value 19974.394323
## converged
## # weights: 25
## initial value 22257.953189
## iter 10 value 19973.336473
## iter 20 value 19972.861206
## final value 19972.860633
## converged
## # weights: 41
## initial value 22997.902628
## iter 10 value 19973.841547
## final value 19972.201427
## converged
## # weights: 9
## initial value 23847.563237
## iter 10 value 19976.605980
## iter 20 value 19968.975005
## iter 20 value 19968.974970
## final value 19968.974970
## converged
## # weights: 25
## initial value 23026.308455
## iter 10 value 19983.222462
## iter 20 value 19969.051288
## final value 19968.900601
## converged
## # weights: 41
## initial value 22504.998395
## iter 10 value 19989.045394
## iter 20 value 19969.118422
## final value 19968.897225
## converged
## # weights: 9
## initial value 23310.224640
## final value 19977.422500
## converged
## # weights: 25
## initial value 23050.895898
## final value 19977.422500
## converged
## # weights: 41
## initial value 23544.354397
## final value 19977.422500
## converged
## # weights: 9
## initial value 22906.756691
## iter 10 value 19983.345496
## final value 19982.931025
## converged
## # weights: 25
## initial value 21592.397121
```

```
## iter 10 value 19983.148080
## final value 19981.397282
## converged
## # weights: 41
## initial value 23463.026312
## iter 10 value 19983.677959
## iter 20 value 19980.738412
## final value 19980.738033
## converged
## # weights: 9
## initial value 23066.868810
## iter 10 value 19988.185379
## iter 20 value 19977.546588
## iter 20 value 19977.546538
## final value 19977.546538
## converged
## # weights: 25
## initial value 22610.140820
## iter 10 value 19993.107796
## iter 20 value 19977.603339
## final value 19977.439511
## converged
## # weights: 41
## initial value 22716.110017
## iter 10 value 19997.035230
## iter 20 value 19977.648619
## final value 19977.434108
## converged
## # weights: 9
## initial value 22994.758356
## final value 20018.547700
## converged
## # weights: 25
## initial value 23224.108055
## final value 20018.547700
## converged
## # weights: 41
## initial value 22110.338380
## final value 20018.547700
## converged
## # weights: 9
## initial value 21786.460073
## iter 10 value 20031.114483
## iter 20 value 20024.059289
## final value 20024.057179
## converged
## # weights: 25
## initial value 21768.176584
## iter 10 value 20023.494528
## iter 20 value 20022.524565
## final value 20022.523068
## converged
```

```
## # weights: 41
## initial value 23667.397975
## iter 10 value 20028.666380
## iter 20 value 20021.865308
## final value 20021.863695
## converged
## # weights: 9
## initial value 23080.367256
## iter 10 value 20028.856184
## iter 20 value 20018.666549
## iter 20 value 20018.666501
## final value 20018.666501
## converged
## # weights: 25
## initial value 24108.582203
## iter 10 value 20028.540857
## iter 20 value 20018.662913
## final value 20018.568554
## converged
## # weights: 41
## initial value 22181.567701
## iter 10 value 20035.435647
## iter 20 value 20018.742405
## final value 20018.558879
## converged
## # weights: 9
## initial value 22796.352528
## final value 19997.883700
## converged
## # weights: 25
## initial value 23877.035284
## final value 19997.883700
## converged
## # weights: 41
## initial value 22095.252535
## final value 19997.883700
## converged
## # weights: 9
## initial value 22638.075090
## iter 10 value 20005.007969
## final value 20003.392558
## converged
## # weights: 25
## initial value 21794.979461
## iter 10 value 20002.695057
## final value 20001.858656
## converged
## # weights: 41
## initial value 23220.413960
## iter 10 value 20001.842581
## final value 20001.199327
## converged
```

```
## # weights: 9
## initial value 21723.060946
## iter 10 value 20005.661140
## iter 20 value 19997.973368
## iter 20 value 19997.973332
## final value 19997.973332
## converged
## # weights: 25
## initial value 22763.227036
## iter 10 value 20013.422565
## iter 20 value 19998.062851
## final value 19997.899061
## converged
## # weights: 41
## initial value 22343.952635
## iter 10 value 20020.765506
## iter 20 value 19998.147509
## final value 19997.894589
## converged
## # weights: 9
## initial value 23525.681939
## final value 20016.930100
## converged
## # weights: 25
## initial value 21788.826412
## final value 20016.930100
## converged
## # weights: 41
## initial value 23284.410285
## final value 20016.930100
## converged
## # weights: 9
## initial value 22190.588229
## iter 10 value 20024.229123
## final value 20022.439478
## converged
## # weights: 25
## initial value 23192.925641
## iter 10 value 20023.560027
## final value 20020.905476
## converged
## # weights: 41
## initial value 24221.432920
## iter 10 value 20020.636390
## final value 20020.246035
## converged
## # weights: 9
## initial value 22107.719767
## iter 10 value 20025.874249
## iter 20 value 20017.033219
## iter 20 value 20017.033178
## final value 20017.033178
```

```
## converged
## # weights: 25
## initial value 23376.446451
## iter 10 value 20030.743682
## iter 20 value 20017.089360
## final value 20016.945731
## converged
## # weights: 41
## initial value 22844.684030
## iter 10 value 20037.755226
## iter 20 value 20017.170197
## final value 20016.939783
## converged
## # weights: 9
## initial value 22635.925568
## final value 20042.193700
## converged
## # weights: 25
## initial value 23409.746836
## final value 20042.193700
## converged
## # weights: 41
## initial value 23606.929939
## final value 20042.193700
## converged
## # weights: 9
## initial value 23081.260618
## iter 10 value 20049.746144
## final value 20047.703964
## converged
## # weights: 25
## initial value 23753.870718
## iter 10 value 20049.601075
## iter 20 value 20046.175382
## final value 20046.169627
## converged
## # weights: 41
## initial value 23194.042249
## iter 10 value 20061.353570
## iter 20 value 20045.510847
## final value 20045.510115
## converged
## # weights: 9
## initial value 23470.178173
## iter 10 value 20052.792521
## iter 20 value 20042.315896
## iter 20 value 20042.315847
## final value 20042.315847
## converged
## # weights: 25
## initial value 22374.077056
## iter 10 value 20055.701997
```

```
## iter 20 value 20042.349440
## final value 20042.205640
## converged
## # weights: 41
## initial value 23228.016555
## iter 10 value 20061.217221
## iter 20 value 20042.413026
## final value 20042.204331
## converged
## # weights: 9
## initial value 21937.103205
## final value 19991.936500
## converged
## # weights: 25
## initial value 22511.783206
## final value 19991.936500
## converged
## # weights: 41
## initial value 21986.041700
## final value 19991.936500
## converged
## # weights: 9
## initial value 22407.002006
## iter 10 value 20001.237432
## final value 19997.445276
## converged
## # weights: 25
## initial value 23544.448657
## iter 10 value 19996.685783
## final value 19995.911511
## converged
## # weights: 41
## initial value 22619.287326
## iter 10 value 20009.433314
## iter 20 value 19995.252682
## final value 19995.252113
## converged
## # weights: 9
## initial value 23050.114439
## iter 10 value 20002.838185
## iter 20 value 19992.062188
## iter 20 value 19992.062138
## final value 19992.062138
## converged
## # weights: 25
## initial value 22795.768934
## iter 10 value 20007.577451
## iter 20 value 19992.116828
## final value 19991.951932
## converged
## # weights: 41
## initial value 23621.422075
```

```
## iter 10 value 20008.132584
## iter 20 value 19992.123228
## final value 19991.950417
## converged
## # weights: 9
## initial value 23469.720625
## final value 20015.560100
## converged
## # weights: 25
## initial value 22036.253737
## final value 20015.560100
## converged
## # weights: 41
## initial value 22362.803243
## final value 20015.560100
## converged
## # weights: 9
## initial value 22805.719196
## iter 10 value 20022.769968
## final value 20021.069410
## converged
## # weights: 25
## initial value 21857.173158
## iter 10 value 20020.383915
## final value 20019.535429
## converged
## # weights: 41
## initial value 22332.104114
## iter 10 value 20023.892627
## iter 20 value 20018.876076
## iter 20 value 20018.876003
## iter 20 value 20018.875992
## final value 20018.875992
## converged
## # weights: 9
## initial value 22591.076251
## iter 10 value 20025.618004
## iter 20 value 20015.676060
## iter 20 value 20015.676013
## final value 20015.676013
## converged
## # weights: 25
## initial value 22540.272155
## iter 10 value 20031.006522
## iter 20 value 20015.738185
## final value 20015.574968
## converged
## # weights: 41
## initial value 22711.134578
## iter 10 value 20033.181997
## iter 20 value 20015.763267
## final value 20015.569899
```

```
## converged
## # weights: 9
## initial value 21616.128971
## final value 19829.997200
## converged
## # weights: 25
## initial value 22895.576934
## final value 19829.997200
## converged
## # weights: 41
## initial value 22295.679706
## final value 19829.997200
## converged
## # weights: 9
## initial value 22051.900549
## iter 10 value 19837.918984
## final value 19835.503716
## converged
## # weights: 25
## initial value 23305.376608
## iter 10 value 19834.517763
## final value 19833.970828
## converged
## # weights: 41
## initial value 22616.227708
## iter 10 value 19834.956165
## iter 20 value 19833.311951
## iter 20 value 19833.311801
## iter 20 value 19833.311792
## final value 19833.311792
## converged
## # weights: 9
## initial value 22458.338173
## iter 10 value 19839.687633
## iter 20 value 19830.108923
## iter 20 value 19830.108878
## final value 19830.108878
## converged
## # weights: 25
## initial value 22556.861765
## iter 10 value 19845.421090
## iter 20 value 19830.175025
## final value 19830.013396
## converged
## # weights: 41
## initial value 23645.457255
## iter 10 value 19842.511243
## iter 20 value 19830.141477
## final value 19830.008753
## converged
## # weights: 9
## initial value 21955.432690
```



```
## final value 20029.414000
## converged
## # weights: 25
## initial value 22451.800059
## final value 20029.414000
## converged
## # weights: 41
## initial value 24115.551250
## final value 20029.414000
## converged
## # weights: 9
## initial value 22026.920468
## iter 10 value 20037.260532
## final value 20034.923760
## converged
## # weights: 25
## initial value 22305.659554
## iter 10 value 20035.013751
## iter 20 value 20033.389598
## iter 20 value 20033.389569
## iter 20 value 20033.389568
## final value 20033.389568
## converged
## # weights: 41
## initial value 23222.238081
## iter 10 value 20042.206328
## iter 20 value 20032.739246
## final value 20032.730198
## converged
## # weights: 9
## initial value 22573.548338
## iter 10 value 20041.399292
## iter 20 value 20029.552181
## iter 20 value 20029.552126
## final value 20029.552126
## converged
## # weights: 25
## initial value 22021.258347
## iter 10 value 20040.912186
## iter 20 value 20029.546565
## final value 20029.427122
## converged
## # weights: 41
## initial value 22319.637584
## iter 10 value 20049.532467
## iter 20 value 20029.645950
## final value 20029.424044
## converged
## # weights: 9
## initial value 22600.816080
## final value 20037.058000
## converged
```

```
## # weights: 25
## initial value 23223.071283
## final value 20037.058000
## converged
## # weights: 41
## initial value 22733.446450
## final value 20037.058000
## converged
## # weights: 9
## initial value 23354.033343
## iter 10 value 20042.950076
## final value 20042.568145
## converged
## # weights: 25
## initial value 23934.297177
## iter 10 value 20042.061663
## final value 20041.033882
## converged
## # weights: 41
## initial value 22842.074948
## iter 10 value 20041.695119
## iter 20 value 20040.374380
## iter 20 value 20040.374298
## iter 20 value 20040.374281
## final value 20040.374281
## converged
## # weights: 9
## initial value 22143.697062
## iter 10 value 20045.953957
## iter 20 value 20037.160563
## iter 20 value 20037.160522
## final value 20037.160522
## converged
## # weights: 25
## initial value 22404.065976
## iter 10 value 20051.978963
## iter 20 value 20037.230027
## final value 20037.074046
## converged
## # weights: 41
## initial value 23212.431545
## iter 10 value 20056.411800
## iter 20 value 20037.281134
## final value 20037.072735
## converged
## # weights: 9
## initial value 22778.659467
## final value 20040.034000
## converged
## # weights: 25
## initial value 22465.694297
## final value 20040.034000
```

```
## converged
## # weights: 41
## initial value 23822.159719
## final value 20040.034000
## converged
## # weights: 9
## initial value 22787.693086
## iter 10 value 20065.828721
## iter 20 value 20045.545029
## final value 20045.544157
## converged
## # weights: 25
## initial value 22716.572026
## iter 10 value 20045.353640
## final value 20044.009875
## converged
## # weights: 41
## initial value 21432.179035
## iter 10 value 20044.264275
## final value 20043.350383
## converged
## # weights: 9
## initial value 22845.948197
## iter 10 value 20050.672123
## iter 20 value 20040.156649
## iter 20 value 20040.156600
## final value 20040.156600
## converged
## # weights: 25
## initial value 22075.896144
## iter 10 value 20051.457809
## iter 20 value 20040.165708
## final value 20040.045954
## converged
## # weights: 41
## initial value 22615.684005
## iter 10 value 20061.005405
## iter 20 value 20040.275784
## final value 20040.043967
## converged
## # weights: 9
## initial value 22377.666623
## final value 19988.520500
## converged
## # weights: 25
## initial value 23483.238671
## final value 19988.520500
## converged
## # weights: 41
## initial value 22949.629669
## final value 19988.520500
## converged
```

```
## # weights: 9
## initial value 23737.751944
## iter 10 value 19996.758693
## final value 19994.029222
## converged
## # weights: 25
## initial value 23486.355350
## iter 10 value 19994.053189
## iter 20 value 19992.495499
## iter 20 value 19992.495416
## iter 20 value 19992.495397
## final value 19992.495397
## converged
## # weights: 41
## initial value 23731.632584
## iter 10 value 19993.000324
## iter 20 value 19991.836229
## iter 20 value 19991.836112
## iter 20 value 19991.836103
## final value 19991.836103
## converged
## # weights: 9
## initial value 23162.511535
## iter 10 value 20000.026890
## iter 20 value 19988.653160
## iter 20 value 19988.653107
## final value 19988.653107
## converged
## # weights: 25
## initial value 23394.347213
## iter 10 value 20002.286032
## iter 20 value 19988.679206
## final value 19988.533588
## converged
## # weights: 41
## initial value 21936.358600
## iter 10 value 20003.353347
## iter 20 value 19988.691511
## final value 19988.532268
## converged
## # weights: 9
## initial value 22897.275521
## final value 20054.760100
## converged
## # weights: 25
## initial value 21846.866398
## final value 20054.760100
## converged
## # weights: 41
## initial value 24063.520734
## final value 20054.760100
## converged
```

```
## # weights: 9
## initial value 23456.148795
## iter 10 value 20061.069537
## final value 20060.271005
## converged
## # weights: 25
## initial value 22648.586176
## iter 10 value 20063.443679
## iter 20 value 20058.736758
## final value 20058.736472
## converged
## # weights: 41
## initial value 23317.661751
## iter 10 value 20061.907637
## iter 20 value 20058.102876
## final value 20058.076889
## converged
## # weights: 9
## initial value 22366.620028
## iter 10 value 20063.947192
## iter 20 value 20054.866020
## iter 20 value 20054.865978
## final value 20054.865978
## converged
## # weights: 25
## initial value 22994.388200
## iter 10 value 20071.505659
## iter 20 value 20054.953163
## final value 20054.775090
## converged
## # weights: 41
## initial value 22593.004671
## iter 10 value 20074.558803
## iter 20 value 20054.988364
## final value 20054.769996
## converged
## # weights: 9
## initial value 23873.529506
## final value 20047.567600
## converged
## # weights: 25
## initial value 23252.139194
## final value 20047.567600
## converged
## # weights: 41
## initial value 23685.661483
## final value 20047.567600
## converged
## # weights: 9
## initial value 23254.608137
## iter 10 value 20054.770946
## final value 20053.078047
```

```
## converged
## # weights: 25
## initial value 21887.735107
## iter 10 value 20052.307968
## final value 20051.543753
## converged
## # weights: 41
## initial value 23315.991521
## iter 10 value 20062.155844
## iter 20 value 20050.884469
## final value 20050.884119
## converged
## # weights: 9
## initial value 22486.391524
## iter 10 value 20058.797872
## iter 20 value 20047.697076
## iter 20 value 20047.697024
## final value 20047.697024
## converged
## # weights: 25
## initial value 22309.985341
## iter 10 value 20061.407366
## iter 20 value 20047.727162
## final value 20047.581996
## converged
## # weights: 41
## initial value 23154.400590
## iter 10 value 20063.778202
## iter 20 value 20047.754496
## final value 20047.579402
## converged
## # weights: 9
## initial value 23065.703968
## final value 19993.447600
## converged
## # weights: 25
## initial value 21743.189868
## final value 19993.447600
## converged
## # weights: 41
## initial value 21212.342264
## final value 19993.447600
## converged
## # weights: 9
## initial value 22840.795244
## iter 10 value 19999.383894
## final value 19998.956429
## converged
## # weights: 25
## initial value 21548.275690
## iter 10 value 19999.990202
## iter 20 value 19997.422821
```

```
## final value 19997.422558
## converged
## # weights: 41
## initial value 24349.727998
## iter 10 value 20009.610130
## iter 20 value 19996.771668
## final value 19996.763264
## converged
## # weights: 9
## initial value 21616.208107
## iter 10 value 20001.052383
## iter 20 value 19993.535277
## iter 20 value 19993.535242
## final value 19993.535242
## converged
## # weights: 25
## initial value 22690.882429
## iter 10 value 20006.211465
## iter 20 value 19993.594757
## final value 19993.460832
## converged
## # weights: 41
## initial value 22983.891227
## iter 10 value 20014.953277
## iter 20 value 19993.695544
## final value 19993.460428
## converged
## # weights: 9
## initial value 22793.436366
## final value 19922.747600
## converged
## # weights: 25
## initial value 22722.884305
## final value 19922.747600
## converged
## # weights: 41
## initial value 23375.367394
## final value 19922.747600
## converged
## # weights: 9
## initial value 23208.133419
## iter 10 value 19928.801504
## final value 19928.255218
## converged
## # weights: 25
## initial value 22253.589904
## iter 10 value 19929.805717
## final value 19926.721861
## converged
## # weights: 41
## initial value 22308.542647
## iter 10 value 19940.788837
```

```
## iter 20 value 19926.062851
## iter 20 value 19926.062736
## iter 20 value 19926.062725
## final value 19926.062725
## converged
## # weights: 9
## initial value 23338.911311
## iter 10 value 19932.476493
## iter 20 value 19922.859767
## iter 20 value 19922.859722
## final value 19922.859722
## converged
## # weights: 25
## initial value 23441.956975
## iter 10 value 19935.931503
## iter 20 value 19922.899600
## final value 19922.764269
## converged
## # weights: 41
## initial value 23207.672850
## iter 10 value 19940.618417
## iter 20 value 19922.953636
## final value 19922.758795
## converged
## # weights: 9
## initial value 23263.513492
## final value 20039.453200
## converged
## # weights: 25
## initial value 22054.372259
## final value 20039.453200
## converged
## # weights: 41
## initial value 23794.181110
## final value 20039.453200
## converged
## # weights: 9
## initial value 22064.841570
## iter 10 value 20046.713673
## final value 20044.963327
## converged
## # weights: 25
## initial value 23314.687762
## iter 10 value 20043.733845
## final value 20043.429094
## converged
## # weights: 41
## initial value 22542.599368
## iter 10 value 20045.819185
## iter 20 value 20042.769813
## iter 20 value 20042.769648
## iter 20 value 20042.769609
```



```
## final value 20042.769609
## converged
## # weights: 9
## initial value 23029.694901
## iter 10 value 20050.208046
## iter 20 value 20039.577195
## iter 20 value 20039.577145
## final value 20039.577145
## converged
## # weights: 25
## initial value 22687.809994
## iter 10 value 20052.125679
## iter 20 value 20039.599304
## final value 20039.466389
## converged
## # weights: 41
## initial value 23213.675551
## iter 10 value 20056.605277
## iter 20 value 20039.650950
## final value 20039.463354
## converged
## # weights: 9
## initial value 22217.025670
## final value 20044.507700
## converged
## # weights: 25
## initial value 23224.502299
## final value 20044.507700
## converged
## # weights: 41
## initial value 22155.776503
## final value 20044.507700
## converged
## # weights: 9
## initial value 22756.792810
## iter 10 value 20051.077887
## final value 20050.018051
## converged
## # weights: 25
## initial value 21383.933606
## iter 10 value 20053.873108
## iter 20 value 20048.483737
## iter 20 value 20048.483674
## iter 20 value 20048.483672
## final value 20048.483672
## converged
## # weights: 41
## initial value 23495.520396
## iter 10 value 20048.977331
## iter 20 value 20047.824244
## iter 20 value 20047.824173
## iter 20 value 20047.824165
```

```
## final value 20047.824165
## converged
## # weights: 9
## initial value 22920.933977
## iter 10 value 20054.227255
## iter 20 value 20044.619759
## iter 20 value 20044.619714
## final value 20044.619714
## converged
## # weights: 25
## initial value 22863.098426
## iter 10 value 20058.630932
## iter 20 value 20044.670530
## final value 20044.520683
## converged
## # weights: 41
## initial value 21602.305122
## iter 10 value 20056.559642
## iter 20 value 20044.646649
## final value 20044.516678
## converged
## # weights: 9
## initial value 22774.259378
## final value 20004.341200
## converged
## # weights: 25
## initial value 23370.213523
## final value 20004.341200
## converged
## # weights: 41
## initial value 22199.909211
## final value 20004.341200
## converged
## # weights: 9
## initial value 22511.522937
## iter 10 value 20010.537008
## final value 20009.850259
## converged
## # weights: 25
## initial value 22392.360670
## iter 10 value 20009.195626
## final value 20008.316341
## converged
## # weights: 41
## initial value 23989.148863
## iter 10 value 20008.632220
## final value 20007.657010
## converged
## # weights: 9
## initial value 23487.949500
## iter 10 value 20013.623193
## iter 20 value 20004.448214
```

```
## iter 20 value 20004.448171
## final value 20004.448171
## converged
## # weights: 25
## initial value 23765.904447
## iter 10 value 20016.727898
## iter 20 value 20004.484009
## final value 20004.361439
## converged
## # weights: 41
## initial value 23085.600551
## iter 10 value 20022.107977
## iter 20 value 20004.546037
## final value 20004.351056
## converged
## # weights: 9
## initial value 21961.070310
## final value 20012.190500
## converged
## # weights: 25
## initial value 22743.777270
## final value 20012.190500
## converged
## # weights: 41
## initial value 22333.984479
## final value 20012.190500
## converged
## # weights: 9
## initial value 22794.543158
## iter 10 value 20018.138012
## final value 20017.699762
## converged
## # weights: 25
## initial value 23341.187544
## iter 10 value 20016.634722
## final value 20016.165739
## converged
## # weights: 41
## initial value 24293.723930
## iter 10 value 20028.371728
## iter 20 value 20015.506928
## final value 20015.506408
## converged
## # weights: 9
## initial value 23298.137739
## iter 10 value 20021.796526
## iter 20 value 20012.301250
## iter 20 value 20012.301206
## final value 20012.301206
## converged
## # weights: 25
## initial value 23125.464081
```

```
## iter 10 value 20026.253031
## iter 20 value 20012.352630
## final value 20012.203441
## converged
## # weights: 41
## initial value 21197.223362
## iter 10 value 20019.547238
## iter 20 value 20012.275317
## final value 20012.199151
## converged
## # weights: 9
## initial value 23346.468848
## final value 20007.816500
## converged
## # weights: 25
## initial value 21827.496705
## final value 20007.816500
## converged
## # weights: 41
## initial value 23675.507375
## final value 20007.816500
## converged
## # weights: 9
## initial value 22530.340644
## iter 10 value 20015.028280
## final value 20013.325657
## converged
## # weights: 25
## initial value 22760.957986
## iter 10 value 20014.823096
## final value 20011.791884
## converged
## # weights: 41
## initial value 22476.635989
## iter 10 value 20012.234888
## final value 20011.132316
## converged
## # weights: 9
## initial value 22208.666014
## iter 10 value 20017.386130
## iter 20 value 20007.926830
## iter 20 value 20007.926786
## final value 20007.926786
## converged
## # weights: 25
## initial value 23521.094748
## iter 10 value 20019.820843
## iter 20 value 20007.954901
## final value 20007.833106
## converged
## # weights: 41
## initial value 21934.514224
```

```
## iter 10 value 20023.949460
## iter 20 value 20008.002500
## final value 20007.827729
## converged
## # weights: 9
## initial value 23714.101527
## final value 20043.189200
## converged
## # weights: 25
## initial value 21873.362981
## final value 20043.189200
## converged
## # weights: 41
## initial value 22671.820614
## final value 20043.189200
## converged
## # weights: 9
## initial value 22505.176708
## iter 10 value 20048.913964
## final value 20048.699460
## converged
## # weights: 25
## initial value 22352.798478
## iter 10 value 20053.331844
## iter 20 value 20047.165768
## final value 20047.165167
## converged
## # weights: 41
## initial value 22195.514475
## iter 10 value 20047.194029
## final value 20046.505601
## converged
## # weights: 9
## initial value 23161.913866
## iter 10 value 20054.653424
## iter 20 value 20043.321374
## iter 20 value 20043.321321
## final value 20043.321321
## converged
## # weights: 25
## initial value 22391.410778
## iter 10 value 20056.117339
## iter 20 value 20043.338251
## final value 20043.207335
## converged
## # weights: 41
## initial value 23473.942639
## iter 10 value 20061.161019
## iter 20 value 20043.396401
## final value 20043.205532
## converged
## # weights: 9
```

```
## initial value 23376.167390
## final value 20037.160100
## converged
## # weights: 25
## initial value 22176.516914
## final value 20037.160100
## converged
## # weights: 41
## initial value 22262.169144
## final value 20037.160100
## converged
## # weights: 9
## initial value 21822.376552
## iter 10 value 20042.742453
## final value 20042.670140
## converged
## # weights: 25
## initial value 22562.103718
## iter 10 value 20041.861369
## iter 20 value 20041.138409
## final value 20041.135868
## converged
## # weights: 41
## initial value 23253.813544
## iter 10 value 20053.207640
## iter 20 value 20040.476759
## iter 20 value 20040.476573
## iter 20 value 20040.476515
## final value 20040.476515
## converged
## # weights: 9
## initial value 22967.026958
## iter 10 value 20049.147187
## iter 20 value 20037.298302
## iter 20 value 20037.298246
## final value 20037.298246
## converged
## # weights: 25
## initial value 23018.362855
## iter 10 value 20053.526276
## iter 20 value 20037.348789
## final value 20037.173910
## converged
## # weights: 41
## initial value 22725.617561
## iter 10 value 20057.672218
## iter 20 value 20037.396589
## final value 20037.173324
## converged
## # weights: 9
## initial value 22915.988804
## final value 20050.709200
```

```
## converged
## # weights: 25
## initial value 21996.652537
## final value 20050.709200
## converged
## # weights: 41
## initial value 22451.221672
## final value 20050.709200
## converged
## # weights: 9
## initial value 21874.260312
## iter 10 value 20057.173519
## final value 20056.219788
## converged
## # weights: 25
## initial value 22211.151899
## iter 10 value 20073.297480
## iter 20 value 20054.850046
## final value 20054.685318
## converged
## # weights: 41
## initial value 23849.299770
## iter 10 value 20063.534976
## iter 20 value 20054.026375
## final value 20054.025752
## converged
## # weights: 9
## initial value 23041.512534
## iter 10 value 20061.912592
## iter 20 value 20050.838366
## iter 20 value 20050.838315
## final value 20050.838315
## converged
## # weights: 25
## initial value 23456.665929
## iter 10 value 20065.662319
## iter 20 value 20050.881598
## final value 20050.722013
## converged
## # weights: 41
## initial value 23055.339477
## iter 10 value 20071.580679
## iter 20 value 20050.949832
## final value 20050.721020
## converged
## # weights: 9
## initial value 22773.544807
## final value 20042.285200
## converged
## # weights: 25
## initial value 22001.862460
## final value 20042.285200
```

```
## converged
## # weights: 41
## initial value 23743.123266
## final value 20042.285200
## converged
## # weights: 9
## initial value 22731.791074
## iter 10 value 20049.757588
## final value 20047.795394
## converged
## # weights: 25
## initial value 22052.138921
## iter 10 value 20051.316254
## iter 20 value 20046.261567
## final value 20046.261042
## converged
## # weights: 41
## initial value 23812.170357
## iter 10 value 20057.920184
## iter 20 value 20045.602760
## final value 20045.601589
## converged
## # weights: 9
## initial value 23177.701354
## iter 10 value 20052.716757
## iter 20 value 20042.405468
## iter 20 value 20042.405420
## final value 20042.405420
## converged
## # weights: 25
## initial value 23345.327365
## iter 10 value 20056.029694
## iter 20 value 20042.443663
## final value 20042.301003
## converged
## # weights: 41
## initial value 22523.751282
## iter 10 value 20065.093789
## iter 20 value 20042.548165
## final value 20042.295786
## converged
## # weights: 9
## initial value 23295.347685
## final value 20044.247600
## converged
## # weights: 25
## initial value 22918.977856
## final value 20044.247600
## converged
## # weights: 41
## initial value 23308.988418
## final value 20044.247600
```



```
## converged
## # weights: 9
## initial value 22644.045035
## iter 10 value 20076.146853
## iter 20 value 20050.238873
## final value 20049.757868
## converged
## # weights: 25
## initial value 22157.187283
## iter 10 value 20050.013025
## iter 20 value 20048.223609
## iter 20 value 20048.223514
## iter 20 value 20048.223487
## final value 20048.223487
## converged
## # weights: 41
## initial value 24058.736886
## iter 10 value 20060.869904
## iter 20 value 20047.585425
## final value 20047.563985
## converged
## # weights: 9
## initial value 23339.854053
## iter 10 value 20054.458061
## iter 20 value 20044.365319
## iter 20 value 20044.365272
## final value 20044.365272
## converged
## # weights: 25
## initial value 22318.780008
## iter 10 value 20059.764692
## iter 20 value 20044.426500
## final value 20044.261185
## converged
## # weights: 41
## initial value 23969.661408
## iter 10 value 20058.306723
## iter 20 value 20044.409691
## final value 20044.261228
## converged
## # weights: 9
## initial value 23452.260917
## final value 19929.305200
## converged
## # weights: 25
## initial value 22314.995767
## final value 19929.305200
## converged
## # weights: 41
## initial value 22024.315374
## final value 19929.305200
## converged
```

```
## # weights: 9
## initial value 23083.701748
## iter 10 value 19936.226241
## final value 19934.812920
## converged
## # weights: 25
## initial value 21768.479404
## iter 10 value 19934.155026
## final value 19933.279559
## converged
## # weights: 41
## initial value 22069.479501
## iter 10 value 19936.769290
## final value 19932.620358
## converged
## # weights: 9
## initial value 21596.859268
## iter 10 value 19936.516472
## iter 20 value 19929.388340
## iter 20 value 19929.388307
## final value 19929.388307
## converged
## # weights: 25
## initial value 22017.703435
## iter 10 value 19942.228984
## iter 20 value 19929.454201
## final value 19929.319817
## converged
## # weights: 41
## initial value 21292.720468
## iter 10 value 19940.392408
## iter 20 value 19929.433027
## final value 19929.314735
## converged
## # weights: 9
## initial value 23500.475430
## final value 20036.750500
## converged
## # weights: 25
## initial value 21674.588822
## final value 20036.750500
## converged
## # weights: 41
## initial value 23297.990032
## final value 20036.750500
## converged
## # weights: 9
## initial value 22620.621803
## iter 10 value 20042.995382
## final value 20042.260531
## converged
## # weights: 25
```

```
## initial value 23705.560243
## iter 10 value 20041.834702
## final value 20040.726342
## converged
## # weights: 41
## initial value 22286.826081
## iter 10 value 20040.777241
## final value 20040.066771
## converged
## # weights: 9
## initial value 22802.974362
## iter 10 value 20047.330827
## iter 20 value 20036.872483
## iter 20 value 20036.872434
## final value 20036.872434
## converged
## # weights: 25
## initial value 24005.345238
## iter 10 value 20046.873118
## iter 20 value 20036.867206
## final value 20036.767195
## converged
## # weights: 41
## initial value 22512.341282
## iter 10 value 20058.263531
## iter 20 value 20036.998528
## final value 20036.760099
## converged
## # weights: 9
## initial value 23252.385382
## final value 20022.082000
## converged
## # weights: 25
## initial value 22085.805167
## final value 20022.082000
## converged
## # weights: 41
## initial value 23809.219806
## final value 20022.082000
## converged
## # weights: 9
## initial value 23889.272069
## iter 10 value 20029.603580
## final value 20027.591494
## converged
## # weights: 25
## initial value 22216.414328
## iter 10 value 20033.716710
## iter 20 value 20026.069535
## final value 20026.057425
## converged
## # weights: 41
```

```
## initial value 24080.091925
## iter 10 value 20036.212899
## iter 20 value 20025.404988
## final value 20025.398044
## converged
## # weights: 9
## initial value 22682.607061
## iter 10 value 20033.074445
## iter 20 value 20022.208734
## iter 20 value 20022.208684
## final value 20022.208684
## converged
## # weights: 25
## initial value 22319.678978
## iter 10 value 20035.862776
## iter 20 value 20022.240882
## final value 20022.099321
## converged
## # weights: 41
## initial value 21435.580831
## iter 10 value 20033.542285
## iter 20 value 20022.214128
## final value 20022.091258
## converged
## # weights: 9
## initial value 23551.652210
## final value 20038.766500
## converged
## # weights: 25
## initial value 23455.312471
## final value 20038.766500
## converged
## # weights: 41
## initial value 22859.988215
## final value 20038.766500
## converged
## # weights: 9
## initial value 23184.174188
## iter 10 value 20047.084577
## final value 20044.276548
## converged
## # weights: 25
## initial value 23680.603078
## iter 10 value 20043.268367
## final value 20042.742249
## converged
## # weights: 41
## initial value 22435.435162
## iter 10 value 20044.191945
## final value 20042.082848
## converged
## # weights: 9
```

```
## initial value 23419.890181
## iter 10 value 20047.995509
## iter 20 value 20038.872903
## iter 20 value 20038.872861
## final value 20038.872861
## converged
## # weights: 25
## initial value 22520.858619
## iter 10 value 20053.746490
## iter 20 value 20038.939208
## final value 20038.782078
## converged
## # weights: 41
## initial value 21615.999645
## iter 10 value 20050.150802
## iter 20 value 20038.897752
## final value 20038.776375
## converged
## # weights: 9
## initial value 22123.917824
## final value 19987.306000
## converged
## # weights: 25
## initial value 23145.773778
## final value 19987.306000
## converged
## # weights: 41
## initial value 22848.411854
## final value 19987.306000
## converged
## # weights: 9
## initial value 22520.377140
## iter 10 value 19994.592698
## final value 19992.814611
## converged
## # weights: 25
## initial value 22521.550137
## iter 10 value 19992.116453
## iter 20 value 19991.280922
## iter 20 value 19991.280799
## iter 20 value 19991.280799
## final value 19991.280799
## converged
## # weights: 41
## initial value 22931.883206
## iter 10 value 19991.704033
## final value 19990.621557
## converged
## # weights: 9
## initial value 23844.796168
## iter 10 value 19994.701779
## iter 20 value 19987.391268
```

```
## iter 20 value 19987.391233
## final value 19987.391233
## converged
## # weights: 25
## initial value 22670.247881
## iter 10 value 20003.067578
## iter 20 value 19987.487719
## final value 19987.319894
## converged
## # weights: 41
## initial value 21937.632755
## iter 10 value 20003.294684
## iter 20 value 19987.490337
## final value 19987.316742
## converged
## # weights: 9
## initial value 22074.566776
## iter 10 value 20072.899947
## iter 20 value 20063.282277
## iter 20 value 20063.282233
## final value 20063.282233
## converged
```

nnet_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  0.32235623  6.511658
##   3      0e+00  7.082226      NA      6.511475
##   3      1e-04  7.082226  0.01658690  6.511475
##   3      1e-01  7.082338  0.32942001  6.511597
##   5      0e+00  7.082226      NA      6.511475
##   5      1e-04  7.082226  0.01236387  6.511475
##   5      1e-01  7.082317  0.32640106  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 selected size = 1 and decay 1e-04 as the most optimal model using RMSE. The specific Rsquared for this model is “**NAN**”. The closest Rsquared is **0.32235623** for a model with decay 1e-01 and RMSE of 7.082396.

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)
```

Now that we have established the test data that is needed, it is time to predict using our network.

```
Pred_sales <- predict(nnet_Cars, Test)

Pred_sales
```

```
## 1
## 1
```

According to the Neural Net built using the instructions provided, the model predicts that only **1** sale will take place with the given record. This result is troubling as in the previous assignment, the decision tree concluded that 9.5 sales would occur at this record. I believe that using the Keras package and building a model using “keras_model_sequential” may create a more adjustable neural network model that would provide a better outcome.