Polished

Taqi

```
# Setup parallel computations
future::plan(strategy = multisession)
print("Future plan has been set to multisession by default.")
## [1] "Future plan has been set to multisession by default."
norm_ens <- RME_norm(N = 20, herm = T, size = 100)</pre>
spectrum(norm_ens)
##
             Re Im
                      Norm Order
## 1
                  0 8.5286
        -8.5286
                                1
## 2
         8.3566
                  0 8.3566
                                2
## 3
         6.7894
                  0 6.7894
                                3
## 4
         6.6231
                  0 6.6231
                                4
## 5
        -6.1555
                  0 6.1555
                                5
## 6
        -5.4950
                  0 5.4950
                                6
                                7
## 7
         4.5264
                  0 4.5264
## 8
        -4.1069
                  0 4.1069
                                8
## 9
         3.9046
                  0 3.9046
                                9
## 10
        -3.6220
                  0 3.6220
                               10
## 11
         3.4307
                  0 3.4307
                               11
        -2.7896
                  0 2.7896
## 12
                               12
## 13
         2.7548
                  0 2.7548
                               13
## 14
        -2.3590
                  0 2.3590
                               14
## 15
         1.4991
                  0 1.4991
                               15
         1.1811
## 16
                  0 1.1811
                               16
## 17
        -0.9964
                  0 0.9964
                               17
## 18
         0.7136
                  0 0.7136
                               18
## 19
        -0.4074
                  0 0.4074
                               19
## 20
        -0.3391
                  0 0.3391
                               20
        -7.3725
## 21
                  0 7.3725
                                1
## 22
         6.0905
                  0 6.0905
                                2
        -5.9059
## 23
                  0 5.9059
                                3
## 24
         5.5596
                  0 5.5596
                                4
## 25
        -5.4954
                  0 5.4954
                                5
## 26
        -5.0573
                  0 5.0573
                                6
## 27
         4.9817
                  0 4.9817
                                7
## 28
         4.3383
                  0 4.3383
                                8
## 29
                                9
        -3.8833
                  0 3.8833
## 30
         3.4458
                  0 3.4458
                               10
        -3.3434
## 31
                  0 3.3434
                               11
##
  32
         3.1834
                  0 3.1834
                               12
## 33
         2.4562
                  0 2.4562
                               13
## 34
        -2.2555
                  0 2.2555
                               14
         2.0253
## 35
                  0 2.0253
                               15
```

```
## 36
        -1.9812 0 1.9812
                               16
## 37
                  0 1.4586
         1.4586
                               17
        -1.2732
## 38
                  0 1.2732
                               18
         0.6811
                  0 0.6811
## 39
                               19
## 40
        -0.3371
                  0 0.3371
                               20
         8.4485
                  0 8.4485
## 41
                                1
        -6.3161
                  0 6.3161
## 42
                                2
        -5.8282
                  0 5.8282
## 43
                                3
## 44
         5.8034
                  0 5.8034
                                4
                                5
## 45
         5.2510
                  0 5.2510
## 46
        -5.1579
                  0 5.1579
                                6
        -4.7091
                                7
                  0 4.7091
## 47
         4.4705
## 48
                  0 4.4705
                                8
         3.9288
                  0 3.9288
                                9
## 49
## 50
        -3.1560
                  0 3.1560
                               10
## 51
        -3.0339
                  0 3.0339
                               11
         2.8132
                  0 2.8132
## 52
                               12
## 53
         2.6206
                  0 2.6206
                               13
        -2.3386
                  0 2.3386
## 54
                               14
## 55
         1.8353
                  0 1.8353
                               15
## 56
        -1.6050
                  0 1.6050
                               16
## 57
        -0.8831
                  0 0.8831
                               17
         0.6765
                  0 0.6765
## 58
                               18
## 59
         0.2808
                  0 0.2808
                               19
        -0.0985
                  0 0.0985
## 60
                               20
## 61
         8.5186
                  0 8.5186
                                1
## 62
        -8.0057
                  0 8.0057
                                2
        -7.3626
                  0 7.3626
                                3
## 63
## 64
         6.4946
                  0 6.4946
                                4
                  0 5.3226
## 65
         5.3226
                                5
## 66
        -5.2567
                  0 5.2567
                                6
## 67
         4.7773
                  0 4.7773
                                7
         4.0059
                  0 4.0059
## 68
                                8
        -3.9010
                  0 3.9010
                                9
## 69
## 70
        -3.7572
                  0 3.7572
                               10
## 71
         3.7399
                  0 3.7399
                               11
## 72
        -3.3349
                  0 3.3349
                               12
## 73
        -2.3821
                  0 2.3821
                               13
## 74
         2.3174
                  0 2.3174
                               14
        -1.9265
                  0 1.9265
## 75
                               15
## 76
        -1.4773
                  0 1.4773
                               16
## 77
         1.4574
                  0 1.4574
                               17
         1.1734
                  0 1.1734
## 78
                               18
                  0 0.8593
## 79
        -0.8593
                               19
        -0.1429
                  0 0.1429
## 80
                               20
## 81
         8.5032
                  0 8.5032
                                1
        -7.9288
## 82
                  0 7.9288
                                2
## 83
         6.8540
                  0 6.8540
                                3
## 84
        -6.4890
                  0 6.4890
                                4
        -5.6688
## 85
                  0 5.6688
                                5
## 86
        -4.8053
                  0 4.8053
                                6
                                7
## 87
         4.7641
                  0 4.7641
## 88
         3.8325
                  0 3.8325
                                8
## 89
        -3.5782 0 3.5782
                                9
```

```
## 90
        -2.9965 0 2.9965
                               10
## 91
         2.9224
                 0 2.9224
                               11
## 92
         2.9020
                  0 2.9020
                               12
         2.1333
## 93
                 0 2.1333
                               13
## 94
        -2.1174
                  0 2.1174
                               14
## 95
        -1.8333
                  0 1.8333
                               15
         1.3284
                  0 1.3284
## 96
                               16
## 97
        -1.3166
                  0 1.3166
                               17
         0.6905
## 98
                  0 0.6905
                               18
## 99
        -0.6385
                  0 0.6385
                               19
## 100
         0.0146
                  0 0.0146
                               20
        -8.1986
                  0 8.1986
## 101
                                1
         7.4038
## 102
                  0 7.4038
                                2
## 103
        -6.7303
                  0 6.7303
                                3
## 104
         5.3924
                  0 5.3924
                                4
## 105
        -5.1201
                  0 5.1201
                                5
## 106
         4.9867
                  0 4.9867
                                6
                                7
## 107
        -4.6337
                  0 4.6337
         4.1853
                  0 4.1853
## 108
                                8
## 109
         3.5701
                  0 3.5701
                                9
## 110
        -3.4916
                 0 3.4916
                               10
## 111
        -2.9795
                  0 2.9795
                               11
        -2.6314
                  0 2.6314
## 112
                               12
         2.6230
                  0 2.6230
## 113
                               13
## 114
         2.4134
                  0 2.4134
                               14
## 115
         1.9666
                  0 1.9666
                               15
## 116
        -1.2047
                  0 1.2047
                               16
         0.9555
                  0 0.9555
## 117
                               17
        -0.7111
                  0 0.7111
## 118
                               18
        -0.5332
## 119
                  0 0.5332
                               19
## 120
        -0.4231
                  0 0.4231
                               20
## 121
         7.8081
                  0 7.8081
                                1
        -6.9953
                                2
## 122
                  0 6.9953
## 123
        -6.5703
                  0 6.5703
                                3
## 124
         6.5214
                  0 6.5214
                                4
## 125
         5.2952
                  0 5.2952
                                5
## 126
        -5.0808
                  0 5.0808
                                6
## 127
        -4.8204
                  0 4.8204
                                7
## 128
         4.0672
                  0 4.0672
                                8
                                9
## 129
        -3.8194
                  0 3.8194
## 130
         3.7745
                  0 3.7745
                               10
## 131
        -3.4239
                  0 3.4239
                               11
         3.2832
                  0 3.2832
## 132
                               12
## 133
        -2.8691
                  0 2.8691
                               13
        -2.6069
                  0 2.6069
## 134
                               14
## 135
         2.5857
                  0 2.5857
                               15
        -2.0298
## 136
                  0 2.0298
                               16
         1.7960
                  0 1.7960
## 137
                               17
## 138
         1.1537
                  0 1.1537
                               18
         0.8946
## 139
                  0 0.8946
                               19
## 140
        -0.7982
                 0 0.7982
                               20
## 141
        -9.5001
                 0 9.5001
                                1
## 142
         7.7652
                 0 7.7652
                                2
        -7.7519 0 7.7519
## 143
```

```
## 144
         7.1399 0 7.1399
                                4
## 145
        -5.8673
                  0 5.8673
                                5
## 146
         5.6503
                  0 5.6503
        -4.8437
                                7
## 147
                  0 4.8437
## 148
         4.7976
                  0 4.7976
                                8
        -4.2401
                  0 4.2401
                                9
## 149
         4.1895
                  0 4.1895
## 150
                               10
## 151
         2.9956
                  0 2.9956
                               11
        -2.9026
## 152
                  0 2.9026
                               12
## 153
        -2.4702
                  0 2.4702
                               13
## 154
         1.8805
                  0 1.8805
                               14
## 155
         1.7313
                  0 1.7313
                               15
## 156
        -1.3586
                  0 1.3586
                               16
        -1.0905
                  0 1.0905
## 157
                               17
## 158
         0.9746
                  0 0.9746
                               18
## 159
         0.3440
                  0 0.3440
                               19
         0.2599
                  0 0.2599
## 160
                               20
## 161
        -8.6610
                  0 8.6610
                                1
         7.7963
                  0 7.7963
## 162
                                2
## 163
         7.1944
                  0 7.1944
                                3
## 164
        -6.7165
                  0 6.7165
                                4
## 165
        -5.8223
                  0 5.8223
                                5
         5.7630
                  0 5.7630
## 166
                                6
         5.5731
                  0 5.5731
                                7
## 167
        -4.8404
## 168
                  0 4.8404
                                8
## 169
         4.5211
                  0 4.5211
                                9
## 170
         3.7538
                  0 3.7538
                               10
        -3.7318
## 171
                  0 3.7318
                               11
## 172
        -2.7522
                  0 2.7522
                               12
         2.6996
## 173
                  0 2.6996
                               13
## 174
        -2.5001
                  0 2.5001
                               14
## 175
         2.3684
                  0 2.3684
                               15
## 176
        -1.9480
                  0 1.9480
                               16
        -1.2952
                  0 1.2952
## 177
                               17
## 178
         1.0365
                  0 1.0365
                               18
## 179
         0.3526
                  0 0.3526
                               19
## 180
        -0.0172
                  0 0.0172
                               20
## 181
         7.9948
                  0 7.9948
                                1
## 182
        -7.9130
                  0 7.9130
                                2
## 183
         7.0392
                  0 7.0392
                                3
## 184
        -6.7836
                  0 6.7836
                                4
## 185
        -6.6099
                  0 6.6099
                                5
         6.1613
## 186
                  0 6.1613
                                6
                                7
## 187
        -5.4594
                  0 5.4594
         4.9826
                  0 4.9826
## 188
                                8
         4.3759
## 189
                  0 4.3759
                                9
## 190
        -4.1313
                  0 4.1313
                               10
        -3.1773
                  0 3.1773
## 191
                               11
## 192
         3.1671
                  0 3.1671
                               12
## 193
        -2.9822
                  0 2.9822
                               13
## 194
        -2.5025
                  0 2.5025
                               14
## 195
         2.3606
                 0 2.3606
                               15
## 196
         1.7550
                  0 1.7550
                               16
## 197
         1.7235 0 1.7235
                               17
```

```
## 198
        -0.9343 0 0.9343
                               18
## 199
         0.8868
                  0 0.8868
                               19
## 200
        -0.1568
                  0 0.1568
                               20
        -7.6267
## 201
                  0 7.6267
                                1
## 202
        -6.7006
                  0 6.7006
                                2
## 203
        -6.3741
                  0 6.3741
                                3
         6.0043
                  0 6.0043
## 204
                                4
         5.7924
                  0 5.7924
## 205
                                5
## 206
         5.0403
                  0 5.0403
                                6
         4.4800
                                7
## 207
                  0 4.4800
## 208
        -4.1341
                  0 4.1341
                                8
         3.9299
## 209
                  0 3.9299
                                9
## 210
        -3.6323
                  0 3.6323
                               10
        -3.0940
                  0 3.0940
## 211
                               11
## 212
         3.0447
                  0 3.0447
                               12
## 213
         2.6913
                  0 2.6913
                               13
        -2.2152
                  0 2.2152
                               14
## 214
## 215
         1.9962
                  0 1.9962
                               15
        -1.4555
                  0 1.4555
## 216
                               16
## 217
         1.2303
                  0 1.2303
                               17
## 218
        -1.0031
                  0 1.0031
                               18
## 219
        -0.6297
                  0 0.6297
                               19
        -0.2920
## 220
                  0 0.2920
                               20
         8.3135
                  0 8.3135
## 221
                                1
        -7.8406
## 222
                  0 7.8406
                                2
## 223
        -6.9499
                  0 6.9499
                                3
## 224
         5.9360
                  0 5.9360
                                4
## 225
         5.4828
                                5
                  0 5.4828
## 226
        -5.2481
                  0 5.2481
                                6
         4.6000
                  0 4.6000
## 227
                                7
## 228
        -4.4971
                  0 4.4971
                                8
## 229
        -3.7916
                 0 3.7916
                                9
         3.6913
## 230
                  0 3.6913
                               10
## 231
         3.2453
                  0 3.2453
                               11
## 232
         3.0961
                  0 3.0961
                               12
## 233
        -3.0558
                  0 3.0558
                               13
## 234
         2.3543
                  0 2.3543
                               14
## 235
        -1.8899
                  0 1.8899
                               15
## 236
         1.5236
                  0 1.5236
                               16
        -1.1857
                  0 1.1857
## 237
                               17
## 238
         0.9128
                  0 0.9128
                               18
## 239
        -0.7722
                  0 0.7722
                               19
        -0.4618
## 240
                  0 0.4618
                               20
## 241
         8.5764
                  0 8.5764
                                1
         8.4272
                  0 8.4272
## 242
                                2
        -7.3493
## 243
                  0 7.3493
                                3
         7.0127
                  0 7.0127
## 244
                                4
        -6.3498
                  0 6.3498
                                5
## 245
## 246
         6.0220
                  0 6.0220
                                6
                                7
## 247
        -5.7918
                  0 5.7918
         5.0475
                  0 5.0475
                                8
## 248
                                9
## 249
        -4.6647
                  0 4.6647
## 250
        -4.0030
                  0 4.0030
                               10
## 251
         3.8219 0 3.8219
```

```
## 252
        -3.4881 0 3.4881
                               12
## 253
         2.8231
                 0 2.8231
                               13
## 254
        -2.5127
                  0 2.5127
                               14
        -2.2762
## 255
                  0 2.2762
                               15
## 256
         1.1543
                  0 1.1543
                               16
        -1.0112
                 0 1.0112
## 257
                               17
        -0.7761
                  0 0.7761
## 258
                               18
## 259
         0.3863
                  0 0.3863
                               19
## 260
        -0.1657
                  0 0.1657
                               20
## 261
        -8.7348
                  0 8.7348
                                1
## 262
         7.5973
                  0 7.5973
                                2
## 263
         7.1604
                  0 7.1604
                                3
## 264
        -6.8558
                  0 6.8558
                                4
## 265
        -5.8310
                  0 5.8310
                                5
## 266
         5.0561
                  0 5.0561
                                6
## 267
        -5.0495
                  0 5.0495
                                7
         4.8473
                  0 4.8473
                                8
## 268
## 269
         4.3291
                  0 4.3291
                                9
## 270
        -4.2165
                  0 4.2165
                               10
## 271
         3.8156
                  0 3.8156
                               11
## 272
        -3.1905
                  0 3.1905
                               12
## 273
        -2.9009
                  0 2.9009
                               13
         2.3553
                  0 2.3553
## 274
                               14
        -2.3258
                  0 2.3258
## 275
                               15
         2.0484
                  0 2.0484
## 276
                               16
## 277
        -1.3121
                  0 1.3121
                               17
## 278
         1.2739
                  0 1.2739
                               18
        -0.9443
                  0 0.9443
## 279
                               19
## 280
        -0.3660
                  0 0.3660
                               20
        -8.4619
## 281
                  0 8.4619
                                1
## 282
         6.9436
                  0 6.9436
                                2
## 283
        -6.4512
                  0 6.4512
                                3
        -6.0916
##
  284
                  0 6.0916
                                4
## 285
         6.0007
                  0 6.0007
                                5
## 286
        -5.3039
                  0 5.3039
                                6
## 287
         5.1396
                  0 5.1396
                                7
## 288
         4.3415
                  0 4.3415
                                8
## 289
        -4.2273
                  0 4.2273
                                9
## 290
         3.8028
                  0 3.8028
                               10
        -3.5929
                  0 3.5929
## 291
                               11
## 292
         3.0511
                  0 3.0511
                               12
## 293
        -2.8682
                  0 2.8682
                               13
         2.4898
## 294
                  0 2.4898
                               14
##
  295
        -1.6162
                  0 1.6162
                               15
        -1.4481
                  0 1.4481
## 296
                               16
## 297
         1.2664
                  0 1.2664
                               17
        -0.8799
## 298
                  0 0.8799
                               18
         0.5183
                  0 0.5183
## 299
                               19
## 300
        -0.1548
                  0 0.1548
                               20
## 301
        -8.1648
                  0 8.1648
                                1
        -7.0671
                  0 7.0671
                                2
## 302
## 303
         6.7219
                  0 6.7219
                                3
## 304
         6.5100
                  0 6.5100
                                4
## 305
        -6.2131 0 6.2131
```

```
## 306
         6.0267 0 6.0267
                                6
## 307
                                7
         5.6708
                  0 5.6708
## 308
        -5.3436
                  0 5.3436
                                8
## 309
         4.3284
                  0 4.3284
                                9
## 310
        -4.0521
                  0 4.0521
                               10
## 311
        -3.4175
                  0 3.4175
                               11
         2.8054
                  0 2.8054
## 312
                               12
## 313
         2.3768
                  0 2.3768
                               13
## 314
        -2.3386
                  0 2.3386
                               14
## 315
         1.9124
                  0 1.9124
                               15
## 316
        -1.8938
                  0 1.8938
                               16
        -1.5463
                  0 1.5463
                               17
## 317
## 318
         1.5109
                  0 1.5109
                               18
         0.9797
                  0 0.9797
## 319
                               19
## 320
         0.1821
                  0 0.1821
                               20
## 321
         8.3436
                  0 8.3436
                                1
        -8.2232
                  0 8.2232
                                2
## 322
## 323
         7.3001
                  0 7.3001
                                3
## 324
        -6.9434
                  0 6.9434
                                4
## 325
        -6.1874
                  0 6.1874
                                5
## 326
         5.7651
                  0 5.7651
                                6
## 327
         5.0675
                  0 5.0675
                                7
        -4.4729
                  0 4.4729
## 328
                                8
         4.3735
                  0 4.3735
                                9
## 329
        -4.0749
                  0 4.0749
## 330
                               10
##
  331
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## 670
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## 673
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## 674
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                  0 1.8812
## 676
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## 677
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## 678
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                  0 1.0587
                               18
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                               19
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## 681
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## 683
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```

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## 687
## 688
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## 693
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##
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##
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##
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## 708
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## 734
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## 737
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##
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## 788
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## 790
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## 791
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##
  797
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##
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## 834
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## 836
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## 837
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```

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## 873
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## 887
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## 890
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## 891
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## 892
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                               12
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## 893
                               13
## 894
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## 895
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## 896
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## 897
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## 899
                               19
```

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## 906
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## 907
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## 908
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## 909
## 910
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## 953
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## 983
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                  0 6.8137
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## 984
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                  0 6.2097
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## 985
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## 986
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## 988
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## 992
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## 993
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## 994
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## 995
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## 996
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## 997
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                  0 1.3059
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        -1.0807
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## 998
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## 999
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## 1004 -6.5129
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## 1005
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## 1006 5.1129
                  0 5.1129
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## 1007 -4.5953
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                  0 4.5953
```

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## 1009 3.7247
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## 1014 1.9999
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## 1015 1.6524
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## 1016 -1.4028
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## 1017 1.0882
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## 1018 0.4068
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## 1019 -0.3272
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## 1027 -5.3723
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## 1036 -1.4503
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## 1050 -4.2790
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## 1052 -3.6124
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## 1054 -2.6124
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## 1060 -0.0498
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## 1075
                 0 1.7553
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## 1077 -1.4921
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## 1106 -5.4172
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## 1107 5.1607
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## 1108 -4.5628
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## 1109 4.5157
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## 1111
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## 1112 2.7028
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## 1113 -2.4890
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## 1114 2.2751
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## 1115 -2.1369 0 2.1369
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## 1117 -1.6965
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## 1144 -6.6494
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## 1154 -2.1566
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## 1155 -1.2470
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## 1156 1.0511
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## 1157 0.9404
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## 1158 -0.6029
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## 1159 0.5145
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## 1162 -7.2724
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## 1163 -6.5942
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## 1165 -5.5587
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## 1166 -4.9975
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## 1167 4.5116
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## 1168 -4.1163
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## 1169 3.6329 0 3.6329
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```

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## 1171 -3.0570
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## 1176
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## 1177
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## 1178 1.2978
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## 1179 -0.5985
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## 1193 -2.4599
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## 1194 -2.1392
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## 1197 0.8871
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## 1198 -0.7525
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## 1204 -6.8243
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## 1205 -5.6163
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## 1208 -4.8888
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## 1209 -4.3355
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## 1213 -3.2529
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## 1215 2.1048
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## 1216 -1.1285
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## 1217 0.9874
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## 1218 -0.9294
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                             18
        0.8953
## 1219
                 0 0.8953
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## 1220
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                 0 0.0007
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## 1223 7.2078 0 7.2078
                              3
```

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## 1225 -6.3456
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## 1226 -5.4745
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## 1228 -4.1505
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## 1229 4.0209
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## 1239
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## 1241 -8.6433
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## 1246 -5.2879
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## 1247 4.8569
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## 1248 4.7402
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## 1249 -4.7061
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## 1254 -2.6380
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## 1255 2.4608
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## 1256 -1.7537
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## 1257
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## 1258 -1.1328
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## 1259 -0.4127
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## 1263 -7.3170
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## 1268 -5.1827
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## 1269 -3.9816
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## 1276 2.4853
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## 1277 1.6330 0 1.6330
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## 1279 0.7539
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## 1306 -5.1921
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                              1
## 1702 7.3577
                 0 7.3577
                              2
## 1703 6.6379
                 0 6.6379
                              3
## 1704 -5.9695
                 0 5.9695
                              4
## 1705 5.5977
                 0 5.5977
                              5
## 1706 -5.3937
                 0 5.3937
                              6
                              7
## 1707 -5.2014
                 0 5.2014
## 1708 4.9722
                 0 4.9722
                              8
## 1709 4.0925 0 4.0925
                              9
```

```
## 1710 -3.7741 0 3.7741
                             10
## 1711 3.5683
                 0 3.5683
                             11
## 1712 -3.5188
                 0 3.5188
                             12
## 1713 3.2120
                 0 3.2120
                             13
## 1714 2.2257
                 0 2.2257
                             14
## 1715 -2.0935
                 0 2.0935
                             15
## 1716 -1.2698
                 0 1.2698
                             16
## 1717 1.1335
                 0 1.1335
                             17
## 1718 -0.9189
                 0 0.9189
                             18
## 1719 0.7017
                 0 0.7017
                             19
## 1720 -0.0278
                 0 0.0278
                             20
## 1721 8.0631
                 0 8.0631
                              1
## 1722 -6.6412
                 0 6.6412
                              2
## 1723 -5.8993
                 0 5.8993
                              3
## 1724 5.8600
                 0 5.8600
                              4
## 1725
        5.7963
                 0 5.7963
                              5
## 1726 -5.6993
                 0 5.6993
                              6
## 1727 4.3441
                 0 4.3441
                              7
## 1728 4.2576
                 0 4.2576
                              8
## 1729 -4.1821
                 0 4.1821
                              9
## 1730 -3.2256
                 0 3.2256
                             10
## 1731 2.9630
                 0 2.9630
                             11
## 1732 2.7221
                 0 2.7221
                             12
## 1733 -2.6401
                 0 2.6401
                             13
## 1734 -1.8768
                 0 1.8768
                             14
## 1735 1.8017
                 0 1.8017
                             15
## 1736 1.3846
                 0 1.3846
                             16
## 1737 -1.1733
                 0 1.1733
                             17
## 1738 -0.6255
                 0 0.6255
                             18
## 1739 0.3982
                 0 0.3982
                             19
## 1740 -0.2886
                 0 0.2886
                             20
## 1741 8.3342
                 0 8.3342
                              1
## 1742 -7.7723
                 0 7.7723
                              2
## 1743 6.0335
                 0 6.0335
                              3
## 1744 -5.8796
                 0 5.8796
                              4
## 1745 5.8573
                 0 5.8573
                              5
## 1746 -5.2061
                 0 5.2061
                              6
## 1747 5.0435
                 0 5.0435
                              7
## 1748 -4.4933
                 0 4.4933
                              8
## 1749 -4.0488
                 0 4.0488
                              9
## 1750 3.2252
                 0 3.2252
                             10
## 1751 -3.0467
                 0 3.0467
                             11
## 1752 2.7267
                 0 2.7267
                             12
## 1753 2.4737
                 0 2.4737
                             13
## 1754 -2.0521
                 0 2.0521
                             14
## 1755 2.0471
                 0 2.0471
                             15
## 1756 -1.7549
                 0 1.7549
                             16
## 1757 -1.3789
                 0 1.3789
                             17
## 1758 -0.9971
                 0 0.9971
                             18
## 1759 0.9868
                 0 0.9868
                             19
## 1760 0.1407
                 0 0.1407
                             20
## 1761 -7.6755
                0 7.6755
                              1
## 1762 7.4772
                 0 7.4772
                              2
## 1763 -6.2286 0 6.2286
                              3
```

```
## 1764 5.8286 0 5.8286
## 1765 5.1184
                 0 5.1184
                              5
## 1766 -5.1101
                 0 5.1101
## 1767 4.6020
                 0 4.6020
                              7
## 1768 -4.5965
                 0 4.5965
                              8
## 1769 -3.8808
                 0 3.8808
                              9
## 1770 3.8176
                 0 3.8176
                             10
## 1771 3.1216
                 0 3.1216
                             11
## 1772 -2.9079
                 0 2.9079
                             12
## 1773 2.0857
                 0 2.0857
                             13
## 1774 -1.9834
                 0 1.9834
                             14
## 1775 -1.5351
                 0 1.5351
                             15
## 1776 1.3793
                 0 1.3793
                             16
## 1777 -1.3021
                 0 1.3021
                             17
## 1778 0.6044
                 0 0.6044
                             18
## 1779 -0.5006
                 0 0.5006
                             19
## 1780 0.3670
                 0 0.3670
                             20
## 1781 8.3429
                 0 8.3429
                              1
## 1782 -8.1851
                 0 8.1851
                              2
## 1783 -6.7549
                 0 6.7549
                              3
## 1784 6.4111
                 0 6.4111
                              4
## 1785 -6.3026
                 0 6.3026
                              5
## 1786 6.2646
                 0 6.2646
                              6
## 1787 -5.6452
                 0 5.6452
                              7
## 1788 5.4662
                 0 5.4662
                              8
## 1789 -4.8395
                 0 4.8395
                              9
## 1790 3.7174
                 0 3.7174
                             10
## 1791 -3.1521
                 0 3.1521
                             11
## 1792 -2.3508
                 0 2.3508
                             12
## 1793 2.3193
                 0 2.3193
                             13
## 1794 -1.7397
                 0 1.7397
                             14
## 1795
        1.7340
                 0 1.7340
                             15
## 1796
        1.4589
                 0 1.4589
                             16
        1.1259
                 0 1.1259
## 1797
                             17
## 1798 -0.9130
                 0 0.9130
                             18
## 1799 0.6755
                 0 0.6755
                             19
## 1800 -0.4886
                 0 0.4886
                             20
## 1801 -8.2945
                 0 8.2945
                              1
## 1802 -7.1079
                 0 7.1079
                              2
## 1803 6.5979
                 0 6.5979
                              3
## 1804 5.1380
                 0 5.1380
                              4
## 1805 4.7268
                 0 4.7268
                              5
## 1806 -4.3005
                 0 4.3005
                              6
## 1807 4.0603
                              7
                 0 4.0603
## 1808 -3.9521
                 0 3.9521
                              8
## 1809
        3.5912
                 0 3.5912
                              9
## 1810 3.3180
                 0 3.3180
                             10
## 1811 -3.0255
                 0 3.0255
                             11
## 1812 2.6000
                 0 2.6000
                             12
## 1813 -2.3937
                 0 2.3937
                             13
## 1814 1.9936
                 0 1.9936
                             14
## 1815 1.7589
                 0 1.7589
                             15
## 1816 -1.4306
                 0 1.4306
                             16
## 1817 1.2788 0 1.2788
                             17
```

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## 1818 -0.7046 0 0.7046
                              18
## 1819 0.2850
                 0 0.2850
                              19
## 1820 0.1550
                 0 0.1550
                              20
## 1821 -7.1723
                 0 7.1723
                               1
## 1822 -6.7309
                 0 6.7309
                               2
## 1823 6.4207
                 0 6.4207
                               3
## 1824 -5.9287
                 0 5.9287
                               4
## 1825 5.1727
                 0 5.1727
                               5
## 1826 5.0543
                 0 5.0543
                               6
                               7
## 1827 -4.8081
                 0 4.8081
## 1828 -4.5975
                 0 4.5975
                               8
## 1829
        4.5062
                 0 4.5062
                               9
## 1830
        3.7219
                 0 3.7219
                              10
## 1831 -3.2389
                 0 3.2389
                              11
## 1832
        3.0885
                 0 3.0885
                              12
## 1833
        2.5162
                 0 2.5162
                              13
## 1834 -2.4863
                 0 2.4863
                              14
## 1835 -1.8455
                 0 1.8455
                              15
## 1836 1.5854
                 0 1.5854
                              16
## 1837 -1.1600
                 0 1.1600
                              17
## 1838 1.1520
                 0 1.1520
                              18
## 1839 -0.5878
                 0 0.5878
                              19
## 1840 -0.2368
                 0 0.2368
                              20
## 1841 -7.9221
                 0 7.9221
                               1
## 1842 6.7004
                 0 6.7004
                               2
## 1843 -6.3404
                 0 6.3404
                               3
## 1844 5.6817
                 0 5.6817
                               4
## 1845 -5.5363
                               5
                 0 5.5363
## 1846 -4.7993
                 0 4.7993
                               6
## 1847 4.7254
                 0 4.7254
                               7
## 1848 -4.4982
                 0 4.4982
                               8
## 1849
        4.3201
                 0 4.3201
                               9
## 1850 -3.5600
                 0 3.5600
                              10
## 1851
        3.4706
                 0 3.4706
                              11
## 1852
        3.2366
                 0 3.2366
                              12
## 1853 -2.6000
                 0 2.6000
                              13
## 1854 2.5196
                 0 2.5196
                              14
## 1855
        2.0444
                 0 2.0444
                              15
## 1856 -1.5369
                 0 1.5369
                              16
## 1857 -1.1733
                 0 1.1733
                              17
## 1858
        1.0171
                 0 1.0171
                              18
## 1859
        0.2246
                 0 0.2246
                              19
        0.0658
## 1860
                 0 0.0658
                              20
## 1861 8.1106
                 0 8.1106
                               1
## 1862 -7.6597
                 0 7.6597
                               2
## 1863 -7.1530
                 0 7.1530
                               3
## 1864 6.7621
                 0 6.7621
                               4
## 1865 -6.1870
                 0 6.1870
                               5
## 1866
        5.6460
                 0 5.6460
                               6
                               7
## 1867
        4.8695
                 0 4.8695
                 0 4.8549
## 1868 -4.8549
                               8
                               9
## 1869 -3.8099
                 0 3.8099
## 1870 3.5363
                 0 3.5363
                              10
## 1871 2.9579 0 2.9579
```

```
## 1872 2.5381 0 2.5381
                              12
## 1873 -2.3966
                 0 2.3966
                              13
## 1874 -2.1888
                 0 2.1888
                              14
## 1875
        1.9662
                 0 1.9662
                              15
## 1876
        1.7578
                 0 1.7578
                              16
## 1877 -1.4554
                 0 1.4554
                              17
        0.8666
                 0 0.8666
## 1878
                              18
## 1879
        0.6532
                 0 0.6532
                              19
## 1880 -0.4169
                 0 0.4169
                              20
## 1881 -8.8371
                 0 8.8371
                               1
## 1882 7.3641
                 0 7.3641
                               2
## 1883 -7.0400
                 0 7.0400
                               3
## 1884 -6.5607
                 0 6.5607
                               4
## 1885 6.4728
                 0 6.4728
                               5
## 1886 -5.0869
                 0 5.0869
                               6
## 1887
         4.7413
                 0 4.7413
                               7
        4.4209
                 0 4.4209
## 1888
                               8
## 1889 -4.3447
                 0 4.3447
                               9
## 1890 3.9638
                 0 3.9638
                              10
## 1891
        3.7355
                 0 3.7355
                              11
## 1892 3.2777
                 0 3.2777
                              12
## 1893 -2.9320
                 0 2.9320
                              13
## 1894 2.5426
                 0 2.5426
                              14
## 1895 -1.6608
                 0 1.6608
                              15
## 1896 -1.5002
                 0 1.5002
                              16
## 1897 1.2829
                 0 1.2829
                              17
## 1898 -0.7895
                 0 0.7895
                              18
## 1899 -0.5335
                 0 0.5335
                              19
## 1900 0.3502
                 0 0.3502
                              20
## 1901 8.5969
                 0 8.5969
                               1
## 1902 -7.5465
                 0 7.5465
                               2
## 1903 -7.2118
                 0 7.2118
                               3
## 1904 -6.5381
                 0 6.5381
                               4
## 1905 6.4009
                 0 6.4009
                               5
## 1906
        6.0871
                 0 6.0871
                               6
## 1907 -5.1908
                               7
                 0 5.1908
## 1908 -4.7475
                 0 4.7475
                               8
## 1909 4.6483
                 0 4.6483
                               9
## 1910 4.0670
                 0 4.0670
                              10
## 1911 -3.3750
                 0 3.3750
                              11
## 1912 2.5262
                 0 2.5262
                              12
## 1913 -2.0730
                 0 2.0730
                              13
## 1914 2.0534
                 0 2.0534
                              14
## 1915 -1.9405
                 0 1.9405
                              15
## 1916 1.7210
                 0 1.7210
                              16
## 1917 1.5673
                 0 1.5673
                              17
## 1918 -1.0299
                 0 1.0299
                              18
## 1919 -0.6441
                 0 0.6441
                              19
## 1920 -0.1140
                 0 0.1140
                              20
## 1921 -7.7373
                 0 7.7373
                               1
## 1922 7.4348
                               2
                 0 7.4348
## 1923 -6.6363
                 0 6.6363
                               3
## 1924 6.0829
                 0 6.0829
                               4
## 1925 -5.6622 0 5.6622
                               5
```

```
## 1926 5.1726 0 5.1726
                               6
## 1927 -4.9887
                 0 4.9887
                               7
## 1928 3.8835
                 0 3.8835
                               8
## 1929 -3.8232
                 0 3.8232
                               9
## 1930 3.6958
                 0 3.6958
                              10
## 1931 -3.6916
                 0 3.6916
                              11
## 1932 3.1495
                 0 3.1495
                              12
## 1933 -2.7514
                 0 2.7514
                              13
## 1934 -2.5427
                 0 2.5427
                              14
## 1935 2.3593
                 0 2.3593
                              15
## 1936 -1.8833
                 0 1.8833
                              16
## 1937
        1.0604
                 0 1.0604
                              17
## 1938 -1.0053
                 0 1.0053
                              18
## 1939 0.7425
                 0 0.7425
                              19
## 1940 0.0802
                 0 0.0802
                              20
## 1941 -7.2573
                 0 7.2573
                               1
## 1942 7.2503
                 0 7.2503
                               2
## 1943 6.8275
                 0 6.8275
                               3
## 1944 -6.8067
                 0 6.8067
                               4
## 1945 -6.3291
                 0 6.3291
                               5
## 1946 -5.4352
                 0 5.4352
                               6
## 1947 5.1521
                 0 5.1521
                               7
## 1948 4.4244
                 0 4.4244
                               8
## 1949 -4.1806
                 0 4.1806
                               9
## 1950 4.1088
                 0 4.1088
                              10
## 1951
        3.5756
                 0 3.5756
                              11
## 1952
        3.0132
                 0 3.0132
                              12
## 1953 -2.7592
                 0 2.7592
                             13
## 1954 -2.0010
                 0 2.0010
                              14
## 1955 -1.6268
                 0 1.6268
                              15
## 1956
        1.3351
                 0 1.3351
                              16
## 1957
        1.2192
                 0 1.2192
                              17
## 1958 -0.8457
                 0 0.8457
                              18
## 1959
        0.7831
                 0 0.7831
                              19
## 1960
        0.3091
                 0 0.3091
                              20
## 1961 -8.6525
                 0 8.6525
                               1
## 1962 7.8912
                 0 7.8912
## 1963 7.6037
                 0 7.6037
                               3
## 1964 6.2764
                 0 6.2764
                               4
## 1965 -6.1020
                 0 6.1020
                               5
## 1966 4.6036
                 0 4.6036
                               6
## 1967 -4.5090
                 0 4.5090
                               7
## 1968 4.0229
                 0 4.0229
                               8
## 1969 -3.5714
                               9
                 0 3.5714
## 1970 -3.4026
                 0 3.4026
                              10
## 1971 -3.2387
                 0 3.2387
                              11
## 1972 2.7951
                 0 2.7951
                              12
## 1973 2.2694
                 0 2.2694
                              13
## 1974 2.2101
                 0 2.2101
                              14
## 1975 -1.7230
                 0 1.7230
                              15
## 1976 -1.4474
                 0 1.4474
                              16
## 1977 1.1504
                 0 1.1504
                              17
## 1978 -0.2665
                 0 0.2665
                              18
## 1979 0.2028 0 0.2028
                              19
```

```
## 1980 -0.1745 0 0.1745
## 1981 8.3352 0 8.3352
                             1
## 1982 -8.2608 0 8.2608
## 1983 -7.3927 0 7.3927
## 1984 -6.7884 0 6.7884
## 1985 6.1375 0 6.1375
## 1986 -5.5951 0 5.5951
## 1987 5.5575 0 5.5575
                             7
## 1988 4.5531 0 4.5531
                             8
## 1989 4.3928 0 4.3928
                             9
## 1990 -4.3097 0 4.3097
                            10
## 1991 3.3536 0 3.3536
                            11
## 1992 3.2100 0 3.2100
                            12
## 1993 -3.1422 0 3.1422
                            13
## 1994 -2.4998 0 2.4998
                            14
## 1995 -2.0213 0 2.0213
                            15
## 1996 1.6016 0 1.6016
                            16
## 1997 1.3269 0 1.3269
                            17
## 1998 -1.0836 0 1.0836
                            18
## 1999 0.6986 0 0.6986
                            19
## 2000 -0.0896 0 0.0896
                            20
disp_ens <- dispersion(norm_ens)</pre>
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
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## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
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## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```

```
mean(disp_ens$id_diff)
## [1] -0.007810684
# Find the eigenvalue dispersions for a given matrix
.dispersion_matrix2 <- function(P, pairs, sort_norms, norm_pow, digits = 4){</pre>
  eigenvalues <- spectrum(P, sort_norms = sort_norms) # Get the sorted eigenvalues of the matrix
 norm_fn <- function(x){(abs(x))^norm_pow} # Generate norm function to pass along as argument (Euclide
  disp <- purrr::map2_dfr(pairs[,1], pairs[,2], .resolve_dispersion, eigenvalues, norm_fn, digits) # Ev
  disp$normalized <- disp$id_diff / mean(disp$id_diff)</pre>
  disp
}
dispersion2 <- function(array, pairs = NA, sort_norms = T, norm_pow = 1){ #sortNorms? orderByNorms? pair
  digits <- 4 # Digits to round values to
  pairs <- .parsePairs(pairs, array) # Parse input and generate pair scheme (default NA), passing on ar
  # Array is a matrix; call function returning dispersion for singleton matrix
  if(class(array) == "matrix"){.dispersion_matrix2(array, pairs, sort_norms, norm_pow, digits)}
  # Array is an ensemble; recursively row binding each matrix's dispersions
  else if(class(array) == "list"){furrr::future_map_dfr(array, .dispersion_matrix2, pairs, sort_norms, :
#disp <- norm_ens %>% dispersion2(pairs = "consecutive")
#disp %>% dispersion.histogram("normalized", bins = 75)
# Currently impleneted with real eigenvalues in mind (symmetric real matrices)
normalized_dispersion <- function(array){</pre>
  disp <- array %>% dispersion2(pairs = "consecutive")
  disp %>% dispersion.histogram("normalized", bins = 75)
}
t0 <- Sys.time()
RME_beta(N = 100, beta = 2, size = 100) %>% spectrum_parallel()
##
               Re Im
                        Norm Order
## 1
          19.2700 0 19.2700
## 2
         -19.1009 0 19.1009
                                 2
## 3
        -18.3580 0 18.3580
                                 3
## 4
         18.3003 0 18.3003
                                 4
         -17.8273 0 17.8273
                                 5
## 5
## 6
         17.8098 0 17.8098
                                 6
                                 7
## 7
         17.1494 0 17.1494
## 8
        -16.9737 0 16.9737
                                 8
## 9
         -16.4953 0 16.4953
                                 9
## 10
         16.4517 0 16.4517
                                10
## 11
         15.8994 0 15.8994
                                11
## 12
         -15.7470 0 15.7470
                                12
## 13
         15.2966 0 15.2966
                                13
## 14
         -15.2373 0 15.2373
                                14
## 15
        -15.0439 0 15.0439
                                15
## 16
         14.9647 0 14.9647
                                16
## 17
         14.2896 0 14.2896
                                17
## 18
         -14.1835 0 14.1835
                                18
## 19
         13.8003 0 13.8003
                                19
         -13.7621 0 13.7621
## 20
                                20
```

```
## 21
           13.6466 0 13.6466
                                   21
## 22
         -13.4031 0 13.4031
                                   22
##
  23
         -13.2796
                    0 13.2796
                                   23
           13.0070
                    0 13.0070
## 24
                                   24
## 25
          12.6786
                    0 12.6786
                                   25
         -12.5559
                    0 12.5559
## 26
                                   26
          12.4063
                    0 12.4063
## 27
                                   27
         -12.0790
                    0 12.0790
## 28
                                   28
## 29
           11.7081
                    0 11.7081
                                   29
                    0 11.5646
##
  30
         -11.5646
                                   30
##
  31
          11.4590
                    0 11.4590
                                   31
         -11.3504
                    0 11.3504
##
  32
                                   32
##
  33
          11.0443
                    0 11.0443
                                   33
         -10.9984
                    0 10.9984
##
  34
                                   34
##
  35
           10.8833
                    0 10.8833
                                   35
##
   36
         -10.5069
                    0 10.5069
                                   36
##
           10.3604
                    0 10.3604
                                   37
  37
##
   38
          10.1375
                    0 10.1375
                                   38
##
  39
         -10.0956
                    0 10.0956
                                   39
## 40
           -9.8201
                    0
                       9.8201
                                   40
## 41
          -9.5135
                    0
                       9.5135
                                   41
## 42
           9.4433
                    0
                       9.4433
                                   42
                       9.2421
           9.2421
## 43
                    0
                                   43
           -8.9379
                    0
                       8.9379
                                   44
## 44
                       8.8046
## 45
           8.8046
                    0
                                   45
##
  46
           -8.5975
                    0
                       8.5975
                                   46
##
           -8.4241
                       8.4241
                                   47
  47
                    0
           8.4208
                    0
                       8.4208
## 48
                                   48
                       8.1792
## 49
           8.1792
                    0
                                   49
                       8.1691
## 50
           -8.1691
                    0
                                   50
## 51
           8.0082
                    0
                       8.0082
                                   51
## 52
          -7.8182
                    0
                       7.8182
                                   52
## 53
           7.6812
                       7.6812
                                   53
           -7.3805
                       7.3805
## 54
                    0
                                   54
## 55
           -7.2891
                    0
                       7.2891
                                   55
## 56
           6.9670
                    0
                       6.9670
                                   56
## 57
           -6.7852
                    0
                        6.7852
                                   57
## 58
           6.7409
                    0
                       6.7409
                                   58
## 59
           -6.5903
                    0
                       6.5903
                                   59
## 60
          -6.3576
                    0
                       6.3576
                                   60
##
           6.3178
                    0
                       6.3178
  61
                                   61
##
  62
           6.1391
                    0
                       6.1391
                                   62
           -5.9371
                       5.9371
##
  63
                    0
                                   63
##
   64
           5.8231
                    0
                       5.8231
                                   64
           5.5220
                       5.5220
## 65
                    0
                                   65
                       5.4773
## 66
           -5.4773
                    0
                                   66
                       5.0924
## 67
           5.0924
                    0
                                   67
           -5.0617
                       5.0617
## 68
                    0
                                   68
                       4.7936
## 69
           -4.7936
                    0
                                   69
           4.6548
                       4.6548
## 70
                    0
                                   70
## 71
           -4.5577
                    0
                       4.5577
                                   71
                    0
                        4.4665
## 72
           4.4665
                                   72
## 73
           4.3521
                    0
                        4.3521
                                   73
                       4.3340
## 74
           -4.3340 0
                                   74
```

```
## 75
           3.9877
                    0
                       3.9877
                                   75
## 76
                    0
                       3.9545
                                   76
          -3.9545
           3.7451
##
  77
                    0
                       3.7451
                                   77
                       3.6849
           3.6849
                                   78
## 78
                    0
##
  79
          -3.5514
                    0
                       3.5514
                                   79
          -3.3254
                    0
                       3.3254
## 80
                                   80
          -3.1716
                    0
                        3.1716
## 81
                                   81
                       2.8727
## 82
           2.8727
                    0
                                   82
## 83
          -2.6269
                    0
                       2.6269
                                   83
           2.5096
##
  84
                    0
                       2.5096
                                   84
## 85
           2.3194
                    0
                       2.3194
                                   85
           2.2220
                       2.2220
## 86
                    0
                                   86
##
  87
          -2.1638
                    0
                       2.1638
                                   87
                       1.9238
## 88
          -1.9238
                    0
                                   88
## 89
          -1.8367
                       1.8367
                    0
                                   89
## 90
           1.5857
                    0
                        1.5857
                                   90
           1.4749
                       1.4749
## 91
                    0
                                   91
##
  92
          -1.3880
                    0
                       1.3880
                                   92
           1.2200
                       1.2200
## 93
                    0
                                   93
## 94
          -1.1033
                    0
                       1.1033
                                   94
## 95
          -0.8809
                    0
                       0.8809
                                   95
## 96
           0.7191
                    0
                       0.7191
                                   96
          -0.5617
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                       0.5617
## 97
                                   97
## 98
           0.4843
                    0
                       0.4843
                                   98
          -0.2843
## 99
                    0
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## 100
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## 101
          19.4013
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         -19.0956
                    0 19.0956
                                    2
## 102
## 103
         -18.6609
                    0 18.6609
                                    3
## 104
          18.4401
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## 105
          17.8701
                    0 17.8701
                                    5
## 106
         -17.6903
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                                    7
## 107
          17.1912
                    0 17.1912
## 108
         -17.0185
                    0 17.0185
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## 109
          16.4090
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## 110
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## 111
          15.6417
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## 112
         -15.5083
                    0 15.5083
                                   12
## 113
         -15.2984
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          14.9193
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## 114
                                   14
         -14.6888
                    0 14.6888
## 115
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## 116
          14.6234
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         -14.3412
                    0 14.3412
## 117
                                   17
                    0 14.2762
## 118
          14.2762
                                   18
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## 119
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## 120
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## 121
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## 122
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                                   22
                    0 13.6160
## 123
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                                   24
## 125
         -13.0777
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                                   25
                    0 12.6944
## 126
         -12.6944
                                   26
## 127
          12.6790
                    0 12.6790
                                   27
          12.4198 0 12.4198
## 128
                                   28
```

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-12.1629 0 12.1629
## 129
                                  29
## 130
         -11.8046
                   0 11.8046
                                  30
                   0 11.6936
## 131
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                                  31
## 132
         -11.3611
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                                  32
## 133
          11.1574
                    0 11.1574
                                  33
         -10.8947
                    0 10.8947
## 134
                                  34
          10.8874
                    0 10.8874
## 135
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## 136
         -10.5638
                    0 10.5638
                                  36
## 137
          10.4168
                    0 10.4168
                                  37
## 138
         -10.3770
                    0 10.3770
                                  38
## 139
         -10.1413
                    0 10.1413
                                  39
          -9.8153
                       9.8153
## 140
                    0
                                  40
                       9.6752
## 141
           9.6752
                    0
                                  41
                       9.6176
## 142
          -9.6176
                    0
                                  42
## 143
           9.3949
                    0
                       9.3949
                                  43
## 144
           9.1445
                    0
                       9.1445
                                  44
## 145
           8.9708
                    0
                       8.9708
                                  45
##
  146
          -8.9649
                    0
                       8.9649
                                  46
## 147
          -8.7203
                       8.7203
                                  47
                    0
                       8.5496
##
  148
           8.5496
                    0
                                  48
## 149
          -8.3283
                    0
                       8.3283
                                  49
## 150
           8.2466
                    0
                       8.2466
                                  50
           7.9978
                       7.9978
## 151
                    0
                                  51
## 152
          -7.8314
                    0
                       7.8314
                                  52
          -7.6904
                       7.6904
## 153
                    0
                                  53
## 154
           7.5865
                    0
                       7.5865
                                  54
  155
          -7.2737
                       7.2737
                                  55
##
                    0
           7.0869
                       7.0869
##
  156
                    0
                                  56
## 157
          -6.9307
                    0
                       6.9307
                                  57
                       6.7542
## 158
           6.7542
                    0
                                  58
## 159
          -6.5901
                    0
                       6.5901
                                  59
## 160
           6.4687
                    0
                       6.4687
                                  60
           6.0854
##
  161
                       6.0854
                                  61
          -6.0047
                       6.0047
## 162
                    0
                                  62
##
  163
          -5.7754
                    0
                       5.7754
                                  63
           5.7350
                    0
                       5.7350
## 164
                                  64
## 165
          -5.5715
                    0
                       5.5715
                                  65
## 166
           5.5714
                    0
                       5.5714
                                  66
## 167
           5.2059
                    0
                       5.2059
                                  67
## 168
          -4.9384
                    0
                       4.9384
                                  68
           4.8132
                    0
                       4.8132
## 169
                                  69
## 170
          -4.7914
                       4.7914
                                  70
                    0
           4.4525
                       4.4525
## 171
                    0
                                  71
                       4.3632
## 172
          -4.3632
                    0
                                  72
          -4.1893
                       4.1893
## 173
                    0
                                  73
                       4.0532
## 174
           4.0532
                    0
                                  74
                       3.9545
## 175
          -3.9545
                    0
                                  75
## 176
           3.6832
                       3.6832
                                  76
                    0
## 177
          -3.5922
                    0
                       3.5922
                                  77
##
  178
           -3.4139
                    0
                       3.4139
                                  78
## 179
           3.3173
                    0
                       3.3173
                                  79
## 180
           3.2320
                    0
                       3.2320
                                  80
## 181
           3.0615
                    0
                       3.0615
                                  81
## 182
          -2.7818 0
                       2.7818
                                  82
```

```
## 183
           2.7436
                    0
                       2.7436
                                  83
## 184
                    0
                       2.5860
          -2.5860
                                  84
## 185
          -2.3755
                    0
                       2.3755
                                  85
  186
           2.3558
                       2.3558
##
                    0
                                  86
##
  187
          -2.0766
                    0
                       2.0766
                                  87
           1.9079
                       1.9079
## 188
                    0
                                  88
          -1.8025
                       1.8025
## 189
                    0
                                  89
## 190
            1.6255
                    0
                       1.6255
                                  90
## 191
           1.5785
                    0
                       1.5785
                                  91
## 192
          -1.3675
                    0
                       1.3675
                                  92
##
  193
          -1.2903
                    0
                       1.2903
                                  93
  194
           1.1538
                       1.1538
##
                    0
                                  94
##
  195
          -0.9367
                    0
                       0.9367
                                  95
           0.7014
                       0.7014
## 196
                    0
                                  96
## 197
          -0.5186
                    0
                       0.5186
                                  97
##
  198
           0.4038
                    0
                       0.4038
                                  98
## 199
           0.2308
                       0.2308
                    0
                                  99
##
  200
          -0.1968
                    0
                       0.1968
                                 100
          20.1955
                    0 20.1955
## 201
                                    1
## 202
         -19.8789
                    0 19.8789
                                    2
## 203
         -19.3388
                    0 19.3388
                                   3
## 204
          18.9276
                    0 18.9276
                                    4
          18.1459
                    0 18.1459
## 205
                                    5
         -17.5918
                    0 17.5918
                                    6
## 206
                    0 17.1648
                                   7
## 207
          17.1648
## 208
         -17.0728
                    0 17.0728
                                   8
  209
          16.5995
                    0 16.5995
                                   9
##
         -16.3352
## 210
                    0 16.3352
                                  10
## 211
         -16.2553
                    0 16.2553
                                  11
## 212
          16.1713
                    0 16.1713
                                  12
## 213
         -15.7888
                    0 15.7888
                                  13
## 214
          15.7093
                    0 15.7093
                                  14
## 215
         -15.1270
                    0 15.1270
                                  15
          15.0398
                    0 15.0398
## 216
                                  16
## 217
          14.7474
                    0 14.7474
                                  17
         -14.5293
                    0 14.5293
## 218
                                  18
## 219
          14.4711
                    0 14.4711
                                  19
## 220
         -14.3215
                    0 14.3215
                                  20
## 221
          14.1017
                    0 14.1017
                                  21
         -13.6244
                    0 13.6244
                                  22
## 222
## 223
          13.5852
                   0 13.5852
                                  23
  224
         -13.4768
                    0 13.4768
##
                                  24
         -13.0368
## 225
                    0 13.0368
                                  25
## 226
          13.0213
                    0 13.0213
                                  26
         -12.7774
                    0 12.7774
## 227
                                  27
## 228
          12.4981
                    0 12.4981
                                  28
                    0 12.2522
## 229
         -12.2522
                                  29
         -11.7458
## 230
                    0 11.7458
                                  30
## 231
          11.6492
                    0 11.6492
                                  31
##
  232
          11.5263
                    0 11.5263
                                  32
                    0 11.4379
                                  33
## 233
         -11.4379
## 234
         -11.1939
                    0 11.1939
                                  34
## 235
          11.0443
                    0 11.0443
                                  35
          10.9159 0 10.9159
## 236
                                  36
```

```
-10.6658
## 237
                    0 10.6658
                                   37
                    0 10.3532
## 238
                                   38
         -10.3532
          10.1324
                    0 10.1324
##
  239
                                   39
         -10.1087
##
  240
                    0 10.1087
                                   40
## 241
           9.8969
                    0
                       9.8969
                                   41
           -9.7637
                    0
                       9.7637
                                   42
## 242
## 243
           9.6811
                    0
                       9.6811
                                   43
                       9.4448
## 244
           9.4448
                    0
                                   44
## 245
           -9.2219
                    0
                       9.2219
                                   45
                       9.0054
##
  246
          -9.0054
                    0
                                   46
##
  247
           8.9925
                    0
                       8.9925
                                   47
                       8.7241
   248
           8.7241
##
                    0
                                   48
                       8.6364
##
   249
           -8.6364
                    0
                                   49
  250
                       8.4221
##
           -8.4221
                    0
                                   50
## 251
           8.3341
                       8.3341
                    0
                                   51
##
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                    0
                       7.8637
                                   52
##
  253
          -7.7680
                    0
                       7.7680
                                   53
##
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           7.7156
                    0
                       7.7156
                                   54
##
  255
           -7.4305
                       7.4305
                    0
                                   55
##
   256
           7.3484
                    0
                       7.3484
                                   56
##
  257
           -7.3041
                    0
                       7.3041
                                   57
## 258
           7.1610
                    0
                       7.1610
                                   58
## 259
           -6.9613
                       6.9613
                    0
                                   59
## 260
           6.6761
                    0
                       6.6761
                                   60
                       6.4678
## 261
           6.4678
                    0
                                   61
##
  262
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                    0
                       6.4210
                                   62
##
  263
           6.3142
                       6.3142
                                   63
                    0
           -6.0746
                       6.0746
##
   264
                    0
                                   64
##
  265
           5.9226
                    0
                       5.9226
                                   65
                       5.5762
## 266
           -5.5762
                    0
                                   66
## 267
           -5.3868
                    0
                       5.3868
                                   67
## 268
           -5.3107
                    0
                       5.3107
                                   68
  269
##
           5.1883
                       5.1883
                                   69
  270
           5.0309
                       5.0309
##
                    0
                                   70
## 271
           4.7760
                    0
                        4.7760
                                   71
## 272
           -4.7503
                    0
                       4.7503
                                   72
## 273
           -4.4528
                    0
                        4.4528
                                   73
## 274
           4.4381
                    0
                        4.4381
                                   74
## 275
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                    0
                       4.0549
                                   75
## 276
           3.9399
                    0
                       3.9399
                                   76
## 277
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                    0
                       3.6266
                                   77
                       3.5943
  278
           3.5943
                                   78
##
                    0
           3.4190
                       3.4190
##
  279
                    0
                                   79
##
  280
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                    0
                       3.3254
                                   80
## 281
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                       3.1628
                    0
                                   81
                       3.0491
## 282
           -3.0491
                    0
                                   82
                       2.8290
## 283
           2.8290
                    0
                                   83
##
  284
           -2.6427
                       2.6427
                    0
                                   84
##
  285
           -2.4894
                    0
                       2.4894
                                   85
           2.2725
                        2.2725
##
   286
                    0
                                   86
  287
                    0
                       2.2690
                                   87
##
           -2.2690
## 288
            1.9255
                    0
                       1.9255
                                   88
## 289
           -1.8790
                    0
                       1.8790
                                   89
## 290
            1.7137 0
                       1.7137
                                   90
```

```
## 291
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                      1.5770
                                  91
## 292
                       1.4381
           1.4381
                    0
                                  92
  293
           1.2979
                    0
                       1.2979
                                  93
          -1.2081
  294
                       1.2081
##
                    0
                                  94
##
  295
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                    0
                       0.9129
                                  95
           0.8606
                    0
                       0.8606
##
  296
                                  96
          -0.7046
                    0
                       0.7046
## 297
                                  97
## 298
          -0.3829
                    0
                       0.3829
                                  98
##
  299
           0.2853
                    0
                       0.2853
                                  99
##
  300
          -0.0888
                    0
                       0.0888
                                  100
##
   301
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                    0 19.7446
                                   1
   302
         -19.2883
                    0 19.2883
                                    2
##
##
   303
          18.3558
                    0 18.3558
                                    3
                    0 18.2500
##
   304
         -18.2500
                                    4
  305
          18.0235
                    0 18.0235
                                    5
##
##
   306
         -17.7324
                    0 17.7324
                                    6
         -17.3973
                    0 17.3973
                                   7
## 307
##
   308
          17.3592
                    0 17.3592
                                   8
          17.1100
                    0 17.1100
                                   9
##
  309
## 310
         -16.4791
                    0 16.4791
                                  10
## 311
          16.3494
                    0 16.3494
                                  11
## 312
         -16.2099
                    0 16.2099
                                  12
                    0 15.9551
## 313
          15.9551
                                  13
         -15.7504
                    0 15.7504
## 314
                                  14
## 315
          15.1090
                    0 15.1090
                                  15
## 316
         -14.9483
                    0 14.9483
                                  16
  317
         -14.6905
                    0 14.6905
                                  17
##
##
  318
          14.4195
                    0 14.4195
                                  18
         -14.2978
                    0 14.2978
## 319
                                  19
## 320
          14.2691
                    0 14.2691
                                  20
## 321
         -13.7643
                    0 13.7643
                                  21
## 322
          13.6236
                    0 13.6236
                                  22
##
   323
         -13.3079
                    0 13.3079
                                  23
          12.9764
                    0 12.9764
##
  324
                                  24
##
   325
         -12.9400
                    0 12.9400
                                  25
          12.7996
                    0 12.7996
## 326
                                  26
## 327
         -12.5993
                    0 12.5993
                                  27
## 328
         -12.2668
                    0 12.2668
                                  28
## 329
          12.2448
                    0 12.2448
                                  29
         -11.9809
                    0 11.9809
## 330
                                  30
          11.8806
                    0 11.8806
##
  331
                                  31
   332
          11.5692
                    0 11.5692
##
                                  32
         -11.4176
##
   333
                    0 11.4176
                                  33
##
          11.2577
                    0 11.2577
                                  34
  334
         -10.8816
                    0 10.8816
##
  335
                                  35
## 336
          10.8418
                    0 10.8418
                                  36
## 337
         -10.6483
                    0 10.6483
                                  37
         -10.4835
## 338
                    0 10.4835
                                  38
##
  339
          10.3942
                    0 10.3942
                                  39
##
  340
         -10.0321
                    0 10.0321
                                  40
                    0
                       9.9962
## 341
           9.9962
                                  41
## 342
           9.5888
                    0
                       9.5888
                                  42
## 343
          -9.5710
                    0
                       9.5710
                                  43
                      9.3303
## 344
           9.3303 0
                                  44
```

```
## 345
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                    0
                        9.1695
                                   45
## 346
            8.9197
                    0
                        8.9197
                                   46
                        8.7412
##
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            8.7412
                    0
                                   47
           -8.6855
                        8.6855
##
  348
                    0
                                   48
##
   349
            8.6004
                    0
                        8.6004
                                   49
## 350
                    0
                        8.4627
           -8.4627
                                   50
## 351
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                    0
                        8.3279
                                   51
                        7.9685
## 352
            7.9685
                    0
                                   52
## 353
           -7.6253
                    0
                        7.6253
                                   53
  354
                        7.6069
##
            7.6069
                    0
                                   54
##
   355
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                    0
                        7.1550
                                   55
           -7.0090
   356
                        7.0090
##
                    0
                                   56
##
   357
            6.9515
                    0
                        6.9515
                                   57
   358
            6.7015
                        6.7015
##
                    0
                                   58
##
   359
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                        6.6194
                    0
                                   59
##
   360
            6.4181
                    0
                        6.4181
                                   60
##
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                    0
                        6.2028
                                   61
##
   362
            6.2021
                    0
                        6.2021
                                   62
  363
            6.0307
                        6.0307
##
                    0
                                   63
##
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           -6.0259
                    0
                        6.0259
                                   64
##
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           -5.8298
                    0
                        5.8298
                                   65
##
  366
            5.4565
                    0
                        5.4565
                                   66
           -5.2095
                        5.2095
## 367
                    0
                                   67
## 368
            5.1345
                    0
                        5.1345
                                   68
                        5.0266
## 369
           -5.0266
                    0
                                   69
##
  370
            4.8082
                    0
                        4.8082
                                   70
##
  371
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                        4.7876
                                   71
                    0
            4.3607
                        4.3607
                                   72
##
   372
                     0
                        4.2672
##
  373
           -4.2672
                    0
                                   73
                        4.0173
## 374
            4.0173
                    0
                                   74
## 375
           -3.9278
                    0
                        3.9278
                                   75
## 376
           -3.6908
                    0
                        3.6908
                                   76
            3.5664
                        3.5664
##
   377
                    0
                                   77
  378
            3.4144
                        3.4144
##
                    0
                                   78
##
   379
           -3.3665
                    0
                        3.3665
                                   79
## 380
            3.3039
                    0
                        3.3039
                                   80
## 381
           -3.1718
                    0
                        3.1718
                                   81
## 382
           -2.9096
                    0
                        2.9096
                                   82
## 383
            2.8975
                    0
                        2.8975
                                   83
##
  384
          -2.6966
                    0
                        2.6966
                                   84
##
   385
            2.6306
                        2.6306
                    0
                                   85
##
   386
           -2.3631
                        2.3631
                    0
                                   86
            2.2608
                        2.2608
##
   387
                    0
                                   87
##
   388
            2.0747
                     0
                        2.0747
                                   88
   389
           -2.0203
                        2.0203
##
                    0
                                   89
                        1.8037
## 390
            1.8037
                     0
                                   90
           -1.6850
                        1.6850
## 391
                    0
                                   91
##
   392
            1.2489
                        1.2489
                     0
                                   92
                        1.2009
                                   93
##
   393
           -1.2009
                    0
                        1.1509
##
   394
            1.1509
                    0
                                   94
   395
            0.8661
                        0.8661
                                   95
##
                     0
                    0
## 396
           -0.7968
                        0.7968
                                   96
## 397
            0.5965
                    0
                        0.5965
                                   97
## 398
           -0.4261
                    0
                        0.4261
                                   98
```

```
## 399
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                                  99
## 400
                                 100
           0.2650
                    0 0.2650
## 401
         -19.3461
                    0 19.3461
                                    1
## 402
          19.3143
                    0 19.3143
                                    2
## 403
          19.0966
                    0 19.0966
                                    3
                    0 18.2627
                                    4
## 404
         -18.2627
          18.0638
                    0 18.0638
## 405
                                    5
## 406
          17.6408
                    0 17.6408
                                    6
                    0 17.2705
## 407
         -17.2705
                                   7
                                   8
## 408
         -16.9001
                    0 16.9001
## 409
          16.8745
                    0 16.8745
                                   9
         -16.5890
                    0 16.5890
## 410
                                  10
## 411
          16.3697
                    0 16.3697
                                  11
## 412
         -15.5593
                    0 15.5593
                                  12
          15.5356
                    0 15.5356
## 413
                                  13
## 414
         -15.2830
                    0 15.2830
                                  14
                    0 15.0425
## 415
          15.0425
                                  15
## 416
         -14.7985
                    0 14.7985
                                  16
          14.6757
## 417
                    0 14.6757
                                  17
## 418
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                    0 14.2123
                                  18
## 419
          14.1655
                    0 14.1655
                                  19
## 420
         -13.9499
                    0 13.9499
                                  20
                    0 13.6205
## 421
         -13.6205
                                  21
                    0 13.5570
## 422
          13.5570
                                  22
## 423
         -13.1109
                    0 13.1109
                                  23
## 424
          13.0572
                    0 13.0572
                                  24
## 425
          12.8197
                    0 12.8197
                                  25
## 426
         -12.8148
                    0 12.8148
                                  26
                    0 12.1383
          12.1383
                                  27
## 427
## 428
         -12.1284
                    0 12.1284
                                  28
## 429
         -11.8618
                    0 11.8618
                                  29
## 430
          11.8062
                    0 11.8062
                                  30
## 431
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                    0 11.4408
                                  31
          11.4278
                    0 11.4278
## 432
                                  32
## 433
         -11.1561
                    0 11.1561
                                  33
                    0 11.0499
          11.0499
## 434
                                  34
## 435
         -11.0234
                    0 11.0234
                                  35
## 436
         -10.5046
                    0 10.5046
                                  36
## 437
          10.4469
                    0 10.4469
                                  37
         -10.3567
                    0 10.3567
## 438
                                  38
          10.2210
                    0 10.2210
## 439
                                  39
                       9.9036
          -9.9036
                    0
## 440
                                  40
                       9.7930
## 441
           9.7930
                    0
                                  41
## 442
           9.6008
                    0
                       9.6008
                                  42
          -9.3570
                       9.3570
## 443
                    0
                                  43
           9.2536
                    0
                       9.2536
## 444
                                  44
                       9.0587
## 445
           9.0587
                    0
                                  45
## 446
          -9.0417
                    0
                       9.0417
                                  46
## 447
          -8.8309
                    0
                       8.8309
                                  47
## 448
           8.6875
                    0
                       8.6875
                                  48
                    0
## 449
          -8.4424
                       8.4424
                                  49
                    0
## 450
           8.2910
                       8.2910
                                  50
## 451
          -8.2001
                    0
                       8.2001
                                  51
                      7.9923
## 452
          -7.9923
                   0
                                  52
```

```
## 453
           7.8779
                    0
                       7.8779
                                   53
## 454
                    0
                       7.7832
                                   54
          -7.7832
                       7.6408
##
  455
           7.6408
                    0
                                   55
           7.5491
                       7.5491
##
  456
                    0
                                   56
##
  457
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                    0
                       7.4888
                                   57
          -7.1376
                    0
                       7.1376
##
  458
                                   58
           7.0929
                    0
                       7.0929
## 459
                                   59
                       6.7211
## 460
           -6.7211
                    0
                                   60
## 461
           6.6116
                    0
                       6.6116
                                   61
                       6.2971
## 462
           6.2971
                    0
                                   62
## 463
           6.1503
                    0
                       6.1503
                                   63
           -6.1441
                       6.1441
##
   464
                    0
                                   64
##
   465
           -5.7341
                    0
                       5.7341
                                   65
                       5.6495
##
   466
           5.6495
                    0
                                   66
## 467
           -5.4630
                    0
                       5.4630
                                   67
## 468
           5.2706
                    0
                       5.2706
                                   68
## 469
           -5.2519
                    0
                       5.2519
                                   69
## 470
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                    0
                       5.0236
                                   70
           4.6877
                       4.6877
## 471
                    0
                                   71
                       4.5624
## 472
           -4.5624
                    0
                                   72
## 473
           4.4818
                    0
                        4.4818
                                  73
## 474
           -4.3629
                    0
                        4.3629
                                   74
           4.1743
                        4.1743
## 475
                    0
                                   75
## 476
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                    0
                       3.9487
                                   76
                       3.9481
## 477
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                    0
                                   77
## 478
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##
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                       3.4075
##
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                    0
##
                                   81
## 482
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                        3.1442
                                   82
## 483
           2.7776
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                        2.7776
                                   83
## 484
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                       2.7001
                                   84
           2.5898
                       2.5898
##
   485
                    0
                                   85
           -2.5692
                       2.5692
##
   486
                    0
                                   86
##
   487
           2.0594
                    0
                        2.0594
                                   87
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##
                                   88
## 489
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                        1.8575
                                   89
## 490
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                        1.5361
                                   90
## 491
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                       1.2680
                                   91
## 492
          -1.2391
                    0
                       1.2391
                                   92
##
  493
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                    0
                       1.1234
                                   93
##
   494
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                    0
                       0.9442
                                   94
           -0.8243
                       0.8243
##
  495
                    0
                                   95
##
  496
           0.7181
                    0
                       0.7181
                                   96
## 497
           -0.3418
                    0
                       0.3418
                                   97
                       0.2200
## 498
           0.2200
                    0
                                   98
                       0.1719
## 499
          -0.1719
                    0
                                   99
## 500
           -0.1075
                       0.1075
                                  100
                    0
## 501
           19.5055
                    0 19.5055
                                    1
                                    2
## 502
         -19.2469
                    0 19.2469
## 503
           18.5045
                    0 18.5045
                                    3
## 504
         -18.1953
                    0 18.1953
                                    4
## 505
           17.7124
                    0 17.7124
                                    5
## 506
         -17.6787 0 17.6787
                                    6
```

```
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                                   7
## 508
         -16.6921 0 16.6921
                                   8
                    0 16.5610
## 509
         -16.5610
                                   9
          16.4878
                    0 16.4878
## 510
                                  10
## 511
          15.9647
                    0 15.9647
                                  11
         -15.8574
                    0 15.8574
## 512
                                  12
         -15.5071
                    0 15.5071
## 513
                                  13
                    0 15.5030
## 514
          15.5030
                                  14
                    0 15.0835
## 515
         -15.0835
                                  15
## 516
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                    0 14.9206
                                  16
## 517
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                    0 14.4966
                                  17
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                    0 14.4177
## 518
                                  18
## 519
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## 520
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                    0 14.1278
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## 521
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                    0 13.7966
                                  21
## 522
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                    0 13.7344
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                   0 13.3936
                                  23
## 523
## 524
         -13.3759
                    0 13.3759
                                  24
         -12.8402
                   0 12.8402
## 525
                                  25
## 526
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                    0 12.7306
                                  26
## 527
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                    0 12.5426
                                  27
## 528
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## 529
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## 530
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                    0 11.6371
## 531
          11.6371
                                  31
## 532
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## 533
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                    0 11.1454
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         -10.9296
## 534
                    0 10.9296
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## 535
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                    0 10.8747
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## 536
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                    0 10.4979
                                  36
## 537
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                    0 10.4615
                                  37
## 538
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## 539
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                    0 10.1404
                                  39
          -9.9810
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## 540
                    0
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                       9.6953
## 541
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          -9.6841
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                       9.6841
## 542
                                  42
## 543
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                       9.5445
                                  43
## 544
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                    0
                       9.2618
                                  44
## 545
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                    0
                       8.8083
                                  45
## 546
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                    0
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                                  46
## 547
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                    0
                       8.7120
                                  47
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## 548
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                    0
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           8.0820
                       8.0820
## 549
                    0
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## 550
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                       7.9890
                                  50
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## 551
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                    0
                                  51
                       7.7117
## 552
           7.7117
                    0
                                  52
                       7.5483
## 553
          -7.5483
                    0
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## 554
                       7.1981
           7.1981
                    0
                                  54
## 555
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                       7.1500
                                  55
                       7.0152
## 556
           7.0152
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                                  56
                    0
                       6.8242
## 557
           6.8242
                                  57
## 558
          -6.7922
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## 559
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                       6.6087
                                  59
## 560
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                       6.4974
                                  60
```

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                                   62
           6.1414
                       6.1414
## 563
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           -5.7791
## 564
                       5.7791
                    0
                                   64
## 565
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                       5.6560
                                   65
           -5.5105
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## 566
                    0
                                   66
           5.5022
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                       5.5022
## 567
                                   67
## 568
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                       5.3369
                                   68
## 569
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                       5.2273
                                   69
## 570
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                                   70
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## 572
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                    0
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## 573
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## 575
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                                   76
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                       3.8116
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## 578
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                       3.4347
## 579
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                                   80
## 581
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                                   81
## 582
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                                   82
## 583
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                       2.7567
                    0
                                   83
## 584
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                    0
                       2.5470
                                   84
           2.4962
## 585
                    0
                       2.4962
                                   85
##
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                        2.4051
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                                   87
##
                    0
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                       1.8963
##
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                                   88
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                    0
                        1.7126
##
                                   89
                       1.5892
## 590
           1.5892
                    0
                                   90
## 591
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                        1.4025
                                   91
## 592
           1.2691
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                       1.2691
                                   92
##
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                       1.1506
                                   93
  594
           0.8635
                       0.8635
##
                                   94
                    0
##
  595
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                        0.6750
                                   95
## 596
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                    0
                       0.6404
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## 597
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                        0.4008
                                   97
## 598
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                                   98
## 599
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                    0
                       0.2130
                                   99
## 600
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                    0
                      0.0503
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                    0 18.8474
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                    0 18.8407
                                    2
##
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                    0 18.4263
##
  603
                                    3
                                    4
##
   604
         -18.1948
                    0 18.1948
          17.9095
                    0 17.9095
                                    5
## 605
                    0 17.4188
## 606
         -17.4188
                                    6
         -17.0538
                    0 17.0538
                                    7
## 607
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                    0 16.8402
                                    8
## 608
## 609
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                    0 16.6678
                                    9
## 610
           16.5217
                    0 16.5217
                                   10
                    0 16.3423
## 611
           16.3423
                                   11
## 612
         -16.1729
                    0 16.1729
                                   12
## 613
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                    0 15.4297
                                   13
## 614
         -15.2443 0 15.2443
                                   14
```

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## 615
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## 616
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                    0 14.8284
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## 617
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          14.4573
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## 618
                    0 14.4505
                                  18
## 619
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                    0 14.1665
                                  19
## 620
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                                  20
          13.6449
                    0 13.6449
## 621
                                  21
## 622
         -13.5745
                    0 13.5745
                                  22
## 623
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                    0 13.4224
                                  23
## 624
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                    0 13.1435
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## 625
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                    0 12.7721
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## 626
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## 627
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                                  27
                    0 12.3017
## 628
          12.3017
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## 629
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                    0 11.8017
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## 630
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## 631
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## 632
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                                  32
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                    0 11.0883
## 633
                                  33
##
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          11.0198
                    0 11.0198
                                  34
##
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          10.7973
                    0 10.7973
                                  35
## 636
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                    0 10.7475
                                  36
         -10.4665
                    0 10.4665
## 637
                                  37
         -10.1479
                    0 10.1479
## 638
                                  38
          10.1251
                    0 10.1251
## 639
                                  39
## 640
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                       9.7515
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## 641
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                       9.6445
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                                  41
          -9.6246
                       9.6246
##
  642
                    0
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           9.4618
                    0
                       9.4618
                                  43
## 643
                       9.3506
## 644
          -9.3506
                    0
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## 645
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                    0
                       9.0732
                                  45
## 646
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                    0
                       8.8110
                                  46
##
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                       8.6780
                                  47
           8.4358
                       8.4358
##
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                                  48
##
   649
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                       8.3365
                                  49
## 650
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## 651
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## 652
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                                  52
## 653
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                       7.7496
                                  53
## 654
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## 655
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## 656
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                       7.1556
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           7.0358
                       7.0358
##
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                       6.8697
##
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           6.6591
                       6.6591
## 659
                    0
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## 660
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                       6.3691
                                  60
                       6.3192
## 661
           6.3192
                    0
                                  61
## 662
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## 663
           6.0409
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                       6.0409
                                  63
##
   664
           -5.7749
                    0
                       5.7749
                                  64
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                       5.6864
##
                    0
                                  65
## 666
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                    0
                       5.4981
                                  66
## 667
           5.4420
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                       5.4420
                                  67
## 668
           5.2076 0
                       5.2076
                                  68
```

```
## 669
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                                  69
## 670
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                    0
                       4.9650
                                  70
## 671
          -4.8342
                    0
                       4.8342
                                  71
           4.6475
                       4.6475
## 672
                                  72
                    0
## 673
          -4.5755
                    0
                       4.5755
                                  73
           4.4402
                    0
                       4.4402
## 674
                                  74
          -4.1638
                    0
                       4.1638
## 675
                                  75
                       3.8636
## 676
           -3.8636
                    0
                                  76
## 677
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                    0
                       3.8254
                                  77
                       3.7071
## 678
          -3.7071
                    0
                                  78
## 679
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                    0
                       3.5723
                                  79
                       3.3465
## 680
          -3.3465
                    0
                                  80
## 681
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                       3.1164
                                  81
## 682
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                       3.0486
                    0
                                  82
## 683
           2.6538
                       2.6538
                    0
                                  83
## 684
          -2.6425
                    0
                       2.6425
                                  84
## 685
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                       2.4465
                    0
                                  85
##
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                    0
                       2.3805
                                  86
## 687
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                       2.1946
                    0
                                  87
## 688
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                    0
                       2.1446
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## 689
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                    0
                       1.7292
                                  89
## 690
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                       1.6132
                                  90
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                       1.4387
## 691
                    0
                                  91
## 692
           1.2650
                    0
                       1.2650
                                  92
                       1.1713
## 693
          -1.1713
                    0
                                  93
## 694
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                    0
                       1.0036
                                  94
##
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                       0.9796
                                  95
                    0
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           0.7714
                       0.7714
##
                    0
                                  96
                       0.6236
## 697
          -0.6236
                    0
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## 698
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                    0
                       0.4471
                                  98
## 699
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                    0
                       0.2948
                                  99
## 700
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                    0
                       0.1480
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## 701
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## 702
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                    0 18.6493
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## 703
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                    0 18.1287
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## 704
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                    0 18.0543
                                   4
## 705
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                                   5
## 706
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                    0 17.3404
                                   6
## 707
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                                   7
## 708
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                                   8
## 709
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                   0 16.8304
                                   9
## 710
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                    0 16.5297
                                  10
          16.1428
                    0 16.1428
## 711
                                  11
## 712
          15.6821
                    0 15.6821
                                  12
         -15.5147
                    0 15.5147
## 713
                                  13
## 714
          15.3921
                    0 15.3921
                                  14
         -15.2957
                    0 15.2957
## 715
                                  15
         -14.6405
                    0 14.6405
## 716
                                  16
## 717
          14.5375
                    0 14.5375
                                  17
         -14.1635
                    0 14.1635
## 718
                                  18
## 719
         -14.0186
                    0 14.0186
                                  19
                    0 14.0082
## 720
          14.0082
                                  20
## 721
          13.7660
                    0 13.7660
                                  21
## 722
         -13.5899 0 13.5899
                                  22
```

```
## 723
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                                   23
## 724
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                    0 13.1990
                                   24
  725
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                    0 13.0098
                                   25
  726
         -12.6722
                    0 12.6722
                                   26
##
##
  727
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                    0 12.4124
                                   27
  728
          12.4044
                    0 12.4044
##
                                   28
         -12.0492
                    0 12.0492
##
  729
                                   29
                    0 11.8824
## 730
          11.8824
                                   30
## 731
         -11.5223
                    0 11.5223
                                   31
## 732
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                    0 11.4967
                                   32
                    0 11.1264
##
  733
          11.1264
                                   33
  734
         -11.0057
                    0 11.0057
##
                                   34
##
  735
          10.8565
                    0 10.8565
                                   35
                    0 10.5308
##
  736
         -10.5308
                                   36
## 737
          10.4285
                    0 10.4285
                                   37
## 738
         -10.2387
                    0 10.2387
                                   38
## 739
                    0 10.1721
                                   39
          10.1721
                       9.9070
##
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  741
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                       9.8906
##
                    0
                                   41
                       9.5807
##
  742
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## 743
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                       9.5001
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## 744
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                                   44
## 745
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## 746
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                       9.0430
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## 747
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                       8.8875
                                   47
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##
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                       8.3893
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##
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##
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                                   51
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## 752
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                    0
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## 753
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                       7.5153
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##
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                    0
                       7.4798
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                       7.2491
##
                    0
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  756
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                       7.0862
##
                    0
                                   56
##
  757
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                    0
                       7.0720
                                   57
## 758
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                       6.7654
           6.7654
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## 759
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                    0
                        6.4984
                                   59
## 760
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## 761
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                    0
                       6.2796
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## 762
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##
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  764
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                       5.7753
##
                    0
                                   64
           5.5668
                       5.5668
##
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                       5.4714
##
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                                   66
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                       5.2760
## 767
                                   67
                       5.1483
## 768
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## 769
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## 770
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##
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                        4.6073
                                   71
##
  772
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                                   72
           4.4194
                    0
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                                   73
## 773
## 774
            4.1819
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                        4.1819
                                   74
## 775
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                    0
                       3.9980
                                   75
## 776
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           3.8928
                    0
                                   76
```

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## 777
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                    0
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                                  77
## 778
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                       3.6096
                                  78
## 779
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                    0
                       3.5876
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## 782
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                       3.0076
                                  82
## 783
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## 784
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## 785
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## 786
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##
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                       1.8855
##
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##
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                                  89
## 790
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## 791
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## 792
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## 793
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##
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##
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##
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##
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## 803
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          17.9989
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##
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##
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## 807
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## 809
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## 810
                                  10
## 811
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                    0 16.2381
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## 812
                                  12
## 813
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## 814
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## 815
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## 816
                                  16
## 817
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                                  17
## 818
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                                  18
## 819
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## 822
         -13.4127
                    0 13.4127
                                  22
                    0 13.1537
## 823
          13.1537
                                  23
         -12.8791
                    0 12.8791
## 824
                                  24
## 825
         -12.7507
                    0 12.7507
                                  25
          12.6652
                    0 12.6652
## 826
                                  26
          12.4277
                    0 12.4277
                                  27
## 827
                    0 12.3212
## 828
         -12.3212
                                  28
## 829
          12.0957
                    0 12.0957
                                  29
         -11.8327 0 11.8327
## 830
                                  30
```

```
## 831
           11.6827 0 11.6827
                                   31
                    0 11.5790
## 832
         -11.5790
                                   32
## 833
          11.2186
                    0 11.2186
                                   33
## 834
         -11.0590
                    0 11.0590
                                   34
##
  835
          10.7493
                    0 10.7493
                                   35
         -10.6700
                    0 10.6700
## 836
                                   36
           10.4011
                    0 10.4011
## 837
                                   37
                    0 10.2659
## 838
         -10.2659
                                   38
## 839
           -9.9095
                    0
                       9.9095
                                   39
## 840
           9.7633
                    0
                       9.7633
                                   40
## 841
           -9.6093
                    0
                       9.6093
                                   41
           9.5500
                       9.5500
##
  842
                    0
                                   42
##
   843
           -9.3108
                    0
                       9.3108
                                   43
           9.2858
                       9.2858
##
  844
                    0
                                   44
## 845
           -9.1235
                    0
                       9.1235
                                   45
## 846
           8.8439
                    0
                       8.8439
                                   46
           -8.6481
                       8.6481
                                   47
## 847
                    0
##
   848
           8.5417
                    0
                       8.5417
                                   48
           8.2615
                       8.2615
##
  849
                    0
                                   49
##
  850
           7.9037
                    0
                       7.9037
                                   50
##
  851
           -7.8107
                    0
                       7.8107
                                   51
##
  852
           -7.5829
                    0
                       7.5829
                                   52
## 853
           7.5797
                       7.5797
                    0
                                   53
## 854
           -7.3588
                    0
                       7.3588
                                   54
## 855
           7.1730
                    0
                       7.1730
                                   55
##
  856
           -6.9233
                    0
                       6.9233
                                   56
##
  857
           6.7891
                       6.7891
                                   57
                    0
           -6.5276
                       6.5276
##
   858
                    0
                                   58
  859
           6.4980
                    0
                        6.4980
                                   59
##
                        6.2077
## 860
           6.2077
                    0
                                   60
## 861
           -6.1822
                    0
                        6.1822
                                   61
## 862
           -6.0630
                    0
                       6.0630
                                   62
           -5.9546
                       5.9546
##
   863
                    0
                                   63
           5.7940
                       5.7940
##
  864
                    0
                                   64
                       5.5057
##
   865
           5.5057
                    0
                                   65
           -5.4447
                    0
                       5.4447
##
  866
                                   66
##
  867
           -5.2556
                    0
                       5.2556
                                   67
## 868
           5.1807
                    0
                       5.1807
                                   68
## 869
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                    0
                       4.9922
                                   69
## 870
           4.9332
                    0
                       4.9332
                                   70
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                    0
                       4.4865
## 871
                                   71
## 872
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                       4.4156
                                   72
                    0
           -4.3033
                       4.3033
## 873
                    0
                                   73
                        4.2663
## 874
           4.2663
                    0
                                   74
                       4.1140
                                   75
## 875
           4.1140
                    0
                       3.7617
## 876
           -3.7617
                    0
                                   76
           3.6435
                       3.6435
                                   77
## 877
                    0
## 878
           -3.5741
                       3.5741
                                   78
                    0
## 879
           3.5165
                    0
                       3.5165
                                   79
           3.3389
                       3.3389
##
   880
                    0
                                   80
   881
           -3.1699
                    0
                       3.1699
##
                                   81
                       3.0599
## 882
           -3.0599
                    0
                                   82
## 883
           2.9339
                    0
                       2.9339
                                   83
## 884
           2.8264
                    0
                       2.8264
                                   84
```

```
## 885
          -2.8159
                   0
                       2.8159
                                  85
                    0
                       2.3907
## 886
          -2.3907
                                  86
## 887
           2.2275
                    0
                       2.2275
                                  87
          -2.0014
                       2.0014
## 888
                    0
                                  88
##
  889
          -1.7936
                    0
                       1.7936
                                  89
          -1.6295
                    0
                       1.6295
## 890
                                  90
           1.6203
                    0
                       1.6203
## 891
                                  91
## 892
           1.4613
                    0
                       1.4613
                                  92
## 893
          -1.2281
                    0
                       1.2281
                                  93
## 894
           1.1489
                    0
                       1.1489
                                  94
##
  895
          -0.9248
                    0
                       0.9248
                                  95
  896
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                       0.9123
##
                    0
                                  96
##
   897
          -0.5462
                    0
                       0.5462
                                  97
                       0.5461
##
  898
           0.5461
                    0
                                  98
## 899
           0.3243
                    0
                       0.3243
                                  99
##
  900
          -0.0134
                    0
                       0.0134
                                 100
          19.6913
                    0 19.6913
## 901
                                    1
## 902
         -19.1074
                    0 19.1074
                                    2
          18.6695
                    0 18.6695
## 903
                                    3
## 904
         -18.4439
                    0 18.4439
                                    4
## 905
         -18.0214
                    0 18.0214
                                    5
## 906
          17.5094
                    0 17.5094
                                    6
         -17.5019
                    0 17.5019
                                    7
## 907
## 908
          16.6349
                    0 16.6349
                                    8
                                    9
## 909
         -16.6166
                    0 16.6166
## 910
          16.0209
                    0 16.0209
                                  10
## 911
         -15.9706
                    0 15.9706
                                  11
## 912
         -15.6919
                    0 15.6919
                                  12
## 913
          15.6286
                    0 15.6286
                                  13
## 914
          15.3457
                    0 15.3457
                                  14
## 915
         -15.2457
                    0 15.2457
                                  15
## 916
          14.9009
                    0 14.9009
                                  16
## 917
         -14.6187
                    0 14.6187
                                  17
          14.5595
                    0 14.5595
## 918
                                  18
## 919
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                    0 14.4061
                                  19
          13.9853
                    0 13.9853
## 920
                                  20
## 921
          13.6243
                    0 13.6243
                                  21
## 922
         -13.5068
                    0 13.5068
                                  22
## 923
         -13.2320
                    0 13.2320
                                  23
          13.2184
                    0 13.2184
## 924
                                  24
         -12.9431
                    0 12.9431
## 925
                                  25
## 926
          12.4206
                    0 12.4206
                                  26
          12.2136
## 927
                    0 12.2136
                                  27
## 928
         -12.1842
                    0 12.1842
                                  28
         -11.7385
                    0 11.7385
## 929
                                  29
## 930
          11.6946
                    0 11.6946
                                  30
## 931
         -11.6590
                    0 11.6590
                                  31
          11.5038
## 932
                    0 11.5038
                                  32
## 933
         -11.2895
                    0 11.2895
                                  33
## 934
          11.1500
                    0 11.1500
                                  34
## 935
         -10.9586
                    0 10.9586
                                  35
## 936
          10.7508
                    0 10.7508
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## 937
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                    0 10.4162
                                  37
          10.4029 0 10.4029
## 938
                                  38
```

```
## 939
         -10.1580
                    0 10.1580
                                   39
## 940
           10.1043
                    0 10.1043
                                   40
                        9.9790
## 941
           -9.9790
                    0
                                   41
           -9.7458
                        9.7458
## 942
                                   42
                    0
## 943
           -9.5107
                     0
                        9.5107
                                   43
            9.4537
                     0
                        9.4537
                                   44
##
  944
## 945
            9.3718
                    0
                        9.3718
                                   45
           -8.9789
                        8.9789
## 946
                    0
                                   46
## 947
            8.9020
                    0
                        8.9020
                                   47
                        8.4945
## 948
          -8.4945
                    0
                                   48
##
  949
            8.2109
                    0
                        8.2109
                                   49
                        8.1822
##
   950
           -8.1822
                    0
                                   50
                        8.0317
##
   951
            8.0317
                     0
                                   51
  952
                        7.6946
##
            7.6946
                     0
                                   52
## 953
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                     0
                        7.5527
                                   53
## 954
           -7.4546
                    0
                        7.4546
                                   54
## 955
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                        7.4228
                                   55
##
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                    0
                        7.1139
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                        7.0436
##
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##
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                    0
                        6.7419
                                   58
##
  959
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                    0
                        6.7006
                                   59
## 960
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                    0
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                                   60
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            6.3412
## 961
                    0
                                   61
## 962
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                    0
                        6.1965
                                   62
                        5.8371
           -5.8371
## 963
                    0
                                   63
##
  964
           -5.7029
                    0
                        5.7029
                                   64
##
  965
            5.6978
                        5.6978
                                   65
                    0
           -5.5517
                        5.5517
##
   966
                     0
                                   66
##
   967
            5.2674
                     0
                        5.2674
                                   67
## 968
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                     0
                        5.1501
                                   68
## 969
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                    0
                        5.0782
                                   69
## 970
            4.9447
                    0
                        4.9447
                                   70
            4.7727
                        4.7727
## 971
                                   71
           -4.4476
                        4.4476
                                   72
## 972
                    0
                        4.3679
##
  973
            4.3679
                     0
                                   73
## 974
           -4.3292
                    0
                        4.3292
                                   74
## 975
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                    0
                        4.0344
                                   75
## 976
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                     0
                        3.9727
                                   76
## 977
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                    0
                        3.8647
                                   77
## 978
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                    0
                        3.5984
                                   78
## 979
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                    0
                        3.4072
                                   79
##
  980
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                    0
                        3.2597
                                   80
            3.2285
                        3.2285
##
   981
                    0
                                   81
            3.0290
                        3.0290
##
  982
                    0
                                   82
## 983
           -3.0132
                    0
                        3.0132
                                   83
            2.6932
                        2.6932
## 984
                    0
                                   84
           -2.6542
                        2.6542
## 985
                    0
                                   85
  986
            2.3061
                        2.3061
##
                    0
                                   86
                        2.2966
##
  987
           -2.2966
                    0
                                   87
            2.0111
                        2.0111
##
   988
                     0
                                   88
   989
                    0
                        1.9669
##
          -1.9669
                                   89
## 990
           -1.8706
                    0
                        1.8706
                                   90
## 991
            1.7444
                    0
                        1.7444
                                   91
## 992
           -1.6377
                   0
                       1.6377
                                   92
```

```
## 993
           1.4616
                   0
                      1.4616
                                  93
## 994
                    0
                       1.4373
          -1.4373
                                  94
## 995
           0.8226
                    0
                       0.8226
                                  95
          -0.6331
## 996
                       0.6331
                    0
                                  96
## 997
           0.4405
                    0
                       0.4405
                                  97
           0.3010
                    0
                       0.3010
## 998
                                  98
          -0.2681
                    0
                       0.2681
## 999
                                  99
          -0.1215
## 1000
                    0
                       0.1215
                                  100
## 1001
          19.4753
                    0 19.4753
                                   1
                                    2
## 1002
         -19.3660
                    0 19.3660
  1003
         -18.3767
                    0 18.3767
                                    3
   1004
          18.0748
                    0 18.0748
                                    4
##
  1005
                                    5
##
          17.2379
                    0 17.2379
  1006
                                    6
##
          16.8377
                    0 16.8377
## 1007
         -16.7605
                    0 16.7605
                                   7
  1008
         -16.6419
                    0 16.6419
                                   8
          16.3781
                    0 16.3781
                                   9
## 1009
  1010
         -16.1990
                    0 16.1990
                                  10
## 1011
          16.0242
                    0 16.0242
                                  11
## 1012
         -15.8813
                    0 15.8813
                                  12
## 1013
          15.4826
                    0 15.4826
                                  13
## 1014
         -15.2712
                    0 15.2712
                                  14
## 1015
          15.0830
                    0 15.0830
                                  15
## 1016
         -15.0549
                    0 15.0549
                                  16
## 1017
          14.4622
                    0 14.4622
                                  17
## 1018
          14.3165
                    0 14.3165
                                  18
## 1019
         -14.2759
                    0 14.2759
                                  19
## 1020
         -13.9873
                    0 13.9873
                                  20
## 1021
          13.6711
                    0 13.6711
                                  21
## 1022
         -13.3671
                    0 13.3671
                                  22
## 1023
          13.3339
                    0 13.3339
                                  23
## 1024
         -13.0009
                    0 13.0009
                                  24
  1025
          12.7064
                    0 12.7064
                                  25
  1026
         -12.5169
                    0 12.5169
##
                                  26
  1027
          12.4420
                    0 12.4420
                                  27
## 1028
         -11.9095
                    0 11.9095
                                  28
## 1029
          11.8848
                    0 11.8848
                                  29
## 1030
         -11.7147
                    0 11.7147
                                  30
## 1031
         -11.6158
                    0 11.6158
                                  31
## 1032
          11.5565
                    0 11.5565
                                  32
## 1033
          11.2176
                    0 11.2176
                                  33
## 1034
         -11.1550
                    0 11.1550
                                  34
          11.0231
##
  1035
                    0 11.0231
                                  35
##
  1036
         -10.8661
                    0 10.8661
                                  36
          10.5573
                    0 10.5573
## 1037
                                  37
## 1038
         -10.3515
                    0 10.3515
                                  38
## 1039
         -10.2244
                    0 10.2244
                                  39
          10.0324
                    0 10.0324
## 1040
                                  40
## 1041
           9.9523
                    0
                       9.9523
                                  41
                       9.8087
##
  1042
          -9.8087
                    0
                                  42
## 1043
           9.5196
                    0
                       9.5196
                                  43
## 1044
          -9.4283
                    0
                       9.4283
                                  44
## 1045
           -9.2734
                    0
                       9.2734
                                  45
                       9.0824
## 1046
           9.0824
                   0
                                  46
```

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## 1047
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                    0
                        8.9388
                                   47
## 1048
           -8.8629
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                        8.8629
                                   48
                        8.5983
  1049
            8.5983
                     0
                                   49
  1050
           -8.3278
                        8.3278
##
                     0
                                   50
##
   1051
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                     0
                        8.0599
                                   51
## 1052
           -8.0535
                        8.0535
                     0
                                   52
## 1053
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                        7.8863
                                   53
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                        7.6401
## 1054
                     0
                                   54
## 1055
            7.3225
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                        7.3225
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##
  1056
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                     0
                        7.0831
                                   56
##
   1057
            7.0829
                     0
                        7.0829
                                   57
   1058
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                        6.8748
##
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                        6.7435
##
   1059
           -6.7435
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                        6.6378
##
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## 1061
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                        6.4128
                                   61
##
  1062
           -6.2543
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  1063
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                        6.1295
                                   63
##
                     0
##
   1064
           -5.9560
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                        5.9560
                                   64
  1065
            5.9458
                        5.9458
##
                                   65
                     0
##
   1066
           -5.6860
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                        5.6860
                                   66
##
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                        5.6326
                                   67
## 1068
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                                   68
## 1069
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                        5.1016
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## 1070
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## 1071
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## 1072
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                        4.2415
                                   73
##
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                                   74
##
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                                   75
## 1075
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                        3.9436
## 1076
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## 1077
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                        3.7143
                                   77
## 1078
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                        3.4196
##
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##
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##
   1081
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                     0
                        3.1078
                                   81
## 1082
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                     0
                        3.0315
                                   82
## 1083
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                     0
                        2.9394
                                   83
## 1084
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                        2.6778
                                   84
## 1085
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                        2.3203
                                   85
## 1086
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                        2.2250
                                   86
  1087
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                        2.0560
##
                     0
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   1088
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                        2.0137
##
                                   88
   1089
            1.7637
                        1.7637
##
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  1090
                        1.5772
##
            1.5772
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## 1091
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                        1.4805
                     0
                                   91
                        1.2646
## 1092
           -1.2646
                     0
                                   92
                        1.0910
## 1093
            1.0910
                     0
                                   93
   1094
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                        1.0350
##
                     0
                                   94
                                   95
##
   1095
            0.6813
                     0
                        0.6813
           -0.3999
                        0.3999
##
   1096
                     0
                                   96
  1097
            0.3247
                     0
                        0.3247
                                   97
##
            0.2220
                     0
                        0.2220
## 1098
                                   98
## 1099
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                        0.1918
                                   99
## 1100
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                        0.1171
                                  100
```

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                    0 19.5389
                                   1
## 1102
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                    0 18.9569
                                   2
## 1103
          18.3928
                    0 18.3928
                                   3
## 1104
         -18.2418
                    0 18.2418
                                   4
## 1105
         -17.5535
                    0 17.5535
                                   5
## 1106
          17.2303
                    0 17.2303
                                   6
## 1107
         -16.8204
                    0 16.8204
                                   7
## 1108
          16.7665
                    0 16.7665
                                   8
## 1109
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                    0 16.4661
                                   9
## 1110
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                                  10
## 1111
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## 1112
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                                  12
## 1113
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## 1114
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                    0 15.2192
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## 1115
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                    0 14.8300
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## 1116
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                    0 14.4957
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                    0 14.4366
## 1117
                                  17
## 1118
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                    0 14.2400
                                  18
## 1119
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                    0 14.1335
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## 1120
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## 1121
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                    0 13.4063
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## 1122
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## 1123
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## 1124
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## 1125
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## 1126
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## 1127
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## 1129
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## 1130
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## 1131
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## 1132
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## 1133
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## 1134
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## 1135
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## 1136
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## 1137
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## 1138
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                                  38
## 1139
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                    0
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## 1140
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                    0
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## 1141
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## 1142
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                       9.1782
## 1143
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## 1144
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                       9.0993
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## 1145
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## 1146
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                       8.4585
## 1147
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           8.4536
                       8.4536
## 1148
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## 1149
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## 1150
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## 1151
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                    0
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## 1152
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## 1153
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                   0 7.4120
## 1154
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```

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## 1158
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## 1160
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## 1164
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            5.4963
##
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                                   66
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## 1167
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## 1169
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## 1171
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## 1173
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## 1174
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##
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## 1188
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## 1192
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                        0.9100
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## 1195
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                        0.7223
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## 1197
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                    0
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## 1198
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                        0.2884
                                   98
## 1199
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## 1200
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                        0.0268
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## 1201
                    0 18.7165
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                    0 18.7072
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##
##
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                    0 18.1025
                                    3
           17.8546
##
   1204
                    0 17.8546
                                    4
## 1205
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                                    5
                    0 17.4426
                                    6
## 1206
           17.4426
## 1207
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           16.5854 0 16.5854
## 1208
                                    8
```

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## 1210
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          16.3576
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                    0 15.1349
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## 1215
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## 1216
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## 1218
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## 1219
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## 1223
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## 1227
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## 1228
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## 1229
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## 1230
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                    0 11.1744
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## 1237
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## 1238
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## 1239
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## 1240
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## 1244
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## 1247
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## 1255
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## 1256
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                       6.3676
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## 1262
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                       6.1582
                                  62
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                       5.9920
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           5.7768
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                       5.7166
## 1265
           -5.7166
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                                   65
## 1266
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                       5.5461
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## 1267
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                       5.4041
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## 1268
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           5.1768
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           -4.3958
## 1272
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                       4.2800
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## 1274
           4.1400
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## 1275
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## 1276
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## 1278
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## 1283
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## 1284
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                        2.6897
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## 1285
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## 1287
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## 1290
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## 1291
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                                   91
                       1.3510
## 1292
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## 1293
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                        1.1849
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## 1294
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  1295
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                        0.8213
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##
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## 1298
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                    0 19.2221
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## 1303
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##
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##
                    0 17.6881
  1306
                                    6
##
           17.3893
                    0 17.3893
## 1307
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## 1308
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## 1309
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                    0 16.4248
## 1310
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## 1311
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                    0 16.1014
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## 1312
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## 1313
           15.6582
                    0 15.6582
                                   13
## 1314
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                    0 15.5819
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## 1315
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                    0 15.0524
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## 1316
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                                   16
```

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## 1317
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                    0 14.8925
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                    0 14.5548
## 1318
           14.5548
                                   18
## 1319
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                    0 14.2872
                                   19
## 1320
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                    0 13.9946
                                   20
## 1321
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                    0 13.6698
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## 1322
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## 1323
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                    0 13.3480
                                   23
## 1324
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                    0 13.0618
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                    0 12.9408
## 1325
           12.9408
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## 1326
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   1328
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##
##
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##
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##
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## 1333
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##
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##
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## 1337
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## 1338
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## 1339
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## 1345
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## 1346
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## 1347
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## 1348
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                        8.1626
##
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##
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                                   51
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## 1355
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                        6.8433
##
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##
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## 1363
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##
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## 1367
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                    0
## 1368
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                        5.1939
                                   68
## 1369
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                        4.9492
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                        4.6904
## 1370
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```

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## 1374
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                       3.8791
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## 1376
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## 1377
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## 1378
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## 1380
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##
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## 1384
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## 1385
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##
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##
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##
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## 1391
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## 1408
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## 1409
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## 1410
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## 1411
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## 1412
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## 1413
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## 1414
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## 1415
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                    0 14.8820
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## 1416
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                    0 14.8816
                                   16
## 1417
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## 1418
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## 1419
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           13.8414
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## 1422
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## 1424
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## 1438
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## 1471
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## 1476
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                       3.7797
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## 1477
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                       3.6962
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## 1478
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                       3.6841
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```

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## 1529
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## 1530
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## 1532
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```

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## 1538
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## 1562
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## 1579
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##
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## 1584
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                        2.4383
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## 1585
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                        2.3761
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## 1586
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                        2.2236
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```

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##
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## 1594
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          17.7587
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##
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## 1616
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## 1618
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## 1620
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## 1623
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## 1624
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## 1630
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## 1632
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                                  32
## 1633
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## 1637
## 1638
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## 1639
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                                  39
## 1640
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```

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## 1643
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                        9.4236
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##
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##
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                        9.0910
                                   45
## 1646
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## 1647
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## 1648
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## 1649
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## 1671
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##
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##
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##
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## 1676
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## 1677
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## 1687
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##
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## 1692
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                                   92
## 1693
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## 1694
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                        0.8698
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```

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           0.6212
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## 1697
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                    0
                                  98
## 1699
          -0.1479
                    0
                       0.1479
                                  99
## 1700
           0.0172
                    0
                      0.0172
                                 100
         -18.8089
                    0 18.8089
## 1701
                                   1
## 1702
          18.7251
                    0 18.7251
                                   2
                    0 18.2215
## 1703
          18.2215
                                   3
                                   4
## 1704
         -18.1873
                    0 18.1873
## 1705
         -17.6742
                   0 17.6742
                                   5
## 1706
          17.3529
                    0 17.3529
                                   6
                                   7
## 1707
         -16.8394
                    0 16.8394
## 1708
          16.6307
                                   8
                    0 16.6307
## 1709
         -16.0405
                    0 16.0405
                                   9
## 1710
          15.9896
                    0 15.9896
                                  10
         -15.8143
                    0 15.8143
## 1711
                                  11
## 1712
         -15.4308
                    0 15.4308
                                  12
## 1713
          15.4308
                    0 15.4308
                                  13
## 1714
          14.9442
                    0 14.9442
                                  14
## 1715
         -14.8382
                    0 14.8382
                                  15
## 1716
          14.6696
                    0 14.6696
                                  16
         -14.5347
                    0 14.5347
## 1717
                                  17
## 1718
         -14.1347
                    0 14.1347
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## 1719
          14.0355
                    0 14.0355
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## 1720
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                    0 13.7642
                                  20
## 1721
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                    0 13.4254
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          13.0982
                    0 13.0982
## 1722
                                  22
## 1723
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                    0 12.8050
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## 1724
         -12.6379
                    0 12.6379
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## 1725
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## 1726
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## 1727
          12.2333
                    0 12.2333
                                  27
## 1728
         -12.1532
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                                  28
## 1729
         -11.7334
                    0 11.7334
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## 1730
          11.5419
                    0 11.5419
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## 1731
         -11.4336
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                                  31
## 1732
          11.1362
                    0 11.1362
                                  32
## 1733
         -11.0885
                    0 11.0885
                                  33
          11.0661
                    0 11.0661
## 1734
                                  34
## 1735
         -10.7461
                    0 10.7461
                                  35
## 1736
          10.6960
                    0 10.6960
                                  36
                    0 10.5445
## 1737
         -10.5445
                                  37
## 1738
          10.1106
                    0 10.1106
                                  38
                       9.7648
## 1739
           9.7648
                    0
                                  39
                       9.7019
## 1740
          -9.7019
                    0
                                  40
                       9.5488
## 1741
          -9.5488
                    0
                                  41
           9.5452
                       9.5452
## 1742
                    0
                                  42
## 1743
           9.0600
                    0
                       9.0600
                                  43
                       9.0189
## 1744
          -9.0189
                    0
                                  44
## 1745
           8.9550
                    0
                       8.9550
                                  45
## 1746
          -8.8533
                    0
                       8.8533
                                  46
## 1747
           8.6221
                    0
                       8.6221
                                  47
## 1748
          -8.4912 0
                       8.4912
                                  48
```

```
## 1749
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                    0
                       8.1375
                                   49
## 1750
                    0
                       8.0720
           8.0720
                                   50
## 1751
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                    0
                       7.8857
                                   51
## 1752
           7.6700
                       7.6700
                                   52
                    0
## 1753
           7.4847
                    0
                       7.4847
                                   53
## 1754
           -7.2665
                    0
                       7.2665
                                   54
## 1755
           -7.1820
                    0
                       7.1820
                                   55
                       7.0616
## 1756
           7.0616
                    0
                                   56
## 1757
           6.9816
                    0
                       6.9816
                                   57
                       6.7965
## 1758
           -6.7965
                    0
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## 1759
           -6.5136
                    0
                       6.5136
                                   59
  1760
           6.4111
                       6.4111
##
                    0
                                   60
## 1761
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                    0
                       6.1043
                                   61
## 1762
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                        6.0842
                    0
                                   62
## 1763
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                       5.8360
                                   63
                    0
## 1764
           5.6598
                    0
                       5.6598
                                   64
## 1765
           -5.5330
                       5.5330
                                   65
                    0
##
  1766
           -5.3788
                    0
                       5.3788
                                   66
## 1767
           5.3545
                       5.3545
                                   67
                    0
##
  1768
           5.1108
                    0
                       5.1108
                                   68
## 1769
           4.8327
                    0
                        4.8327
                                   69
## 1770
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                    0
                        4.7176
                                   70
                        4.4341
## 1771
           4.4341
                    0
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## 1772
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                       4.3622
                                   72
           -4.2700
                       4.2700
## 1773
                    0
                                   73
## 1774
           4.0636
                    0
                       4.0636
                                   74
  1775
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                       3.9246
                                   75
##
                    0
## 1776
           3.8110
                       3.8110
                                   76
                    0
## 1777
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                    0
                       3.5885
                                   77
                       3.5796
## 1778
           -3.5796
                    0
                                   78
## 1779
           -3.3111
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                       3.3111
                                   79
## 1780
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                    0
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                       2.9324
## 1781
           2.9324
                    0
                                   81
## 1782
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                       2.8764
                    0
                                   82
##
  1783
           2.6900
                    0
                        2.6900
                                   83
## 1784
           -2.6124
                    0
                       2.6124
                                   84
## 1785
           2.3051
                    0
                        2.3051
                                   85
## 1786
           -2.2033
                    0
                       2.2033
                                   86
## 1787
           2.0441
                    0
                       2.0441
                                   87
## 1788
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                    0
                       1.9186
                                   88
## 1789
           1.8896
                       1.8896
                    0
                                   89
## 1790
           -1.6320
                        1.6320
                    0
                                   90
## 1791
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                        1.4518
                    0
                                   91
                       1.4090
## 1792
           1.4090
                    0
                                   92
## 1793
           1.1080
                       1.1080
                    0
                                   93
                       1.0933
## 1794
           -1.0933
                    0
                                   94
                       0.9345
## 1795
           0.9345
                    0
                                   95
## 1796
           -0.6394
                       0.6394
                    0
                                   96
## 1797
           0.5985
                    0
                       0.5985
                                   97
  1798
           -0.3304
                       0.3304
##
                    0
                                   98
## 1799
           0.3171
                       0.3171
                                   99
                    0
           -0.0288
                    0
## 1800
                       0.0288
                                  100
## 1801
         -20.0506
                    0 20.0506
                                    1
## 1802
           19.6243 0 19.6243
                                    2
```

```
## 1803
         -18.8444 0 18.8444
                                   3
          18.3011
                   0 18.3011
                                   4
## 1804
                    0 17.6745
  1805
          17.6745
                                   5
  1806
         -17.4589
                    0 17.4589
                                   6
##
##
  1807
          17.1910
                    0 17.1910
                                   7
## 1808
         -16.9257
                    0 16.9257
                                   8
## 1809
          16.3104
                    0 16.3104
                                   9
## 1810
         -16.0742
                    0 16.0742
                                  10
## 1811
          15.9071
                    0 15.9071
                                  11
## 1812
         -15.7570
                    0 15.7570
                                  12
## 1813
          15.3217
                    0 15.3217
                                  13
## 1814
         -15.0263
                    0 15.0263
                                  14
## 1815
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                    0 14.8999
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## 1816
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                    0 14.6939
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## 1817
          14.1845
                    0 14.1845
                                  17
## 1818
         -14.0532
                    0 14.0532
                                  18
         -13.7507
                    0 13.7507
## 1819
                                  19
  1820
          13.6747
                    0 13.6747
                                  20
## 1821
          13.3003
                    0 13.3003
                                  21
##
  1822
         -13.2664
                    0 13.2664
                                  22
## 1823
         -13.0270
                    0 13.0270
                                  23
## 1824
          12.7480
                    0 12.7480
                                  24
## 1825
         -12.7304
                    0 12.7304
                                  25
## 1826
          12.6431
                    0 12.6431
                                  26
## 1827
         -12.1825
                    0 12.1825
                                  27
  1828
         -11.9869
                    0 11.9869
                                  28
  1829
          11.9380
                    0 11.9380
                                  29
##
  1830
          11.6431
##
                    0 11.6431
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## 1831
         -11.5083
                    0 11.5083
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## 1832
         -11.1803
                    0 11.1803
                                  32
## 1833
          11.1258
                    0 11.1258
                                  33
## 1834
          10.9807
                    0 10.9807
                                  34
   1835
         -10.7665
                    0 10.7665
                                  35
  1836
          10.5170
                    0 10.5170
##
                                  36
##
  1837
         -10.3311
                    0 10.3311
                                  37
## 1838
          10.0823
                    0 10.0823
                                  38
## 1839
          -9.8868
                    0
                       9.8868
                                  39
## 1840
           9.7903
                    0
                       9.7903
                                  40
## 1841
           9.6096
                    0
                       9.6096
                                  41
## 1842
          -9.4775
                    0
                       9.4775
                                  42
## 1843
           9.3220
                       9.3220
                    0
                                  43
  1844
          -9.1940
                       9.1940
##
                    0
                                  44
  1845
           8.8857
                       8.8857
##
                    0
                                  45
## 1846
          -8.6615
                    0
                       8.6615
                                  46
## 1847
           8.6533
                       8.6533
                    0
                                  47
## 1848
          -8.4079
                    0
                       8.4079
                                  48
## 1849
           8.1236
                    0
                       8.1236
                                  49
## 1850
          -8.0484
                       8.0484
                    0
                                  50
## 1851
           7.9713
                    0
                       7.9713
                                  51
   1852
##
          -7.7953
                    0
                       7.7953
                                  52
## 1853
           7.5685
                       7.5685
                    0
                                  53
## 1854
          -7.4355
                    0
                       7.4355
                                  54
## 1855
           7.1634
                    0
                       7.1634
                                  55
## 1856
          -6.9531 0
                       6.9531
                                  56
```

```
## 1857
            6.8915
                    0
                        6.8915
                                   57
## 1858
                    0
                        6.7813
           -6.7813
                                   58
##
  1859
            6.5788
                    0
                        6.5788
                                   59
                        6.2516
   1860
           -6.2516
##
                    0
                                   60
##
   1861
            6.1248
                    0
                        6.1248
                                   61
## 1862
           -6.0003
                    0
                        6.0003
                                   62
## 1863
            5.9488
                    0
                        5.9488
                                   63
## 1864
           -5.8269
                    0
                        5.8269
                                   64
## 1865
            5.7646
                    0
                        5.7646
                                   65
## 1866
           -5.4416
                    0
                        5.4416
                                   66
##
  1867
            4.9985
                    0
                        4.9985
                                   67
           -4.9094
                        4.9094
   1868
##
                     0
                                   68
                        4.7662
##
   1869
            4.7662
                    0
                                   69
           -4.7660
                        4.7660
## 1870
                     0
                                   70
## 1871
            4.6095
                        4.6095
                                   71
                    0
## 1872
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                    0
                        4.4019
                                   72
## 1873
            4.1954
                        4.1954
                                   73
                    0
##
  1874
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                        4.0707
                                   74
## 1875
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                                   75
##
   1876
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                    0
                        3.6053
                                   76
## 1877
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                        3.4802
                                   77
## 1878
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                        3.3097
                                   78
## 1879
            3.1645
                        3.1645
                    0
                                   79
## 1880
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                    0
                        2.9313
                                   80
## 1881
            2.7722
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                        2.7722
                                   81
## 1882
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                        2.7604
                                   82
   1883
            2.6672
                        2.6672
                                   83
##
                    0
   1884
           -2.4601
                        2.4601
##
                     0
                                   84
## 1885
            2.4555
                     0
                        2.4555
                                   85
                        2.2590
## 1886
           -2.2590
                    0
                                   86
##
  1887
            2.1122
                    0
                        2.1122
                                   87
##
   1888
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                    0
                        1.8800
                                   88
##
   1889
            1.8274
                    0
                        1.8274
                                   89
   1890
           -1.6228
                        1.6228
##
                    0
                                   90
##
   1891
            1.4594
                    0
                        1.4594
                                   91
## 1892
           -1.2513
                    0
                        1.2513
                                   92
## 1893
            1.2150
                    0
                        1.2150
                                   93
## 1894
           -1.0694
                    0
                        1.0694
                                   94
## 1895
            1.0017
                    0
                        1.0017
                                   95
## 1896
            0.7153
                    0
                        0.7153
                                   96
  1897
           -0.6546
                        0.6546
                                   97
##
                    0
   1898
            0.3886
                        0.3886
##
                    0
                                   98
   1899
           -0.3766
                        0.3766
##
                    0
                                   99
## 1900
            0.1290
                    0
                        0.1290
                                  100
## 1901
           19.4423
                    0 19.4423
                                    1
## 1902
         -18.9266
                    0 18.9266
                                    2
## 1903
           18.6880
                    0 18.6880
                                    3
   1904
         -18.3500
                                    4
##
                    0 18.3500
##
   1905
           18.1181
                    0 18.1181
                                    5
                                    6
##
   1906
          -17.5961
                    0 17.5961
                                    7
## 1907
           17.4853
                    0 17.4853
                                    8
## 1908
         -17.2804
                    0 17.2804
## 1909
           17.0774
                    0 17.0774
                                    9
## 1910
         -16.6332 0 16.6332
                                   10
```

```
## 1911
          16.2563
                   0 16.2563
                                  11
## 1912
                    0 15.8410
         -15.8410
                                  12
## 1913
          15.5484
                    0 15.5484
                                  13
## 1914
         -15.3538
                    0 15.3538
                                  14
## 1915
         -14.9520
                    0 14.9520
                                  15
          14.9168
                    0 14.9168
## 1916
                                  16
## 1917
         -14.6154
                    0 14.6154
                                  17
## 1918
          14.4769
                    0 14.4769
                                  18
                    0 14.2590
## 1919
         -14.2590
                                  19
## 1920
          14.2120
                    0 14.2120
                                  20
## 1921
          13.8882
                    0 13.8882
                                  21
## 1922
         -13.7235
                    0 13.7235
                                  22
## 1923
         -13.5337
                    0 13.5337
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## 1924
          13.4579
                    0 13.4579
                                  24
## 1925
         -12.9469
                    0 12.9469
                                  25
## 1926
          12.7190
                    0 12.7190
                                  26
         -12.6377
                    0 12.6377
                                  27
## 1927
## 1928
          12.3674
                    0 12.3674
                                  28
                    0 12.2200
## 1929
         -12.2200
                                  29
##
  1930
          12.0061
                    0 12.0061
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                    0 11.7933
## 1931
         -11.7933
                                  31
## 1932
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                    0 11.5974
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## 1933
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## 1934
         -11.2223
                    0 11.2223
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## 1935
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                    0 11.0278
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## 1936
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                                  36
  1937
         -10.6054
                    0 10.6054
                                  37
##
## 1938
          10.5299
                    0 10.5299
                                  38
## 1939
         -10.2292
                    0 10.2292
                                  39
## 1940
          10.1813
                    0 10.1813
                                  40
## 1941
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                    0 10.0196
                                  41
## 1942
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                       9.7752
                                  42
## 1943
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                    0
                       9.7290
                                  43
## 1944
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                       9.4708
                    0
                                  44
##
   1945
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                    0
                       9.0877
                                  45
## 1946
           9.0676
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                       9.0676
                                  46
## 1947
           8.7865
                    0
                       8.7865
                                  47
## 1948
           -8.6417
                    0
                       8.6417
                                  48
## 1949
           -8.4413
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                       8.4413
                                  49
## 1950
           8.3996
                    0
                       8.3996
                                  50
## 1951
           8.2305
                       8.2305
                    0
                                  51
  1952
           8.0374
                       8.0374
##
                    0
                                  52
## 1953
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                       8.0203
                    0
                                  53
## 1954
           7.6379
                    0
                       7.6379
                                  54
## 1955
                       7.5111
          -7.5111
                    0
                                  55
                       7.2381
## 1956
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                    0
                                  56
## 1957
           7.1461
                    0
                       7.1461
                                  57
  1958
          -6.9905
                       6.9905
##
                    0
                                  58
##
  1959
           6.7199
                    0
                       6.7199
                                  59
##
  1960
           -6.6790
                    0
                       6.6790
                                  60
## 1961
           6.3577
                    0
                       6.3577
                                  61
## 1962
           6.1549
                    0
                       6.1549
                                  62
## 1963
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                    0
                       6.1380
                                  63
## 1964
           -5.9483
                   0
                       5.9483
                                  64
```

```
## 1965
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                    0
                        5.8185
                                   65
## 1966
                    0
            5.6214
                        5.6214
                                   66
                        5.5168
## 1967
           -5.5168
                    0
                                   67
  1968
            5.1988
                        5.1988
##
                    0
                                   68
## 1969
           -5.1535
                    0
                        5.1535
                                   69
## 1970
            4.8110
                    0
                        4.8110
                                   70
## 1971
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                        4.5740
                                   71
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## 1972
                     0
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## 1973
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                        4.4328
                                   73
            4.2733
                        4.2733
## 1974
                     0
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## 1975
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                        4.0166
                                   75
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            3.9670
                                   76
##
                     0
## 1977
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                                   77
## 1978
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            3.4428
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## 1979
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                        3.4314
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## 1980
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                                   80
## 1981
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                        2.8683
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##
   1982
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  1983
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                        2.7578
##
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##
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            2.3831
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## 1985
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## 1986
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                        2.1801
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## 1987
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                                   88
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##
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## 1993
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                        1.2963
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                        1.0513
## 1994
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## 1995
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                                   95
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                                   87
## 2288
            1.9364
                    0
                       1.9364
                                   88
```

```
## 2289
          -1.7914 0 1.7914
                                  89
## 2290
           1.6019
                    0
                       1.6019
                                  90
                       1.3825
## 2291
          -1.3825
                    0
                                  91
## 2292
           1.3700
                       1.3700
                    0
                                  92
## 2293
          -1.0910
                    0
                       1.0910
                                  93
## 2294
           1.0453
                    0
                       1.0453
                                  94
## 2295
           0.8375
                    0
                       0.8375
                                  95
                       0.7526
## 2296
          -0.7526
                    0
                                  96
## 2297
           0.6871
                    0
                       0.6871
                                  97
##
  2298
          -0.5937
                    0
                       0.5937
                                  98
   2299
           0.2472
                    0
                       0.2472
                                  99
  2300
          -0.1214
                       0.1214
##
                    0
                                 100
##
  2301
         -20.2132
                    0 20.2132
                                   1
  2302
                                   2
##
          19.1319
                    0 19.1319
## 2303
         -18.2159
                    0 18.2159
                                   3
##
  2304
          18.1735
                    0 18.1735
                                   4
  2305
         -17.7383
                    0 17.7383
                                   5
##
   2306
         -17.5500
                    0 17.5500
                                   6
  2307
          17.4479
                    0 17.4479
                                   7
##
  2308
          16.8739
                    0 16.8739
                                   8
## 2309
         -16.7437
                    0 16.7437
                                   9
## 2310
         -16.3737
                    0 16.3737
                                  10
          16.1463
                    0 16.1463
## 2311
                                  11
## 2312
          15.8429
                    0 15.8429
                                  12
## 2313
         -15.5078
                   0 15.5078
                                  13
## 2314
         -15.2018
                    0 15.2018
                                  14
  2315
          15.0520
                    0 15.0520
##
                                  15
## 2316
          14.8291
                    0 14.8291
                                  16
## 2317
          14.4235
                    0 14.4235
                                  17
## 2318
         -14.3452
                    0 14.3452
                                  18
## 2319
          13.9083
                    0 13.9083
                                  19
## 2320
         -13.8726
                    0 13.8726
                                  20
   2321
         -13.6068
                    0 13.6068
                                  21
  2322
          13.4132
                    0 13.4132
##
                                  22
  2323
          13.0790
                    0 13.0790
                                  23
## 2324
         -12.8077
                    0 12.8077
                                  24
## 2325
          12.6762
                    0 12.6762
                                  25
## 2326
         -12.5713
                    0 12.5713
                                  26
## 2327
         -12.2751
                    0 12.2751
                                  27
          12.1938
                    0 12.1938
## 2328
                                  28
## 2329
          11.9396
                    0 11.9396
                                  29
## 2330
         -11.8982
                    0 11.8982
                                  30
         -11.4712
## 2331
                    0 11.4712
                                  31
                    0 11.3272
## 2332
          11.3272
                                  32
         -11.2160
                    0 11.2160
## 2333
                                  33
## 2334
          10.9285
                    0 10.9285
                                  34
## 2335
         -10.6938
                    0 10.6938
                                  35
## 2336
          10.5858
                    0 10.5858
                                  36
## 2337
         -10.3864
                    0 10.3864
                                  37
##
  2338
          10.2499
                    0 10.2499
                                  38
## 2339
         -10.2068
                    0 10.2068
                                  39
## 2340
           9.9445
                    0
                       9.9445
                                  40
## 2341
          -9.7430
                    0
                       9.7430
                                  41
## 2342
           9.5296 0 9.5296
                                  42
```

```
## 2343
           -9.4748
                    0
                        9.4748
                                   43
## 2344
            9.2293
                    0
                        9.2293
                                   44
##
  2345
           -9.1902
                     0
                        9.1902
                                   45
  2346
            8.8807
                        8.8807
##
                     0
                                   46
##
   2347
           -8.6467
                     0
                        8.6467
                                   47
## 2348
           -8.5557
                        8.5557
                     0
                                   48
## 2349
            8.3962
                     0
                        8.3962
                                   49
## 2350
            8.0325
                     0
                        8.0325
                                   50
##
  2351
           -7.8975
                     0
                        7.8975
                                   51
   2352
##
            7.7362
                     0
                        7.7362
                                   52
##
   2353
           -7.5715
                     0
                        7.5715
                                   53
   2354
            7.4666
                        7.4666
##
                     0
                                   54
                        7.2491
##
   2355
           -7.2491
                     0
                                   55
   2356
           -6.9846
                        6.9846
##
                     0
                                   56
##
  2357
            6.9275
                     0
                        6.9275
                                   57
##
   2358
            6.8231
                     0
                        6.8231
                                   58
   2359
           -6.6440
                     0
                        6.6440
                                   59
##
##
   2360
            6.5704
                     0
                        6.5704
                                   60
   2361
           -6.2596
                        6.2596
##
                     0
                                   61
##
   2362
            6.1246
                     0
                        6.1246
                                   62
##
  2363
           -5.8434
                     0
                        5.8434
                                   63
##
  2364
            5.7392
                     0
                        5.7392
                                   64
## 2365
           -5.6860
                        5.6860
                     0
                                   65
  2366
            5.3312
                     0
                        5.3312
##
                                   66
## 2367
            5.2606
                    0
                        5.2606
                                   67
##
   2368
           -5.2103
                     0
                        5.2103
                                   68
##
   2369
           -4.9574
                        4.9574
                                   69
                     0
   2370
            4.8820
                        4.8820
##
                     0
                                   70
##
  2371
            4.5766
                     0
                        4.5766
                                   71
                        4.4463
## 2372
            4.4463
                     0
                                   72
## 2373
           -4.3660
                     0
                        4.3660
                                   73
## 2374
           -4.1335
                     0
                        4.1335
                                   74
                        4.0468
##
   2375
            4.0468
                     0
                                   75
   2376
           -3.8604
                        3.8604
                                   76
##
                     0
##
   2377
            3.6105
                     0
                        3.6105
                                   77
## 2378
            3.4515
                     0
                        3.4515
                                   78
## 2379
           -3.3939
                     0
                        3.3939
                                   79
## 2380
           -3.1657
                     0
                        3.1657
                                   80
##
  2381
           -3.0116
                    0
                        3.0116
                                   81
## 2382
            3.0004
                     0
                        3.0004
                                   82
##
   2383
           -2.5922
                        2.5922
                    0
                                   83
   2384
            2.4633
                     0
                        2.4633
##
                                   84
   2385
            2.2825
                        2.2825
##
                     0
                                   85
##
   2386
           -2.2051
                     0
                        2.2051
                                   86
  2387
            2.0702
                     0
                        2.0702
##
                                   87
## 2388
           -1.9611
                     0
                        1.9611
                                   88
  2389
                        1.7564
##
            1.7564
                    0
                                   89
   2390
           -1.7313
                        1.7313
##
                     0
                                   90
##
   2391
            1.4888
                     0
                        1.4888
                                   91
##
   2392
           -1.4371
                     0
                        1.4371
                                   92
                                   93
  2393
           -1.1332
                     0
                        1.1332
##
                     0
                        0.9789
## 2394
            0.9789
                                   94
## 2395
            0.8710
                    0
                        0.8710
                                   95
## 2396
           -0.6499
                    0
                        0.6499
                                   96
```

```
## 2397
           0.5214 0 0.5214
## 2398
                    0
                       0.4550
           0.4550
                                  98
  2399
          -0.3196
                    0
                       0.3196
                                  99
           0.1360
  2400
                       0.1360
##
                    0
                                 100
## 2401
          18.8286
                    0 18.8286
                                   1
## 2402
                    0 18.4718
                                   2
         -18.4718
## 2403
          18.2603
                    0 18.2603
                                   3
         -17.7663
## 2404
                    0 17.7663
                                   4
                    0 17.5766
## 2405
         -17.5766
                                   5
                                   6
## 2406
          17.2531
                    0 17.2531
## 2407
          16.9200
                    0 16.9200
                                   7
## 2408
         -16.6472
                    0 16.6472
                                   8
## 2409
          16.5276
                    0 16.5276
                                   9
         -16.2386
                    0 16.2386
## 2410
                                  10
## 2411
          16.0791
                    0 16.0791
                                  11
## 2412
         -15.5050
                    0 15.5050
                                  12
         -15.2169
                    0 15.2169
## 2413
                                  13
## 2414
          15.1562
                    0 15.1562
                                  14
          14.6584
                    0 14.6584
## 2415
                                  15
## 2416
         -14.6164
                    0 14.6164
                                  16
## 2417
          14.3401
                    0 14.3401
                                  17
## 2418
         -14.1898
                    0 14.1898
                                  18
## 2419
         -13.7262
                    0 13.7262
                                  19
## 2420
          13.5322
                    0 13.5322
                                  20
                    0 13.4325
## 2421
         -13.4325
                                  21
## 2422
          13.4288
                    0 13.4288
                                  22
## 2423
          12.9409
                    0 12.9409
                                  23
         -12.7623
                    0 12.7623
## 2424
                                  24
## 2425
          12.4809
                    0 12.4809
                                  25
## 2426
         -12.3558
                    0 12.3558
                                  26
## 2427
          12.2063
                    0 12.2063
                                  27
## 2428
         -12.0043
                    0 12.0043
                                  28
  2429
         -11.7829
                    0 11.7829
                                  29
## 2430
          11.7653
                    0 11.7653
                                  30
## 2431
          11.4630
                    0 11.4630
                                  31
## 2432
         -11.3121
                    0 11.3121
                                  32
## 2433
          11.2669
                    0 11.2669
                                  33
## 2434
          11.0733
                    0 11.0733
                                  34
## 2435
         -10.9033
                    0 10.9033
                                  35
         -10.6398
                    0 10.6398
## 2436
                                  36
## 2437
          10.4479
                    0 10.4479
                                  37
         -10.1216
## 2438
                    0 10.1216
                                  38
           9.9586
                       9.9586
## 2439
                    0
                                  39
## 2440
          -9.8933
                    0
                       9.8933
                                  40
## 2441
           9.7735
                       9.7735
                    0
                                  41
          -9.4472
                       9.4472
## 2442
                    0
                                  42
           9.4066
                       9.4066
## 2443
                    0
                                  43
## 2444
          -9.2340
                       9.2340
                    0
                                  44
## 2445
           9.2075
                    0
                       9.2075
                                  45
          -8.9704
                       8.9704
## 2446
                    0
                                  46
## 2447
           8.9494
                    0
                       8.9494
                                  47
                    0
## 2448
          -8.6678
                       8.6678
                                  48
## 2449
           8.2261
                    0
                       8.2261
                                  49
## 2450
          -8.1244 0
                       8.1244
                                  50
```

```
## 2451
            7.9763
                    0
                        7.9763
                                   51
## 2452
                    0
                        7.8103
                                   52
           -7.8103
## 2453
            7.7445
                    0
                        7.7445
                                   53
  2454
           -7.4788
                        7.4788
##
                    0
                                   54
##
  2455
            7.2940
                    0
                        7.2940
                                   55
  2456
            7.1069
                    0
                        7.1069
##
                                   56
## 2457
           -7.0506
                    0
                        7.0506
                                   57
                        6.8378
## 2458
           -6.8378
                    0
                                   58
##
  2459
            6.6512
                    0
                        6.6512
                                   59
##
  2460
           -6.4596
                    0
                        6.4596
                                   60
##
  2461
            6.4586
                    0
                        6.4586
                                   61
   2462
            6.0158
                        6.0158
##
                    0
                                   62
                        6.0021
##
   2463
           -6.0021
                    0
                                   63
                        5.7829
## 2464
           -5.7829
                     0
                                   64
## 2465
            5.6861
                     0
                        5.6861
                                   65
## 2466
            5.4423
                    0
                        5.4423
                                   66
           -5.3196
                    0
                        5.3196
                                   67
## 2467
##
   2468
            5.2708
                    0
                        5.2708
                                   68
  2469
           -5.1589
                        5.1589
##
                    0
                                   69
##
  2470
           -4.9544
                    0
                        4.9544
                                   70
## 2471
           -4.5457
                     0
                        4.5457
                                   71
## 2472
            4.5429
                     0
                        4.5429
                                   72
                        4.3713
## 2473
           -4.3713
                    0
                                   73
## 2474
            4.2351
                    0
                        4.2351
                                   74
           -3.9342
                        3.9342
## 2475
                    0
                                   75
  2476
            3.8243
                    0
                        3.8243
                                   76
##
   2477
           -3.7155
                        3.7155
                                   77
                    0
   2478
            3.5884
                        3.5884
                                   78
##
                    0
##
  2479
           -3.2298
                    0
                        3.2298
                                   79
                        3.1805
## 2480
            3.1805
                    0
                                   80
## 2481
           -3.0537
                     0
                        3.0537
                                   81
##
  2482
            2.8599
                    0
                        2.8599
                                   82
##
   2483
            2.5475
                    0
                        2.5475
                                   83
  2484
           -2.5113
                        2.5113
##
                    0
                                   84
##
   2485
            2.3515
                    0
                        2.3515
                                   85
## 2486
           -2.1731
                    0
                        2.1731
                                   86
## 2487
           -2.0742
                     0
                        2.0742
                                   87
## 2488
           -1.9140
                    0
                        1.9140
                                   88
## 2489
            1.8290
                    0
                        1.8290
                                   89
## 2490
            1.5312
                    0
                        1.5312
                                   90
  2491
            1.2802
                    0
                        1.2802
##
                                   91
  2492
           -1.2698
                    0
                        1.2698
##
                                   92
           -1.0324
                        1.0324
##
  2493
                    0
                                   93
                    0
                        0.9219
##
  2494
            0.9219
                                   94
## 2495
           -0.8312
                    0
                        0.8312
                                   95
                        0.7115
## 2496
            0.7115
                    0
                                   96
           -0.5891
                        0.5891
## 2497
                    0
                                   97
   2498
            0.4998
                        0.4998
##
                    0
                                   98
##
   2499
            0.2724
                    0
                        0.2724
                                   99
                        0.0636
##
   2500
           -0.0636
                    0
                                  100
   2501
           20.3239
                    0 20.3239
##
                                    1
                                    2
## 2502
          -19.5720
                    0 19.5720
## 2503
           19.0146
                    0 19.0146
                                    3
         -18.6102 0 18.6102
## 2504
                                    4
```

```
## 2505
          17.9366 0 17.9366
                                    5
                    0 17.6313
                                    6
##
  2506
         -17.6313
          17.5194
                    0 17.5194
  2507
                                    7
  2508
         -16.7744
                    0 16.7744
                                    8
##
##
  2509
         -16.3788
                    0 16.3788
                                    9
          16.3544
                    0 16.3544
## 2510
                                  10
         -16.0903
                    0 16.0903
## 2511
                                  11
## 2512
          16.0900
                    0 16.0900
                                  12
                    0 15.5138
## 2513
          15.5138
                                  13
## 2514
         -15.4814
                    0 15.4814
                                  14
  2515
          15.1051
                    0 15.1051
                                  15
  2516
         -14.8222
                    0 14.8222
##
                                  16
## 2517
         -14.5990
                    0 14.5990
                                  17
## 2518
          14.3929
                    0 14.3929
                                  18
## 2519
         -14.2019
                    0 14.2019
                                  19
##
  2520
         -13.6643
                    0 13.6643
                                  20
          13.6566
                    0 13.6566
##
  2521
                                  21
##
  2522
          13.3985
                    0 13.3985
                                  22
                    0 13.2670
  2523
         -13.2670
##
                                  23
##
  2524
          13.0792
                    0 13.0792
                                  24
##
  2525
         -13.0686
                    0 13.0686
                                  25
  2526
          12.4708
                    0 12.4708
##
                                  26
         -12.3890
                    0 12.3890
## 2527
                                  27
## 2528
          12.1090
                    0 12.1090
                                  28
## 2529
          11.9516
                    0 11.9516
                                  29
         -11.7940
  2530
                    0 11.7940
                                  30
  2531
          11.4181
                    0 11.4181
##
                                  31
  2532
         -11.3295
##
                    0 11.3295
                                  32
## 2533
          11.2567
                    0 11.2567
                                  33
## 2534
         -10.9518
                    0 10.9518
                                  34
## 2535
          10.7339
                    0 10.7339
                                  35
##
  2536
         -10.6362
                    0 10.6362
                                  36
##
   2537
          10.4056
                    0 10.4056
                                  37
  2538
         -10.3047
                    0 10.3047
##
                                  38
##
  2539
          10.0357
                    0 10.0357
                                  39
## 2540
                    0
                       9.8974
          -9.8974
                                  40
## 2541
          -9.7505
                    0
                       9.7505
                                  41
## 2542
           9.6676
                    0
                       9.6676
                                  42
## 2543
           9.3560
                    0
                       9.3560
                                  43
## 2544
                    0
           9.1463
                       9.1463
                                  44
  2545
          -9.0444
                       9.0444
                    0
                                  45
  2546
           8.6673
                       8.6673
##
                    0
                                  46
  2547
                       8.5692
##
           8.5692
                    0
                                  47
##
  2548
          -8.5593
                    0
                       8.5593
                                  48
          -8.2844
## 2549
                       8.2844
                    0
                                  49
## 2550
          -7.8472
                    0
                       7.8472
                                  50
## 2551
           7.7084
                    0
                       7.7084
                                  51
  2552
          -7.7016
##
                    0
                       7.7016
                                  52
##
  2553
           7.3217
                    0
                       7.3217
                                  53
##
   2554
          -7.2711
                    0
                       7.2711
                                  54
  2555
                    0
##
          -7.1229
                       7.1229
                                  55
## 2556
           7.1198
                    0
                       7.1198
                                  56
## 2557
           6.9087
                    0
                       6.9087
                                  57
## 2558
          -6.8796 0
                       6.8796
                                  58
```

```
## 2559
            6.6365
                     0
                        6.6365
                                   59
##
  2560
                     0
                        6.3500
            6.3500
                                   60
##
   2561
           -6.3245
                     0
                        6.3245
                                   61
           -6.2245
                        6.2245
##
   2562
                     0
                                   62
##
   2563
            6.0612
                     0
                        6.0612
                                   63
   2564
           -5.9545
                     0
                        5.9545
##
                                   64
## 2565
           -5.5473
                     0
                        5.5473
                                   65
## 2566
            5.4471
                     0
                        5.4471
                                   66
##
   2567
            5.2892
                     0
                        5.2892
                                   67
##
   2568
           -5.2867
                     0
                        5.2867
                                   68
##
   2569
            4.9071
                     0
                        4.9071
                                   69
   2570
           -4.6450
                        4.6450
                                   70
##
                     0
                        4.5119
##
   2571
            4.5119
                     0
                                   71
   2572
                        4.4250
                                   72
##
           -4.4250
                     0
## 2573
            4.2917
                     0
                        4.2917
                                   73
##
  2574
           -4.1387
                     0
                        4.1387
                                   74
  2575
           -3.9260
                     0
                        3.9260
                                   75
##
##
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                                   76
   2577
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                        3.5876
                                   77
##
                     0
##
   2578
            3.5142
                     0
                        3.5142
                                   78
##
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                     0
                        3.4274
                                   79
##
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                        3.4014
                                   80
## 2581
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                        3.2380
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                                   81
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                        3.1007
##
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## 2583
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                        2.7771
                                   83
##
   2584
            2.3969
                     0
                        2.3969
                                   84
##
   2585
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                        2.3965
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                     0
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           -2.1018
                        2.1018
##
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                                   86
##
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                     0
                        1.9958
                                   87
##
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                                   88
##
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                        1.7438
                                   89
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           -1.3791
                        1.3791
##
                                   91
   2592
            1.3135
                        1.3135
##
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##
   2593
            1.1906
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                        1.1906
                                   93
##
   2594
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                                   94
##
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                        0.5534
                                   95
##
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                        0.5225
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##
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                        0.3843
                                   97
##
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##
                                   99
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                        0.0313
##
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                     0 18.9583
##
   2601
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##
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  2603
         -18.2910
                     0 18.2910
                                     3
##
## 2604
           18.0315
                     0 18.0315
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##
  2605
         -17.6433
                     0 17.6433
   2606
           17.4553
                                     6
##
                     0 17.4553
                                    7
##
   2607
          -17.2362
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##
   2608
           17.1723
                     0 17.1723
                                    8
  2609
          -16.7272
                     0 16.7272
                                    9
##
                     0 16.5718
## 2610
           16.5718
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## 2611
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                     0 16.2954
                                   11
## 2612
           15.9604 0 15.9604
                                   12
```

```
## 2613
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                                   13
                    0 15.3190
## 2614
           15.3190
                                   14
  2615
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                    0 14.7226
                                   15
           14.6453
  2616
                    0 14.6453
##
                                   16
##
  2617
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                                   17
## 2618
           14.2824
                    0 14.2824
                                   18
         -14.0121
                    0 14.0121
## 2619
                                   19
## 2620
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                    0 14.0065
                                   20
                    0 13.5077
##
  2621
           13.5077
                                   21
##
  2622
           13.3763
                    0 13.3763
                                   22
         -13.3464
##
   2623
                    0 13.3464
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   2624
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                    0 13.0839
##
                                   24
##
   2625
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                    0 12.9897
                                   25
         -12.8954
##
   2626
                    0 12.8954
                                   26
  2627
           12.6302
                    0 12.6302
                                   27
##
##
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                    0 12.4914
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           12.0481
                    0 12.0481
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##
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##
                                   31
##
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                    0 11.3998
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                    0 11.3126
                                   33
  2634
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                    0 10.9414
                                   34
##
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                    0 10.8226
## 2635
                                   35
                    0 10.5941
  2636
         -10.5941
##
                                   36
## 2637
         -10.3289
                    0 10.3289
                                   37
   2638
           10.3102
                    0 10.3102
                                   38
##
   2639
           10.1334
                    0 10.1334
                                   39
   2640
            9.9579
                        9.9579
##
                    0
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##
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                    0
                        9.9255
                                   41
## 2642
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                    0
                        9.5162
                                   42
## 2643
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                                   43
##
  2644
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                        9.1753
                                   44
##
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                        9.1363
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   2646
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                        8.8171
##
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##
   2647
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                        8.5930
                                   47
##
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                        8.5902
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##
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                        8.5218
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## 2650
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                                   51
##
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                                   52
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                        7.8941
##
                    0
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                    0
                        7.5248
##
                                   54
           -7.5245
##
   2655
                    0
                        7.5245
                                   55
##
   2656
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                        7.2647
                                   56
   2657
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                        6.9863
##
                     0
                                   57
## 2658
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                        6.9824
                     0
                                   58
##
  2659
           -6.6551
                    0
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                                   59
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                        6.5900
##
                     0
                                   60
##
   2661
            6.3835
                    0
                        6.3835
                                   61
##
   2662
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                     0
                        6.3656
                                   62
   2663
##
           -6.1634
                     0
                        6.1634
                                   63
## 2664
           -5.8033
                    0
                        5.8033
                                   64
## 2665
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                    0
                        5.6881
                                   65
## 2666
           -5.6153
                    0
                       5.6153
                                   66
```

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## 2667
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                    0
                        5.4862
                                   67
## 2668
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                    0
                        5.2349
                                   68
                        5.2052
   2669
           -5.2052
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                                   69
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                        4.8930
  2670
                                   70
##
                    0
##
  2671
            4.6326
                    0
                        4.6326
                                   71
## 2672
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                     0
                        4.4694
                                   72
           -4.4194
                     0
                        4.4194
## 2673
                                   73
            4.0640
                        4.0640
## 2674
                     0
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## 2675
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                    0
                        3.9343
                                   75
                        3.8082
##
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                                   76
##
  2677
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                        3.6928
                                   77
  2678
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                        3.5827
                                   78
##
                     0
                        3.3726
##
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                    0
                                   79
   2680
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##
            3.2170
                     0
                                   80
## 2681
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                    0
                        3.1562
                                   81
##
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                     0
                        2.9421
                                   82
   2683
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                    0
                        2.7332
##
                                   83
##
   2684
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                    0
                        2.5695
                                   84
   2685
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                        2.4772
##
                    0
                                   85
##
   2686
            2.3086
                    0
                        2.3086
                                   86
##
   2687
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                    0
                        2.0834
                                   87
##
  2688
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                     0
                        2.0751
                                   88
## 2689
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                        1.9104
                     0
                                   89
## 2690
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                    0
                        1.5204
                                   90
## 2691
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                        1.4026
                                   91
   2692
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                        1.1704
                                   92
##
   2693
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                        1.1406
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                    0
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                        0.9326
##
                    0
                                   94
##
   2695
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                    0
                        0.8274
                                   95
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##
  2696
            0.5697
                     0
                                   96
##
   2697
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                        0.5424
                                   97
##
   2698
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                        0.2474
                                   98
            0.1836
                        0.1836
##
   2699
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                                   99
  2700
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                        0.0693
##
                    0
                                  100
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                     0 19.5221
                                    1
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## 2703
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                    0 18.8222
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## 2704
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## 2705
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## 2706
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                    0 17.9797
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## 2707
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                    0 17.3507
                                    7
## 2708
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           16.8290
                                    9
## 2709
                    0 16.8290
## 2710
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                    0 16.3717
                                   10
           16.1859
                    0 16.1859
## 2711
                                   11
## 2712
         -16.0325
                    0 16.0325
                                   12
## 2713
           15.8014
                    0 15.8014
                                   13
         -15.3206
## 2714
                    0 15.3206
                                   14
## 2715
           15.2832
                    0 15.2832
                                   15
## 2716
           14.6344
                    0 14.6344
                                   16
         -14.6130
                    0 14.6130
                                   17
## 2717
                    0 14.3648
## 2718
           14.3648
                                   18
## 2719
         -14.1324
                    0 14.1324
                                   19
## 2720
         -13.8454 0 13.8454
                                   20
```

```
## 2721
           13.8267 0 13.8267
                                   21
## 2722
                    0 13.5087
                                   22
           13.5087
                    0 13.3886
## 2723
         -13.3886
                                   23
## 2724
           13.3039
                    0 13.3039
                                   24
## 2725
           12.8566
                    0 12.8566
                                   25
## 2726
                    0 12.7696
           12.7696
                                   26
         -12.6746
                    0 12.6746
## 2727
                                   27
         -12.5220
                    0 12.5220
## 2728
                                   28
## 2729
           12.4048
                    0 12.4048
                                   29
## 2730
         -12.2343
                    0 12.2343
                                   30
## 2731
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                    0 11.9159
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## 2732
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                    0 11.8374
                                   32
## 2733
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## 2734
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                    0 11.1755
                                   34
## 2735
           11.1590
                    0 11.1590
                                   35
## 2736
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                    0 10.8797
                                   36
           10.6810
                    0 10.6810
                                   37
## 2737
## 2738
         -10.4314
                    0 10.4314
                                   38
## 2739
         -10.2772
                    0 10.2772
                                   39
## 2740
           10.1837
                    0 10.1837
                                   40
## 2741
           9.9303
                    0
                       9.9303
                                   41
## 2742
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                       9.6636
                                   42
## 2743
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                       9.5516
                    0
                                   43
## 2744
           9.4552
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                       9.4552
                                   44
## 2745
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                       9.0231
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## 2746
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                       8.8735
                                   46
## 2747
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                       8.6574
                                   47
                    0
## 2748
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                       8.5908
                    0
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## 2749
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                    0
                       8.3141
                                   49
                       8.2294
## 2750
           -8.2294
                    0
                                   50
## 2751
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                    0
                       8.0580
                                   51
## 2752
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                       7.9198
                                   52
  2753
##
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                       7.6707
                                   53
## 2754
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                       7.5954
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                                   54
##
  2755
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                       7.4268
                                   55
## 2756
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                    0
                       7.4164
                                   56
## 2757
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                        6.9357
                                   57
## 2758
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                       6.8442
                                   58
## 2759
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                    0
                       6.7864
                                   59
## 2760
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                    0
                       6.5008
                                   60
## 2761
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                       6.3939
                    0
                                   61
## 2762
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                       6.2085
                    0
                                   62
           6.1044
                       6.1044
## 2763
                    0
                                   63
                       5.7475
## 2764
           5.7475
                    0
                                   64
## 2765
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                       5.7398
                    0
                                   65
                       5.5187
## 2766
           5.5187
                    0
                                   66
## 2767
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                    0
                       5.3254
                                   67
           4.9652
                        4.9652
## 2768
                    0
                                   68
## 2769
           4.8866
                    0
                        4.8866
                                   69
                        4.8640
## 2770
           -4.8640
                    0
                                   70
           -4.5508
                    0
                        4.5508
                                   71
## 2771
                    0
                        4.5394
## 2772
           4.5394
                                   72
## 2773
           4.3102
                    0
                        4.3102
                                   73
## 2774
                       4.1241
           -4.1241 0
                                   74
```

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## 2775
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                    0
                       3.9312
                                   75
           -3.7456
                    0
                       3.7456
                                   76
## 2776
## 2777
           3.6465
                    0
                       3.6465
                                   77
           -3.3629
                       3.3629
## 2778
                                   78
                    0
## 2779
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                    0
                       3.1812
                                   79
                    0
                       3.1787
## 2780
           3.1787
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           2.8529
                    0
                        2.8529
## 2781
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## 2782
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                                   82
## 2783
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                    0
                       2.5079
                                   83
## 2784
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                       2.4528
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## 2785
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                    0
                       2.2889
                                   85
           -2.2561
## 2786
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                                   86
## 2787
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                    0
                       2.1940
                                   87
## 2788
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                    0
                                   88
## 2789
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## 2790
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                    0
                       1.6170
                                   90
## 2791
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                    0
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## 2792
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## 2793
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                       1.0487
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                    0
## 2794
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                       0.9308
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## 2795
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                       0.9241
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## 2796
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## 2797
                    0
                                   97
## 2798
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                       0.3820
                                   98
## 2799
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                    0
                       0.1529
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                    0
                       0.0250
                                  100
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##
                                    1
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                                    2
##
                    0 18.7181
  2803
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                    0 18.3869
                                    3
##
## 2804
          18.2153
                    0 18.2153
                                    4
## 2805
           17.5786
                    0 17.5786
                                    5
##
   2806
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                    0 17.1942
                                    6
                                    7
##
   2807
         -16.8487
                    0 16.8487
  2808
           16.7758
                    0 16.7758
                                    8
##
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                    0 16.4984
                                    9
## 2810
         -16.2709
                    0 16.2709
                                   10
## 2811
           15.8696
                    0 15.8696
                                   11
## 2812
         -15.7928
                    0 15.7928
                                   12
## 2813
         -15.2381
                    0 15.2381
                                   13
## 2814
           15.1708
                    0 15.1708
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  2815
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                    0 15.0109
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## 2816
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                                   16
           14.6580
## 2817
                    0 14.6580
                                   17
##
  2818
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                    0 14.6186
                                   18
## 2819
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                    0 14.1969
                                   19
## 2820
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                    0 14.1246
                                   20
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## 2821
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                                   21
           13.5719
## 2822
                    0 13.5719
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  2823
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                    0 13.3041
                                   23
##
   2824
           13.1020
                    0 13.1020
                                   24
## 2825
         -12.7011
                    0 12.7011
                                   25
                    0 12.6553
## 2826
           12.6553
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## 2827
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                    0 12.4229
                                   27
           12.0197 0 12.0197
## 2828
                                   28
```

```
## 2829
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                                   29
##
  2830
                    0 11.8002
           11.8002
                                   30
   2831
           11.7087
                    0 11.7087
                                   31
   2832
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                     0 11.5487
##
                                   32
##
   2833
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                    0 11.2960
                                   33
  2834
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                     0 11.2784
##
                                   34
         -10.9995
                     0 10.9995
## 2835
                                   35
## 2836
           10.7716
                    0 10.7716
                                   36
                    0 10.4104
##
  2837
         -10.4104
                                   37
           10.2608
##
   2838
                    0 10.2608
                                   38
##
   2839
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                    0 10.2476
                                   39
   2840
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                        9.8786
##
                     0
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##
   2841
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  2842
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##
            9.5230
                     0
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## 2843
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                        9.3609
                                   43
##
   2844
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                                   44
##
  2845
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                        9.1426
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##
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                        8.6535
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##
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                        8.5667
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##
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                                   54
##
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##
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##
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##
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                                   62
##
   2863
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                        6.0196
                                   63
##
  2864
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                        5.8647
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##
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##
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##
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                        5.3823
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##
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                                   68
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                        5.0891
##
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##
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##
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                        4.4868
##
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            4.3889
                        4.3889
## 2873
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                                   73
                        4.2278
## 2874
           -4.2278
                                   74
                     0
                        4.0890
## 2875
           -4.0890
                     0
                                   75
## 2876
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                        3.8490
                                   76
                     0
##
  2877
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                        3.6801
                                   77
##
   2878
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                     0
                        3.5213
                                   78
  2879
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                     0
                        3.2920
                                   79
##
## 2880
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                        3.1429
                                   80
## 2881
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                        3.0081
                                   81
## 2882
            2.8654
                    0
                        2.8654
                                   82
```

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## 2883
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                    0
                       2.8115
                                   83
## 2884
           2.6080
                    0
                       2.6080
                                   84
           -2.4842
   2885
                    0
                       2.4842
                                   85
           2.2534
  2886
                       2.2534
##
                    0
                                   86
##
   2887
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                    0
                        2.1470
                                   87
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                    0
                        1.9002
##
  2888
                                   88
                        1.7640
           -1.7640
                    0
## 2889
                                   89
## 2890
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                       1.7262
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## 2891
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                    0
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                                   91
##
  2892
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                       1.1201
                                   93
   2894
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                        1.0872
##
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                       0.7957
##
   2895
           0.7957
                    0
                                   95
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##
   2896
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  2897
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                        0.5466
                                   97
##
##
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                                   98
   2899
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##
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##
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##
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                    0 17.9530
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                    0 17.5685
                                    6
##
                                    7
## 2907
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                    0 16.9949
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                    0 16.9791
                                    8
##
  2909
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                    0 16.6814
                                    9
  2910
##
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## 2911
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                    0 16.3613
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## 2912
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## 2913
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##
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##
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                    0 14.7923
##
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## 2918
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## 2919
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## 2920
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## 2921
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##
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##
  2925
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##
  2926
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## 2927
                                   27
## 2928
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## 2929
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           11.9639
## 2930
                    0 11.9639
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##
  2931
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                                   31
##
   2932
           11.4870
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                                   32
         -11.2549
                    0 11.2549
                                   33
##
  2933
## 2934
           11.2266
                    0 11.2266
                                   34
## 2935
           11.0377
                    0 11.0377
                                   35
           10.6817 0 10.6817
## 2936
                                   36
```

```
## 2937
         -10.6272
                     0 10.6272
                                   37
##
  2938
           10.2393
                     0 10.2393
                                   38
   2939
          -10.2278
                     0 10.2278
                                   39
##
   2940
           -9.8154
                     0
                        9.8154
                                   40
##
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                        9.7123
                                   41
  2942
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                        9.5512
##
                                   42
## 2943
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                        9.3175
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## 2944
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                        9.1576
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                        9.0792
##
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##
                                   51
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                                   52
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                        7.7854
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                        7.6028
##
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##
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##
                                   60
## 2961
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                        6.3539
                                   61
##
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                                   62
##
   2963
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                        6.1064
                                   63
                     0
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                        5.9685
##
                     0
                                   64
##
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                        5.7110
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                                   66
##
   2967
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                        5.4701
                                   67
##
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                        5.3602
                                   68
                        5.0700
##
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                        5.0495
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   2971
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## 2972
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##
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                        3.5462
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                        3.2141
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##
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            2.9286
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                        2.8070
##
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                                   84
##
   2985
            2.6203
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                        2.6203
                                   85
##
   2986
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                     0
                        2.4909
                                   86
   2987
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                        2.3858
                                   87
##
## 2988
           -2.3591
                     0
                        2.3591
                                   88
## 2989
            1.8059
                     0
                        1.8059
                                   89
## 2990
           -1.6587
                    0
                        1.6587
                                   90
```

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## 2991
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                    0
                       1.4138
                                   91
## 2992
           1.2328
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                       1.2328
                                   92
  2993
           -1.1856
                    0
                        1.1856
                                   93
           -1.0411
##
  2994
                        1.0411
                    0
                                   94
##
   2995
           0.9464
                    0
                       0.9464
                                   95
  2996
           -0.5830
                    0
                       0.5830
##
                                   96
  2997
                    0
                        0.4359
##
           0.4359
                                   97
## 2998
           0.2347
                    0
                       0.2347
                                   98
##
   2999
          -0.1761
                    0
                       0.1761
                                   99
##
   3000
          -0.0112
                    0
                       0.0112
                                  100
##
   3001
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                    0 19.1958
                                    1
   3002
          18.7012
                    0 18.7012
                                    2
##
##
   3003
         -18.2218
                    0 18.2218
                                    3
   3004
##
           18.1411
                    0 18.1411
                                    4
   3005
         -17.7509
                    0 17.7509
                                    5
##
##
   3006
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                    0 17.5771
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                    0 17.1955
                                    7
##
   3007
   3008
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                    0 16.6227
                                    8
  3009
         -16.4169
                                    9
##
                    0 16.4169
##
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           15.8821
                    0 15.8821
                                   10
                    0 15.8242
##
  3011
         -15.8242
                                   11
  3012
           15.6107
                    0 15.6107
                                   12
           15.3161
                    0 15.3161
## 3013
                                   13
  3014
         -15.2611
                    0 15.2611
##
                                   14
##
  3015
           14.9819
                    0 14.9819
                                   15
   3016
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                    0 14.8354
                                   16
  3017
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                    0 14.5657
                                   17
##
   3018
         -14.1838
##
                    0 14.1838
                                   18
   3019
          13.9491
                    0 13.9491
                                   19
##
  3020
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                    0 13.8011
                                   20
## 3021
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                    0 13.4567
                                   21
##
   3022
           13.2631
                    0 13.2631
                                   22
##
   3023
           12.9913
                    0 12.9913
                                   23
  3024
         -12.9815
                    0 12.9815
##
                                   24
   3025
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                    0 12.6410
                                   25
  3026
         -12.3081
                    0 12.3081
##
                                   26
  3027
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                    0 12.2573
                                   27
## 3028
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                    0 11.9599
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  3029
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                    0 11.9040
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##
##
  3030
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   3031
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                    0 11.4559
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   3032
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                    0 11.2074
##
                                   32
          11.1807
##
   3033
                    0 11.1807
                                   33
##
   3034
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                    0 10.8165
                                   34
         -10.6961
##
   3035
                    0 10.6961
                                   35
## 3036
           10.6680
                    0 10.6680
                                   36
##
  3037
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                                   37
   3038
           10.2573
##
                    0 10.2573
                                   38
##
   3039
           10.0019
                    0 10.0019
                                   39
##
   3040
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                    0
                       9.9209
                                   40
   3041
                    0
                       9.7110
##
           -9.7110
                                   41
## 3042
           -9.5594
                    0
                       9.5594
                                   42
## 3043
           9.4190
                    0
                       9.4190
                                   43
## 3044
           9.1269
                    0
                       9.1269
                                   44
```

```
## 3045
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                     0
                        8.9636
                                    45
## 3046
            8.8064
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                        8.8064
                                    46
##
   3047
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                        8.6536
                                    47
   3048
            8.4603
##
                        8.4603
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##
   3049
           -8.2767
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                        8.2767
                                    49
   3050
            8.1879
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                        8.1879
##
                                    50
   3051
                     0
                        8.1158
##
           -8.1158
                                    51
                        7.6656
##
  3052
            7.6656
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                                    52
##
   3053
           -7.6520
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                        7.6520
                                    53
   3054
##
            7.3546
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                        7.3546
                                    54
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                        7.2151
                                    55
   3056
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                        7.1447
##
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##
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                        6.7758
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##
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                        6.6383
                                    59
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                        6.2538
##
                                    61
##
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                        6.2177
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                        6.0022
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            5.4185
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                        5.2947
##
                                    68
   3069
##
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##
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                                    74
##
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##
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                        3.7267
##
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                                    78
##
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##
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##
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##
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                                    90
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##
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                                    93
##
   3093
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                        1.0648
##
   3094
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   3095
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                        0.7602
                                    95
##
                     0
##
   3096
           -0.7567
                        0.7567
                                    96
## 3097
            0.5635
                     0
                        0.5635
                                    97
## 3098
           -0.5407
                     0
                        0.5407
                                    98
```

```
## 3099
           0.3968 0 0.3968
## 3100
          -0.2278
                                 100
                    0 0.2278
                    0 19.2690
## 3101
          19.2690
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## 3102
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                    0 18.8531
                                   2
## 3103
          18.2976
                    0 18.2976
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## 3104
         -18.0166
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                                   4
## 3105
                    0 17.7171
          17.7171
                                   5
## 3106
         -17.4713
                    0 17.4713
                                   6
## 3107
          16.9954
                    0 16.9954
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                                   8
## 3108
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## 3109
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## 3111
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## 3112
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## 3113
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                                  13
## 3114
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## 3116
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## 3119
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## 3122
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## 3123
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## 3124
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## 3125
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## 3126
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## 3127
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## 3128
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## 3133
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                    0 11.1317
                                  33
## 3134
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                                  34
## 3135
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                    0 10.6720
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## 3136
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                    0 10.5813
                                  36
## 3137
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                    0 10.2421
## 3138
          10.2421
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## 3139
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                    0 10.2137
                                  39
## 3140
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                    0 10.0541
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## 3141
                    0
                       9.9317
                                  41
## 3142
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                    0
                       9.5013
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## 3143
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## 3144
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                    0
                       9.0894
                                  44
                       8.7882
## 3145
          -8.7882
                    0
                                  45
## 3146
           8.7799
                       8.7799
                    0
                                  46
## 3147
          -8.5660
                    0
                       8.5660
                                  47
           8.5258
                       8.5258
## 3148
                    0
                                  48
## 3149
           8.2543
                       8.2543
                    0
                                  49
## 3150
          -8.0590
                    0
                       8.0590
                                  50
## 3151
           8.0111
                    0
                       8.0111
                                  51
## 3152
          -7.8039
                   0
                      7.8039
                                  52
```

```
## 3153
           -7.6480
                    0
                        7.6480
                                   53
## 3154
            7.5433
                    0
                        7.5433
                                   54
  3155
##
           -7.2600
                     0
                        7.2600
                                   55
  3156
            7.1360
                        7.1360
##
                     0
                                   56
## 3157
            6.8241
                     0
                        6.8241
                                   57
## 3158
           -6.6903
                     0
                        6.6903
                                   58
## 3159
            6.5644
                     0
                        6.5644
                                   59
## 3160
           -6.4063
                     0
                        6.4063
                                   60
## 3161
            6.1415
                     0
                        6.1415
                                   61
                        6.0319
## 3162
            6.0319
                     0
                                   62
##
   3163
           -5.9904
                     0
                        5.9904
                                   63
            5.7534
                        5.7534
   3164
##
                     0
                                   64
                        5.6392
##
   3165
           -5.6392
                     0
                                   65
   3166
            5.4919
                        5.4919
##
                     0
                                   66
## 3167
           -5.3144
                     0
                        5.3144
                                   67
## 3168
            4.9562
                     0
                        4.9562
                                   68
           -4.8805
                        4.8805
## 3169
                     0
                                   69
##
   3170
            4.6471
                     0
                        4.6471
                                   70
  3171
           -4.5781
                        4.5781
##
                     0
                                   71
## 3172
           -4.2683
                     0
                        4.2683
                                   72
## 3173
            4.2559
                     0
                        4.2559
                                   73
## 3174
            4.0036
                     0
                        4.0036
                                   74
## 3175
           -3.9191
                        3.9191
                     0
                                   75
## 3176
           -3.7866
                    0
                        3.7866
                                   76
            3.6013
                        3.6013
## 3177
                     0
                                   77
  3178
           -3.4475
                     0
                        3.4475
                                   78
##
  3179
            3.3220
                        3.3220
                                   79
                     0
   3180
            3.2207
                        3.2207
##
                     0
                                   80
##
  3181
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                     0
                        3.1117
                                   81
                        2.9330
## 3182
            2.9330
                     0
                                   82
## 3183
           -2.9177
                     0
                        2.9177
                                   83
## 3184
           -2.4988
                     0
                        2.4988
                                   84
            2.4681
##
   3185
                     0
                        2.4681
                                   85
  3186
            2.2355
                        2.2355
##
                     0
                                   86
##
   3187
           -2.1917
                     0
                        2.1917
                                   87
## 3188
           -1.9622
                     0
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                                   88
## 3189
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                     0
                        1.8062
                                   89
## 3190
           -1.7637
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                        1.7637
                                   90
## 3191
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                        1.5585
                                   91
## 3192
            1.3104
                     0
                        1.3104
                                   92
## 3193
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                        1.2179
                                   93
                     0
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            1.0611
                        1.0611
##
                     0
                                   94
   3195
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                     0
                        0.8740
##
                                   95
                        0.8322
##
  3196
            0.8322
                     0
                                   96
  3197
           -0.3177
                     0
                        0.3177
                                   97
##
                        0.2845
## 3198
            0.2845
                     0
                                   98
            0.2310
                        0.2310
## 3199
                    0
                                   99
   3200
           -0.1815
                        0.1815
                                  100
##
                     0
##
   3201
           19.7652
                    0 19.7652
                                    1
          -19.2701
                                    2
##
   3202
                     0 19.2701
   3203
           18.7446
                    0 18.7446
                                    3
##
## 3204
          -18.0457
                     0 18.0457
                                    4
## 3205
           17.9186
                    0 17.9186
                                    5
         -17.3319
                    0 17.3319
## 3206
                                    6
```

```
## 3207
         -16.9205 0 16.9205
                                    7
                    0 16.9147
## 3208
           16.9147
                                    8
                    0 16.5803
  3209
           16.5803
                                    9
  3210
         -16.4625
                    0 16.4625
##
                                   10
## 3211
           16.1143
                    0 16.1143
                                   11
## 3212
         -15.9563
                    0 15.9563
                                   12
## 3213
           15.5419
                    0 15.5419
                                   13
         -15.4029
## 3214
                    0 15.4029
                                   14
## 3215
         -15.0123
                    0 15.0123
                                   15
## 3216
           14.8835
                    0 14.8835
                                   16
  3217
           14.6035
                    0 14.6035
                                   17
  3218
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                    0 14.5687
##
                                   18
##
  3219
           14.4103
                    0 14.4103
                                   19
  3220
         -13.9117
##
                    0 13.9117
                                   20
## 3221
           13.6036
                    0 13.6036
                                   21
## 3222
         -13.5232
                    0 13.5232
                                   22
           13.5033
                    0 13.5033
                                   23
## 3223
   3224
         -13.2477
                    0 13.2477
                                   24
                    0 13.1704
  3225
           13.1704
##
                                   25
##
   3226
           12.8698
                    0 12.8698
                                   26
##
  3227
         -12.5763
                    0 12.5763
                                   27
  3228
         -12.3660
                    0 12.3660
                                   28
## 3229
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                    0 12.1305
                                   29
                    0 11.9679
  3230
         -11.9679
                                   30
##
##
  3231
           11.5504
                    0 11.5504
                                   31
   3232
         -11.4094
                    0 11.4094
                                   32
  3233
           11.3507
                    0 11.3507
##
                                   33
   3234
          10.8532
##
                    0 10.8532
                                   34
  3235
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                    0 10.8098
                                   35
##
## 3236
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                    0 10.4883
                                   36
## 3237
           10.3257
                    0 10.3257
                                   37
##
  3238
         -10.2776
                    0 10.2776
                                   38
##
   3239
           10.0712
                    0 10.0712
                                   39
  3240
           -9.9800
                       9.9800
##
                    0
                                   40
##
   3241
           9.7899
                    0
                       9.7899
                                   41
## 3242
           9.5569
                    0
                       9.5569
                                   42
## 3243
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                    0
                       9.3722
                                   43
## 3244
           9.2230
                    0
                       9.2230
                                   44
## 3245
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                       9.1214
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## 3246
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                       9.0232
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   3247
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                       8.8018
                    0
                                   47
  3248
           -8.4815
                       8.4815
##
                    0
                                   48
   3249
           8.2658
                       8.2658
##
                    0
                                   49
##
  3250
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                    0
                       8.2399
                                   50
## 3251
                       8.1618
           8.1618
                    0
                                   51
## 3252
                       7.9242
           7.9242
                    0
                                   52
  3253
##
           -7.7753
                    0
                       7.7753
                                   53
  3254
           -7.4618
##
                    0
                       7.4618
                                   54
##
   3255
           7.2133
                    0
                       7.2133
                                   55
##
   3256
           -7.1613
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                       7.1613
                                   56
  3257
           6.9827
                        6.9827
                                   57
##
                    0
## 3258
           -6.7487
                    0
                        6.7487
                                   58
## 3259
           6.6306
                    0
                       6.6306
                                   59
## 3260
           -6.5554
                   0
                       6.5554
                                   60
```

```
## 3261
            6.4063
                    0
                        6.4063
                                   61
##
  3262
            6.2215
                    0
                        6.2215
                                   62
   3263
           -6.1119
                     0
                        6.1119
                                   63
           -5.8324
  3264
                        5.8324
##
                     0
                                   64
##
   3265
            5.7077
                     0
                        5.7077
                                   65
   3266
            5.4984
                     0
                        5.4984
##
                                   66
  3267
           -5.4324
                     0
                        5.4324
##
                                   67
## 3268
           -5.1927
                     0
                        5.1927
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##
  3269
            5.0178
                    0
                        5.0178
                                   69
## 3270
           -4.9647
                     0
                        4.9647
                                   70
##
   3271
            4.7746
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                        4.7746
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            4.5832
  3272
                        4.5832
                                   72
##
                     0
##
   3273
           -4.4471
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                        4.4471
                                   73
           -4.2562
                        4.2562
##
  3274
                     0
                                   74
## 3275
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                     0
                        4.0811
                                   75
##
  3276
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                        3.9069
                                   76
            3.7602
                     0
                        3.7602
                                   77
##
  3277
##
   3278
           -3.6906
                     0
                        3.6906
                                   78
   3279
           -3.4579
                        3.4579
##
                     0
                                   79
##
   3280
            3.2670
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                        3.2670
                                   80
##
  3281
            3.1676
                     0
                        3.1676
                                   81
##
  3282
            3.0566
                     0
                        3.0566
                                   82
## 3283
           -3.0448
                        3.0448
                     0
                                   83
  3284
           -2.9042
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                        2.9042
##
                                   84
## 3285
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                     0
                        2.8643
                                   85
   3286
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                        2.6065
                                   86
##
   3287
            2.3387
                        2.3387
                                   87
                     0
   3288
            1.9819
                        1.9819
##
                     0
                                   88
##
   3289
           -1.8106
                     0
                        1.8106
                                   89
                                   90
##
  3290
            1.6737
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                        1.6737
##
  3291
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                        1.5183
                                   91
##
   3292
           -1.2776
                     0
                        1.2776
                                   92
   3293
##
            1.2346
                     0
                        1.2346
                                   93
   3294
            0.9362
                        0.9362
##
                     0
                                   94
##
   3295
           -0.9359
                     0
                        0.9359
                                   95
##
   3296
            0.7232
                     0
                        0.7232
                                   96
##
   3297
           -0.6049
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                        0.6049
                                   97
##
  3298
            0.4923
                     0
                        0.4923
                                   98
##
  3299
           -0.2396
                     0
                        0.2396
                                   99
##
  3300
            0.1036
                     0
                        0.1036
                                  100
   3301
          -19.7954
                     0 19.7954
##
                                    1
   3302
           19.0944
                     0 19.0944
                                    2
##
   3303
         -18.8857
##
                     0 18.8857
                                    3
                                    4
##
   3304
           18.2391
                     0 18.2391
   3305
         -17.8029
                     0 17.8029
                                    5
##
   3306
           17.4979
                     0 17.4979
                                    6
##
           17.2758
                                    7
##
   3307
                    0 17.2758
   3308
         -17.2722
                                    8
##
                    0 17.2722
##
   3309
           16.4595
                    0 16.4595
                                    9
         -16.3238
##
   3310
                    0 16.3238
                                   10
         -16.1608
                    0 16.1608
##
   3311
                                   11
##
  3312
           15.9692
                    0 15.9692
                                   12
## 3313
           15.6601
                    0 15.6601
                                   13
## 3314
         -15.5278 0 15.5278
                                   14
```

```
## 3315
           15.3208
                    0 15.3208
                                   15
##
                    0 14.9419
  3316
           14.9419
                                   16
   3317
          -14.9037
                    0 14.9037
                                   17
           14.7293
   3318
                    0 14.7293
##
                                   18
##
   3319
          -14.5779
                     0 14.5779
                                   19
  3320
         -13.9998
                    0 13.9998
##
                                   20
          -13.5629
                     0 13.5629
##
  3321
                                   21
## 3322
           13.5376
                    0 13.5376
                                   22
##
   3323
         -12.9591
                    0 12.9591
                                   23
##
   3324
           12.8771
                     0 12.8771
                                   24
##
   3325
          -12.6233
                    0 12.6233
                                   25
                    0 12.6160
   3326
           12.6160
                                   26
##
##
   3327
           12.3000
                    0 12.3000
                                   27
   3328
##
         -12.2854
                     0 12.2854
                                   28
   3329
         -12.1614
                     0 12.1614
                                   29
##
##
   3330
           11.8452
                     0 11.8452
                                   30
         -11.6536
                    0 11.6536
##
   3331
                                   31
##
   3332
           11.5008
                    0 11.5008
                                   32
   3333
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                    0 11.4610
##
                                   33
##
   3334
           11.3867
                     0 11.3867
                                   34
                     0 11.3147
##
   3335
          -11.3147
                                   35
   3336
           10.6955
                     0 10.6955
##
                                   36
           10.5174
                     0 10.5174
##
  3337
                                   37
                    0 10.3222
   3338
         -10.3222
##
                                   38
##
   3339
           10.0802
                    0 10.0802
                                   39
##
   3340
           -9.9460
                    0
                        9.9460
                                   40
##
   3341
            9.7846
                        9.7846
                     0
                                   41
   3342
           -9.5363
                        9.5363
##
                     0
                                   42
##
   3343
            9.3956
                     0
                        9.3956
                                   43
##
   3344
            9.2452
                     0
                        9.2452
                                   44
##
  3345
           -9.0483
                     0
                        9.0483
                                   45
##
   3346
            8.9218
                     0
                        8.9218
                                   46
##
   3347
           -8.7471
                     0
                        8.7471
                                   47
   3348
            8.7126
                        8.7126
##
                     0
                                   48
##
   3349
           -8.3670
                     0
                        8.3670
                                   49
##
   3350
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                     0
                        7.9666
                                   50
##
   3351
            7.8257
                     0
                        7.8257
                                   51
##
   3352
           -7.7329
                     0
                        7.7329
                                   52
##
   3353
            7.6831
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                        7.6831
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##
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                                   54
   3355
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                        7.2440
##
                                   55
   3356
           -7.0513
                        7.0513
##
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                                   56
   3357
            6.9765
                        6.9765
##
                     0
                                   57
##
   3358
           -6.7313
                     0
                        6.7313
                                   58
   3359
            6.6798
                        6.6798
##
                     0
                                   59
   3360
           -6.4930
                     0
                        6.4930
##
                                   60
                        6.2313
##
   3361
            6.2313
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                                   61
   3362
           -6.1529
##
                     0
                        6.1529
                                   62
##
   3363
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                        6.0476
                                   63
##
   3364
           -5.8347
                     0
                        5.8347
                                   64
   3365
           -5.5434
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                        5.5434
##
                                   65
##
   3366
            5.4313
                     0
                        5.4313
                                   66
## 3367
            5.3132
                     0
                        5.3132
                                   67
## 3368
           -5.2592
                    0
                        5.2592
                                   68
```

```
## 3369
            5.1043
                    0
                        5.1043
                                   69
## 3370
                    0
                        5.0317
                                   70
           -5.0317
                        4.7972
  3371
            4.7972
                    0
                                   71
  3372
           -4.6067
                        4.6067
                                   72
##
                     0
##
   3373
            4.3914
                    0
                        4.3914
                                   73
            4.1745
                     0
                        4.1745
##
  3374
                                   74
## 3375
           -4.1336
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                                   75
                        3.9680
## 3376
           -3.9680
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##
   3377
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                                   77
##
  3378
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##
   3379
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   3380
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                        3.2404
##
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##
   3381
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##
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##
   3383
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                    0
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##
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##
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##
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                        2.0991
##
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##
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                        1.9436
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##
   3389
            1.9430
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                        1.9430
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##
   3390
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## 3391
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                        1.3212
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   3392
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                        1.1605
##
                                   92
##
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                    0
                        1.0700
                                   93
   3394
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                        0.9271
                                   94
##
   3395
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                        0.8511
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                     0
   3396
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                        0.7405
##
                    0
                                   96
##
   3397
            0.5726
                    0
                        0.5726
                                   97
                        0.2567
##
   3398
           -0.2567
                    0
                                   98
##
   3399
            0.0925
                    0
                        0.0925
                                   99
##
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           -0.0859
                    0
                        0.0859
                                  100
##
   3401
           19.3120
                    0 19.3120
                                    1
   3402
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                    0 19.0716
                                    2
##
##
   3403
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                    0 18.0295
                                    3
  3404
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                    0 18.0183
                                    4
##
## 3405
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                                    5
## 3406
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                                    6
## 3407
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                    0 17.3905
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           17.1091
                    0 17.1091
                                    8
##
  3408
   3409
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                    0 16.5758
                                    9
   3410
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                    0 16.2396
                                   10
##
           16.1714
##
   3411
                    0 16.1714
                                   11
##
   3412
         -16.0196
                    0 16.0196
                                   12
         -15.7206
## 3413
                    0 15.7206
                                   13
## 3414
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                    0 15.6918
                                   14
## 3415
           14.9112
                    0 14.9112
                                   15
         -14.8394
##
   3416
                    0 14.8394
                                   16
##
   3417
           14.4749
                    0 14.4749
                                   17
         -14.3405
##
   3418
                    0 14.3405
                                   18
  3419
           13.9455
                    0 13.9455
##
                                   19
## 3420
          -13.7592
                    0 13.7592
                                   20
## 3421
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                    0 13.6740
                                   21
           13.5450 0 13.5450
## 3422
                                   22
```

```
## 3423
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                    0 13.4035
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## 3424
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                    0 12.9292
   3425
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   3426
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##
                                   26
##
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   3428
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##
           12.4996
                                   28
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##
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                                   29
         -12.1735
## 3430
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##
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                                   34
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## 3445
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##
                                   46
           -8.5611
## 3447
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##
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## 3453
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## 3469
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##
   3473
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## 3474
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## 3475
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## 3476
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## 3478
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##
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##
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          -12.2537
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## 3529
                    0 11.9590
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## 3530
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```

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                        6.3794
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                        3.4126
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                        3.1539
##
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                        3.1017
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## 3583
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                        2.8536
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## 3584
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                        2.7275
                                   84
```

```
## 3585
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                    0
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##
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                        2.1340
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                        1.8764
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##
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                        1.8573
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                     0
##
   3590
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                        1.7157
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   3591
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##
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## 3592
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##
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##
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                    0 17.0548
##
  3607
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##
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##
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##
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##
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## 3622
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##
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## 3630
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                    0 10.6899
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##
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  3636
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                    0 10.6436
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## 3637
           10.4447
                    0 10.4447
                                   37
## 3638
           10.1802 0 10.1802
                                   38
```

```
## 3639
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                     0 10.1496
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           -9.9567
##
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                        9.9567
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##
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                        9.6370
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   3642
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                        9.6047
##
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##
   3643
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                        9.1194
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##
   3645
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                        8.8772
##
                                    45
                        8.7039
## 3646
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##
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                        8.2991
                                    47
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##
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                        5.3898
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##
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                                    90
## 3691
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## 3692
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                        1.3214
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```

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                                  93
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                       1.0085
## 3694
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##
                    0
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##
   3697
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                    0
                       0.6187
                                  97
   3698
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##
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                    0
                                  98
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                       0.2678
##
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##
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##
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##
##
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## 3709
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                    0 16.4118
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## 3711
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                    0 16.0121
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## 3712
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                                  12
## 3713
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## 3714
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                    0 14.9459
                                  14
         -14.8047
                    0 14.8047
## 3715
                                  15
         -14.6165
                    0 14.6165
## 3716
                                  16
## 3717
          14.5427
                    0 14.5427
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## 3718
          14.1520
                    0 14.1520
                                  18
## 3719
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## 3720
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## 3721
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                    0 13.7914
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## 3722
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## 3723
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## 3724
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##
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## 3728
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## 3734
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##
                    0 10.7465
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##
  3736
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                    0 10.6254
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## 3737
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## 3738
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                    0 10.4071
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## 3739
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                       9.8955
                                  39
## 3740
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                       9.8808
                    0
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## 3741
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                    0
                       9.5818
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## 3742
           9.4065
                    0
                       9.4065
                                  42
## 3743
          -9.2951
                       9.2951
                                  43
                    0
## 3744
           9.2274
                    0
                       9.2274
                                  44
## 3745
          -9.0272
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                       9.0272
                                  45
                       9.0039
## 3746
           9.0039
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                                  46
```

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## 3747
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                                   47
## 3748
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                        8.3853
                                   48
           -8.2718
##
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                        8.1884
##
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##
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                        7.7872
                                   51
## 3752
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                                   52
## 3753
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                        7.7218
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## 3754
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##
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   3758
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##
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                        6.4398
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## 3761
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                        6.2583
                                   61
##
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                        6.1551
                                   62
## 3763
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##
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##
                     0
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                        5.3852
##
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                                   66
##
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                        5.2822
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## 3768
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                        5.1538
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## 3769
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                        5.0534
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                                   69
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                        4.7535
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           -4.7253
                        4.7253
## 3771
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##
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                        4.6404
                                   72
##
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                        4.3361
                                   73
                     0
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                        4.2863
                                   74
##
                     0
                                   75
##
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                        4.0203
                        4.0191
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## 3777
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                        3.7514
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##
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                        3.4310
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                        3.2471
##
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                                   80
##
   3781
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                        3.0575
                                   81
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  3782
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                        2.7168
                                   82
## 3783
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                        2.7059
                                   83
## 3784
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                                   84
## 3785
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## 3786
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                        2.2864
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   3787
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                        2.2565
##
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##
                     0
                                   88
   3789
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                        1.8592
##
                     0
                                   89
   3790
##
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                        1.4387
                                   90
## 3791
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                        1.3994
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                                   91
                        1.3551
## 3792
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## 3793
           -1.1767
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                                   93
   3794
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                        0.8796
##
                     0
                                   94
##
   3795
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                     0
                        0.8316
                                   95
                        0.5660
##
   3796
            0.5660
                     0
                                   96
   3797
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                        0.5295
                                   97
##
                     0
                        0.3059
## 3798
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                                   98
## 3799
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## 3800
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                    0
                        0.0546
                                  100
```

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                    0 18.8660
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  3802
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   3803
           17.9657
                                    3
   3804
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                    0 17.9112
                                    4
##
##
   3805
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                    0 17.6534
                                    5
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                    0 17.5631
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##
   3806
   3807
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                                    7
##
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  3817
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##
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## 3823
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                                   24
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##
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##
##
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##
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##
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                    0 10.9656
##
                                   34
   3835
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                                   35
  3836
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##
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  3838
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##
## 3840
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                       9.4228
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   3842
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##
   3843
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                       9.1877
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##
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                       8.8745
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  3846
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                       8.7275
##
                                   46
##
  3847
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                       8.5321
                                   47
##
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                       8.4837
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##
   3849
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##
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                       8.3015
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                    0
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##
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##
  3852
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                       7.8599
                                   52
## 3853
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                       7.4970
## 3854
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```

```
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                        7.0448
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##
                        6.8240
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##
   3859
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                        6.8059
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                        6.4525
##
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                                   60
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                        6.1890
##
                                   61
##
  3862
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                        6.1476
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                        5.9252
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##
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##
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                        2.3295
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##
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                        2.2761
                                   86
##
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                        2.0157
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##
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##
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##
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                        0.0353
##
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           19.0274
                     0 19.0274
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##
   3902
##
   3903
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                     0 18.6748
                                     3
##
   3904
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                                     5
##
                     0 17.3757
                                     6
##
   3906
         -17.3757
##
  3907
           17.2880
                     0 17.2880
                                     7
## 3908
         -16.8874 0 16.8874
                                     8
```

```
## 3909
           16.7674 0 16.7674
                                    9
## 3910
                    0 16.2619
           16.2619
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  3911
         -16.0521
                    0 16.0521
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  3912
           15.7115
                    0 15.7115
##
                                   12
##
   3913
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                    0 15.3753
                                   13
           15.1384
                    0 15.1384
##
  3914
                                   14
## 3915
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## 3916
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                    0 14.6118
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                    0 14.6106
##
  3917
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##
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##
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##
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## 3931
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                    0 10.7556
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##
##
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                    0 10.3155
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## 3939
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                     0 10.1687
                                   39
##
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                    0 10.0940
                                   40
##
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           -9.8683
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                        9.8683
                                   41
   3942
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                        9.6970
##
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##
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                        9.5414
                                   43
##
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                        9.4660
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##
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##
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                        9.2169
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##
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                        9.0806
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## 3948
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                        7.8567
##
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##
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##
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##
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##
            6.7310
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                        6.4382
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                        6.4063
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## 3962
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                        6.0711
                                   62
```

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                     0
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   3967
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##
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##
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                                   75
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                                   76
##
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                     0
##
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                        3.5493
                                   77
##
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                        3.3727
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##
##
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                        2.9847
                                   81
##
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##
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##
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                        2.7080
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##
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                        2.3954
##
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##
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##
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                                   87
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                        1.5360
##
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##
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##
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##
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                        0.8685
                                   94
##
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                        0.6900
##
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##
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                                   97
##
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                                   98
##
   3999
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##
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## 4001
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##
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                     0 18.3801
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##
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##
   4005
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##
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##
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                     0 17.3166
## 4007
         -16.8797
                                     7
                     0 16.8797
## 4008
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                                     9
## 4009
         -16.1671
                     0 16.1671
          -15.8685
## 4010
                     0 15.8685
                                   10
## 4011
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                     0 15.8508
                                   11
## 4012
           15.6834
                     0 15.6834
                                   12
## 4013
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                     0 15.3748
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                     0 15.0680
## 4014
           15.0680
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         -14.9842
## 4015
                     0 14.9842
                                   15
                    0 14.7626
## 4016
           14.7626
                                    16
```

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                    0 14.3987
                                   17
## 4018
                    0 14.1034
           14.1034
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                    0 13.9215
## 4019
         -13.9215
                                   19
  4020
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                    0 13.8471
##
                                   20
## 4021
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## 4022
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## 4023
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                    0 12.8920
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## 4024
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                    0 12.4273
## 4025
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##
##
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   4030
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##
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  4032
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## 4035
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## 4036
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##
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## 4038
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## 4039
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                        9.7986
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## 4041
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                                   41
## 4042
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                        9.5024
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##
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                        9.2399
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                        8.9223
##
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##
## 4046
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## 4047
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                                   47
##
  4048
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##
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##
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                        7.5101
##
                                   52
## 4053
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                        7.4851
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## 4054
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                        7.3350
                                   54
##
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  4056
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##
                                   56
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##
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##
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## 4059
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                        6.7203
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##
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                     0
                        6.2629
## 4061
                                   61
                                   62
## 4062
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                        6.0994
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## 4063
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                                   63
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##
           -5.7086
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##
  4065
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                        5.5131
##
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            5.5131
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                                   66
   4067
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                        5.3507
                                   67
##
                     0
## 4068
            5.1835
                        5.1835
                                   68
## 4069
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                        5.0152
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## 4070
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                        4.8548
                                   70
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                    0
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                        4.6034
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## 4073
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## 4074
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## 4076
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## 4077
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                        3.6428
## 4078
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                        3.4686
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## 4080
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## 4082
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## 4085
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## 4086
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##
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##
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##
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##
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                        1.6239
                                   91
## 4092
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                        1.3595
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## 4093
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## 4094
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                    0
                        0.9845
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## 4095
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                        0.9024
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                        0.7781
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##
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                        0.6060
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                    0
   4098
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                        0.5014
##
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##
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                                   99
## 4100
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                    0 19.5901
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                    0 18.6112
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## 4103
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                    0 18.5461
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## 4107
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## 4109
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## 4111
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## 4112
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## 4113
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## 4114
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                                   14
         -15.0141
## 4115
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           14.9129
                    0 14.9129
## 4116
                                   16
## 4117
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           14.5721
## 4118
                     0 14.5721
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## 4119
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                                   19
           14.0795
## 4120
                    0 14.0795
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## 4121
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                                   21
                    0 13.5380
## 4122
           13.5380
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## 4123
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                                   23
           12.9303 0 12.9303
## 4124
                                   24
```

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## 4125
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                                   25
## 4126
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                    0 12.4721
                                   26
                    0 12.3659
## 4127
           12.3659
                                   27
## 4128
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                    0 12.2293
                                   28
## 4129
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                    0 11.8232
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## 4130
                    0 11.7705
           11.7705
                                   30
## 4131
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                    0 11.4967
                                   31
## 4132
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                    0 11.4570
                                   32
## 4133
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                                   33
## 4134
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                    0 10.7292
                                   34
## 4135
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                    0 10.5364
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## 4136
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                                   36
## 4137
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                    0 10.3102
                                   37
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## 4138
                                   38
## 4139
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                                   39
## 4140
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## 4142
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                        9.5396
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## 4143
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## 4144
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## 4145
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                                   45
## 4146
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## 4147
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## 4150
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## 4151
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## 4154
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                                   54
## 4155
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                        7.3289
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## 4156
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                        7.2242
                                   56
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## 4157
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                        7.0202
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## 4158
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                        6.8790
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## 4159
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                    0
                        6.6542
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## 4160
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## 4161
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                        6.1286
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## 4163
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                        6.0678
                                   63
## 4164
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## 4165
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                        5.7707
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## 4166
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## 4167
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## 4168
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## 4169
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## 4171
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                        4.3651
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## 4172
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## 4173
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## 4174
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## 4175
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## 4176
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                        3.8042
                                   76
## 4177
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                        3.6127
                                   77
## 4178
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           -3.3040
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```

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## 4179
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                    0
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## 4180
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          -3.1609
## 4181
                    0
                       3.1609
                                   81
## 4182
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                       2.8074
                    0
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## 4183
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                        2.7019
                                   83
           2.6176
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                       2.6176
## 4184
                                   84
## 4185
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                                   85
## 4186
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## 4187
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## 4188
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## 4189
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## 4190
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## 4192
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## 4193
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## 4194
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## 4195
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                    0 17.4907
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## 4208
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## 4211
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                                   11
## 4212
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## 4213
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## 4214
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                    0 15.3327
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## 4215
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## 4216
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## 4217
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## 4218
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                    0 14.3396
                                   18
## 4219
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## 4220
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                    0 13.4879
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## 4223
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## 4225
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## 4226
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## 4227
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## 4229
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## 4230
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## 4232
                                   32
```

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## 4234
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## 4235
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##
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## 4237
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##
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## 4246
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##
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   4266
            5.4385
                        5.4385
##
                    0
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##
  4267
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                    0
                        5.2230
                                   67
## 4268
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                    0
                        5.1839
                                   68
## 4269
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                     0
                        5.0988
                                   69
## 4270
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                     0
                        4.7977
                                   70
## 4271
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                        4.5862
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           -4.5739
                     0
                        4.5739
                                   72
## 4272
## 4273
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                        4.2525
                                   73
                    0
## 4274
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                        4.1668
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                        3.9100
## 4275
                    0
                                   75
## 4276
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                                   76
## 4277
            3.5099
                        3.5099
                                   77
                    0
## 4278
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           -3.4747
                     0
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            3.2206
                        3.2206
## 4279
                    0
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## 4280
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                        3.1050
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##
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                        2.9833
                                   81
           -2.8753
                        2.8753
##
   4282
                     0
                                   82
  4283
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                    0
                        2.7812
                                   83
##
                    0
## 4284
            2.7616
                        2.7616
                                   84
## 4285
           -2.3745
                    0
                        2.3745
                                   85
## 4286
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                    0
                        2.3140
                                   86
```

```
## 4287
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                    0
                       2.0722
                                  87
## 4288
                    0
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            1.9473
                                  88
## 4289
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                    0
                       1.8671
                                  89
## 4290
          -1.6796
                       1.6796
                    0
                                  90
## 4291
           1.6274
                    0
                       1.6274
                                  91
## 4292
          -1.3907
                    0
                       1.3907
                                  92
## 4293
                    0
                       1.2297
           1.2297
                                  93
## 4294
           1.1347
                    0
                       1.1347
                                  94
## 4295
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                    0
                       0.7384
                                  95
## 4296
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                    0
                       0.7217
                                  96
## 4297
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                    0
                       0.4659
                                  97
  4298
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                       0.3925
##
                    0
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##
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                    0
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          -0.0854
                    0
                       0.0854
##
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## 4301
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                    0 18.3773
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         -18.3136
                    0 18.3136
                                    3
##
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## 4305
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                    0 17.2135
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## 4306
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                    0 17.1968
                                    6
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## 4309
## 4310
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## 4311
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                                   11
## 4312
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                    0 15.4619
                                  12
## 4313
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                                  13
         -15.1045
## 4314
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          15.0610
                    0 15.0610
## 4315
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## 4316
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                    0 14.5782
                                  16
## 4317
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                    0 14.4425
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## 4318
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                    0 14.2123
                                  18
## 4319
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                    0 13.9034
                                  19
## 4320
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## 4321
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## 4322
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## 4323
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## 4324
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## 4325
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## 4326
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                    0 12.5316
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## 4327
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## 4328
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                                  28
## 4329
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                    0 12.0541
                                  29
## 4330
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                    0 11.8862
                                  30
## 4331
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                    0 11.4963
                                  31
## 4332
         -11.4526
                    0 11.4526
                                  32
## 4333
          10.9106
                    0 10.9106
                                  33
## 4334
         -10.8927
                    0 10.8927
                                  34
  4335
          10.7502
                    0 10.7502
                                  35
## 4336
         -10.4715
                    0 10.4715
                                  36
                    0 10.3402
                                  37
## 4337
          10.3402
                    0 10.2478
## 4338
         -10.2478
                                  38
## 4339
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                    0
                       9.9137
                                  39
           9.8874 0 9.8874
## 4340
                                  40
```

```
## 4341
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                     0
                        9.6571
                                   41
## 4342
            9.5740
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                        9.5740
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  4343
##
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                        9.2395
                                   43
   4344
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##
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                        9.1450
                                   44
##
   4345
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                        8.7706
                                   45
   4346
                     0
                        8.7592
##
           -8.7592
                                   46
## 4347
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                     0
                        8.6253
                                   47
            8.4252
                        8.4252
## 4348
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## 4349
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                        7.9040
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                        7.7465
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##
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##
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            7.6985
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                                   53
   4354
                        7.2446
##
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                        7.2027
                                   55
##
##
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                        7.0426
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                                   57
##
##
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   4359
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                        6.3654
##
                     0
                                   59
                        6.3067
##
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                                   60
##
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                        6.1319
                                   61
##
   4362
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                        5.8399
                                   62
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                        5.8243
##
                     0
                                   63
  4364
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                     0
                        5.6707
                                   64
##
##
  4365
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                     0
                        5.5278
                                   65
##
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                        5.3258
                                   66
##
   4367
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                        5.1735
                                   67
                     0
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                        5.1550
##
                     0
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   4369
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                     0
                        4.9304
                                   69
##
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## 4370
            4.8624
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                                   70
## 4371
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                        4.5667
                                   71
## 4372
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                        4.3645
                                   72
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##
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            4.3064
                                   73
   4374
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                        4.3025
                                   74
##
                     0
##
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                        4.0834
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                        3.8950
                                   76
##
##
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                                   77
## 4378
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                        3.6736
                                   78
## 4379
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##
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##
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##
   4383
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                        2.8604
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                     0
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##
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            2.5492
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## 4385
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                                   85
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                     0
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##
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                        2.2311
##
  4387
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                                   87
   4388
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                        2.0099
##
                     0
                                   88
##
   4389
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           -1.7598
##
   4390
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                        1.7598
                                   90
   4391
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                        1.5121
##
                                   91
                     0
## 4392
           -1.4209
                        1.4209
                                   92
## 4393
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                     0
                        1.2802
                                   93
## 4394
            1.2291
                    0
                        1.2291
                                   94
```

```
## 4395
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                    0
                       0.9557
                                   95
                    0
## 4396
           0.9477
                       0.9477
                                   96
  4397
           0.5711
                    0
                        0.5711
                                   97
   4398
           -0.4545
                       0.4545
##
                    0
                                   98
##
  4399
           0.1941
                    0
                       0.1941
                                   99
           -0.0033
                    0
                       0.0033
##
  4400
                                  100
## 4401
           19.6719
                    0 19.6719
                                    1
## 4402
         -19.3881
                    0 19.3881
                                    2
                    0 18.8156
## 4403
         -18.8156
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## 4404
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                    0 18.0274
                                    4
## 4405
         -17.6618
                    0 17.6618
                                    5
## 4406
           17.1671
                                    6
                    0 17.1671
                                    7
##
  4407
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                    0 16.7293
   4408
         -16.7119
                                    8
                    0 16.7119
## 4409
         -16.3085
                    0 16.3085
                                    9
## 4410
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                    0 16.0393
## 4411
           16.0393
                                   11
## 4412
           15.2903
                    0 15.2903
                                   12
                    0 15.0726
         -15.0726
## 4413
                                   13
## 4414
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                    0 15.0290
                                   14
## 4415
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                    0 14.6985
                                   15
## 4416
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                    0 14.6311
                                   16
           14.3085
                    0 14.3085
## 4417
                                   17
                    0 14.3008
## 4418
         -14.3008
                                   18
                    0 14.0921
## 4419
           14.0921
                                   19
## 4420
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                                   20
## 4421
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                    0 13.5555
                                   21
         -13.5297
## 4422
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## 4423
         -13.1520
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## 4424
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                    0 12.8722
                                   24
## 4425
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## 4426
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                    0 12.5075
                                   26
  4427
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                    0 12.0737
                                   27
## 4428
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                    0 11.9514
                                   28
## 4429
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## 4430
## 4431
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                                   31
## 4432
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                    0 11.2502
                                   32
## 4433
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## 4434
                                   34
## 4435
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                    0 10.6090
                                   35
## 4436
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                                   36
## 4437
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                    0 10.2166
                                   37
## 4438
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                                   38
                       9.5481
## 4439
           9.5481
                    0
                                   39
## 4440
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                    0
                       9.5047
                                   40
## 4441
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                    0
                       9.4475
                                   41
                       9.3445
## 4442
           -9.3445
                    0
                                   42
## 4443
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                    0
                       9.2657
                                   43
##
  4444
           9.1836
                    0
                        9.1836
                                   44
## 4445
                       9.0338
           9.0338
                    0
                                   45
## 4446
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                    0
                       8.8690
                                   46
## 4447
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                    0
                       8.7609
                                   47
## 4448
           -8.5963
                    0
                       8.5963
                                   48
```

```
## 4449
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                    0
                        8.4685
                                   49
## 4450
                    0
                        8.3279
           -8.3279
                                   50
## 4451
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                     0
                        8.1105
                                   51
  4452
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                        7.9770
##
                     0
                                   52
## 4453
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                     0
                        7.9109
                                   53
  4454
           -7.8018
                     0
                        7.8018
##
                                   54
## 4455
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                     0
                        7.2802
                                   55
                        7.2248
           -7.2248
## 4456
                     0
                                   56
## 4457
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                     0
                        6.8957
                                   57
## 4458
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                     0
                        6.8763
                                   58
##
  4459
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                        6.5660
                                   59
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   4460
                        6.4783
##
                     0
                                   60
##
   4461
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                     0
                        6.3832
                                   61
            6.2068
                        6.2068
##
   4462
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                                   62
## 4463
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                        6.0661
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                        5.9863
                                   64
  4465
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                        5.6373
                                   65
##
                     0
##
   4466
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                        5.6247
                                   66
  4467
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                        5.2708
##
                     0
                                   67
##
  4468
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                        5.1879
                                   68
##
  4469
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                        5.1336
                                   69
## 4470
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## 4471
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## 4472
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                        4.5011
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## 4473
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                                   73
## 4474
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                                   76
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##
   4477
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                                   77
                        3.4922
## 4478
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## 4479
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                        3.4507
                                   79
## 4480
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                                   80
                        3.1092
##
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                                   81
  4482
            2.8701
                        2.8701
##
                     0
                                   82
##
  4483
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                        2.8072
                                   83
  4484
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                        2.4275
##
                                   84
## 4485
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                     0
                        2.3842
                                   85
## 4486
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                        2.2385
                                   86
## 4487
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                        2.0477
                                   87
##
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                        1.9414
                                   88
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                        1.7626
##
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##
   4490
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                        1.7058
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                                   90
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##
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                                   91
## 4492
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                        1.3341
                                   92
## 4493
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                     0
                                   93
## 4494
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                        1.0312
                                   94
                        0.9013
## 4495
            0.9013
                    0
                                   95
   4496
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                        0.7471
##
                     0
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##
   4497
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                     0
                        0.5799
                                   97
            0.3563
                        0.3563
##
   4498
                     0
                                   98
  4499
           -0.2963
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                        0.2963
##
                                   99
                     0
## 4500
           -0.0743
                        0.0743
                                  100
## 4501
           18.7118
                    0 18.7118
                                    1
                    0 18.7049
                                    2
## 4502
         -18.7049
```

```
## 4503
         -18.2167 0 18.2167
                                    3
                    0 17.9169
                                    4
## 4504
           17.9169
                    0 17.5046
  4505
         -17.5046
                                    5
  4506
           17.4195
                    0 17.4195
                                    6
##
## 4507
         -16.8547
                    0 16.8547
                                    7
                    0 16.5818
                                    8
##
  4508
           16.5818
## 4509
                    0 16.4106
                                    9
           16.4106
## 4510
         -16.3600
                    0 16.3600
                                   10
## 4511
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                    0 15.9761
                                   11
## 4512
           15.7039
                    0 15.7039
                                   12
## 4513
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          15.4630
## 4514
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                                   14
## 4515
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                    0 15.0560
                                   15
##
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                                   16
## 4517
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## 4518
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## 4519
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  4520
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                    0 13.8828
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## 4521
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## 4522
           13.5825
                    0 13.5825
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## 4523
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## 4524
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## 4525
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## 4526
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## 4527
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## 4528
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                    0 12.0851
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##
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##
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  4531
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##
                                   31
## 4532
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##
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                    0 10.9797
                                   35
  4536
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##
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                                   37
##
## 4538
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                    0 10.4707
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## 4539
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## 4540
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                    0 10.0128
                                   40
## 4541
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                       9.6883
                                   41
## 4542
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                    0
                       9.6109
                                   42
## 4543
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                       9.4973
                    0
                                   43
  4544
           9.3548
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                       9.3548
##
                                   44
## 4545
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                       9.1113
                                   45
##
  4546
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                                   46
## 4547
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                       8.5832
                    0
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## 4548
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## 4549
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                    0
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## 4551
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                       7.7316
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##
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                       7.4715
##
                                   53
## 4554
           7.3382
                    0
                       7.3382
                                   54
## 4555
           7.2406
                    0
                       7.2406
                                   55
                      7.1650
## 4556
           -7.1650
                   0
                                   56
```

```
## 4557
           -6.7301
                     0
                        6.7301
                                   57
##
  4558
                     0
                        6.6727
                                   58
            6.6727
##
   4559
           -6.5747
                     0
                        6.5747
                                   59
            6.4241
                        6.4241
   4560
                     0
##
                                   60
##
   4561
            6.3253
                     0
                        6.3253
                                   61
   4562
           -6.1622
                     0
                        6.1622
##
                                   62
## 4563
           -5.7790
                     0
                        5.7790
                                   63
                        5.6922
## 4564
            5.6922
                     0
                                   64
## 4565
           -5.6337
                     0
                        5.6337
                                   65
##
  4566
            5.6263
                     0
                        5.6263
                                   66
##
  4567
            5.3915
                     0
                        5.3915
                                   67
   4568
           -5.1608
                        5.1608
##
                     0
                                   68
                        5.0736
##
   4569
            5.0736
                     0
                                   69
                        5.0241
##
   4570
           -5.0241
                     0
                                   70
## 4571
           -4.6036
                     0
                        4.6036
                                   71
## 4572
            4.5797
                     0
                        4.5797
                                   72
           -4.3537
                     0
                        4.3537
                                   73
## 4573
##
   4574
            4.2481
                     0
                        4.2481
                                   74
   4575
            4.0324
                        4.0324
##
                     0
                                   75
##
   4576
           -3.9779
                     0
                        3.9779
                                   76
##
   4577
            3.6626
                     0
                        3.6626
                                   77
##
  4578
           -3.6560
                     0
                        3.6560
                                   78
  4579
           -3.3805
                        3.3805
##
                     0
                                   79
## 4580
            3.3691
                     0
                        3.3691
                                   80
## 4581
           -3.1255
                     0
                        3.1255
                                   81
##
  4582
            2.8735
                     0
                        2.8735
                                   82
##
   4583
           -2.8391
                        2.8391
                                   83
                     0
   4584
            2.6331
                        2.6331
##
                     0
                                   84
   4585
           -2.4975
                     0
                        2.4975
                                   85
##
                        2.3397
##
  4586
           -2.3397
                     0
                                   86
##
   4587
            2.1173
                     0
                        2.1173
                                   87
                                   88
##
   4588
            1.9540
                     0
                        1.9540
##
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           -1.8318
                     0
                        1.8318
                                   89
   4590
            1.5241
                        1.5241
##
                     0
                                   90
##
   4591
            1.3936
                     0
                        1.3936
                                   91
##
   4592
           -1.3494
                     0
                        1.3494
                                   92
##
   4593
            1.2539
                     0
                        1.2539
                                   93
##
  4594
           -0.9954
                     0
                        0.9954
                                   94
##
  4595
           -0.7018
                     0
                        0.7018
                                   95
##
   4596
            0.6101
                     0
                        0.6101
                                   96
   4597
           -0.5970
                        0.5970
                                   97
##
                     0
   4598
            0.4065
                        0.4065
                                   98
##
                     0
           -0.3493
                        0.3493
##
   4599
                     0
                                   99
##
   4600
            0.2021
                     0
                        0.2021
                                   100
## 4601
           18.8012
                     0 18.8012
                                     1
## 4602
          -18.7905
                     0 18.7905
                                     2
                                     3
## 4603
          -18.0729
                     0 18.0729
           17.7054
                     0 17.7054
                                     4
##
   4604
##
   4605
           17.3192
                     0 17.3192
                                     5
                                     6
##
   4606
          -17.2066
                     0 17.2066
                                    7
   4607
           16.8056
                     0 16.8056
##
                                     8
## 4608
          -16.6771
                     0 16.6771
## 4609
           16.4054
                     0 16.4054
                                    9
## 4610
         -16.1871 0 16.1871
                                   10
```

```
## 4611
         -15.7132 0 15.7132
                                   11
                    0 15.6904
## 4612
           15.6904
                                   12
                    0 15.4518
## 4613
         -15.4518
                                   13
  4614
         -15.2448
                    0 15.2448
##
                                   14
## 4615
           14.9393
                    0 14.9393
                                   15
  4616
           14.5839
                    0 14.5839
##
                                   16
## 4617
         -14.4353
                    0 14.4353
                                   17
         -14.3036
## 4618
                    0 14.3036
                                   18
                    0 14.0502
## 4619
           14.0502
                                   19
## 4620
           13.5461
                    0 13.5461
                                   20
## 4621
         -13.4863
                    0 13.4863
                                   21
   4622
         -13.2351
                    0 13.2351
                                   22
##
##
   4623
           12.8242
                    0 12.8242
                                   23
##
   4624
           12.6750
                    0 12.6750
                                   24
## 4625
         -12.4826
                    0 12.4826
                                   25
## 4626
         -12.3324
                    0 12.3324
                                   26
           12.2750
                    0 12.2750
                                   27
##
  4627
##
   4628
         -12.1067
                    0 12.1067
                                   28
                    0 11.8974
           11.8974
##
  4629
                                   29
##
  4630
         -11.8206
                    0 11.8206
                                   30
##
   4631
           11.4548
                    0 11.4548
                                   31
  4632
         -11.3990
                    0 11.3990
                                   32
##
         -11.1291
                    0 11.1291
##
  4633
                                   33
  4634
           11.0685
                    0 11.0685
##
                                   34
## 4635
           10.7896
                    0 10.7896
                                   35
## 4636
           10.6818
                    0 10.6818
                                   36
   4637
         -10.6314
                    0 10.6314
                                   37
##
         -10.3734
##
   4638
                    0 10.3734
                                   38
         -10.2336
                    0 10.2336
                                   39
##
   4639
## 4640
           -9.9644
                     0
                        9.9644
                                   40
## 4641
            9.8715
                     0
                        9.8715
                                   41
## 4642
            9.6299
                    0
                        9.6299
                                   42
##
   4643
            9.4163
                    0
                        9.4163
                                   43
  4644
           -9.3373
                        9.3373
##
                    0
                                   44
##
   4645
            9.0328
                    0
                        9.0328
                                   45
  4646
           -8.7963
                    0
                        8.7963
##
                                   46
##
  4647
            8.7142
                    0
                        8.7142
                                   47
  4648
            8.4295
                    0
                        8.4295
                                   48
##
## 4649
           -8.4271
                     0
                        8.4271
                                   49
  4650
           -8.2747
                     0
                        8.2747
##
                                   50
   4651
            8.1135
                    0
                        8.1135
##
                                   51
   4652
           -7.9711
                     0
                        7.9711
##
                                   52
## 4653
           -7.6247
                     0
                        7.6247
                                   53
##
   4654
            7.6193
                    0
                        7.6193
                                   54
            7.3873
                        7.3873
## 4655
                    0
                                   55
                        7.1802
## 4656
           -7.1802
                     0
                                   56
##
  4657
            7.1236
                    0
                        7.1236
                                   57
            6.9503
                        6.9503
##
   4658
                    0
                                   58
##
   4659
           -6.8651
                     0
                        6.8651
                                   59
##
   4660
            6.5694
                     0
                        6.5694
                                   60
   4661
           -6.5346
                     0
                        6.5346
##
                                   61
##
  4662
            6.2208
                    0
                        6.2208
                                   62
## 4663
           -6.0476
                    0
                        6.0476
                                   63
## 4664
            5.8811 0
                        5.8811
                                   64
```

```
## 4665
            5.6818
                    0
                        5.6818
                                   65
                    0
                        5.6682
## 4666
           -5.6682
                                   66
##
   4667
           -5.2489
                    0
                        5.2489
                                   67
            5.0079
                        5.0079
   4668
##
                    0
                                   68
##
   4669
           -4.9444
                    0
                        4.9444
                                   69
           -4.8304
                        4.8304
##
  4670
                     0
                                   70
            4.7663
                     0
                        4.7663
## 4671
                                   71
                        4.5724
## 4672
           -4.5724
                     0
                                   72
## 4673
            4.4256
                    0
                        4.4256
                                   73
           -4.2974
                        4.2974
## 4674
                     0
                                   74
## 4675
            4.1101
                     0
                        4.1101
                                   75
   4676
            3.9302
                        3.9302
                                   76
##
                     0
                        3.7955
##
   4677
           -3.7955
                    0
                                   77
                        3.5461
                                   78
##
   4678
            3.5461
                     0
## 4679
           -3.5146
                    0
                        3.5146
                                   79
##
   4680
            3.2401
                     0
                        3.2401
                                   80
           -3.1032
                    0
                        3.1032
##
   4681
                                   81
##
   4682
           -2.8662
                    0
                        2.8662
                                   82
  4683
            2.7828
                        2.7828
##
                    0
                                   83
##
  4684
            2.5551
                    0
                        2.5551
                                   84
##
   4685
           -2.5193
                    0
                        2.5193
                                   85
  4686
           -2.2981
                     0
                        2.2981
##
                                   86
            2.1097
                     0
                        2.1097
##
  4687
                                   87
  4688
            1.7713
                    0
                        1.7713
##
                                   88
## 4689
           -1.7064
                    0
                        1.7064
                                   89
##
  4690
            1.3902
                    0
                        1.3902
                                   90
   4691
           -1.2192
                        1.2192
##
                    0
                                   91
   4692
            1.2141
                        1.2141
##
                     0
                                   92
   4693
           -0.9632
                    0
                        0.9632
                                   93
##
                        0.8089
## 4694
            0.8089
                    0
                                   94
## 4695
           -0.7907
                    0
                        0.7907
                                   95
##
   4696
            0.6272
                    0
                        0.6272
                                   96
##
   4697
           -0.4796
                    0
                        0.4796
                                   97
   4698
            0.2665
                        0.2665
##
                    0
                                   98
##
   4699
           -0.2429
                     0
                        0.2429
                                   99
## 4700
            0.0016
                    0
                        0.0016
                                  100
## 4701
           19.4101
                    0 19.4101
                                    1
## 4702
          -18.8611
                    0 18.8611
                                    2
## 4703
          -18.5475
                    0 18.5475
                                    3
           18.1554
                    0 18.1554
                                    4
## 4704
## 4705
           17.8474
                    0 17.8474
                                    5
## 4706
         -17.7622
                    0 17.7622
                                    6
                                    7
## 4707
          -16.7655
                    0 16.7655
                                    8
## 4708
           16.7617
                    0 16.7617
## 4709
         -16.4081
                                    9
                    0 16.4081
## 4710
           16.4049
                    0 16.4049
                                   10
## 4711
           15.8340
                    0 15.8340
                                   11
## 4712
         -15.7142
                    0 15.7142
                                   12
## 4713
         -15.3926
                    0 15.3926
                                   13
## 4714
           15.3889
                    0 15.3889
                                   14
## 4715
           15.1708
                    0 15.1708
                                   15
## 4716
         -14.8399
                    0 14.8399
                                   16
## 4717
           14.6580
                    0 14.6580
                                   17
## 4718
         -14.3328
                    0 14.3328
                                   18
```

```
## 4719
           14.0959
                    0 14.0959
                                   19
                    0 13.8457
## 4720
         -13.8457
                                   20
## 4721
         -13.5226
                    0 13.5226
                                   21
## 4722
           13.4642
                    0 13.4642
                                   22
## 4723
         -13.1430
                    0 13.1430
                                   23
           12.8872
                    0 12.8872
## 4724
                                   24
## 4725
         -12.7872
                    0 12.7872
                                   25
## 4726
           12.5883
                    0 12.5883
                                   26
                    0 12.0905
## 4727
         -12.0905
                                   27
## 4728
           11.9273
                    0 11.9273
                                   28
## 4729
         -11.8173
                    0 11.8173
                                   29
## 4730
          11.5963
                    0 11.5963
                                   30
## 4731
         -11.5116
                    0 11.5116
                                   31
## 4732
           11.4128
                    0 11.4128
                                   32
## 4733
           11.1498
                    0 11.1498
                                   33
## 4734
         -11.1383
                    0 11.1383
                                   34
         -10.7905
                    0 10.7905
                                   35
## 4735
## 4736
          10.7774
                    0 10.7774
                                   36
## 4737
         -10.4179
                    0 10.4179
                                   37
## 4738
           10.3301
                    0 10.3301
                                   38
                    0 10.0718
## 4739
         -10.0718
                                   39
## 4740
           -9.9916
                    0
                       9.9916
                                   40
           9.7636
                       9.7636
## 4741
                    0
                                   41
## 4742
           9.6477
                    0
                       9.6477
                                   42
## 4743
           -9.3184
                    0
                       9.3184
                                   43
## 4744
           9.2640
                    0
                       9.2640
                                   44
## 4745
           9.2117
                       9.2117
                                   45
                    0
           -8.8393
                       8.8393
## 4746
                    0
                                   46
## 4747
           8.6593
                    0
                       8.6593
                                   47
                       8.4457
## 4748
           -8.4457
                    0
                                   48
## 4749
           8.0579
                    0
                       8.0579
                                   49
## 4750
           -7.9172
                    0
                       7.9172
                                   50
## 4751
           7.8535
                    0
                       7.8535
                                   51
## 4752
           -7.7218
                       7.7218
                    0
                                   52
## 4753
           7.6785
                    0
                       7.6785
                                   53
## 4754
           -7.4235
                    0
                       7.4235
                                   54
## 4755
           7.2721
                    0
                       7.2721
                                   55
## 4756
           6.9998
                    0
                       6.9998
                                   56
## 4757
           -6.9588
                    0
                       6.9588
                                   57
           6.8444
                    0
                       6.8444
## 4758
                                   58
## 4759
           -6.7185
                       6.7185
                    0
                                   59
## 4760
           -6.4633
                       6.4633
                    0
                                   60
                       6.3564
## 4761
           6.3564
                    0
                                   61
## 4762
           -6.0370
                    0
                       6.0370
                                   62
           5.9426
                       5.9426
## 4763
                    0
                                   63
## 4764
           -5.7225
                    0
                       5.7225
                                   64
## 4765
           -5.4724
                    0
                       5.4724
                                   65
           5.4508
                       5.4508
## 4766
                    0
                                   66
## 4767
           5.2474
                    0
                       5.2474
                                   67
## 4768
           -5.1254
                    0
                       5.1254
                                   68
           -4.8260
                    0
                       4.8260
## 4769
                                   69
                    0
## 4770
           4.8127
                        4.8127
                                   70
## 4771
           4.7061
                    0
                       4.7061
                                   71
## 4772
           -4.5204
                   0
                       4.5204
                                   72
```

```
## 4773
            4.3211
                    0
                        4.3211
                                   73
           -4.2806
                    0
                        4.2806
                                   74
## 4774
                        4.1487
## 4775
            4.1487
                     0
                                   75
           -3.7597
                        3.7597
## 4776
                     0
                                   76
## 4777
           -3.7013
                    0
                        3.7013
                                   77
            3.6217
                     0
                        3.6217
                                   78
## 4778
           -3.4807
                     0
                        3.4807
## 4779
                                   79
## 4780
            3.3913
                     0
                        3.3913
                                   80
## 4781
           -3.0689
                    0
                        3.0689
                                   81
## 4782
            2.9697
                     0
                        2.9697
                                   82
## 4783
            2.7871
                     0
                        2.7871
                                   83
## 4784
           -2.6460
                        2.6460
                     0
                                   84
## 4785
           -2.5755
                    0
                        2.5755
                                   85
## 4786
            2.5103
                     0
                        2.5103
                                   86
## 4787
           -2.0254
                     0
                        2.0254
                                   87
## 4788
           -1.7988
                    0
                        1.7988
                                   88
            1.7710
                    0
                        1.7710
## 4789
                                   89
## 4790
            1.4942
                     0
                        1.4942
                                   90
## 4791
            1.4206
                        1.4206
                    0
                                   91
## 4792
           -1.3087
                     0
                        1.3087
                                   92
## 4793
           -1.1777
                     0
                        1.1777
                                   93
## 4794
            1.1015
                     0
                        1.1015
                                   94
           -0.7371
                        0.7371
## 4795
                     0
                                   95
## 4796
            0.4522
                    0
                        0.4522
                                   96
## 4797
           -0.3806
                    0
                        0.3806
                                   97
## 4798
            0.3270
                    0
                        0.3270
                                   98
   4799
           -0.1770
                        0.1770
                                   99
##
                     0
   4800
            0.1548
##
                    0
                        0.1548
                                  100
   4801
           19.2332
                    0 19.2332
##
                                    1
## 4802
         -18.7877
                     0 18.7877
                                    2
## 4803
           18.0588
                    0 18.0588
                                    3
##
   4804
         -17.7243
                    0 17.7243
                                    4
                                    5
##
   4805
           17.6044
                    0 17.6044
   4806
         -17.2688
                    0 17.2688
                                    6
##
                                    7
##
   4807
           17.0002
                    0 17.0002
## 4808
         -16.4524
                    0 16.4524
                                    8
## 4809
           16.2269
                    0 16.2269
                                    9
## 4810
           16.0157
                    0 16.0157
                                   10
## 4811
         -15.8040
                    0 15.8040
                                   11
## 4812
           15.5528
                    0 15.5528
                                   12
## 4813
         -15.4564
                    0 15.4564
                                   13
  4814
         -15.1823
                    0 15.1823
##
                                   14
## 4815
           14.8317
                    0 14.8317
                                   15
##
  4816
         -14.4360
                    0 14.4360
                                   16
           14.3570
                    0 14.3570
## 4817
                                   17
         -14.3419
## 4818
                    0 14.3419
                                   18
## 4819
         -13.9061
                    0 13.9061
                                   19
           13.8385
                    0 13.8385
## 4820
                                   20
## 4821
           13.4335
                    0 13.4335
                                   21
##
  4822
          -13.3932
                    0 13.3932
                                   22
         -13.1837
                    0 13.1837
                                   23
## 4823
                    0 13.0198
## 4824
           13.0198
                                   24
## 4825
           12.8838
                    0 12.8838
                                   25
## 4826
         -12.6451 0 12.6451
                                   26
```

```
## 4827
           12.4794
                    0 12.4794
                                   27
##
           12.0742
                    0 12.0742
                                   28
  4828
   4829
          -12.0241
                    0 12.0241
                                   29
   4830
           11.7213
                    0 11.7213
##
                                   30
##
   4831
          -11.4510
                    0 11.4510
                                   31
   4832
           11.2112
                    0 11.2112
##
                                   32
  4833
         -11.2078
                     0 11.2078
##
                                   33
## 4834
          -11.0582
                     0 11.0582
                                   34
                     0 10.7961
##
  4835
           10.7961
                                   35
##
   4836
         -10.4291
                     0 10.4291
                                   36
##
   4837
           10.3098
                    0 10.3098
                                   37
   4838
          -10.1844
                     0 10.1844
##
                                   38
##
   4839
           10.0778
                     0 10.0778
                                   39
                        9.6563
##
   4840
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                     0
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## 4841
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                        9.6204
                                   41
##
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                                   42
  4843
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                        9.1650
                                   43
##
##
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                     0
                        9.1155
                                   44
   4845
           -9.0904
                        9.0904
##
                     0
                                   45
##
   4846
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                     0
                        8.8449
                                   46
##
   4847
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                     0
                        8.7492
                                   47
##
   4848
           -8.3934
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                        8.3934
                                   48
            8.3087
                        8.3087
##
  4849
                     0
                                   49
## 4850
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                        8.1977
                                   50
## 4851
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                        8.1255
                                   51
   4852
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                                   52
##
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                        7.7591
                                   53
                     0
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                        7.6288
##
                     0
                                   54
##
   4855
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                     0
                        7.4397
                                   55
                        7.0832
##
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            7.0832
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                                   56
##
   4857
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                        7.0179
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##
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                        6.7873
                                   58
##
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                        6.3390
##
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##
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                                   61
   4862
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                     0
                        6.1460
##
                                   62
##
   4863
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##
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                        5.5135
                                   64
##
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                        5.3296
##
                                   66
   4867
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                        5.2058
##
                     0
                                   67
   4868
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##
                     0
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                        4.7957
##
   4869
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                                   69
                        4.6944
##
   4870
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                        4.6444
## 4871
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                                   71
## 4872
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                        4.5154
                                   72
                        4.2743
## 4873
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                     0
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           -4.1475
                        4.1475
                                   74
## 4874
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##
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                        4.0714
                                   75
##
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                        3.8442
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   4877
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                        3.7367
                                   77
##
                     0
##
  4878
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                                   78
## 4879
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## 4880
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                                   80
```

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                    0
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                                   81
                    0
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                        2.6842
##
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                                   84
##
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                    0
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##
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            2.3142
                                   86
           -2.1366
                     0
##
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                        2.1366
                                   87
## 4888
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## 4889
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## 4891
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##
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                                   94
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##
   4898
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                                   98
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##
                     0
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## 4900
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                                    3
## 4904
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                    0 18.3047
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## 4905
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                    0 17.5476
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                                    7
##
## 4908
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## 4909
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                    0 16.3253
## 4910
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                    0 16.2137
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## 4911
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                    0 16.1848
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## 4912
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                    0 15.8476
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## 4913
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## 4914
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## 4915
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## 4916
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## 4917
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## 4918
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                    0 14.3714
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## 4919
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                                   19
## 4920
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                    0 13.4827
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## 4921
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## 4922
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## 4923
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## 4924
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## 4925
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## 4926
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                    0 12.7109
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## 4927
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## 4928
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                    0 11.9865
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## 4929
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                    0 11.9415
                                   29
## 4930
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                    0 11.7125
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## 4931
         -11.5206
                    0 11.5206
                                   31
## 4932
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                    0 11.3936
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## 4933
                    0 11.0807
                                   33
         -10.8307 0 10.8307
## 4934
                                   34
```

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## 4935
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                     0 10.8228
                                   35
## 4936
                     0 10.4630
         -10.4630
                                   36
  4937
          -10.3079
                     0 10.3079
                                   37
   4938
##
           10.3036
                     0 10.3036
                                   38
##
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           10.0549
                     0 10.0549
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  4940
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                        9.9304
##
                                   40
## 4941
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                        9.6940
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                        9.4217
## 4942
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## 4943
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                        9.0185
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                        9.0086
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                        8.8071
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##
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## 4949
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##
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##
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                        7.6909
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##
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                        7.4915
                                   54
##
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##
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##
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##
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##
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##
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##
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   4962
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                        5.9949
##
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                                   62
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                        5.9191
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##
## 4964
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## 4965
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##
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##
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                        5.1552
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   4968
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                        5.0550
##
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##
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                                   69
## 4970
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                        4.5632
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## 4974
## 4975
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##
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##
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## 4979
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## 4980
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## 4981
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                        2.6449
##
   4982
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##
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                        2.6119
                                   83
##
   4984
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                     0
                        2.4939
                                   84
   4985
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                     0
                        2.2205
                                   85
##
                     0
##
  4986
            2.2176
                        2.2176
                                   86
## 4987
           -2.0854
                     0
                        2.0854
                                   87
## 4988
            1.8425
                    0
                        1.8425
                                   88
```

```
## 4989
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                    0
                      1.7201
                                  89
## 4990
                    0
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                       1.4308
                                  90
## 4991
          -1.4157
                    0
                       1.4157
                                  91
          -1.3379
##
  4992
                       1.3379
                    0
                                  92
## 4993
           1.2318
                    0
                       1.2318
                                  93
          -0.8715
                    0
                       0.8715
## 4994
                                  94
## 4995
           0.7519
                    0
                       0.7519
                                  95
## 4996
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                    0
                       0.5605
                                  96
## 4997
           0.5330
                    0
                       0.5330
                                  97
##
  4998
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                    0
                       0.4173
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                    0
                       0.1414
                                  99
   5000
           0.0446
                       0.0446
##
                    0
                                  100
##
   5001
          18.7613
                    0 18.7613
                                    1
## 5002
                    0 18.6387
                                    2
          18.6387
## 5003
         -18.6231
                    0 18.6231
                                    3
## 5004
         -17.9880
                    0 17.9880
                                    4
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                    0 17.9529
                                    5
## 5005
   5006
         -17.4224
                    0 17.4224
                                    6
  5007
          17.1729
                                   7
##
                    0 17.1729
## 5008
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                    0 16.6950
                                   8
## 5009
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                    0 16.3511
                                   9
## 5010
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                    0 16.2172
                                  10
          16.0819
                    0 16.0819
## 5011
                                  11
## 5012
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                    0 15.8185
                                  12
## 5013
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                    0 15.7686
                                  13
## 5014
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                    0 15.5901
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## 5015
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##
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                    0 14.8223
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## 5017
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                    0 14.3914
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## 5018
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                    0 14.2307
                                  18
## 5019
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                    0 13.8719
                                  19
## 5020
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                    0 13.7085
                                  20
## 5021
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                    0 13.4265
                                  21
## 5022
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                    0 13.2626
                                  22
## 5023
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                                  23
## 5024
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                                  24
## 5025
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                    0 12.8833
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## 5026
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## 5027
          12.3251
                    0 12.3251
                                  27
## 5028
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                    0 12.2643
                                  28
  5029
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                    0 11.8119
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## 5030
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##
  5031
                    0 11.4887
                                  31
##
  5032
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                    0 11.3226
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## 5033
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                                  33
## 5034
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## 5035
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## 5036
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                    0 10.4597
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##
  5037
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                                  37
##
  5038
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                    0 10.4060
                                  38
## 5039
          10.1496
                    0 10.1496
                                  39
## 5040
         -10.0581
                    0 10.0581
                                  40
## 5041
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                    0
                       9.7654
                                  41
           9.7021 0 9.7021
## 5042
                                  42
```

```
## 5043
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                     0
                        9.3427
                                   43
## 5044
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                        9.2049
                                   44
##
  5045
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                     0
                        9.1060
                                   45
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                        8.9224
##
                     0
                                   46
##
   5047
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                     0
                        8.6848
                                   47
  5048
            8.4482
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                        8.4482
##
                                   48
## 5049
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## 5050
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                        8.0336
##
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##
  5052
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                        7.9518
                                   52
##
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                        7.6361
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##
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                        7.3660
##
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##
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                                   76
##
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##
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##
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##
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##
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## 5087
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## 5088
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## 5089
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##
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##
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                                   94
## 5095
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## 5096
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```

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                    0
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## 5098
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## 5099
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           0.2496
## 5100
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                    0 19.7305
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## 5103
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                    0 18.5044
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                                    4
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## 5105
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## 5106
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## 5107
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                                    7
## 5108
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## 5109
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## 5113
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## 5114
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                                  14
          14.9591
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## 5115
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## 5116
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## 5122
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                    0 13.2825
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                    0 12.9997
                                  23
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## 5126
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## 5137
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## 5141
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## 5142
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                       9.2783
## 5143
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## 5144
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## 5145
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## 5146
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## 5147
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## 5202
           18.5358
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## 5204
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## 5262
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##
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##
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## 5312
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```

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                    0 15.2604
## 5314
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## 5319
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## 5320
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## 5322
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## 5365
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## 5366
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                                   16
          -14.2345
                     0 14.2345
                                   17
## 5417
                    0 14.0352
## 5418
           14.0352
                                   18
                    0 13.8295
## 5419
           13.8295
                                   19
                    0 13.6450
## 5420
         -13.6450
                                   20
```

```
## 5421
         -13.3980
                    0 13.3980
                                   21
## 5422
                    0 13.1645
                                   22
           13.1645
## 5423
         -12.8664
                    0 12.8664
                                   23
## 5424
           12.7428
                    0 12.7428
                                   24
## 5425
         -12.5748
                    0 12.5748
                                   25
## 5426
           12.5478
                    0 12.5478
                                   26
## 5427
           12.3436
                    0 12.3436
                                   27
         -12.2180
                    0 12.2180
## 5428
                                   28
                    0 12.0542
## 5429
         -12.0542
                                   29
## 5430
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                    0 11.7461
                                   30
## 5431
           11.4179
                    0 11.4179
                                   31
         -11.3320
## 5432
                    0 11.3320
                                   32
##
   5433
         -11.0620
                    0 11.0620
                                   33
           10.8253
                    0 10.8253
## 5434
                                   34
## 5435
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                    0 10.7724
                                   35
## 5436
           10.7228
                    0 10.7228
                                   36
         -10.3753
                    0 10.3753
                                   37
## 5437
  5438
         -10.1462
                    0 10.1462
                                   38
## 5439
            9.9983
                        9.9983
                    0
                                   39
## 5440
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                    0
                        9.8230
                                   40
## 5441
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                    0
                        9.5952
                                   41
## 5442
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                     0
                        9.5751
                                   42
## 5443
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                        9.1133
                    0
                                   43
## 5444
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                    0
                        8.9917
                                   44
           -8.9423
## 5445
                    0
                        8.9423
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            8.8252
                    0
                        8.8252
                                   46
##
   5447
           -8.6320
                        8.6320
                                   47
                    0
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            8.5340
                        8.5340
##
                    0
                                   48
## 5449
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                    0
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                                   49
                        8.2589
## 5450
            8.2589
                    0
                                   50
## 5451
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                        8.0115
                                   51
##
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                        7.7723
                                   52
##
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                                   53
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                        7.6208
##
                    0
                                   54
##
   5455
            7.3324
                    0
                        7.3324
                                   55
## 5456
           -7.2006
                    0
                        7.2006
                                   56
## 5457
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                        7.0126
                                   57
## 5458
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                                   58
## 5459
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                    0
                        6.7255
                                   59
## 5460
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  5461
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                        6.2549
##
                    0
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  5462
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                        6.1598
##
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## 5463
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                    0
                        6.1393
                                   63
## 5464
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                        5.9114
                                   64
## 5465
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                        5.5431
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                                   65
## 5466
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                        5.4359
                                   66
                        5.2898
## 5467
           -5.2898
                    0
                                   67
            5.2216
                        5.2216
## 5468
                    0
                                   68
## 5469
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                    0
                        4.9614
                                   69
                        4.6551
## 5470
            4.6551
                     0
                                   70
## 5471
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                     0
                        4.6114
                                   71
                     0
## 5472
           -4.4219
                        4.4219
                                   72
## 5473
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                    0
                        4.3812
                                   73
## 5474
                        4.1653
           -4.1653
                    0
                                   74
```

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## 5475
            4.1292
                    0
                        4.1292
                                   75
           -3.9066
                    0
                        3.9066
                                   76
## 5476
## 5477
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                    0
                        3.8288
                                   77
## 5478
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                        3.4993
                    0
                                   78
## 5479
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                    0
                        3.4884
                                   79
## 5480
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                        3.3127
                                   80
## 5481
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                    0
                        3.0918
                                   81
## 5482
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                        3.0631
                                   82
## 5483
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                    0
                        2.9190
                                   83
## 5484
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                    0
                        2.8199
                                   84
## 5485
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                    0
                        2.5060
                                   85
## 5486
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                        2.4946
                     0
                                   86
##
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                                   87
## 5488
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                        2.1633
                                   88
## 5489
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## 5491
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                                   91
##
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                        1.4698
                                   92
## 5493
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                        1.1779
                                   93
                     0
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                    0
                        0.8640
                                   94
## 5495
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                     0
                        0.6717
                                   95
## 5496
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                        0.6500
                                   96
            0.5402
                        0.5402
## 5497
                     0
                                   97
## 5498
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                        0.1789
                                   98
## 5499
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                     0
                        0.1395
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                        0.0088
                                  100
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                     0 19.4431
##
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                                    2
##
   5503
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                    0 18.1765
                                    3
##
## 5504
         -18.1584
                    0 18.1584
                                    4
## 5505
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                    0 17.4379
                                    5
##
   5506
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                    0 17.4063
                                    6
                                    7
##
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                     0 17.3221
   5508
         -17.2475
                    0 17.2475
                                    8
##
##
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                                    9
## 5510
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                    0 16.4069
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## 5511
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                    0 16.2448
                                   11
## 5512
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                    0 16.1338
                                   12
## 5513
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                    0 15.4598
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           15.3773
                    0 15.3773
## 5514
                                   14
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                    0 15.0867
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         -14.9593
## 5516
                    0 14.9593
                                   16
##
   5517
           14.6547
                     0 14.6547
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##
   5518
         -14.4447
                     0 14.4447
                                   18
## 5519
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                                   19
## 5520
           14.0625
                    0 14.0625
                                   20
## 5521
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                    0 13.7582
                                   21
## 5522
         -13.4352
                    0 13.4352
                                   22
##
   5523
           13.2982
                    0 13.2982
                                   23
##
   5524
          -13.1497
                    0 13.1497
                                   24
## 5525
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                    0 12.8821
                                   25
                    0 12.5409
## 5526
           12.5409
                                   26
         -12.4156
## 5527
                    0 12.4156
                                   27
## 5528
           12.2416 0 12.2416
                                   28
```

```
## 5529
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                    0 11.9968
                                   29
## 5530
                    0 11.7699
                                   30
           11.7699
  5531
           11.4882
                    0 11.4882
                                   31
   5532
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                     0 11.2494
                                   32
##
##
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           10.9874
                     0 10.9874
                                   33
  5534
          -10.8204
                     0 10.8204
##
                                   34
## 5535
           10.7843
                     0 10.7843
                                   35
## 5536
         -10.6497
                     0 10.6497
                                   36
                     0 10.3855
##
  5537
          -10.3855
                                   37
##
   5538
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                                   38
##
   5539
           10.0655
                    0 10.0655
                                   39
   5540
            9.8031
                        9.8031
##
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##
   5541
            9.4989
                     0
                        9.4989
                                   41
  5542
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##
           -9.4861
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                                   42
## 5543
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                        9.1015
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## 5544
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                        9.0347
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## 5545
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                        8.9046
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##
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##
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                                   48
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##
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## 5550
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                        7.9375
## 5551
                     0
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   5552
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                        7.6562
                                   52
##
## 5553
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                        7.6073
                                   53
##
   5554
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                        7.3792
                                   54
##
   5555
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                     0
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                        6.9836
##
                     0
                                   56
##
   5557
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                        6.6892
                                   57
##
   5558
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                     0
                        6.5775
                                   58
## 5559
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                        6.3294
                                   59
##
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            6.3075
                     0
                        6.3075
                                   60
##
   5561
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                     0
                        6.1694
                                   61
   5562
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                        6.0644
##
                     0
                                   62
##
   5563
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                        6.0414
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                        5.7360
##
           -5.7360
                                   64
##
   5565
           -5.6038
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                        5.6038
                                   65
##
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                        5.5930
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## 5567
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                        5.4146
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                        5.2655
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##
                                   69
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##
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                        4.7081
##
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                        4.4525
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                        4.4334
## 5573
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                        4.2108
## 5574
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                                   74
           -4.2036
                        4.2036
## 5575
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           -3.8323
                        3.8323
                                   76
## 5576
                     0
##
   5577
            3.8283
                     0
                        3.8283
                                   77
   5578
##
           -3.3656
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                        3.3656
                                   78
  5579
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                     0
                        3.3445
                                   79
##
## 5580
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                     0
                        3.1198
                                   80
## 5581
            3.0195
                     0
                        3.0195
                                   81
## 5582
           -2.8154
                    0
                        2.8154
                                   82
```

```
## 5583
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                    0
                       2.5629
                                   83
           -2.4691
                    0
## 5584
                       2.4691
                                   84
## 5585
           2.2894
                    0
                       2.2894
                                   85
           2.1259
  5586
                       2.1259
##
                    0
                                   86
##
  5587
           -1.9814
                    0
                       1.9814
                                   87
## 5588
                    0
           -1.7713
                        1.7713
                                   88
## 5589
           1.6041
                    0
                        1.6041
                                   89
## 5590
           -1.4557
                    0
                       1.4557
                                   90
## 5591
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                    0
                       1.2900
                                   91
## 5592
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                    0
                       1.2565
                                   92
##
  5593
           1.1718
                    0
                       1.1718
                                   93
   5594
           0.9700
                       0.9700
##
                    0
                                   94
##
   5595
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                    0
                       0.9391
                                   95
##
   5596
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                    0
                        0.7944
                                   96
  5597
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                    0
                       0.6075
                                   97
##
##
   5598
           0.3974
                    0
                       0.3974
                                   98
## 5599
           0.1388
                    0
                       0.1388
                                   99
##
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                       0.0698
                                  100
  5601
         -19.7088
                    0 19.7088
##
                                    1
##
  5602
           19.3755
                    0 19.3755
                                    2
##
  5603
         -18.6966
                    0 18.6966
                                    3
## 5604
           18.3790
                    0 18.3790
                                    4
         -18.1860
                    0 18.1860
## 5605
                                    5
## 5606
           17.6552
                    0 17.6552
                                    6
                                    7
## 5607
         -17.4635
                    0 17.4635
  5608
          16.8880
                    0 16.8880
                                    8
  5609
         -16.7361
                    0 16.7361
                                    9
##
##
   5610
          16.0620
                    0 16.0620
                                   10
## 5611
         -15.9768
                    0 15.9768
                                   11
## 5612
           15.5851
                    0 15.5851
                                   12
## 5613
         -15.2406
                    0 15.2406
                                   13
## 5614
         -15.1012
                    0 15.1012
                                   14
##
  5615
          14.7522
                    0 14.7522
                                   15
## 5616
         -14.4854
                    0 14.4854
                                   16
##
  5617
         -14.2188
                    0 14.2188
                                   17
## 5618
           14.2081
                    0 14.2081
                                   18
## 5619
           13.9651
                    0 13.9651
                                   19
## 5620
           13.6704
                    0 13.6704
                                   20
## 5621
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                    0 13.5807
                                   21
## 5622
           13.2648
                    0 13.2648
                                   22
         -13.0642
## 5623
                    0 13.0642
                                   23
## 5624
           12.7937
                    0 12.7937
                                   24
##
  5625
         -12.7701
                    0 12.7701
                                   25
##
   5626
           12.4759
                    0 12.4759
                                   26
         -12.4752
## 5627
                    0 12.4752
                                   27
## 5628
         -12.0064
                    0 12.0064
                                   28
## 5629
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                    0 11.9043
                                   29
## 5630
           11.7419
                    0 11.7419
                                   30
##
  5631
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                    0 11.6267
                                   31
##
   5632
         -11.2915
                    0 11.2915
                                   32
                    0 11.2763
                                   33
## 5633
           11.2763
## 5634
           10.9751
                    0 10.9751
                                   34
## 5635
         -10.8043
                    0 10.8043
                                   35
## 5636
         -10.5398 0 10.5398
                                   36
```

```
## 5637
           10.5124
                     0 10.5124
                                   37
         -10.2685
                     0 10.2685
                                   38
## 5638
##
  5639
            9.9839
                     0
                        9.9839
                                   39
                        9.8886
  5640
           -9.8886
##
                     0
                                   40
##
   5641
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                        9.8038
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                        9.7261
                                   42
##
## 5643
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                        9.3185
                                   43
           -9.2644
## 5644
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                        9.2644
                                   44
## 5645
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                     0
                        9.0644
                                   45
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                        8.9009
##
  5646
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                                   46
##
   5647
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                     0
                        8.8210
                                   47
   5648
           -8.5490
                        8.5490
##
                     0
                                   48
##
   5649
           -8.1482
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                        8.1482
                                   49
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##
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                        8.1161
                                   50
##
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                        7.9378
                                   51
##
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##
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                        7.3400
##
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##
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                        7.3243
                                   56
##
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                        6.8599
                                   57
##
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## 5659
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##
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##
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##
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                        5.9080
                                   63
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                        5.6669
##
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##
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                        5.3292
##
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##
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                                   67
##
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                        5.0696
##
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            5.0696
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                                   69
   5670
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                        4.8354
                                   70
##
                     0
##
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                     0
                        4.8117
                                   71
  5672
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                        4.4993
                                   72
##
## 5673
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                     0
                        4.1927
                                   73
## 5674
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                     0
                        4.1696
                                   74
## 5675
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                     0
                        4.0548
                                   75
## 5676
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  5677
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                        3.7933
                                   77
##
   5678
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                        3.6264
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##
                     0
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                        3.2958
##
   5679
                     0
                                   79
                     0
##
   5680
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                        3.1738
                                   80
## 5681
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                                   81
                        3.0340
## 5682
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                        2.8382
##
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            2.8382
                     0
                                   83
   5684
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                        2.5718
##
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                                   84
##
   5685
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                        2.5134
                                   85
##
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                        2.2049
                                   86
   5687
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                        2.1951
                                   87
##
                     0
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                        1.9966
                                   88
## 5689
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                        1.8062
                                   89
## 5690
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                    0
                        1.6565
                                   90
```

```
## 5691
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                    0 1.4014
                                  91
                    0
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## 5692
           1.3388
                                  92
## 5693
           1.1294
                    0
                       1.1294
                                  93
  5694
          -1.0585
                       1.0585
##
                    0
                                  94
## 5695
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                    0
                       0.7967
                                  95
           0.5666
                    0
                       0.5666
##
  5696
                                  96
## 5697
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                    0
                       0.4863
                                  97
## 5698
          -0.2462
                    0
                       0.2462
                                  98
## 5699
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## 5700
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                    0
                       0.0498
                                 100
## 5701
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                    0 19.4419
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                    0 18.9721
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## 5703
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                    0 18.5403
                                    3
         -18.3803
## 5704
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                                    4
## 5705
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                    0 17.6831
                                    5
## 5706
          17.6684
                    0 17.6684
                                    6
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                    0 17.4754
                                   7
## 5707
## 5708
         -16.6193
                    0 16.6193
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## 5709
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                    0 16.3975
## 5710
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                    0 16.3842
                                  10
## 5711
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                    0 16.1288
                                  11
## 5712
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                    0 16.1272
                                  12
         -15.8018
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## 5713
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          15.6437
                    0 15.6437
## 5714
                                  14
                    0 14.9892
## 5715
          14.9892
                                  15
## 5716
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                    0 14.7932
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## 5717
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                    0 14.3964
                                  17
         -14.1762
## 5718
                    0 14.1762
                                  18
## 5719
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                    0 14.0384
                                  19
## 5720
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                    0 13.9532
                                  20
## 5721
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                    0 13.4557
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## 5722
         -13.4463
                    0 13.4463
                                  22
## 5723
         -13.2068
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                                  23
## 5724
          13.1077
                    0 13.1077
                                  24
## 5725
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                    0 12.8317
                                  25
## 5726
         -12.7451
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## 5727
         -12.3617
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                                  27
## 5728
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                    0 12.2062
                                  28
## 5729
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                    0 11.7783
## 5730
                                  30
## 5731
         -11.7036
                    0 11.7036
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## 5732
         -11.2912
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## 5733
          11.1381
                    0 11.1381
                                  33
## 5734
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                                  34
                    0 10.7339
## 5735
          10.7339
                                  35
## 5736
         -10.5314
                    0 10.5314
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## 5737
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                    0 10.5010
                                  37
         -10.0374
## 5738
                    0 10.0374
                                  38
## 5739
          10.0209
                    0 10.0209
                                  39
## 5740
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                    0
                       9.7672
                                  40
## 5741
                    0
                       9.7115
           9.7115
                                  41
## 5742
          -9.2894
                    0
                       9.2894
                                  42
## 5743
           9.2410
                    0
                       9.2410
                                  43
## 5744
          -9.0360
                   0
                       9.0360
                                  44
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                    0
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                                   45
## 5746
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                        8.7377
                                   46
           -8.7377
            8.6569
## 5747
                     0
                        8.6569
                                   47
## 5748
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                        8.4102
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                                   48
## 5749
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                        8.2849
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## 5750
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                        8.2583
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                        8.1596
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## 5752
            7.7569
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                                   52
## 5753
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            7.5250
## 5754
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                        6.9256
## 5756
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                        6.8447
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                        6.4283
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           -6.3781
                        6.3781
## 5761
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## 5762
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                        6.0401
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## 5763
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## 5764
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                        5.6580
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## 5765
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## 5767
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## 5768
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           -5.0733
## 5769
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## 5770
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## 5771
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## 5773
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## 5774
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## 5775
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## 5777
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## 5778
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## 5779
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## 5780
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                        2.9209
                                   81
## 5782
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                        2.8995
                                   82
## 5783
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                    0
                        2.6010
                                   83
## 5784
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                                   84
## 5785
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                        2.3109
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## 5786
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                        2.2168
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                                   86
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                        2.1395
## 5787
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## 5788
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                                   88
## 5789
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                        1.7358
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## 5790
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                     0
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## 5791
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                     0
                                   91
           -1.3691
                        1.3691
## 5792
                     0
                                   92
                                   93
## 5793
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                     0
                        1.2436
                        0.9274
## 5794
            0.9274
                     0
                                   94
## 5795
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                     0
                        0.9023
                                   95
                     0
## 5796
           -0.7083
                        0.7083
                                   96
## 5797
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                     0
                        0.6422
                                   97
## 5798
                        0.5651
           -0.5651
                    0
                                   98
```

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## 5799
           0.4483
                    0 0.4483
                                   99
                                  100
           0.0514
                    0
                       0.0514
## 5800
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   5801
                    0 19.4850
                                    1
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                    0 18.6149
                                    2
##
##
   5803
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                    0 18.4499
                                    3
           17.4534
                    0 17.4534
                                    4
##
  5804
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## 5805
                    0 17.4255
                                    5
## 5806
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                    0 17.2276
                                    6
##
  5807
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                    0 16.7873
                                    7
                                    8
##
   5808
           16.6717
                    0 16.6717
##
   5809
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                    0 16.5411
                                    9
          16.2307
                    0 16.2307
##
   5810
                                   10
##
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           15.6530
## 5812
                    0 15.6530
                                   12
## 5813
           15.2865
                    0 15.2865
                                   13
## 5814
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                    0 15.1642
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                    0 14.8954
## 5815
           14.8954
                                   15
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           14.7086
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## 5817
                                   17
## 5818
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                                   18
## 5819
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                                   19
## 5820
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                                   20
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## 5821
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## 5822
                                   22
## 5823
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                    0 13.2383
                                   23
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                    0 13.0868
                                   24
  5825
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                    0 12.6691
                                   25
##
##
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                                   26
   5827
           12.2890
                    0 12.2890
                                   27
##
## 5828
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                    0 12.2412
                                   28
## 5829
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                    0 11.8823
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##
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##
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                                   31
  5832
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                                   32
##
   5833
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## 5834
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                    0 10.8330
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## 5835
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                                   35
## 5836
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                    0 10.3739
                                   36
## 5837
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                    0 10.2851
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## 5838
                                   38
  5839
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##
                    0 10.1681
                                   39
  5840
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                       9.9652
##
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## 5842
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## 5843
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                       9.5342
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## 5844
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## 5845
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                       8.8729
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                       8.8489
## 5846
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                                   46
##
  5847
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                       8.6043
                                   47
##
   5848
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                        8.3826
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                       8.3264
##
                                   49
## 5850
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                    0
                       8.1673
                                   50
## 5851
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                    0
                       8.0527
                                   51
## 5852
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                   0
                       7.6910
                                   52
```

```
## 5853
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                     0
                        7.6701
                                   53
##
  5854
           -7.6253
                     0
                        7.6253
                                   54
##
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                        7.2602
                                   55
   5856
##
            7.0114
                        7.0114
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                                   56
##
   5857
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                        6.8079
                                   57
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                        6.7991
##
                                   58
  5859
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                     0
                        6.6292
##
                                   59
                        6.3999
## 5860
            6.3999
                     0
                                   60
##
   5861
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                        6.3002
                                   61
                        6.2347
##
   5862
            6.2347
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                                   62
##
   5863
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                        5.9212
                                   63
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                        5.8994
##
                     0
                                   64
##
   5865
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                        5.6788
                                   65
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                        5.4148
##
   5866
                     0
                                   66
##
   5867
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                        5.4074
                                   67
##
   5868
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                     0
                        5.1543
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            5.1528
##
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##
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                        4.4851
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## 5874
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## 5875
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                                   75
## 5876
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## 5877
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                        3.8721
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                        3.3084
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##
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                        3.1740
                                   81
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##
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                                   82
##
  5883
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                     0
                        2.8301
                                   83
##
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                        2.7770
                                   84
##
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                        2.6444
                                   85
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                        2.3802
##
                     0
                                   86
##
   5887
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                        2.2865
                                   87
##
   5888
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                     0
                        1.8346
                                   88
##
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                                   89
##
  5890
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                        1.6517
                                   90
##
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##
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##
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                        0.9659
##
   5895
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                                   95
##
   5896
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                        0.6963
##
                                   97
   5898
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                     0
                        0.5146
                                   98
##
##
   5899
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                        0.1778
                                   99
   5900
            0.0961
                        0.0961
##
                     0
                                   100
##
   5901
          -19.4034
                     0 19.4034
                                     1
                                     2
##
   5902
           19.0248
                     0 19.0248
   5903
          -18.4188
                     0 18.4188
                                     3
##
                     0 18.2246
## 5904
           18.2246
                                     4
## 5905
          -18.0577
                     0 18.0577
                                     5
           17.8094 0 17.8094
## 5906
                                     6
```

```
## 5907
         -17.3815 0 17.3815
                                    7
                    0 17.2876
## 5908
          17.2876
                                    8
## 5909
         -16.5204
                    0 16.5204
                                    9
## 5910
         -16.3353
                    0 16.3353
                                  10
## 5911
          16.3211
                    0 16.3211
                                  11
## 5912
                    0 15.9953
          15.9953
                                  12
## 5913
                    0 15.7981
          15.7981
                                  13
## 5914
          15.3976
                    0 15.3976
                                  14
## 5915
         -15.2165
                    0 15.2165
                                  15
## 5916
         -14.9743
                    0 14.9743
                                  16
## 5917
         -14.6927
                    0 14.6927
                                  17
## 5918
          14.5435
                    0 14.5435
                                  18
##
  5919
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## 5920
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## 5921
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## 5922
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## 5923
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## 5927
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                                  27
## 5928
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## 5929
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                                  30
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  5933
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##
                                  33
          11.3338
##
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## 5935
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                                  35
## 5936
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                    0 10.7487
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## 5937
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                    0 10.5599
                                  37
## 5938
          10.1738
                    0 10.1738
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##
   5939
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                    0 10.1205
                                  39
  5940
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                       9.8744
##
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                                  40
##
   5941
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                       9.6874
                                  41
## 5942
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                    0
                       9.4658
                                  42
## 5943
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                       9.3921
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## 5944
           9.3030
                    0
                       9.3030
                                  44
## 5945
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                    0
                       8.9421
                                  45
## 5946
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  5947
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##
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##
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                                  49
## 5950
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                       8.3108
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## 5951
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## 5952
           7.8964
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## 5953
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## 5954
           7.5776
                    0
                       7.5776
                                  54
##
  5955
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                       7.4281
                                  55
##
   5956
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                    0
                        6.9239
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                        6.8846
                                  57
##
## 5958
           6.7875
                    0
                        6.7875
                                  58
## 5959
           -6.5829
                    0
                       6.5829
                                  59
## 5960
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                   0
                       6.2795
                                  60
```

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                    0
                        6.2206
                                   61
## 5962
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                     0
                        6.0317
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            5.9434
##
  5963
                     0
                        5.9434
                                   63
           -5.8292
   5964
                        5.8292
##
                     0
                                   64
##
   5965
            5.5972
                     0
                        5.5972
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   5966
           -5.3240
                     0
                        5.3240
##
                                   66
## 5967
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                        5.1922
                                   67
## 5968
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## 5969
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                        4.7507
                                   69
## 5970
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## 5972
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## 5974
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## 5975
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## 5976
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## 5977
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                        3.4098
##
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##
  5980
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                        3.1477
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##
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                        3.1147
                                   81
## 5982
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                     0
                        2.7698
                                   82
## 5983
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                        2.5559
                     0
                                   83
## 5984
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## 5985
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                        1.9141
##
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##
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## 5990
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                        1.5831
                                   90
## 5991
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                                   91
## 5992
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                        1.3183
                                   92
##
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                        1.1766
                                   93
   5994
           -1.1273
                        1.1273
##
                                   94
                     0
##
   5995
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                        0.9173
                                   95
##
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                        0.7684
                                   96
##
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                        0.6833
                                   97
## 5998
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                        0.3333
                                   98
## 5999
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                        0.2408
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## 6000
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                                  100
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          -19.2162
                    0 19.2162
##
                                    1
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   6002
                     0 18.8345
                                    2
##
   6003
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                     0 18.2647
##
                                    3
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##
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           18.2430
                     0 18.2430
## 6005
         -17.8580
                                    5
                    0 17.8580
           17.7354
## 6006
                     0 17.7354
                                    6
                                    7
##
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           17.1392
                    0 17.1392
   6008
         -17.0267
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##
                     0 17.0267
##
  6009
           16.8044
                    0 16.8044
                                    9
##
   6010
          -16.6982
                    0 16.6982
                                   10
           16.1493
                    0 16.1493
##
   6011
                                   11
## 6012
           15.9118
                    0 15.9118
                                   12
         -15.8287
## 6013
                     0 15.8287
                                   13
## 6014
         -15.4045
                   0 15.4045
                                   14
```

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## 6015
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                   0 15.1936
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## 6016
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           15.1777
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##
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                    0 14.9855
                                   17
## 6018
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                    0 14.6994
                                   18
##
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           14.5723
                    0 14.5723
                                   19
  6020
           14.0082
                    0 14.0082
##
                                   20
                    0 13.9241
## 6021
         -13.9241
                                   21
                    0 13.7210
## 6022
           13.7210
                                   22
                    0 13.4490
## 6023
         -13.4490
                                   23
## 6024
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                    0 13.2653
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##
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                    0 12.9488
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                    0 12.8098
##
                                   26
##
   6027
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                    0 12.4618
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   6028
##
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                    0 12.3931
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                    0 12.1776
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##
##
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                    0 11.7532
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## 6038
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                    0 10.2546
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           10.2394
## 6039
                    0 10.2394
                                   39
##
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                       9.8076
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##
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                       9.4774
##
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##
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                    0
                       9.3725
                                   43
                       9.3723
## 6044
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                    0
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## 6045
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##
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                       8.8922
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##
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                       8.6362
##
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##
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                       8.3145
                                   49
##
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                       8.2243
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                       7.9521
                                   51
##
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                       7.9274
                                   52
##
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                       7.6015
                                   53
## 6054
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                    0
                       7.4861
                                   54
  6055
           7.2850
                       7.2850
##
                    0
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##
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                       7.0282
##
                    0
                                   57
   6058
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                       6.8330
                                   58
## 6059
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                    0
                       6.7467
                                   59
## 6060
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                    0
                       6.5188
                                   60
                       6.3415
## 6061
           -6.3415
                    0
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## 6062
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                        6.2742
                    0
                                   62
##
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                    0
                       5.9960
                                   63
           5.8657
                       5.8657
##
   6064
                    0
                                   64
   6065
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                    0
                       5.7413
##
                                   65
##
  6066
           -5.6117
                    0
                       5.6117
                                   66
## 6067
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                    0
                       5.3600
                                   67
## 6068
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                       5.1702
                                   68
```

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                    0
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                                   69
## 6070
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                        4.6609
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## 6071
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                        4.6518
                                   71
           -4.3353
                        4.3353
## 6072
                                   72
                    0
## 6073
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                        4.2183
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## 6074
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                        4.0522
                                   74
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                                   75
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                        3.8419
                                   76
## 6077
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                        3.7684
                                   77
## 6078
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                        3.5745
                                   78
## 6079
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                        3.4296
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                        3.2854
##
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##
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                                   81
   6082
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                        2.9004
##
                     0
                                   82
## 6083
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                        2.7937
                                   83
##
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                        2.7812
                                   84
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##
                                   85
##
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                                   86
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                        2.1385
##
                    0
                                   87
##
   6088
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                    0
                        2.0710
                                   88
##
   6089
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                    0
                        2.0300
                                   89
## 6090
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                     0
                        1.8032
                                   90
## 6091
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                        1.6251
                     0
                                   91
## 6092
            1.2044
                    0
                        1.2044
                                   92
           -1.1691
## 6093
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                        1.1691
                                   93
   6094
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                        1.0258
                                   94
##
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                        0.9430
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                    0
   6096
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                        0.8035
##
                    0
                                   96
##
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                        0.5496
                                   97
                        0.3933
##
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            0.3933
                    0
                                   98
## 6099
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                        0.2550
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## 6100
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                    0
                        0.0637
                                  100
##
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## 6104
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                    0 18.3376
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## 6105
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## 6106
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## 6111
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## 6112
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                                   12
           15.5051
## 6113
                    0 15.5051
                                   13
         -15.4652
                    0 15.4652
## 6114
                                   14
## 6115
           15.0194
                    0 15.0194
                                   15
         -14.7026
## 6116
                    0 14.7026
                                   16
## 6117
           14.5085
                    0 14.5085
                                   17
## 6118
         -14.4645
                    0 14.4645
                                   18
## 6119
         -14.2024
                    0 14.2024
                                   19
## 6120
           14.0959
                    0 14.0959
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         -13.7149
## 6121
                    0 13.7149
                                   21
## 6122
           13.5647 0 13.5647
                                   22
```

```
## 6123
         -13.1747 0 13.1747
                                   23
           13.1110
                    0 13.1110
                                   24
## 6124
                    0 12.8611
## 6125
         -12.8611
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## 6126
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                    0 12.3537
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## 6127
         -12.3471
                    0 12.3471
                                   27
## 6128
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                    0 11.9133
                                   28
## 6129
         -11.6414
                    0 11.6414
                                   29
## 6130
           11.5246
                    0 11.5246
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                    0 11.2691
## 6131
           11.2691
                                   31
## 6132
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                    0 11.2504
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## 6133
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                    0 10.8908
                                   33
          10.8705
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                    0 10.8705
                                   34
##
  6135
         -10.6894
                    0 10.6894
                                   35
                    0 10.6205
## 6136
           10.6205
                                   36
## 6137
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                    0 10.4615
                                   37
## 6138
         -10.3884
                    0 10.3884
                                   38
           10.0590
                    0 10.0590
                                   39
## 6139
## 6140
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                    0
                       9.9918
                                   40
## 6141
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                       9.7377
                    0
                                   41
## 6142
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                    0
                       9.4391
                                   42
## 6143
           -9.1539
                    0
                       9.1539
                                   43
## 6144
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                    0
                       9.1198
                                   44
## 6145
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                       8.7222
                    0
                                   45
## 6146
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                    0
                       8.6962
                                   46
           -8.5078
## 6147
                    0
                       8.5078
                                   47
## 6148
           8.3531
                    0
                       8.3531
                                   48
## 6149
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                       8.2393
                                   49
                    0
## 6150
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                       7.9804
                    0
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## 6151
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                    0
                       7.8528
                                   51
## 6152
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                    0
                       7.6739
                                   52
## 6153
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                    0
                       7.5904
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## 6154
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                       7.3503
                                   54
                       7.3381
##
  6155
           7.3381
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                                   55
## 6156
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                       7.1252
                    0
                                   56
## 6157
           7.1040
                    0
                       7.1040
                                   57
## 6158
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                       6.6015
                                   58
## 6159
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                    0
                        6.4243
                                   59
## 6160
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                       6.3593
                                   60
## 6161
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                    0
                       6.3192
                                   61
## 6162
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                    0
                       6.0791
                                   62
## 6163
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                       5.9759
                    0
                                   63
## 6164
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                       5.8787
                    0
                                   64
## 6165
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                       5.7187
                    0
                                   65
                       5.5485
## 6166
           -5.5485
                    0
                                   66
## 6167
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                       5.3350
                    0
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## 6168
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                    0
                       5.1204
                                   68
                       5.0491
## 6169
           -5.0491
                    0
                                   69
## 6170
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                       5.0032
                    0
                                   70
## 6171
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                    0
                        4.7981
                                   71
           4.6775
## 6172
                    0
                        4.6775
                                   72
## 6173
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                        4.4471
                                   73
                    0
                    0
## 6174
           4.1548
                        4.1548
                                   74
## 6175
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                    0
                        4.0779
                                   75
## 6176
            4.0224
                    0
                       4.0224
                                   76
```

```
## 6177
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                    0
                       3.6124
                                   77
                    0
                       3.5660
                                   78
## 6178
           -3.5660
## 6179
           3.3984
                    0
                       3.3984
                                   79
## 6180
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                       3.3312
                    0
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## 6181
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                    0
                       3.0930
                                   81
## 6182
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                    0
                       3.0368
                                   82
## 6183
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                    0
                        2.8335
                                   83
## 6184
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                       2.7253
                                   84
           -2.4104
## 6185
                    0
                       2.4104
                                   85
## 6186
           2.3596
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                       2.3596
                                   86
## 6187
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                    0
                       2.0999
                                   87
           -2.0222
## 6188
                       2.0222
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                                   88
## 6189
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                        1.7804
## 6190
           -1.7804
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                                   90
## 6191
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## 6192
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                        1.3227
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## 6193
                       1.1721
           1.1721
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## 6194
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                       1.0662
                                   94
## 6195
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## 6196
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                       0.7822
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## 6197
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## 6198
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## 6199
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## 6200
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                       0.1795
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## 6201
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## 6202
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                    0 19.1081
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                    0 18.5180
                                    3
##
   6204
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                                    4
##
                    0 18.0532
  6205
           17.6173
                    0 17.6173
                                    5
##
## 6206
           17.1503
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                                    6
                                    7
## 6207
         -17.0623
                    0 17.0623
## 6208
           16.7323
                    0 16.7323
                                    8
                                    9
## 6209
         -16.6112
                    0 16.6112
## 6210
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                    0 16.2685
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## 6211
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                    0 16.0891
                                   11
## 6212
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                                   12
## 6213
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                                   13
## 6214
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                                   14
## 6215
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                    0 15.1736
                                   15
## 6216
         -15.0934
                    0 15.0934
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## 6217
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## 6218
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                    0 14.3284
                                   18
## 6219
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                                   19
## 6220
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                    0 14.0424
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## 6221
                                   21
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## 6224
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                                   24
## 6225
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                                   25
##
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## 6227
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                    0 12.4184
                                   27
## 6228
           12.3544
                    0 12.3544
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## 6229
           12.0512
                    0 12.0512
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## 6230
         -11.8633 0 11.8633
                                   30
```

```
## 6231
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                    0 11.6311
                                   31
  6232
                    0 11.4162
                                   32
##
           11.4162
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   6233
          -11.2172
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   6234
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##
                                   34
##
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                    0 10.9610
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                    0 10.5774
##
                                   36
## 6237
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                                   37
## 6238
          -10.3810
                    0 10.3810
                                   38
         -10.2654
## 6239
                    0 10.2654
                                   39
## 6240
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## 6241
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                        9.7500
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                        9.7420
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##
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                        9.4385
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                        9.1731
##
   6244
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                        8.9057
                                   46
## 6247
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##
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##
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##
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##
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## 6260
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                                   61
##
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##
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                        6.0425
                                   63
  6264
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                        5.8404
##
                     0
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##
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##
                                   66
##
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## 6268
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## 6269
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                        3.4084
                                   79
##
   6280
            3.2004
                     0
                        3.2004
                                   80
   6281
           -3.1982
                     0
                        3.1982
##
                                   81
                     0
## 6282
            2.8691
                        2.8691
                                   82
## 6283
           -2.8066
                     0
                        2.8066
                                   83
## 6284
            2.6421
                    0
                        2.6421
                                   84
```

```
## 6285
           -2.5924
                    0
                       2.5924
                                   85
           2.2438
                    0
## 6286
                       2.2438
                                   86
  6287
           -2.1760
                    0
                       2.1760
                                   87
  6288
           -2.1367
                       2.1367
##
                    0
                                   88
## 6289
           1.9688
                    0
                        1.9688
                                   89
## 6290
           -1.6804
                        1.6804
                    0
                                   90
## 6291
                    0
           1.4298
                        1.4298
                                   91
## 6292
           1.1714
                    0
                       1.1714
                                   92
## 6293
           -1.1177
                    0
                       1.1177
                                   93
## 6294
          -0.9503
                    0
                       0.9503
                                   94
  6295
           0.9044
                    0
                       0.9044
                                   95
   6296
           -0.6865
                       0.6865
##
                    0
                                   96
##
   6297
           0.5580
                    0
                       0.5580
                                   97
           0.4474
##
   6298
                    0
                       0.4474
                                   98
## 6299
           -0.4306
                    0
                       0.4306
                                   99
##
   6300
          -0.1821
                    0
                       0.1821
                                  100
         -19.3581
                    0 19.3581
##
  6301
                                    1
   6302
           18.7707
                    0 18.7707
                                    2
  6303
           18.2021
                    0 18.2021
##
                                    3
##
  6304
         -18.0977
                    0 18.0977
                                    4
                    0 17.6518
##
  6305
           17.6518
                                    5
  6306
         -17.5258
                    0 17.5258
                                    6
         -17.1829
                    0 17.1829
                                    7
## 6307
## 6308
         -16.6513
                    0 16.6513
                                    8
                                    9
## 6309
           16.5630
                    0 16.5630
## 6310
           16.2649
                    0 16.2649
                                   10
## 6311
         -16.0047
                    0 16.0047
                                   11
         -15.5694
##
   6312
                    0 15.5694
                                   12
          15.5461
                    0 15.5461
##
  6313
                                   13
## 6314
           15.0302
                    0 15.0302
                                   14
## 6315
         -14.9988
                    0 14.9988
                                   15
## 6316
           14.8015
                    0 14.8015
                                   16
   6317
         -14.6678
                    0 14.6678
                                   17
         -14.2710
                    0 14.2710
## 6318
                                   18
##
  6319
           14.0824
                    0 14.0824
                                   19
## 6320
           13.6048
                    0 13.6048
                                   20
## 6321
         -13.4974
                    0 13.4974
                                   21
## 6322
           13.3313
                    0 13.3313
                                   22
## 6323
         -13.3174
                    0 13.3174
                                   23
           12.9816
                    0 12.9816
## 6324
                                   24
  6325
         -12.7216
                    0 12.7216
                                   25
  6326
           12.6017
                    0 12.6017
##
                                   26
##
   6327
           12.1325
                    0 12.1325
                                   27
##
   6328
         -11.9905
                    0 11.9905
                                   28
          11.8582
## 6329
                    0 11.8582
                                   29
## 6330
         -11.7884
                    0 11.7884
                                   30
## 6331
         -11.6194
                    0 11.6194
                                   31
           11.3644
##
   6332
                    0 11.3644
                                   32
##
  6333
         -11.1891
                    0 11.1891
                                   33
##
   6334
           11.1307
                    0 11.1307
                                   34
  6335
                    0 10.8931
                                   35
##
           10.8931
                    0 10.8507
## 6336
         -10.8507
                                   36
## 6337
           10.2673
                    0 10.2673
                                   37
## 6338
         -10.2125 0 10.2125
                                   38
```

```
## 6339
           -9.8565
                     0
                        9.8565
                                   39
##
  6340
            9.7544
                     0
                        9.7544
                                   40
           -9.6557
##
   6341
                     0
                        9.6557
                                   41
           -9.5173
##
   6342
                        9.5173
                                   42
                     0
##
   6343
            9.5128
                     0
                        9.5128
                                   43
   6344
            9.4028
                     0
                        9.4028
                                   44
##
## 6345
            9.1602
                     0
                        9.1602
                                   45
                        9.0469
## 6346
           -9.0469
                     0
                                   46
##
  6347
           -8.8180
                     0
                        8.8180
                                   47
            8.5333
##
  6348
                     0
                        8.5333
                                   48
##
   6349
           -8.4684
                     0
                        8.4684
                                   49
           -8.3912
   6350
                        8.3912
##
                     0
                                   50
   6351
##
            8.1628
                     0
                        8.1628
                                   51
   6352
           -7.8936
                        7.8936
##
                     0
                                   52
##
   6353
            7.5947
                     0
                        7.5947
                                   53
##
   6354
           -7.5069
                     0
                        7.5069
                                   54
   6355
            7.4168
                     0
                        7.4168
                                   55
##
##
   6356
            7.1205
                     0
                        7.1205
                                   56
   6357
           -7.0399
                        7.0399
##
                     0
                                   57
##
   6358
            7.0295
                     0
                        7.0295
                                   58
##
   6359
           -6.8425
                     0
                        6.8425
                                   59
##
  6360
            6.6656
                     0
                        6.6656
                                   60
## 6361
           -6.4349
                        6.4349
                     0
                                   61
   6362
            6.2258
                     0
                        6.2258
                                   62
##
           -6.2127
                        6.2127
##
  6363
                     0
                                   63
##
   6364
           -5.7836
                     0
                        5.7836
                                   64
##
   6365
            5.7089
                        5.7089
                                   65
                     0
   6366
           -5.5573
                        5.5573
##
                     0
                                   66
##
   6367
            5.4830
                     0
                        5.4830
                                   67
                        5.2224
##
  6368
            5.2224
                     0
                                   68
##
   6369
           -5.1216
                     0
                        5.1216
                                   69
##
  6370
            4.9730
                     0
                        4.9730
                                   70
           -4.7183
##
   6371
                     0
                        4.7183
                                   71
   6372
            4.6048
                        4.6048
                                   72
##
                     0
##
   6373
           -4.5100
                     0
                        4.5100
                                   73
##
   6374
            4.3847
                     0
                        4.3847
                                   74
##
  6375
           -4.1571
                     0
                        4.1571
                                   75
## 6376
            4.0972
                     0
                        4.0972
                                   76
## 6377
            3.8407
                     0
                        3.8407
                                   77
## 6378
           -3.8039
                     0
                        3.8039
                                   78
  6379
            3.5694
                        3.5694
                                   79
##
                     0
##
   6380
           -3.3501
                        3.3501
                     0
                                   80
   6381
           -3.1600
                     0
##
                        3.1600
                                   81
                     0
                        2.9901
##
   6382
            2.9901
                                   82
## 6383
           -2.7332
                     0
                        2.7332
                                   83
            2.5639
                        2.5639
## 6384
                     0
                                   84
           -2.4407
                        2.4407
##
  6385
                     0
                                   85
   6386
            2.2624
                        2.2624
##
                     0
                                   86
##
   6387
           -2.1785
                     0
                        2.1785
                                   87
           -2.0530
##
   6388
                     0
                        2.0530
                                   88
   6389
            2.0081
                     0
                        2.0081
##
                                   89
                     0
##
  6390
            1.7393
                        1.7393
                                   90
## 6391
           -1.5463
                     0
                        1.5463
                                   91
## 6392
            1.3127
                    0
                        1.3127
                                   92
```

```
## 6393
           1.1472
                    0
                       1.1472
                                   93
          -1.1155
                    0
##
  6394
                       1.1155
                                   94
   6395
           0.9641
                    0
                       0.9641
                                   95
           -0.7027
   6396
                       0.7027
##
                    0
                                   96
##
   6397
           0.6540
                    0
                       0.6540
                                   97
           -0.3705
                    0
                       0.3705
##
   6398
                                   98
## 6399
           0.2053
                    0
                       0.2053
                                   99
## 6400
           -0.1831
                    0
                       0.1831
                                  100
                    0 18.7459
## 6401
         -18.7459
                                    1
                                    2
## 6402
           18.7441
                    0 18.7441
##
  6403
           18.2723
                    0 18.2723
                                    3
  6404
           18.1537
                    0 18.1537
                                    4
##
                                    5
##
   6405
         -17.8754
                    0 17.8754
                                    6
##
   6406
           17.3849
                    0 17.3849
## 6407
         -17.3078
                    0 17.3078
                                    7
## 6408
         -17.1197
                    0 17.1197
                                    8
           16.9007
                    0 16.9007
                                    9
## 6409
## 6410
         -16.3397
                    0 16.3397
                                   10
           15.7992
                    0 15.7992
##
  6411
                                   11
##
  6412
         -15.7680
                    0 15.7680
                                   12
##
  6413
         -15.4601
                    0 15.4601
                                   13
## 6414
           15.4297
                    0 15.4297
                                   14
## 6415
           15.1298
                    0 15.1298
                                   15
## 6416
           14.5590
                    0 14.5590
                                   16
## 6417
         -14.4264
                    0 14.4264
                                   17
  6418
         -14.2077
                    0 14.2077
                                   18
##
  6419
           13.7703
                    0 13.7703
                                   19
##
   6420
         -13.7633
                    0 13.7633
                                   20
## 6421
           13.4952
                    0 13.4952
                                   21
## 6422
         -13.4298
                    0 13.4298
                                   22
## 6423
         -13.2064
                    0 13.2064
                                   23
## 6424
           13.0623
                    0 13.0623
                                   24
##
   6425
         -12.8109
                    0 12.8109
                                   25
           12.7283
                    0 12.7283
##
  6426
                                   26
##
   6427
         -12.5060
                    0 12.5060
                                   27
  6428
         -11.9892
                    0 11.9892
##
                                   28
## 6429
           11.8739
                    0 11.8739
                                   29
## 6430
           11.6591
                    0 11.6591
                                   30
## 6431
           11.4666
                    0 11.4666
                                   31
         -11.4121
                    0 11.4121
## 6432
                                   32
         -11.2472
                    0 11.2472
  6433
                                   33
  6434
         -11.0732
                    0 11.0732
##
                                   34
           11.0541
##
   6435
                    0 11.0541
                                   35
##
  6436
           10.9201
                    0 10.9201
                                   36
                    0 10.5454
## 6437
           10.5454
                                   37
## 6438
         -10.2820
                    0 10.2820
                                   38
## 6439
           9.9709
                    0
                       9.9709
                                   39
           -9.8205
                       9.8205
## 6440
                    0
                                   40
##
  6441
           -9.6365
                    0
                       9.6365
                                   41
##
   6442
           9.6162
                    0
                       9.6162
                                   42
   6443
           9.2680
                    0
                       9.2680
##
                                   43
## 6444
           -9.1258
                    0
                       9.1258
                                   44
## 6445
           -8.8895
                    0
                       8.8895
                                   45
## 6446
           8.7845
                    0
                       8.7845
                                   46
```

```
## 6447
           -8.5694
                    0
                        8.5694
                                   47
## 6448
            8.5033
                    0
                        8.5033
                                   48
           -8.2556
                        8.2556
##
  6449
                     0
                                   49
  6450
            8.1039
##
                        8.1039
                     0
                                   50
##
   6451
           -8.0627
                     0
                        8.0627
                                   51
   6452
            7.8966
                     0
                        7.8966
##
                                   52
## 6453
                     0
                        7.7750
           -7.7750
                                   53
                        7.6035
            7.6035
## 6454
                     0
                                   54
## 6455
            7.4497
                     0
                        7.4497
                                   55
           -7.3504
                        7.3504
## 6456
                     0
                                   56
##
   6457
           -6.9472
                     0
                        6.9472
                                   57
   6458
            6.8533
                        6.8533
##
                     0
                                   58
                        6.6924
##
   6459
           -6.6924
                     0
                                   59
            6.6173
                        6.6173
##
   6460
                     0
                                   60
## 6461
           -6.3656
                     0
                        6.3656
                                   61
##
  6462
            6.1089
                     0
                        6.1089
                                   62
## 6463
            6.0046
                        6.0046
                                   63
                     0
##
   6464
           -5.9498
                     0
                        5.9498
                                   64
   6465
            5.4345
                        5.4345
##
                                   65
                     0
##
   6466
           -5.3913
                     0
                        5.3913
                                   66
##
   6467
            5.2304
                     0
                        5.2304
                                   67
##
  6468
           -5.1965
                     0
                        5.1965
                                   68
## 6469
           -5.0487
                     0
                        5.0487
                                   69
## 6470
            4.8172
                     0
                        4.8172
                                   70
                        4.6597
## 6471
            4.6597
                     0
                                   71
## 6472
           -4.6054
                     0
                        4.6054
                                   72
##
  6473
            4.3542
                        4.3542
                                   73
                     0
   6474
           -4.3290
                        4.3290
                                   74
##
                     0
                                   75
##
   6475
            4.0192
                     0
                        4.0192
           -3.8036
                        3.8036
## 6476
                     0
                                   76
## 6477
            3.7016
                     0
                        3.7016
                                   77
##
  6478
           -3.6909
                    0
                        3.6909
                                   78
           -3.3455
                        3.3455
##
   6479
                     0
                                   79
   6480
            3.3177
                        3.3177
##
                     0
                                   80
##
   6481
            3.1303
                     0
                        3.1303
                                   81
##
   6482
           -3.0930
                     0
                        3.0930
                                   82
## 6483
            2.8876
                     0
                        2.8876
                                   83
## 6484
           -2.6886
                     0
                        2.6886
                                   84
## 6485
            2.3703
                     0
                        2.3703
                                   85
## 6486
           -2.2308
                     0
                        2.2308
                                   86
  6487
            2.1660
                        2.1660
##
                     0
                                   87
##
   6488
           -1.8386
                        1.8386
                     0
                                   88
   6489
            1.6822
                        1.6822
##
                     0
                                   89
##
   6490
           -1.6555
                     0
                        1.6555
                                   90
## 6491
            1.4603
                        1.4603
                     0
                                   91
                        1.3732
## 6492
           -1.3732
                     0
                                   92
            1.0733
                        1.0733
## 6493
                     0
                                   93
  6494
           -1.0435
                        1.0435
##
                     0
                                   94
##
   6495
            0.8244
                     0
                        0.8244
                                   95
                        0.7151
##
   6496
           -0.7151
                     0
                                   96
##
   6497
           -0.5839
                     0
                        0.5839
                                   97
                     0
                        0.5023
## 6498
           -0.5023
                                   98
## 6499
            0.3242
                     0
                        0.3242
                                   99
## 6500
            0.0876
                    0
                        0.0876
                                  100
```

```
## 6501
          19.2572 0 19.2572
                                    1
         -19.1025
                    0 19.1025
                                    2
##
  6502
                    0 18.4490
   6503
         -18.4490
                                    3
  6504
          18.3279
                    0 18.3279
                                    4
##
##
   6505
         -17.8653
                    0 17.8653
                                    5
   6506
         -17.2905
                    0 17.2905
                                    6
##
  6507
                    0 17.1190
                                    7
          17.1190
## 6508
         -16.7845
                    0 16.7845
                                    8
## 6509
          16.6481
                    0 16.6481
                                   9
## 6510
         -16.1485
                    0 16.1485
                                  10
## 6511
          15.9683
                    0 15.9683
                                  11
  6512
         -15.5391
                    0 15.5391
##
                                  12
##
   6513
         -15.2955
                    0 15.2955
                                  13
##
   6514
          15.0127
                    0 15.0127
                                  14
## 6515
          14.9722
                    0 14.9722
                                  15
## 6516
         -14.4215
                    0 14.4215
                                  16
          14.3198
                    0 14.3198
##
  6517
                                  17
##
   6518
         -14.1958
                    0 14.1958
                                  18
          14.1903
                    0 14.1903
##
  6519
                                  19
##
   6520
         -13.8838
                    0 13.8838
                                  20
##
  6521
          13.7630
                    0 13.7630
                                  21
  6522
         -13.3392
                    0 13.3392
                                  22
##
## 6523
          13.2052
                    0 13.2052
                                  23
## 6524
         -13.1161
                    0 13.1161
                                  24
                    0 12.8284
## 6525
          12.8284
                                  25
  6526
          12.4582
                    0 12.4582
                                  26
  6527
         -12.2883
                    0 12.2883
                                  27
##
         -12.1961
##
   6528
                    0 12.1961
                                  28
   6529
          11.9690
                    0 11.9690
                                  29
##
##
  6530
         -11.7843
                    0 11.7843
                                  30
##
   6531
          11.5375
                    0 11.5375
                                  31
##
   6532
          11.2661
                    0 11.2661
                                  32
##
   6533
         -11.1683
                    0 11.1683
                                  33
  6534
          10.9174
                    0 10.9174
                                  34
##
##
   6535
         -10.9018
                    0 10.9018
                                  35
         -10.7326
                    0 10.7326
##
  6536
                                  36
  6537
          10.5251
                    0 10.5251
                                  37
## 6538
         -10.2428
                    0 10.2428
                                  38
## 6539
          10.0715
                    0 10.0715
                                  39
## 6540
          -9.9969
                    0
                       9.9969
                                  40
  6541
           9.9587
                       9.9587
##
                    0
                                  41
  6542
          -9.6958
                       9.6958
##
                    0
                                  42
           9.4476
##
   6543
                    0
                       9.4476
                                  43
##
  6544
           9.2798
                    0
                       9.2798
                                  44
## 6545
          -9.0526
                       9.0526
                    0
                                  45
## 6546
           8.9499
                    0
                       8.9499
                                  46
                       8.7575
## 6547
          -8.7575
                    0
                                  47
## 6548
           8.6053
                       8.6053
                    0
                                  48
##
  6549
           -8.3939
                    0
                       8.3939
                                  49
##
   6550
           8.2322
                    0
                       8.2322
                                  50
   6551
          -8.0688
                    0
                       8.0688
##
                                  51
##
  6552
           7.8752
                    0
                       7.8752
                                  52
## 6553
           -7.8358
                    0
                       7.8358
                                  53
                       7.4406
## 6554
           7.4406
                   0
                                  54
```

```
## 6555
           -7.3775
                     0
                        7.3775
                                   55
##
  6556
           -7.1657
                     0
                        7.1657
                                   56
##
   6557
            7.1025
                     0
                        7.1025
                                   57
   6558
            6.9012
                        6.9012
##
                     0
                                   58
##
   6559
           -6.7565
                     0
                        6.7565
                                   59
   6560
           -6.5100
                     0
                        6.5100
##
                                   60
  6561
            6.1414
                     0
                        6.1414
##
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## 6607
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## 6608
         -16.8609
                                     8
```

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## 6610
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##
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                    0 10.5621
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                    0 10.4613
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## 6638
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## 6639
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                       9.9771
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                       9.0604
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## 6653
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## 6654
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##
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                       7.2608
##
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##
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                        6.7968
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                        6.5195
##
                                   59
##
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                        6.3524
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## 6661
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## 6662
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                       5.9642
                                   62
```

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                    0
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                        5.8053
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                        5.3779
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##
   6667
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                    0
                        5.1433
                                   67
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                        5.0588
##
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                        4.8978
##
                                   69
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## 6673
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##
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##
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                        2.8152
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                        2.6725
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                        2.4114
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                        2.1193
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##
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                                   91
## 6692
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                                   92
##
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##
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##
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##
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                        0.1917
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                    0 17.6692
                                    5
##
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                                    6
##
           17.3303
## 6707
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                    0 17.1101
## 6708
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                    0 16.9692
                                    8
                                    9
## 6709
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                    0 16.8485
         -16.3966
## 6710
                    0 16.3966
                                   10
## 6711
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                    0 16.0504
                                   11
##
   6712
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                    0 15.7588
                                   12
## 6713
           15.4668
                    0 15.4668
                                   13
## 6714
           15.2423
                    0 15.2423
                                   14
## 6715
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                    0 15.1437
                                   15
## 6716
         -14.7758 0 14.7758
                                   16
```

```
## 6717
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                    0 14.4009
                                   17
         -14.3656
                    0 14.3656
## 6718
                                   18
## 6719
           14.1702
                    0 14.1702
                                   19
         -14.0817
## 6720
                    0 14.0817
                                   20
##
  6721
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                    0 13.7431
                                   21
## 6722
                    0 13.3960
         -13.3960
                                   22
         -13.2170
                    0 13.2170
## 6723
                                   23
## 6724
           13.1302
                    0 13.1302
                                   24
                    0 12.9305
## 6725
           12.9305
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## 6728
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                                   28
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                                   29
  6730
##
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##
  6737
           10.4972
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## 6738
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## 6739
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## 6743
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                       9.4086
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                       9.2991
## 6744
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## 6745
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                       9.0438
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## 6746
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                       8.9314
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## 6747
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                       8.6760
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## 6748
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## 6750
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                       7.9761
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## 6753
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                                   53
## 6754
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                                   54
## 6755
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                       7.4834
                                   55
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                    0
                       7.0981
## 6756
                                   56
## 6757
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                       7.0875
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                       6.6474
## 6759
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                                   59
## 6760
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                       6.3905
## 6761
                    0
                                   61
## 6762
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## 6763
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## 6764
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## 6765
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                       5.5401
                                   65
##
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##
  6767
                                   67
## 6768
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                    0
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                                   68
## 6769
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                        4.8381
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## 6770
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                       4.8248
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```

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## 6771
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                                   71
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                       4.3894
                                   72
## 6772
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## 6773
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                        4.3396
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           4.0971
                        4.0971
## 6774
                                   74
                    0
## 6775
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                       4.0247
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                       3.8624
## 6776
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                                   76
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                        3.6528
## 6777
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## 6778
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## 6782
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## 6784
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## 6786
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## 6787
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## 6792
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##
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                       0.0549
##
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           18.6754
##
   6803
                    0 18.6754
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   6804
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                    0 18.1719
                                    4
##
##
   6805
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                    0 17.7508
                                    5
   6806
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                    0 17.5279
                                    6
##
   6807
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                    0 16.9314
                                    7
## 6808
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                                    8
## 6809
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                    0 16.4579
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## 6815
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                                   16
## 6817
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                                   17
           14.1623
## 6818
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##
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##
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## 6822
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                    0 13.3614
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## 6824
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##
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##
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                                   44
##
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                        9.0800
                                   45
##
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                        9.0359
                                   46
                        8.7572
## 6847
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                     0
                                   47
  6848
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                        8.6347
##
                                   48
           -8.3327
## 6849
                     0
                        8.3327
                                   49
##
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                                   50
##
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                        7.8974
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                        7.8290
##
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                                   52
##
   6853
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                     0
                        7.7828
                                   53
##
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                        7.5360
                                   54
##
   6855
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                        7.3022
                                   55
##
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                        7.0596
                                   56
##
   6857
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                        6.9750
                                   57
   6858
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                        6.8683
##
                                   58
                     0
##
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            6.6980
                     0
                        6.6980
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##
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##
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                        6.4746
                                   61
##
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                        6.2433
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##
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                        6.0687
                                   63
##
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                                   64
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                        5.5027
##
                     0
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   6866
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                        5.4305
##
                     0
                                   66
                        5.3567
##
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                     0
                                   67
##
   6868
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                     0
                        5.1353
                                   68
  6869
                        4.9311
##
            4.9311
                     0
                                   69
## 6870
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                     0
                        4.8065
                                   70
                        4.5763
## 6871
            4.5763
                     0
                                   71
## 6872
           -4.4114
                        4.4114
                                   72
                     0
##
  6873
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                     0
                        4.3018
                                   73
##
   6874
           -4.1214
                     0
                        4.1214
                                   74
   6875
            4.0243
                     0
                        4.0243
                                   75
##
                     0
##
  6876
            3.8248
                        3.8248
                                   76
## 6877
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                        3.8001
                                   77
## 6878
           -3.5646
                    0
                        3.5646
                                   78
```

```
## 6879
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                    0
                        3.3631
                                   79
## 6880
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                        3.1320
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   6881
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                    0
                        3.1180
                                   81
           -2.7576
   6882
                        2.7576
##
                    0
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##
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                        2.7275
                                   83
   6884
            2.6542
                    0
                        2.6542
##
                                   84
            2.4313
                     0
                        2.4313
##
   6885
                                   85
           -2.2795
## 6886
                     0
                        2.2795
                                   86
##
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                        2.1240
                                   87
##
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                        2.0175
                                   88
##
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                        1.8376
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                        1.7314
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                        1.5789
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                        1.4896
##
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                                   92
   6893
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                        1.2346
##
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                                   93
##
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                    0
                        1.0860
                                   94
   6895
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                        0.8235
##
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                                   95
##
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   6897
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                        0.4766
##
                     0
                                   97
##
   6898
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                        0.4430
                                   98
##
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                        0.2593
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##
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                    0 19.4148
## 6901
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                                    2
##
## 6903
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##
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                     0 16.8317
##
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##
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                                    9
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                    0 15.9837
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##
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                                   13
## 6914
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                                   14
## 6915
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                    0 14.8473
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## 6916
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                                   16
## 6917
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                    0 14.2741
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## 6918
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                                   18
## 6919
           13.7083
                    0 13.7083
                                   19
## 6920
         -13.5562
                    0 13.5562
                                   20
##
   6921
         -13.4070
                    0 13.4070
                                   21
##
   6922
           13.3190
                    0 13.3190
                                   22
## 6923
                    0 13.0304
           13.0304
                                   23
## 6924
           12.9717
                    0 12.9717
                                   24
## 6925
         -12.7690
                    0 12.7690
                                   25
           12.2663
##
  6926
                    0 12.2663
                                   26
  6927
##
         -12.2031
                    0 12.2031
                                   27
##
   6928
          12.0517
                    0 12.0517
                                   28
   6929
         -11.8017
                    0 11.8017
                                   29
##
## 6930
         -11.6310
                    0 11.6310
                                   30
## 6931
           11.5197
                    0 11.5197
                                   31
## 6932
         -11.2395 0 11.2395
                                   32
```

```
## 6933
           10.8833
                    0 10.8833
                                   33
         -10.8654
                    0 10.8654
                                   34
## 6934
   6935
           10.6408
                    0 10.6408
                                   35
   6936
          -10.4470
                    0 10.4470
##
                                   36
##
   6937
           10.3265
                    0 10.3265
                                   37
   6938
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                    0 10.0411
##
                                   38
## 6939
            9.7937
                     0
                        9.7937
                                   39
                        9.7037
## 6940
            9.7037
                    0
                                   40
## 6941
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                    0
                        9.6969
                                   41
          -9.4898
## 6942
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                        9.4898
                                   42
##
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                    0
                        9.1784
                                   43
            8.8978
                        8.8978
##
   6944
                    0
                                   44
   6945
##
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                        8.8726
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##
           -8.6475
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                                   46
##
   6947
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                        8.5583
                                   47
##
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                        8.4838
                                   48
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                        8.2955
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##
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                        8.2524
                                   50
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                        7.9712
##
                    0
                                   51
##
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                        7.6199
                                   52
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                        7.5584
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##
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                        7.3137
##
                     0
                                   55
   6956
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                    0
                        7.1586
##
                                   56
##
  6957
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                    0
                        7.0266
                                   57
##
   6958
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                        6.6466
                                   58
##
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                        6.5788
                                   59
                    0
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                        6.4288
##
                    0
                                   60
##
   6961
            6.4182
                    0
                        6.4182
                                   61
                        6.0460
##
   6962
           -6.0460
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                                   62
##
   6963
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                    0
                        5.9080
                                   63
##
   6964
            5.8572
                    0
                        5.8572
                                   64
##
   6965
            5.4086
                    0
                        5.4086
                                   65
   6966
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                        5.2466
##
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                    0
##
   6967
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                    0
                        5.1820
                                   67
   6968
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                        5.0013
##
                                   68
##
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                        4.9349
                                   69
## 6970
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                        4.7314
                                   70
## 6971
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                                   71
## 6972
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                        4.4741
                                   72
  6973
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                    0
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                                   73
##
##
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                        4.1313
                                   74
   6975
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                        4.0025
##
                    0
                                   75
##
   6976
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                    0
                        3.7312
                                   76
## 6977
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                    0
                        3.6513
                                   77
## 6978
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                    0
                        3.5276
                                   78
## 6979
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                    0
                        3.4481
                                   79
  6980
            3.2883
                        3.2883
##
                    0
                                   80
##
  6981
            3.0911
                    0
                        3.0911
                                   81
##
   6982
           -3.0478
                    0
                        3.0478
                                   82
                                   83
   6983
           -2.8669
                     0
                        2.8669
##
##
  6984
           -2.7528
                    0
                        2.7528
                                   84
## 6985
            2.6698
                    0
                        2.6698
                                   85
## 6986
           -2.4603
                    0
                        2.4603
                                   86
```

```
## 6987
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                    0
                       2.0864
                                  87
           2.0556
                    0
                       2.0556
## 6988
                                  88
   6989
           1.8190
                    0
                       1.8190
                                  89
  6990
           1.4181
                       1.4181
##
                    0
                                  90
##
  6991
          -1.3875
                    0
                       1.3875
                                  91
  6992
          -1.3478
                       1.3478
##
                    0
                                  92
## 6993
           1.2439
                    0
                       1.2439
                                  93
## 6994
           1.0268
                    0
                       1.0268
                                  94
##
  6995
          -0.9010
                    0
                       0.9010
                                  95
##
  6996
           0.5548
                    0
                       0.5548
                                  96
##
   6997
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                    0
                       0.4974
                                  97
           0.2972
   6998
                       0.2972
##
                    0
                                  98
          -0.2653
                       0.2653
##
   6999
                    0
                                  99
  7000
           0.1235
                       0.1235
##
                    0
                                  100
## 7001
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                    0 19.7495
                                    1
  7002
         -19.3176
                    0 19.3176
                                    2
         -18.6094
                    0 18.6094
                                    3
## 7003
##
  7004
          18.0317
                    0 18.0317
                                    4
  7005
          17.4655
##
                    0 17.4655
                                   5
##
  7006
         -17.4640
                    0 17.4640
                                    6
##
  7007
          16.7319
                    0 16.7319
                                   7
## 7008
         -16.7046
                    0 16.7046
                                   8
         -16.3628
                    0 16.3628
                                   9
## 7009
## 7010
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                    0 16.3208
                                  10
## 7011
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                    0 16.0000
                                   11
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                    0 15.6780
                                  12
  7013
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                    0 15.3311
##
                                  13
  7014
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##
                    0 15.3043
                                  14
## 7015
          14.9325
                    0 14.9325
                                  15
## 7016
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                    0 14.7759
                                  16
## 7017
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                                  17
## 7018
          14.6477
                    0 14.6477
                                  18
##
  7019
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                    0 14.1303
                                  19
## 7020
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                    0 13.6813
                                  20
##
  7021
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                                  21
## 7022
          13.4457
                    0 13.4457
                                  22
## 7023
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                    0 13.2263
                                  23
## 7024
          12.9627
                    0 12.9627
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## 7025
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                    0 12.8795
                                  25
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                    0 12.5589
                                  26
  7027
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                    0 12.3294
                                  27
  7028
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                    0 12.1793
                                  28
##
  7029
         -12.0764
##
                    0 12.0764
                                  29
##
  7030
          11.6096
                    0 11.6096
                                  30
## 7031
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                    0 11.5862
                                  31
          11.2952
## 7032
                    0 11.2952
                                  32
## 7033
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                    0 11.1483
                                  33
         -10.9781
## 7034
                    0 10.9781
                                  34
  7035
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                    0 10.7565
                                  35
         -10.6735
##
  7036
                    0 10.6735
                                  36
## 7037
          10.5839
                    0 10.5839
                                  37
## 7038
          10.3321
                    0 10.3321
                                  38
## 7039
         -10.2868
                    0 10.2868
                                  39
## 7040
           9.8320
                   0 9.8320
                                  40
```

```
## 7041
           -9.7705
                    0
                        9.7705
                                   41
## 7042
            9.6668
                    0
                        9.6668
                                   42
           -9.5467
##
  7043
                     0
                        9.5467
                                   43
  7044
           -9.2160
                        9.2160
##
                                   44
                     0
##
   7045
            8.9315
                     0
                        8.9315
                                   45
  7046
           -8.8672
                     0
                        8.8672
##
                                   46
  7047
            8.6078
                     0
                        8.6078
##
                                   47
                        8.4711
## 7048
            8.4711
                     0
                                   48
##
  7049
            8.3215
                    0
                        8.3215
                                   49
## 7050
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                        8.2910
                     0
                                   50
##
   7051
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                     0
                        8.1793
                                   51
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                        7.9154
   7052
##
                     0
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   7053
                        7.7457
##
            7.7457
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   7054
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                        7.6494
##
                     0
                                   54
## 7055
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                        7.4703
                                   55
##
  7056
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                        7.3863
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## 7057
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##
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   7059
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                        6.8575
##
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                                   59
##
   7060
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                        6.4799
                                   60
  7061
##
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                        6.4606
                                   61
##
  7062
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                        6.1411
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## 7063
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                        5.9465
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                        5.8557
                                   64
##
           -5.7884
## 7065
                     0
                        5.7884
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##
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                        5.5926
                                   66
##
   7067
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                        5.5232
                                   67
                     0
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                        5.4177
##
                     0
                                   68
                        5.0359
##
  7069
            5.0359
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                                   69
                        4.9858
##
  7070
           -4.9858
                     0
                                   70
## 7071
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                     0
                        4.8651
                                   71
## 7072
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                        4.5323
                                   72
           -4.4893
                        4.4893
##
   7073
                     0
                                   73
   7074
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                        4.3957
                                   74
##
                     0
##
   7075
            4.2511
                     0
                        4.2511
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  7076
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                        4.1404
                                   76
##
##
  7077
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                     0
                        3.8140
                                   77
## 7078
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                     0
                        3.6616
                                   78
## 7079
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                        3.6537
                                   79
## 7080
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                        3.4205
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##
   7081
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                                   81
##
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                        2.9760
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   7083
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                        2.8511
##
                     0
                                   83
##
   7084
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                     0
                        2.7323
                                   84
  7085
           -2.4424
                        2.4424
##
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                        2.3982
## 7086
            2.3982
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## 7087
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                                   87
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                        1.9829
##
                     0
                                   88
##
   7089
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                        1.9171
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            1.8030
                        1.8030
##
   7090
                     0
                                   90
  7091
           -1.3926
                     0
                        1.3926
##
                                   91
                     0
## 7092
            1.2796
                        1.2796
                                   92
## 7093
           -1.2089
                     0
                        1.2089
                                   93
## 7094
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                        1.0181
                                   94
```

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## 7095
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                                  95
## 7096
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                    0
                       0.8306
                                  96
                       0.7407
  7097
           0.7407
                    0
                                  97
          -0.3873
                       0.3873
  7098
##
                    0
                                  98
##
  7099
           0.3495
                    0
                       0.3495
                                  99
## 7100
           0.1463
                    0
                       0.1463
                                 100
         -19.7817
                    0 19.7817
## 7101
                                   1
         -18.9239
## 7102
                    0 18.9239
                                   2
                    0 18.1786
## 7103
          18.1786
                                   3
                                   4
## 7104
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                    0 17.8533
## 7105
          17.7786
                   0 17.7786
                                   5
## 7106
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                    0 17.1537
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                                   7
## 7107
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## 7108
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## 7110
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                    0 16.3743
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## 7111
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## 7112
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                   0 15.6073
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                    0 15.5277
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## 7114
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## 7115
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                                  15
## 7116
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          14.3919
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## 7117
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## 7118
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## 7119
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                    0 13.9147
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## 7120
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                                  20
## 7121
          13.6077
                    0 13.6077
                                  21
          13.4318
                    0 13.4318
## 7122
                                  22
## 7123
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## 7124
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                    0 13.1031
                                  24
## 7125
         -12.7950
                    0 12.7950
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## 7126
          12.7888
                    0 12.7888
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## 7127
         -12.6319
                    0 12.6319
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## 7128
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                    0 12.4543
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## 7129
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                    0 12.0598
                                  29
## 7130
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## 7131
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## 7132
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                    0 11.4064
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## 7133
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                                  33
         -11.0331
                    0 11.0331
## 7134
                                  34
## 7135
          10.9790
                    0 10.9790
                                  35
## 7136
          10.8014
                    0 10.8014
                                  36
         -10.5963
## 7137
                    0 10.5963
                                  37
## 7138
         -10.2324
                    0 10.2324
                                  38
                    0 10.2189
## 7139
          10.2189
                                  39
## 7140
          10.0828
                    0 10.0828
                                  40
## 7141
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                    0
                       9.7003
                                  41
           9.6109
                       9.6109
## 7142
                    0
                                  42
## 7143
          -9.5552
                    0
                       9.5552
                                  43
## 7144
           9.4449
                    0
                       9.4449
                                  44
## 7145
          -9.0825
                       9.0825
                    0
                                  45
## 7146
           8.9941
                    0
                       8.9941
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## 7147
           8.5217
                    0
                       8.5217
                                  47
## 7148
          -8.5163 0
                      8.5163
                                  48
```

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                    0
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                                   49
## 7150
            8.0561
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                        8.0561
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                        8.0418
## 7151
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                                   51
## 7152
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## 7153
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## 7154
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                        7.3710
                                   54
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## 7156
            7.2710
                    0
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## 7157
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## 7158
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## 7159
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                        6.5370
## 7160
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                        6.5242
## 7161
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            6.2204
                        6.2204
## 7162
                    0
                                   62
## 7163
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                        6.0419
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## 7164
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                                   64
## 7165
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                        5.6866
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##
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                        5.4074
                                   66
## 7167
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                    0
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## 7168
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## 7169
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## 7170
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## 7171
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                        4.5103
## 7173
                    0
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## 7174
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                                   74
## 7175
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## 7180
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                        2.9207
## 7181
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## 7183
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                    0
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                                   83
## 7184
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                    0
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                                   84
## 7185
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                    0
                        2.4163
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## 7186
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                        2.2585
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## 7187
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                        2.2090
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## 7188
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                    0
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## 7189
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                        1.7784
                    0
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## 7190
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                    0
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                        1.4775
                    0
                                   91
            1.3239
                        1.3239
## 7192
                    0
                                   92
## 7193
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                        1.2661
                    0
                                   93
                        1.0581
## 7194
           -1.0581
                     0
                                   94
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                        0.7290
## 7195
                    0
                                   95
## 7196
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                        0.5935
                    0
                                   96
##
  7197
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                    0
                        0.5152
                                   97
           -0.3291
                        0.3291
##
  7198
                     0
                                   98
## 7199
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                    0
                        0.2248
                                   99
           -0.0054
                    0
## 7200
                        0.0054
                                  100
## 7201
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                    0 19.4176
                                    1
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                                    2
## 7202
```

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                   0 17.8275
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## 7204
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## 7205
          17.7655
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  7206
                                   6
##
## 7207
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                    0 17.1682
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## 7208
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## 7209
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                    0 16.5338
                                   9
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                    0 16.5179
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                    0 16.1297
## 7211
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                                  11
## 7212
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                    0 15.8731
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## 7213
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                    0 15.5948
                                  13
## 7214
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## 7215
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## 7216
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## 7217
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## 7218
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                    0 14.2463
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         -14.0818
                    0 14.0818
## 7219
                                  19
## 7220
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                    0 13.8100
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## 7221
          13.4472
                    0 13.4472
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## 7222
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                    0 13.3606
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## 7223
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## 7224
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                    0 13.0408
                                  24
## 7225
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                    0 12.9355
                                  25
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## 7226
                                  26
## 7227
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                    0 12.3446
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  7228
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                    0 11.9945
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                    0 11.8662
                                  29
##
## 7230
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                    0 11.3226
                                  30
## 7231
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                    0 11.2826
                                  31
## 7232
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                    0 11.1484
                                  32
## 7233
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                    0 11.0639
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## 7234
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                    0 11.0203
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## 7235
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                    0 10.6142
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## 7239
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                       9.9655
                                  39
## 7240
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## 7241
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                       9.8132
                                  41
## 7242
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                       9.4325
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## 7243
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                       9.4007
                                  43
## 7244
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          -9.1002
## 7245
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## 7246
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## 7247
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                       8.5640
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## 7248
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                       8.2969
## 7249
          -8.2969
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## 7250
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## 7251
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                       7.9764
                                  51
## 7252
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                       7.9543
                                  52
## 7253
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                       7.7662
                                  53
## 7254
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                    0
                       7.5261
                                  54
## 7255
           7.4861
                    0
                       7.4861
                                  55
           7.3467 0 7.3467
## 7256
                                  56
```

```
## 7257
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                    0
                        7.0036
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                        6.9421
## 7258
                    0
            6.9421
                                   58
##
  7259
           -6.6767
                    0
                        6.6767
                                   59
  7260
           -6.4547
                        6.4547
##
                    0
                                   60
##
  7261
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                        6.2507
                                   61
## 7262
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                    0
                        6.0974
                                   62
## 7263
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                        6.0627
                                   63
## 7264
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                    0
                        5.8107
                                   64
## 7265
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                    0
                        5.6990
                                   65
## 7266
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                        5.6465
                                   66
##
  7267
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                    0
                        5.5945
                                   67
           -5.3479
                        5.3479
  7268
##
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                                   68
## 7269
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                        5.1209
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           -4.9533
                        4.9533
## 7270
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                                   70
## 7271
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                        4.8852
                                   71
## 7272
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                                   72
## 7273
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                        4.5394
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##
  7274
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                                   74
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##
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##
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                        3.9844
                                   76
## 7277
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                        3.7381
                                   77
## 7278
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                        3.6694
                                   78
## 7279
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                        3.4573
                    0
                                   79
## 7280
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                    0
                        3.3305
                                   80
           -2.9960
                        2.9960
## 7281
                    0
                                   81
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                        2.9905
                                   82
##
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                        2.7021
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                     0
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                        2.6337
##
                                   84
## 7285
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                        2.4370
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                        2.3284
## 7286
            2.3284
                     0
                                   86
## 7287
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                    0
                        2.2366
                                   87
## 7288
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                        1.9966
                                   88
  7289
##
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                        1.9213
                                   89
  7290
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                        1.7813
##
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                                   90
##
   7291
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                        1.4804
                                   91
                                   92
## 7292
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                        1.3751
## 7293
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## 7294
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                                   94
## 7295
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                        0.7471
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## 7296
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                        0.5204
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                        0.4180
                                   97
##
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                        0.2554
##
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   7299
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                        0.2036
##
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                                   99
##
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                    0
                        0.0421
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## 7301
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                    0 19.7200
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           19.3475
## 7302
                    0 19.3475
                                    2
## 7303
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                    0 18.6900
                                    3
## 7304
           18.3270
                    0 18.3270
                                    4
##
  7305
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                    0 17.9013
                                    5
                                    6
##
   7306
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                    0 17.4843
                                    7
## 7307
           17.2421
                    0 17.2421
                    0 16.9726
                                    8
## 7308
         -16.9726
## 7309
          -16.7083
                    0 16.7083
                                    9
         -16.0079 0 16.0079
## 7310
                                   10
```

```
## 7311
           15.9177 0 15.9177
                                   11
## 7312
                    0 15.8585
           15.8585
                                   12
  7313
           15.4990
                    0 15.4990
                                   13
  7314
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                    0 15.3104
##
                                   14
##
  7315
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                    0 14.8994
                                   15
         -14.5909
                    0 14.5909
## 7316
                                   16
           14.5782
                    0 14.5782
## 7317
                                   17
## 7318
           14.4194
                    0 14.4194
                                   18
                    0 14.0900
## 7319
         -14.0900
                                   19
## 7320
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                    0 13.9251
                                   20
##
  7321
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                    0 13.6755
                                   21
  7322
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                    0 13.2815
                                   22
##
##
  7323
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                    0 13.0503
                                   23
## 7324
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                    0 13.0193
                                   24
## 7325
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                    0 12.7598
                                   25
## 7326
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                    0 12.7270
                                   26
         -12.4535
                    0 12.4535
                                   27
## 7327
  7328
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                    0 12.3752
                                   28
  7329
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                    0 12.2734
##
                                   29
##
  7330
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                                   30
##
  7331
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                                   31
  7332
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##
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## 7333
                                   33
## 7334
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## 7335
           10.8522
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                                   36
  7337
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                    0 10.4289
                                   37
##
  7338
##
         -10.1846
                    0 10.1846
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## 7339
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                    0 10.1349
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## 7340
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## 7341
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                                   41
## 7342
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## 7343
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                       9.5051
                                   43
  7344
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                       9.4950
##
                    0
                                   44
##
  7345
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                       9.2573
                                   45
## 7346
           9.1152
                    0
                       9.1152
                                   46
## 7347
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                    0
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                                   47
## 7348
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## 7349
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## 7350
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                       8.2763
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##
                    0
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                       8.1000
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                       7.8841
##
  7353
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                                   53
##
  7354
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                       7.8210
                                   54
## 7355
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                       7.7610
                    0
                                   55
                       7.4356
## 7356
           7.4356
                    0
                                   56
                       7.2908
## 7357
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## 7358
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##
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##
  7360
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## 7361
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                        6.4775
                    0
                                   61
## 7362
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                    0
                        6.3795
                                   62
## 7363
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                       6.0500
                                   63
## 7364
           6.0036
                   0
                       6.0036
                                   64
```

```
## 7365
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                    0
                        5.8185
                                   65
                        5.5733
## 7366
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           -5.5733
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            5.4442
##
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                        5.2791
##
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##
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                                   69
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                        4.9355
## 7370
                                   70
## 7371
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                        4.6112
## 7372
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                                   72
## 7373
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                        4.2269
## 7374
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##
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##
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                        3.8712
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##
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##
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                        2.7946
##
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##
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##
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##
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## 7387
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                        2.2608
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## 7394
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##
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##
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                                   97
   7398
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                        0.2970
##
                     0
                                   98
##
   7399
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                        0.2057
                                   99
## 7400
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                        0.0361
                                  100
## 7401
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## 7402
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## 7403
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## 7404
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   7405
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                    0 17.8401
                                    5
   7406
           17.1499
                    0 17.1499
                                    6
##
   7407
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                                    7
##
                    0 16.7970
                                    8
##
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         -16.5408
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                                    9
## 7409
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## 7410
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## 7411
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## 7412
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##
  7413
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##
  7414
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                                   14
## 7415
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                     0 14.6752
                                   15
                     0 14.4527
## 7416
           14.4527
                                   16
## 7417
          -14.2404
                     0 14.2404
                                   17
## 7418
           14.2241
                    0 14.2241
                                   18
```

```
## 7419
           13.8660
                    0 13.8660
                                   19
## 7420
                    0 13.6063
         -13.6063
                                   20
## 7421
           13.2875
                    0 13.2875
                                   21
## 7422
         -13.2573
                    0 13.2573
                                   22
##
  7423
         -13.1853
                    0 13.1853
                                   23
           13.0589
                    0 13.0589
##
  7424
                                   24
## 7425
           12.8961
                    0 12.8961
                                   25
                    0 12.5639
## 7426
         -12.5639
                                   26
                    0 12.2594
## 7427
           12.2594
                                   27
## 7428
         -12.1994
                    0 12.1994
                                   28
  7429
           12.1520
                    0 12.1520
                                   29
         -11.8754
  7430
                    0 11.8754
##
                                   30
##
  7431
           11.8711
                    0 11.8711
                                   31
                    0 11.6766
##
  7432
         -11.6766
                                   32
## 7433
           11.2486
                    0 11.2486
                                   33
## 7434
           11.0771
                    0 11.0771
                                   34
## 7435
         -11.0569
                    0 11.0569
                                   35
  7436
         -10.7231
                    0 10.7231
                                   36
           10.5421
                    0 10.5421
##
  7437
                                   37
##
  7438
         -10.4956
                    0 10.4956
                                   38
## 7439
           10.2273
                    0 10.2273
                                   39
## 7440
         -10.1238
                    0 10.1238
                                   40
## 7441
           9.9042
                    0
                       9.9042
                                   41
## 7442
           -9.8248
                    0
                       9.8248
                                   42
           -9.6343
## 7443
                    0
                       9.6343
                                   43
  7444
           9.6186
                    0
                       9.6186
                                   44
##
  7445
           9.1901
                       9.1901
                                   45
                    0
  7446
           -8.9419
                       8.9419
##
                    0
                                   46
## 7447
           -8.6658
                    0
                       8.6658
                                   47
## 7448
                        8.5947
           -8.5947
                    0
                                   48
## 7449
           8.4814
                    0
                       8.4814
                                   49
## 7450
           -8.3371
                    0
                       8.3371
                                   50
                       8.2881
## 7451
           8.2881
                    0
                                   51
## 7452
           7.8592
                       7.8592
                    0
                                   52
##
  7453
           7.7332
                    0
                       7.7332
                                   53
## 7454
           -7.6976
                    0
                       7.6976
                                   54
## 7455
           7.3517
                    0
                       7.3517
                                   55
## 7456
           -7.2317
                    0
                       7.2317
                                   56
## 7457
           -6.9233
                    0
                       6.9233
                                   57
## 7458
           6.8592
                    0
                       6.8592
                                   58
  7459
           -6.5533
                       6.5533
                    0
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           6.4722
                       6.4722
##
                    0
                                   60
  7461
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                       6.2257
##
                    0
                                   61
## 7462
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                    0
                       6.1885
                                   62
## 7463
           5.8272
                       5.8272
                    0
                                   63
## 7464
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                       5.7674
                    0
                                   64
## 7465
           -5.4854
                    0
                       5.4854
                                   65
## 7466
           5.4704
                       5.4704
                    0
                                   66
## 7467
           5.3743
                    0
                       5.3743
                                   67
##
  7468
           -5.1644
                    0
                       5.1644
                                   68
## 7469
           -4.9721
                    0
                        4.9721
                                   69
                    0
## 7470
           4.9153
                        4.9153
                                   70
## 7471
           4.7360
                    0
                        4.7360
                                   71
## 7472
           4.4905
                    0
                       4.4905
                                   72
```

```
## 7473
           -4.4600
                    0
                        4.4600
                                   73
## 7474
            4.3339
                    0
                        4.3339
                                   74
## 7475
           -4.2325
                    0
                        4.2325
                                   75
## 7476
            3.9550
                        3.9550
                    0
                                   76
##
  7477
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                    0
                        3.8138
                                   77
## 7478
           -3.6362
                    0
                        3.6362
                                   78
## 7479
           -3.3860
                    0
                        3.3860
                                   79
## 7480
           -3.0333
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                        3.0333
                                   80
## 7481
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                    0
                        2.9554
                                   81
## 7482
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                        2.8231
                                   82
## 7483
            2.8182
                    0
                        2.8182
                                   83
## 7484
           -2.4724
                        2.4724
                     0
                                   84
##
  7485
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                        2.4147
                                   85
           -2.3087
                        2.3087
## 7486
                     0
                                   86
## 7487
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                     0
                        2.0909
                                   87
## 7488
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                    0
                        2.0168
                                   88
## 7489
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                        1.8549
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                                   89
##
  7490
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                    0
                        1.6690
                                   90
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                        1.4294
##
                                   91
                    0
##
  7492
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                    0
                        1.3499
                                   92
## 7493
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                    0
                        1.0204
                                   93
## 7494
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                    0
                        0.8526
                                   94
## 7495
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                        0.8273
                    0
                                   95
## 7496
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                    0
                        0.7717
                                   96
## 7497
            0.6713
                    0
                        0.6713
                                   97
   7498
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                    0
                        0.4539
                                   98
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                        0.3388
                                   99
##
                    0
   7500
          -0.0770
                        0.0770
##
                    0
                                  100
   7501
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                    0 19.5901
##
                                    1
##
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                    0 19.3524
                                    2
##
  7503
           18.5804
                    0 18.5804
                                    3
##
  7504
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                    0 17.9340
                                    4
                                    5
   7505
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                    0 17.8453
   7506
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                    0 17.3240
                                    6
##
                                    7
##
   7507
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  7508
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                    0 16.7352
                                    8
##
## 7509
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                    0 16.2836
                                    9
## 7510
           16.1339
                    0 16.1339
                                   10
## 7511
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                    0 15.6469
                                   11
## 7512
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                    0 15.3214
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                    0 14.9777
   7513
         -14.9777
                                   13
  7514
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                    0 14.8258
##
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         -14.4948
##
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##
  7516
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                    0 14.3698
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         -14.1072
                    0 14.1072
## 7517
                                   17
## 7518
           13.9498
                    0 13.9498
                                   18
## 7519
         -13.7612
                    0 13.7612
                                   19
## 7520
           13.7143
                    0 13.7143
                                   20
##
  7521
           13.3666
                    0 13.3666
                                   21
##
   7522
         -13.3618
                    0 13.3618
                                   22
## 7523
         -13.1284
                    0 13.1284
                                   23
                    0 12.8756
## 7524
           12.8756
                                   24
         -12.4312
## 7525
                    0 12.4312
                                   25
                    0 12.2229
## 7526
           12.2229
                                   26
```

```
## 7527
         -12.0418 0 12.0418
                                   27
           12.0160
                    0 12.0160
                                   28
##
  7528
   7529
          -11.7917
                    0 11.7917
                                   29
           11.6733
   7530
                    0 11.6733
##
                                   30
##
   7531
         -11.3482
                     0 11.3482
                                   31
           11.2690
                    0 11.2690
##
   7532
                                   32
   7533
           11.0115
                     0 11.0115
##
                                   33
## 7534
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                    0 10.9978
                                   34
                    0 10.6172
##
  7535
          -10.6172
                                   35
##
  7536
           10.4895
                    0 10.4895
                                   36
##
   7537
           10.1050
                    0 10.1050
                                   37
   7538
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                     0 10.0269
##
                                   38
##
   7539
            9.9333
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                        9.9333
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                        9.7505
##
  7540
           -9.7505
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                                   40
## 7541
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                     0
                        9.5941
                                   41
## 7542
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                        9.5885
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## 7543
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                        9.2353
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##
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                        9.0949
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   7545
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                        8.7746
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                                   45
##
   7546
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                        8.7342
                                   46
##
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                        8.3887
                                   47
##
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                        8.2713
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## 7549
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                        8.1727
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                        8.0327
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                                   50
## 7551
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                        7.8665
                                   51
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                        7.6184
                                   52
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                        7.5645
                                   53
##
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   7554
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                        7.2562
##
                     0
                                   54
##
   7555
            7.1578
                     0
                        7.1578
                                   55
##
  7556
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                     0
                        7.0544
                                   56
##
  7557
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                        6.8769
                                   57
##
   7558
            6.6327
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                        6.6327
                                   58
##
   7559
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                        6.6166
                                   59
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                        6.2099
##
                     0
                                   60
##
   7561
            6.1176
                     0
                        6.1176
                                   61
  7562
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                     0
                        5.8357
##
                                   62
##
  7563
            5.8194
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                        5.8194
                                   63
## 7564
            5.6603
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                        5.6603
                                   64
## 7565
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                     0
                        5.5179
                                   65
## 7566
            5.1569
                     0
                        5.1569
                                   66
   7567
           -5.1052
                        5.1052
##
                     0
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   7568
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                        4.8634
##
                     0
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##
   7569
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                        4.7160
                                   69
                        4.5264
##
  7570
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                                   70
            4.4978
                        4.4978
## 7571
                     0
                                   71
                        4.4050
## 7572
            4.4050
                     0
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                        4.3197
## 7573
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                     0
                                   73
## 7574
            3.9311
                        3.9311
                                   74
                     0
##
  7575
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                     0
                        3.8998
                                   75
##
   7576
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                     0
                        3.7108
                                   76
  7577
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                        3.5452
                                   77
##
                     0
## 7578
            3.3307
                        3.3307
                                   78
## 7579
           -3.2218
                     0
                        3.2218
                                   79
## 7580
                        3.0644
           -3.0644
                    0
                                   80
```

```
## 7581
           3.0171
                    0
                       3.0171
                                  81
## 7582
           2.7599
                    0
                       2.7599
                                  82
  7583
          -2.6468
                    0
                       2.6468
                                  83
           2.4946
  7584
                       2.4946
##
                    0
                                  84
##
  7585
          -2.4676
                    0
                       2.4676
                                  85
          -2.2677
                    0
                       2.2677
##
  7586
                                  86
  7587
           2.2369
                    0
                       2.2369
##
                                  87
## 7588
           -1.9205
                    0
                       1.9205
                                  88
## 7589
           1.8796
                    0
                       1.8796
                                  89
## 7590
          -1.6588
                    0
                       1.6588
                                  90
##
  7591
           1.5004
                    0
                       1.5004
                                  91
  7592
           1.1725
                       1.1725
##
                    0
                                  92
##
  7593
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                    0
                       1.1610
                                  93
          -0.9009
                       0.9009
## 7594
                    0
                                  94
## 7595
           0.8935
                       0.8935
                    0
                                  95
##
  7596
           0.6348
                    0
                       0.6348
                                  96
          -0.6047
                    0
                       0.6047
                                  97
## 7597
##
   7598
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                    0
                       0.3116
                                  98
  7599
           0.2664
                       0.2664
##
                    0
                                  99
##
  7600
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                    0
                       0.0878
                                  100
##
  7601
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                    0 19.4163
                                    1
  7602
          19.2089
                    0 19.2089
                                    2
##
         -18.7026
                    0 18.7026
## 7603
                                    3
## 7604
          18.1516
                    0 18.1516
                                    4
         -17.6933
                                    5
## 7605
                    0 17.6933
  7606
          17.6548
                    0 17.6548
                                    6
  7607
         -17.1357
                    0 17.1357
                                    7
##
  7608
          16.7742
                                    8
##
                    0 16.7742
                                    9
  7609
         -16.7025
                    0 16.7025
##
## 7610
          16.0921
                    0 16.0921
                                  10
## 7611
         -15.9491
                    0 15.9491
                                  11
## 7612
         -15.6704
                    0 15.6704
                                  12
##
  7613
          15.6221
                    0 15.6221
                                  13
## 7614
          15.4402
                    0 15.4402
                                  14
##
  7615
         -15.2630
                    0 15.2630
                                  15
## 7616
          14.8739
                    0 14.8739
                                  16
## 7617
         -14.7904
                    0 14.7904
                                  17
## 7618
         -14.4177
                    0 14.4177
                                  18
## 7619
          14.0720
                    0 14.0720
                                  19
## 7620
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                    0 14.0277
                                  20
  7621
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                    0 13.7143
                                  21
  7622
          13.6589
                    0 13.6589
                                  22
##
          13.2065
##
  7623
                    0 13.2065
                                  23
##
  7624
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                    0 13.0016
                                  24
## 7625
                    0 12.6440
          12.6440
                                  25
## 7626
         -12.4417
                    0 12.4417
                                  26
## 7627
          12.2651
                    0 12.2651
                                  27
         -12.1344
## 7628
                    0 12.1344
                                  28
##
  7629
          12.0767
                    0 12.0767
                                  29
##
  7630
         -11.9811
                    0 11.9811
                                  30
          11.5564
                    0 11.5564
## 7631
                                  31
## 7632
         -11.4555
                    0 11.4555
                                  32
## 7633
          11.2328
                    0 11.2328
                                  33
        -10.9242 0 10.9242
## 7634
                                  34
```

```
## 7635
           10.8989
                    0 10.8989
                                   35
## 7636
           10.7746
                    0 10.7746
                                   36
           10.1556
##
   7637
                    0 10.1556
                                   37
   7638
          -10.0823
                    0 10.0823
##
                                   38
##
   7639
           -9.8671
                     0
                        9.8671
                                   39
            9.7252
                     0
                        9.7252
                                   40
##
  7640
## 7641
           -9.6192
                     0
                        9.6192
                                   41
## 7642
            9.4654
                     0
                        9.4654
                                   42
## 7643
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                     0
                        9.2474
                                   43
## 7644
            9.1630
                     0
                        9.1630
                                   44
##
   7645
            8.8506
                     0
                        8.8506
                                   45
           -8.7557
   7646
                        8.7557
##
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                                   46
                        8.5825
##
   7647
            8.5825
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##
           -8.4113
                     0
                                   48
## 7649
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                        8.2190
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##
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                        8.1987
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## 7651
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##
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                        7.8769
                                   52
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                        7.6466
##
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   7654
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                        7.6293
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##
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                        7.4706
                                   55
##
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                        7.2192
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## 7657
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  7658
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                        6.9286
##
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## 7659
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                                   59
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   7660
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                        6.5804
                                   60
##
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                        6.4759
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                                   61
   7662
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                        6.4051
##
                     0
                                   62
##
   7663
            6.1990
                     0
                        6.1990
                                   63
                        5.9606
##
  7664
           -5.9606
                     0
                                   64
## 7665
            5.8846
                     0
                        5.8846
                                   65
## 7666
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                    0
                        5.3310
                                   66
           -5.2749
##
   7667
                     0
                        5.2749
                                   67
   7668
            5.1892
                        5.1892
##
                     0
                                   68
##
   7669
            4.9274
                     0
                        4.9274
                                   69
           -4.7688
                     0
                        4.7688
                                   70
##
  7670
##
  7671
           -4.4730
                     0
                        4.4730
                                   71
## 7672
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                        4.4437
                                   72
## 7673
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                     0
                        4.1814
                                   73
## 7674
            4.1059
                     0
                        4.1059
                                   74
   7675
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                        3.9255
                                   75
##
   7676
           -3.9026
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                        3.9026
                                   76
##
            3.7749
                        3.7749
                                   77
##
   7677
                     0
           -3.6652
                        3.6652
                                   78
##
   7678
                     0
  7679
            3.5189
                     0
                        3.5189
                                   79
##
## 7680
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                        3.4004
                                   80
## 7681
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                        3.1562
                                   81
  7682
           -3.1177
                        3.1177
##
                     0
                                   82
##
   7683
           -2.8632
                     0
                        2.8632
                                   83
            2.7972
##
   7684
                     0
                        2.7972
                                   84
           -2.5143
  7685
                     0
                        2.5143
                                   85
##
                     0
## 7686
            2.4723
                        2.4723
                                   86
## 7687
            2.1671
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                        2.1671
                                   87
## 7688
                        2.1356
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                                   88
```

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## 7689
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                   0
                      1.8328
                                  89
## 7690
           1.7015
                    0
                       1.7015
                                  90
          -1.3857
                       1.3857
  7691
                    0
                                  91
  7692
           1.1889
                       1.1889
##
                    0
                                  92
##
  7693
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                    0
                       1.0793
                                  93
           1.0486
                       1.0486
## 7694
                    0
                                  94
## 7695
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                    0
                       0.8690
                                  95
## 7696
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                    0
                       0.6818
                                  96
## 7697
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                    0
                       0.5908
                                  97
## 7698
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                       0.2594
                                  98
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## 7703
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## 7706
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## 7714
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## 7715
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## 7728
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## 7733
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## 7734
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## 7735
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## 7736
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## 7737
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## 7738
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## 7739
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## 7740
          10.0766
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## 7741
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## 7742
                                  42
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                        9.1159
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##
## 7765
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## 7767
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## 7772
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## 7773
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## 7779
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                        2.7271
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##
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                                   85
                     0
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##
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## 7788
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                        1.6778
## 7789
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                                   89
## 7790
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                        1.4594
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##
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                        1.3584
                                   91
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##
   7792
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                                   92
## 7793
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                        1.1973
                                   93
## 7794
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                        1.1604
                                   94
## 7795
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                        0.9115
                                   95
## 7796
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           -0.7285
                    0
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                    0
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                    0
                       0.5062
## 7798
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##
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##
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                    0 20.0993
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                                    2
##
  7802
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##
          18.4542
## 7804
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## 7805
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                                    7
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##
                                    9
##
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## 7813
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## 7817
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                    0 14.4469
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## 7818
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## 7820
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##
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##
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##
## 7826
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## 7827
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##
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                    0 10.0920
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## 7843
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                       9.3538
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## 7844
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##
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                       9.0595
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                       8.6245
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## 7847
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## 7848
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                    0
                       8.3559
                                  48
## 7849
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                       8.2382
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## 7850
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                       8.0051
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                        7.7356
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           -7.5481
##
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                        7.5481
                                   53
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                        7.3046
##
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##
   7855
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                        7.1270
                                   55
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                        7.0046
##
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   7857
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                        6.9328
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## 7858
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                        5.6512
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                        2.9430
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                        2.7996
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                        2.7152
##
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##
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                        2.4582
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                        2.1682
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                        0.9951
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##
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                     0
##
                                   96
                        0.6233
##
  7897
            0.6233
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   7898
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                        0.3853
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##
   7899
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                        0.2730
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##
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                        0.1637
                                  100
  7901
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                     0 19.3484
##
                                     1
                     0 18.5989
                                     2
## 7902
           18.5989
## 7903
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                    0 18.1336
                                    3
           17.9710 0 17.9710
## 7904
                                     4
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## 7905
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                                    5
                    0 17.4173
                                    6
## 7906
          17.4173
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                    0 16.9717
                                    7
  7908
          16.5140
                    0 16.5140
                                    8
##
##
  7909
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                    0 16.1860
                                    9
## 7910
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                    0 16.1171
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         -15.9628
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## 7911
                                  11
## 7912
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                    0 15.6792
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## 7913
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                    0 14.8318
##
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## 7917
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  7923
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                       9.8156
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## 7940
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## 7942
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## 7943
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## 7944
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## 7948
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## 7949
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## 7950
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## 7952
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                                  53
##
  7954
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## 7955
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## 7956
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                       7.0856
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## 7957
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## 7958
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## 7960
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           -6.5553
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           -6.4382
##
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                        6.4382
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   7962
                        6.3075
##
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                        5.8405
##
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                        5.7131
##
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                        5.0628
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##
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           -2.2851
                        2.2851
                                   85
                     0
   7986
            2.2348
                        2.2348
##
                     0
                                   86
##
   7987
           -2.1434
                     0
                        2.1434
                                   87
##
   7988
            1.9148
                     0
                        1.9148
                                   88
##
  7989
            1.7909
                     0
                        1.7909
                                   89
##
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                        1.6282
                                   90
                        1.5070
##
   7991
           -1.5070
                     0
                                   91
   7992
            1.2853
                        1.2853
##
                                   92
                     0
##
   7993
           -1.0722
                     0
                        1.0722
                                   93
##
   7994
            0.9998
                     0
                        0.9998
                                   94
##
  7995
           -0.7529
                     0
                        0.7529
                                   95
  7996
           -0.5706
                     0
                        0.5706
##
                                   96
##
  7997
            0.5693
                     0
                        0.5693
                                   97
##
  7998
           -0.4910
                     0
                        0.4910
                                   98
##
   7999
            0.1050
                     0
                        0.1050
                                   99
##
   8000
           -0.0224
                        0.0224
                                   100
                     0
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           19.6254
##
                     0 19.6254
                                     1
                                     2
##
   8002
          -18.7409
                     0 18.7409
  8003
         -17.9509
                     0 17.9509
                                     3
##
  8004
           17.9427
                     0 17.9427
                                     4
##
                                     5
##
   8005
           17.4623
                     0 17.4623
   8006
         -16.7732
                                     6
##
                     0 16.7732
                                    7
##
   8007
          -16.6389
                     0 16.6389
##
   8008
           16.5117
                     0 16.5117
                                    8
   8009
          -16.0593
                     0 16.0593
                                    9
##
                     0 15.9622
## 8010
           15.9622
                                   10
## 8011
         -15.6630
                     0 15.6630
                                   11
## 8012
           15.4615 0 15.4615
                                   12
```

```
## 8013
         -15.0372
                    0 15.0372
                                   13
## 8014
                    0 14.7979
           14.7979
                                   14
  8015
         -14.7966
                    0 14.7966
                                   15
  8016
         -14.3967
                    0 14.3967
##
                                   16
##
  8017
           14.3445
                    0 14.3445
                                   17
## 8018
           13.8301
                    0 13.8301
                                   18
## 8019
         -13.7584
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                                   19
## 8020
           13.5765
                    0 13.5765
                                   20
                    0 13.4819
## 8021
         -13.4819
                                   21
## 8022
           13.1456
                    0 13.1456
                                   22
##
  8023
         -13.0948
                    0 13.0948
                                   23
  8024
           12.9683
                    0 12.9683
##
                                   24
##
   8025
           12.4893
                    0 12.4893
                                   25
   8026
##
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                    0 12.4438
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  8027
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                    0 11.9790
                                   27
##
##
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           11.9765
                    0 11.9765
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           11.7759
                    0 11.7759
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##
  8029
##
   8030
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                    0 11.7342
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                    0 11.5441
  8031
           11.5441
##
                                   31
##
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                    0 11.5011
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                    0 11.0057
##
   8033
           11.0057
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  8034
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                    0 10.9758
##
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## 8035
           10.6653
                    0 10.6653
                                   35
## 8036
         -10.5496
                    0 10.5496
                                   36
## 8037
           10.1686
                    0 10.1686
                                   37
##
  8038
           -9.9386
                    0
                        9.9386
                                   38
##
  8039
            9.9220
                        9.9220
                                   39
                    0
   8040
          -9.7911
                        9.7911
##
                     0
                                   40
##
   8041
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                    0
                        9.5888
                                   41
                        9.3657
## 8042
           -9.3657
                     0
                                   42
## 8043
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                    0
                        9.2285
                                   43
##
  8044
           -9.1573
                    0
                        9.1573
                                   44
##
   8045
            8.9353
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                        8.9353
                                   45
   8046
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                        8.5745
##
                                   46
                     0
##
   8047
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                     0
                        8.4816
                                   47
  8048
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                    0
                        8.4679
##
                                   48
## 8049
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                    0
                        8.1638
                                   49
## 8050
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                        8.0327
                                   50
## 8051
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                    0
                        7.7696
                                   51
## 8052
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                    0
                        7.5891
                                   52
  8053
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                        7.5802
##
                    0
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##
   8054
           -7.4205
                        7.4205
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                                   54
   8055
            7.3284
##
                    0
                        7.3284
                                   55
##
   8056
            7.1087
                     0
                        7.1087
                                   56
## 8057
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                        7.0521
                     0
                                   57
## 8058
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                    0
                        6.8013
                                   58
           -6.6788
                        6.6788
## 8059
                    0
                                   59
  8060
            6.3772
##
                    0
                        6.3772
                                   60
##
  8061
           -6.1926
                    0
                        6.1926
                                   61
##
   8062
           -6.0457
                     0
                        6.0457
                                   62
   8063
            5.9810
                     0
                        5.9810
##
                                   63
## 8064
           -5.7396
                    0
                        5.7396
                                   64
## 8065
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                    0
                        5.6247
                                   65
## 8066
           -5.3875
                    0
                       5.3875
                                   66
```

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## 8067
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                    0
                        5.1739
                                   67
                    0
## 8068
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                        5.1508
                                   68
   8069
            4.8945
                     0
                        4.8945
                                   69
           -4.7237
  8070
                        4.7237
                                   70
##
                     0
## 8071
            4.5042
                     0
                        4.5042
                                   71
## 8072
                     0
                        4.3755
           -4.3755
                                   72
## 8073
           -4.2637
                     0
                        4.2637
                                   73
## 8074
            4.1047
                     0
                        4.1047
                                   74
## 8075
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                     0
                        3.9737
                                   75
## 8076
            3.9285
                     0
                        3.9285
                                   76
## 8077
            3.6912
                     0
                        3.6912
                                   77
  8078
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                        3.5748
                                   78
##
                     0
##
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                                   79
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##
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                     0
                        3.1489
##
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##
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                     0
                        3.0706
                                   82
   8083
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                     0
                        2.7537
##
                                   83
##
   8084
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                     0
                        2.7428
                                   84
   8085
           -2.5221
                        2.5221
##
                     0
                                   85
##
   8086
            2.3575
                     0
                        2.3575
                                   86
##
   8087
            2.2631
                     0
                        2.2631
                                   87
##
  8088
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                     0
                        2.1947
                                   88
## 8089
            1.9384
                        1.9384
                     0
                                   89
## 8090
           -1.6542
                     0
                        1.6542
                                   90
## 8091
            1.5250
                     0
                        1.5250
                                   91
  8092
           -1.3744
                     0
                        1.3744
                                   92
##
   8093
            1.2390
                        1.2390
                                   93
                     0
   8094
           -0.9989
                        0.9989
##
                     0
                                   94
##
   8095
            0.7099
                     0
                        0.7099
                                   95
                        0.6538
##
   8096
           -0.6538
                     0
                                   96
##
   8097
            0.4035
                     0
                        0.4035
                                   97
##
   8098
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                     0
                        0.3270
                                   98
##
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                     0
                        0.2475
                                   99
  8100
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                        0.0136
##
                     0
                                  100
## 8101
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                     0 19.5811
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           18.6186
                    0 18.6186
                                    2
## 8103
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                     0 18.1997
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## 8104
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                    0 17.4087
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                    0 17.2013
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## 8107
           16.9341
                    0 16.9341
                                    7
## 8108
         -16.5857
                     0 16.5857
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## 8109
           16.0956
                                    9
                    0 16.0956
## 8110
           15.8336
                    0 15.8336
                                   10
         -15.7720
## 8111
                    0 15.7720
                                   11
## 8112
         -15.6633
                    0 15.6633
                                   12
## 8113
           15.3790
                    0 15.3790
                                   13
         -14.9778
## 8114
                    0 14.9778
                                   14
## 8115
           14.7393
                    0 14.7393
                                   15
## 8116
          -14.7061
                     0 14.7061
                                   16
          -14.3002
                    0 14.3002
                                   17
## 8117
## 8118
           14.0435
                    0 14.0435
                                   18
## 8119
           13.9429
                    0 13.9429
                                   19
## 8120
         -13.7531 0 13.7531
                                   20
```

```
## 8121
         -13.5364 0 13.5364
                                   21
## 8122
                    0 13.3611
                                   22
           13.3611
                    0 13.0566
## 8123
           13.0566
                                   23
## 8124
           12.8874
                    0 12.8874
                                   24
## 8125
         -12.7963
                    0 12.7963
                                   25
## 8126
         -12.4888
                    0 12.4888
                                   26
           12.4286
                    0 12.4286
## 8127
                                   27
         -12.1185
                    0 12.1185
## 8128
                                   28
           11.8603
## 8129
                    0 11.8603
                                   29
## 8130
         -11.7888
                    0 11.7888
                                   30
## 8131
           11.3428
                    0 11.3428
                                   31
## 8132
         -11.3153
                    0 11.3153
                                   32
## 8133
           11.2238
                    0 11.2238
                                   33
         -10.9157
                    0 10.9157
## 8134
                                   34
## 8135
           10.7274
                    0 10.7274
                                   35
## 8136
           10.5683
                    0 10.5683
                                   36
         -10.3214
                    0 10.3214
                                   37
## 8137
## 8138
           10.2756
                    0 10.2756
                                   38
## 8139
         -10.1648
                    0 10.1648
                                   39
## 8140
           9.8105
                    0
                       9.8105
                                   40
## 8141
           -9.7022
                    0
                       9.7022
                                   41
## 8142
           9.6710
                    0
                       9.6710
                                   42
## 8143
           -9.4694
                       9.4694
                                   43
                    0
## 8144
           -9.3474
                    0
                       9.3474
                                   44
## 8145
           9.1032
                    0
                       9.1032
                                   45
## 8146
           -8.8597
                    0
                       8.8597
                                   46
## 8147
           8.4715
                       8.4715
                                   47
                    0
## 8148
           -8.3566
                       8.3566
                    0
                                   48
## 8149
           8.2552
                    0
                       8.2552
                                   49
                       8.0519
## 8150
           8.0519
                    0
                                   50
## 8151
           7.8785
                    0
                       7.8785
                                   51
## 8152
           -7.7823
                    0
                       7.7823
                                   52
## 8153
           -7.6083
                    0
                       7.6083
                                   53
## 8154
           7.3485
                       7.3485
                    0
                                   54
## 8155
           7.1139
                    0
                       7.1139
                                   55
## 8156
           -7.0975
                    0
                       7.0975
                                   56
## 8157
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                    0
                        6.7264
                                   57
## 8158
           6.7104
                    0
                       6.7104
                                   58
## 8159
           6.3741
                    0
                       6.3741
                                   59
## 8160
           -6.3733
                    0
                       6.3733
                                   60
## 8161
           -6.3245
                       6.3245
                    0
                                   61
## 8162
           -6.0791
                       6.0791
                    0
                                   62
           5.9920
                       5.9920
## 8163
                    0
                                   63
                       5.7037
## 8164
           -5.7037
                    0
                                   64
## 8165
           5.6821
                       5.6821
                    0
                                   65
## 8166
           -5.3459
                    0
                       5.3459
                                   66
                       5.2823
## 8167
           5.2823
                    0
                                   67
           -5.2281
                       5.2281
## 8168
                    0
                                   68
## 8169
           4.8738
                    0
                        4.8738
                                   69
           -4.7729
                        4.7729
## 8170
                    0
                                   70
## 8171
           4.5328
                    0
                        4.5328
                                   71
                    0
## 8172
           -4.4940
                        4.4940
                                   72
## 8173
           4.2531
                    0
                        4.2531
                                   73
## 8174
                       4.2108
           -4.2108
                   0
                                   74
```

```
## 8175
          -4.0113 0
                       4.0113
                                   75
## 8176
                    0
                       3.9901
                                   76
           3.9901
## 8177
           3.7781
                    0
                       3.7781
                                   77
## 8178
          -3.6255
                       3.6255
                    0
                                   78
## 8179
           3.3176
                    0
                       3.3176
                                   79
## 8180
           -3.1875
                    0
                       3.1875
                                   80
## 8181
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                    0
                       3.0846
                                   81
                       2.8514
## 8182
           2.8514
                    0
                                   82
## 8183
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                    0
                       2.7522
                                   83
## 8184
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                    0
                       2.5582
                                   84
## 8185
           2.4565
                    0
                       2.4565
                                   85
## 8186
          -2.3546
                        2.3546
                    0
                                   86
## 8187
           2.2512
                    0
                       2.2512
                                   87
## 8188
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          -1.9761
                    0
                                   88
## 8189
           1.7232
                    0
                       1.7232
                                   89
## 8190
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                    0
                        1.7220
                                   90
           1.5485
                    0
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## 8191
                                   91
## 8192
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                       1.2194
                                   92
## 8193
           1.1913
                       1.1913
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## 8194
           1.0685
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                       1.0685
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## 8195
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                       0.8193
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## 8196
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                    0
                        0.7095
                                   96
## 8197
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                    0
                                   97
## 8198
           0.3488
                    0
                       0.3488
                                   98
## 8199
           0.2735
                    0
                       0.2735
                                   99
## 8200
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                    0
                       0.1492
                                  100
## 8201
         -18.9473
                    0 18.9473
                                    1
## 8202
          18.9195
                                    2
                    0 18.9195
## 8203
          18.3272
                    0 18.3272
                                    3
## 8204
         -17.9243
                    0 17.9243
                                    4
## 8205
         -17.4243
                    0 17.4243
                                    5
## 8206
          17.4229
                    0 17.4229
                                    6
                                    7
  8207
         -16.7928
                    0 16.7928
## 8208
          16.7399
                    0 16.7399
                                    8
## 8209
         -16.2502
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                                    9
## 8210
          16.2381
                    0 16.2381
                                   10
## 8211
         -15.9448
                    0 15.9448
                                   11
## 8212
          15.8043
                    0 15.8043
                                   12
## 8213
         -15.6415
                    0 15.6415
                                   13
## 8214
          15.4197
                    0 15.4197
                                   14
## 8215
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## 8216
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                    0 14.8952
                                   16
         -14.6028
## 8217
                    0 14.6028
                                   17
## 8218
          14.5296
                    0 14.5296
                                   18
## 8219
          14.1352
                    0 14.1352
                                   19
         -14.0568
## 8220
                    0 14.0568
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## 8221
          13.6428
                    0 13.6428
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         -13.5369
## 8222
                    0 13.5369
                                   22
## 8223
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                    0 13.3132
                                   23
## 8224
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                    0 12.9264
                                   24
## 8225
          12.8841
                    0 12.8841
                                   25
                    0 12.7360
## 8226
         -12.7360
                                   26
## 8227
          12.2688
                    0 12.2688
                                   27
## 8228
         -12.1743 0 12.1743
                                   28
```

```
## 8229
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                    0 12.1725
                                   29
## 8230
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                    0 11.8703
                                   30
                    0 11.6939
  8231
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  8232
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                                   32
##
##
  8233
           11.3267
                    0 11.3267
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## 8234
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## 8235
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## 8236
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## 8237
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                    0 10.3534
                                   37
## 8238
           10.2722
                    0 10.2722
                                   38
##
  8239
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                    0
                        9.8332
                                   39
                        9.7932
## 8240
            9.7932
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                                   40
           -9.5989
                        9.5989
##
   8241
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## 8242
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                        9.5556
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## 8243
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                    0
                        9.2200
                                   43
## 8244
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                    0
                        9.1419
                                   44
## 8245
           -8.8982
                    0
                        8.8982
                                   45
##
   8246
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                    0
                        8.8939
                                   46
  8247
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                        8.7868
##
                                   47
                    0
                        8.5979
##
  8248
            8.5979
                    0
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##
  8249
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                    0
                        8.1460
                                   49
## 8250
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                        8.0773
                                   50
## 8251
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## 8252
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                        7.6791
                                   52
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## 8253
                    0
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                                   54
##
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                        7.5208
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                    0
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                        7.2126
##
                    0
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##
   8257
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                                   57
                        6.9091
## 8258
           -6.9091
                    0
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                        6.7166
                                   59
## 8260
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##
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                                   61
  8262
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                        6.1381
##
                    0
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## 8263
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                    0
                        6.0824
                                   63
## 8264
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                    0
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                                   64
## 8265
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                                   65
## 8266
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## 8267
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                        5.4687
                                   67
## 8268
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                    0
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                                   68
## 8269
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                        5.0576
                    0
                                   69
## 8270
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                        4.8365
                                   70
                    0
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                        4.6847
                     0
                                   71
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                        4.6072
## 8272
                     0
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                        4.2851
## 8274
           -4.2851
                                   74
                     0
                        4.0990
## 8275
           -4.0990
                    0
                                   75
## 8276
            3.9290
                        3.9290
                                   76
                     0
                        3.7474
## 8277
           -3.7474
                    0
                                   77
            3.7209
                        3.7209
##
  8278
                     0
                                   78
  8279
           -3.5349
                     0
                        3.5349
                                   79
##
                     0
## 8280
           -3.3247
                        3.3247
                                   80
## 8281
            3.3130
                    0
                        3.3130
                                   81
## 8282
                        3.0131
            3.0131 0
                                   82
```

```
## 8283
           2.6803
                    0
                       2.6803
                                   83
                    0
## 8284
          -2.6783
                       2.6783
                                   84
  8285
           2.3088
                    0
                       2.3088
                                   85
  8286
          -2.2690
                       2.2690
##
                    0
                                   86
## 8287
           2.0517
                    0
                        2.0517
                                   87
## 8288
          -1.9971
                    0
                       1.9971
                                   88
## 8289
                    0
           1.8892
                       1.8892
                                   89
## 8290
            1.7035
                    0
                       1.7035
                                   90
## 8291
          -1.6556
                    0
                       1.6556
                                   91
## 8292
          -1.4363
                    0
                        1.4363
                                   92
## 8293
          -1.3444
                    0
                       1.3444
                                   93
## 8294
           1.3013
                        1.3013
                    0
                                   94
                       1.0661
##
  8295
           1.0661
                    0
                                   95
  8296
          -0.7427
##
                    0
                       0.7427
                                   96
## 8297
           0.6194
                    0
                       0.6194
                                   97
##
  8298
           0.4190
                    0
                       0.4190
                                   98
                    0
                       0.3227
##
  8299
          -0.3227
                                   99
##
   8300
          -0.0149
                    0
                       0.0149
                                  100
  8301
          19.1350
##
                    0 19.1350
                                    1
##
  8302
         -19.0088
                    0 19.0088
                                    2
##
  8303
          18.3585
                    0 18.3585
                                    3
  8304
         -18.2070
                    0 18.2070
                                    4
         -17.5750
                    0 17.5750
## 8305
                                    5
## 8306
          17.3530
                    0 17.3530
                                    6
                                    7
## 8307
          16.8953
                    0 16.8953
  8308
         -16.8915
                    0 16.8915
                                    8
  8309
          16.1846
                    0 16.1846
                                    9
##
  8310
         -15.9516
##
                    0 15.9516
                                   10
## 8311
          15.9443
                    0 15.9443
                                   11
## 8312
         -15.7393
                    0 15.7393
                                   12
## 8313
         -15.3197
                    0 15.3197
                                   13
##
  8314
         -15.0987
                    0 15.0987
                                   14
##
   8315
          15.0170
                    0 15.0170
                                   15
## 8316
          14.7491
                    0 14.7491
                                   16
## 8317
         -14.2501
                    0 14.2501
                                   17
## 8318
          14.2139
                    0 14.2139
                                   18
## 8319
          13.8899
                    0 13.8899
                                   19
## 8320
         -13.6366
                    0 13.6366
                                   20
## 8321
          13.4566
                    0 13.4566
                                   21
## 8322
         -13.3813
                    0 13.3813
                                   22
## 8323
         -13.1356
                    0 13.1356
                                   23
## 8324
          13.1227
                    0 13.1227
                                   24
## 8325
          13.0318
                    0 13.0318
                                   25
##
  8326
         -12.5412
                    0 12.5412
                                   26
## 8327
          12.1918
                    0 12.1918
                                   27
## 8328
         -12.0037
                    0 12.0037
                                   28
## 8329
          11.9732
                    0 11.9732
                                   29
         -11.9109
## 8330
                    0 11.9109
                                   30
##
  8331
          11.5751
                    0 11.5751
                                   31
##
   8332
          11.2632
                    0 11.2632
                                   32
         -11.1775
                    0 11.1775
                                   33
##
  8333
## 8334
         -10.9001
                    0 10.9001
                                   34
## 8335
         -10.6545
                    0 10.6545
                                   35
## 8336
          10.6436 0 10.6436
                                   36
```

```
## 8337
           10.5721
                     0 10.5721
                                   37
##
  8338
         -10.1987
                    0 10.1987
                                   38
                     0 10.1699
##
   8339
           10.1699
                                   39
  8340
            9.7644
                        9.7644
##
                     0
                                   40
##
   8341
           -9.6085
                     0
                        9.6085
                                   41
  8342
           -9.3517
                     0
                        9.3517
                                   42
##
## 8343
            9.3106
                     0
                        9.3106
                                   43
## 8344
            8.9385
                     0
                        8.9385
                                   44
           -8.9149
## 8345
                     0
                        8.9149
                                   45
           -8.4883
## 8346
                     0
                        8.4883
                                   46
##
  8347
            8.2046
                     0
                        8.2046
                                   47
   8348
           -8.1741
                        8.1741
##
                     0
                                   48
##
   8349
            7.9391
                     0
                        7.9391
                                   49
   8350
                     0
                        7.8822
##
           -7.8822
                                   50
##
   8351
           -7.7574
                     0
                        7.7574
                                   51
##
   8352
            7.6798
                     0
                        7.6798
                                   52
   8353
           -7.4990
                     0
                        7.4990
                                   53
##
##
   8354
            7.3500
                     0
                        7.3500
                                   54
   8355
           -7.1609
                        7.1609
##
                     0
                                   55
##
   8356
            7.1601
                     0
                        7.1601
                                   56
##
   8357
            6.8530
                     0
                        6.8530
                                   57
##
   8358
           -6.6577
                     0
                        6.6577
                                   58
## 8359
            6.5384
                        6.5384
                     0
                                   59
  8360
            6.3669
                     0
                        6.3669
##
                                   60
           -6.3017
## 8361
                     0
                        6.3017
                                   61
##
   8362
            6.0204
                     0
                        6.0204
                                   62
##
   8363
           -5.9405
                        5.9405
                                   63
                     0
   8364
           -5.6702
                        5.6702
##
                     0
                                   64
##
   8365
            5.6305
                     0
                        5.6305
                                   65
                        5.3468
##
  8366
            5.3468
                     0
                                   66
##
   8367
           -5.3347
                     0
                        5.3347
                                   67
##
   8368
           -4.9773
                     0
                        4.9773
                                   68
            4.9067
                        4.9067
##
   8369
                     0
                                   69
   8370
            4.7467
                        4.7467
                                   70
##
                     0
##
   8371
            4.6453
                     0
                        4.6453
                                   71
  8372
           -4.5128
                     0
                        4.5128
                                   72
##
## 8373
            4.4572
                     0
                        4.4572
                                   73
## 8374
           -4.2395
                     0
                        4.2395
                                   74
## 8375
           -4.0426
                     0
                        4.0426
                                   75
## 8376
            3.9649
                     0
                        3.9649
                                   76
  8377
           -3.9245
                     0
                        3.9245
                                   77
##
  8378
           -3.6857
                     0
                        3.6857
                                   78
##
            3.5693
                        3.5693
##
   8379
                     0
                                   79
##
   8380
           -3.1231
                     0
                        3.1231
                                   80
## 8381
            2.9268
                     0
                        2.9268
                                   81
                        2.8549
## 8382
           -2.8549
                     0
                                   82
                        2.7675
##
  8383
           -2.7675
                     0
                                   83
   8384
            2.7438
                        2.7438
##
                     0
                                   84
##
   8385
           -2.6323
                     0
                        2.6323
                                   85
##
   8386
            2.4130
                     0
                        2.4130
                                   86
   8387
            2.3059
                     0
                        2.3059
                                   87
##
##
  8388
           -2.2718
                     0
                        2.2718
                                   88
## 8389
            1.8259
                     0
                        1.8259
                                   89
## 8390
            1.6390
                    0
                        1.6390
                                   90
```

```
## 8391
          -1.6375
                    0
                       1.6375
                                   91
## 8392
                    0
          -1.4138
                       1.4138
                                   92
           1.3950
  8393
                    0
                        1.3950
                                   93
  8394
           -1.2683
                        1.2683
##
                    0
                                   94
##
  8395
           -0.8639
                    0
                       0.8639
                                   95
           0.8521
                       0.8521
##
  8396
                    0
                                   96
  8397
           -0.5034
                    0
                        0.5034
##
                                   97
## 8398
           0.4838
                    0
                       0.4838
                                   98
           -0.2568
##
  8399
                    0
                       0.2568
                                   99
## 8400
           0.1891
                    0
                       0.1891
                                  100
## 8401
           19.5232
                    0 19.5232
                                    1
  8402
         -18.9770
                    0 18.9770
                                    2
##
##
   8403
           18.8150
                    0 18.8150
                                    3
   8404
         -17.9101
                    0 17.9101
                                    4
## 8405
         -17.4691
                    0 17.4691
                                    5
## 8406
           17.2730
                    0 17.2730
                                    6
                    0 16.6134
                                    7
## 8407
           16.6134
   8408
         -16.5379
                    0 16.5379
                                    8
  8409
           16.3441
                                    9
##
                    0 16.3441
## 8410
         -15.9380
                    0 15.9380
                                   10
## 8411
           15.8384
                    0 15.8384
                                   11
## 8412
         -15.4567
                    0 15.4567
                                   12
         -15.2292
                    0 15.2292
## 8413
                                   13
           14.8578
                    0 14.8578
## 8414
                                   14
                    0 14.7812
## 8415
         -14.7812
                                   15
## 8416
           14.7423
                    0 14.7423
                                   16
## 8417
         -14.6000
                    0 14.6000
                                   17
          14.0884
##
  8418
                    0 14.0884
                                   18
## 8419
         -13.7209
                    0 13.7209
                                   19
## 8420
           13.5867
                    0 13.5867
                                   20
## 8421
           13.1703
                    0 13.1703
                                   21
## 8422
         -13.0534
                    0 13.0534
                                   22
   8423
           13.0140
                    0 13.0140
                                   23
         -12.7964
                    0 12.7964
##
  8424
                                   24
  8425
          12.4140
                    0 12.4140
                                   25
         -12.3002
                    0 12.3002
##
  8426
                                   26
## 8427
         -11.9930
                    0 11.9930
                                   27
## 8428
           11.9619
                    0 11.9619
                                   28
## 8429
         -11.7767
                    0 11.7767
                                   29
           11.7110
                    0 11.7110
## 8430
                                   30
  8431
         -11.5270
                    0 11.5270
                                   31
  8432
           11.2230
                    0 11.2230
                                   32
##
         -11.1140
## 8433
                    0 11.1140
                                   33
##
  8434
           11.0284
                    0 11.0284
                                   34
           10.7085
## 8435
                    0 10.7085
                                   35
         -10.4797
                    0 10.4797
                                   36
## 8436
## 8437
           10.3504
                    0 10.3504
                                   37
## 8438
         -10.0198
                    0 10.0198
                                   38
##
  8439
           9.7140
                    0
                       9.7140
                                   39
                       9.6181
##
   8440
           -9.6181
                    0
                                   40
   8441
           -9.3859
                    0
                       9.3859
##
                                   41
## 8442
           9.3742
                    0
                       9.3742
                                   42
## 8443
           9.2106
                    0
                       9.2106
                                   43
                       9.2030
## 8444
           -9.2030
                    0
                                   44
```

```
## 8445
            8.8962
                     0
                        8.8962
                                   45
## 8446
                        8.7442
           -8.7442
                    0
                                   46
            8.6297
##
  8447
                     0
                        8.6297
                                   47
           -8.3655
                        8.3655
##
  8448
                     0
                                   48
##
  8449
            8.3262
                     0
                        8.3262
                                   49
  8450
           -8.1630
                     0
                        8.1630
##
                                   50
## 8451
            8.0638
                     0
                        8.0638
                                   51
                        7.7441
## 8452
           -7.7441
                     0
                                   52
## 8453
            7.7133
                    0
                        7.7133
                                   53
           -7.4677
## 8454
                     0
                        7.4677
                                   54
##
  8455
            7.2948
                     0
                        7.2948
                                   55
           -7.2577
   8456
                        7.2577
##
                     0
                                   56
                        7.0721
##
   8457
            7.0721
                     0
                                   57
   8458
                        6.8840
##
           -6.8840
                     0
                                   58
## 8459
           -6.4878
                     0
                        6.4878
                                   59
##
  8460
            6.3413
                     0
                        6.3413
                                   60
           -6.2773
                     0
                        6.2773
##
  8461
                                   61
##
   8462
            6.1817
                     0
                        6.1817
                                   62
  8463
           -5.7600
                        5.7600
##
                     0
                                   63
##
   8464
            5.7501
                     0
                        5.7501
                                   64
##
   8465
           -5.4297
                     0
                        5.4297
                                   65
##
  8466
            5.3416
                     0
                        5.3416
                                   66
           -5.2307
                     0
                        5.2307
## 8467
                                   67
## 8468
            5.0583
                    0
                        5.0583
                                   68
           -4.9451
                        4.9451
## 8469
                     0
                                   69
##
  8470
            4.7981
                     0
                        4.7981
                                   70
## 8471
           -4.4738
                     0
                        4.4738
                                   71
           -4.2954
                        4.2954
                                   72
##
  8472
                     0
                        4.2879
## 8473
            4.2879
                     0
                                   73
## 8474
            4.1120
                     0
                        4.1120
                                   74
## 8475
            3.9509
                     0
                        3.9509
                                   75
## 8476
           -3.7592
                     0
                        3.7592
                                   76
                        3.5034
##
   8477
            3.5034
                     0
                                   77
  8478
           -3.5019
                        3.5019
##
                     0
                                   78
##
   8479
            3.2521
                     0
                        3.2521
                                   79
##
  8480
           -3.1843
                     0
                        3.1843
                                   80
## 8481
           -3.0659
                     0
                        3.0659
                                   81
## 8482
            3.0248
                     0
                        3.0248
                                   82
## 8483
            2.7745
                     0
                        2.7745
                                   83
## 8484
           -2.5545
                     0
                        2.5545
                                   84
   8485
            2.4419
                     0
                        2.4419
##
                                   85
   8486
           -2.1578
                     0
                        2.1578
##
                                   86
            2.1120
##
   8487
                     0
                        2.1120
                                   87
##
   8488
            1.8892
                     0
                        1.8892
                                   88
## 8489
           -1.8473
                        1.8473
                     0
                                   89
                        1.5766
## 8490
           -1.5766
                     0
                                   90
                        1.4948
## 8491
            1.4948
                     0
                                   91
  8492
           -1.0282
                        1.0282
##
                     0
                                   92
                                   93
##
   8493
            0.9723
                     0
                        0.9723
                        0.9387
##
   8494
           -0.9387
                     0
                                   94
   8495
            0.9057
                     0
                        0.9057
                                   95
##
## 8496
           -0.5409
                     0
                        0.5409
                                   96
## 8497
            0.4697
                     0
                        0.4697
                                   97
## 8498
           -0.3653
                    0
                        0.3653
                                   98
```

```
## 8499
          -0.2364
                    0 0.2364
                                   99
                                  100
           0.2163
                    0
##
  8500
                       0.2163
   8501
         -19.1947
                    0 19.1947
                                    1
  8502
          19.1863
                    0 19.1863
                                    2
##
##
   8503
          18.7392
                    0 18.7392
                                    3
   8504
         -18.6532
                    0 18.6532
                                    4
##
         -17.9161
  8505
                    0 17.9161
                                    5
## 8506
          17.7725
                    0 17.7725
                                    6
                    0 17.2482
##
  8507
         -17.2482
                                    7
                                    8
##
  8508
          17.0308
                    0 17.0308
   8509
         -16.7831
                    0 16.7831
                                    9
         -16.4595
                    0 16.4595
##
   8510
                                   10
##
   8511
          16.3929
                    0 16.3929
                                   11
##
   8512
          15.6731
                    0 15.6731
                                   12
## 8513
         -15.3230
                    0 15.3230
                                   13
## 8514
          15.1228
                    0 15.1228
                                   14
         -14.7830
                    0 14.7830
## 8515
                                   15
   8516
          14.6071
                    0 14.6071
                                   16
         -14.5937
##
  8517
                    0 14.5937
                                   17
##
   8518
          14.3655
                    0 14.3655
                                   18
##
  8519
         -13.9511
                    0 13.9511
                                   19
  8520
          13.8507
                    0 13.8507
                                   20
##
                    0 13.5796
## 8521
          13.5796
                                   21
         -13.4370
                    0 13.4370
## 8522
                                   22
## 8523
         -13.1456
                    0 13.1456
                                   23
  8524
          13.1322
                    0 13.1322
                                   24
  8525
          12.8834
                    0 12.8834
                                   25
##
         -12.5715
##
   8526
                    0 12.5715
                                   26
         -12.2792
                    0 12.2792
                                   27
##
   8527
## 8528
          12.1654
                    0 12.1654
                                   28
## 8529
          11.8841
                    0 11.8841
                                   29
##
  8530
         -11.8727
                    0 11.8727
                                   30
##
   8531
          11.5804
                    0 11.5804
                                   31
   8532
         -11.5700
                    0 11.5700
##
                                   32
##
   8533
          11.0887
                    0 11.0887
                                   33
   8534
         -10.9355
                    0 10.9355
##
                                   34
  8535
          10.7253
                    0 10.7253
                                   35
## 8536
         -10.6703
                    0 10.6703
                                   36
## 8537
          10.3767
                    0 10.3767
                                   37
         -10.3249
                    0 10.3249
## 8538
                                   38
  8539
         -10.3020
                    0 10.3020
                                   39
  8540
          10.0863
                    0 10.0863
##
                                   40
##
  8541
          -9.7659
                    0
                       9.7659
                                   41
## 8542
           9.6109
                    0
                       9.6109
                                   42
## 8543
          -9.5500
                    0
                       9.5500
                                   43
## 8544
           9.4111
                    0
                       9.4111
                                   44
## 8545
           9.1797
                    0
                       9.1797
                                   45
## 8546
          -8.9283
                    0
                       8.9283
                                   46
##
  8547
           -8.5774
                    0
                       8.5774
                                   47
##
   8548
           8.4146
                    0
                       8.4146
                                   48
   8549
          -8.1892
                    0
                       8.1892
##
                                   49
## 8550
           8.1701
                    0
                       8.1701
                                   50
## 8551
           -8.0070
                    0
                       8.0070
                                   51
## 8552
           7.9749
                   0
                       7.9749
                                   52
```

```
## 8553
            7.7842
                     0
                        7.7842
                                   53
##
  8554
           -7.5803
                     0
                        7.5803
                                   54
##
   8555
           -7.4397
                     0
                        7.4397
                                   55
   8556
            7.2690
##
                        7.2690
                     0
                                   56
##
   8557
            6.8160
                     0
                        6.8160
                                   57
   8558
           -6.7970
                     0
                        6.7970
##
                                   58
   8559
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##
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##
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           -6.2249
##
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##
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                        6.1416
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                        5.7826
##
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                        5.6090
##
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   8566
##
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##
##
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                        5.0609
##
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##
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                        4.7366
##
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##
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                                   72
##
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                        4.6201
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##
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                        4.0248
##
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                                   75
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                                   76
##
## 8577
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##
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##
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                        3.2578
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                                   82
##
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##
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                        1.6651
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##
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                                   92
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##
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                        1.0577
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##
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                        0.8365
##
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                        0.6964
##
                     0
                                   97
##
   8598
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                     0
                        0.6436
                                   98
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                        0.3785
##
   8599
                     0
                                   99
   8600
           -0.1340
                                   100
##
                     0
                        0.1340
##
   8601
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                     0 19.0709
                                     1
                                     2
##
   8602
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                     0 19.0694
   8603
          -18.1102
                     0 18.1102
                                     3
##
                     0 18.0643
##
   8604
           18.0643
                                     4
## 8605
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                     0 17.7657
                                     5
                    0 17.7432
## 8606
           17.7432
                                     6
```

```
## 8607
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                                    7
                    0 17.0381
                                    8
##
  8608
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                    0 16.5529
   8609
         -16.5529
                                    9
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                    0 16.5394
##
                                   10
##
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                    0 15.8098
                                   11
   8612
                    0 15.7161
##
         -15.7161
                                   12
         -15.3413
                    0 15.3413
## 8613
                                   13
## 8614
           15.0424
                    0 15.0424
                                   14
## 8615
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                    0 14.9284
                                   15
##
  8616
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                                   16
##
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                    0 14.5836
                                   17
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                    0 14.5541
##
                                   18
##
   8619
           14.2532
                    0 14.2532
                                   19
##
   8620
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                    0 14.2085
                                   20
  8621
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                    0 13.8137
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##
##
   8622
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                    0 13.3774
                                   22
           13.3737
                    0 13.3737
                                   23
##
   8623
##
   8624
           13.1120
                    0 13.1120
                                   24
                    0 12.6516
         -12.6516
##
   8625
                                   25
##
   8626
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                    0 12.5166
                                   26
##
   8627
           12.1964
                    0 12.1964
                                   27
   8628
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                    0 12.1380
                                   28
##
## 8629
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                    0 11.9183
                                   29
                    0 11.8952
## 8630
         -11.8952
                                   30
## 8631
           11.7389
                    0 11.7389
                                   31
   8632
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                    0 11.5386
                                   32
   8633
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                    0 11.3870
                                   33
##
         -11.1288
##
   8634
                    0 11.1288
                                   34
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                    0 10.7674
                                   35
##
##
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                    0 10.6013
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##
  8637
           10.3589
                    0 10.3589
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##
   8638
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                    0 10.2195
                                   38
##
   8639
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                    0
                        9.9612
                                   39
   8640
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                        9.7894
##
                    0
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##
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                        9.7561
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##
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                        9.3944
                                   42
##
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                        9.3665
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##
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                        9.1656
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##
  8645
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                        9.0527
                                   45
##
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                        8.7901
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                        8.5625
##
                    0
                                   47
##
   8648
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                        8.3884
                    0
                                   48
           -8.1976
##
   8649
                    0
                        8.1976
                                   49
##
   8650
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                        7.9855
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                        7.8875
##
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                        7.7729
## 8652
            7.7729
                     0
                                   52
##
  8653
            7.5363
                    0
                        7.5363
                                   53
   8654
##
           -7.5173
                     0
                        7.5173
                                   54
##
   8655
            7.3849
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                        7.3849
                                   55
##
   8656
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                     0
                        7.2967
                                   56
   8657
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                     0
                        6.9153
                                   57
##
##
   8658
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                     0
                        6.8719
                                   58
## 8659
            6.7212
                    0
                        6.7212
                                   59
## 8660
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                    0
                        6.4202
                                   60
```

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## 8661
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                    0
                        6.2373
                                   61
##
           -6.0068
                    0
                        6.0068
                                   62
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##
   8663
                     0
                        5.7891
                                   63
           -5.7179
   8664
                     0
                        5.7179
##
                                   64
##
   8665
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                        5.6297
                                   65
   8666
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                        5.5406
##
                                   66
   8667
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                     0
                        5.2107
##
                                   67
## 8668
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                     0
                        5.0722
                                   68
                        4.9638
## 8669
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                                   69
## 8670
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                                   70
## 8671
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                        4.5206
                                   71
  8672
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                        4.4608
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##
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                        4.3066
##
   8673
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                                   73
##
   8674
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                        4.1114
                                   74
## 8675
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                        4.0895
                                   75
                     0
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                        3.5289
                                   77
##
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                     0
##
   8678
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                                   78
  8679
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                        3.3445
##
                                   79
                     0
##
   8680
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                        2.8840
                                   80
##
   8681
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                     0
                        2.8799
                                   81
##
   8682
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                     0
                        2.6646
                                   82
## 8683
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                        2.6352
                     0
                                   83
  8684
           -2.5356
                     0
                        2.5356
##
                                   84
## 8685
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                     0
                        2.4042
                                   85
##
   8686
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                     0
                        2.3565
                                   86
##
   8687
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                        1.9338
                                   87
                     0
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            1.8713
                        1.8713
##
                     0
                                   88
##
   8689
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                     0
                        1.6412
                                   89
                        1.6057
##
   8690
           -1.6057
                     0
                                   90
##
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                        1.2022
                                   91
##
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                     0
                        1.1091
                                   92
##
   8693
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                     0
                        1.1048
                                   93
   8694
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                        0.8727
##
                                   94
                     0
##
   8695
            0.8142
                     0
                        0.8142
                                   95
##
   8696
            0.7293
                     0
                        0.7293
                                   96
##
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                        0.5964
                                   97
##
  8698
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                     0
                        0.4763
                                   98
##
  8699
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                     0
                        0.3370
                                   99
## 8700
            0.0865
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                        0.0865
                                  100
## 8701
           19.2132
                    0 19.2132
                                    1
         -18.8451
## 8702
                     0 18.8451
                                    2
         -18.3223
## 8703
                    0 18.3223
                                    3
                                    4
##
  8704
           18.1624
                     0 18.1624
## 8705
         -17.5959
                     0 17.5959
                                    5
           17.3403
## 8706
                    0 17.3403
                                    6
                                    7
## 8707
         -17.1582
                    0 17.1582
         -16.6908
                                    8
## 8708
                    0 16.6908
## 8709
           16.6403
                    0 16.6403
                                    9
## 8710
         -16.2514
                    0 16.2514
                                   10
## 8711
           16.1545
                     0 16.1545
                                   11
## 8712
           16.0508
                    0 16.0508
                                   12
## 8713
           15.6942
                    0 15.6942
                                   13
## 8714
         -15.5953
                    0 15.5953
                                   14
```

```
## 8715
           15.3874 0 15.3874
                                   15
                    0 14.8875
## 8716
         -14.8875
                                   16
## 8717
           14.7871
                    0 14.7871
                                   17
## 8718
         -14.6955
                    0 14.6955
                                   18
## 8719
           14.4154
                    0 14.4154
                                   19
## 8720
           14.0091
                    0 14.0091
                                   20
## 8721
         -13.9072
                    0 13.9072
                                   21
         -13.4886
## 8722
                    0 13.4886
                                   22
                    0 13.2805
## 8723
           13.2805
                                   23
## 8724
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                                   24
## 8725
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                    0 12.9209
                                   25
## 8726
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                    0 12.6913
                                   26
## 8727
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                    0 12.4882
                                   27
## 8728
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                    0 12.2484
                                   28
## 8729
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                    0 12.1431
                                   29
## 8730
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## 8731
           11.6191
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  8732
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                                   32
  8733
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##
                                   33
## 8734
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                    0 11.1859
                                   34
##
  8735
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                                   35
## 8736
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                    0 10.8262
                                   36
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                    0 10.7300
## 8737
                                   37
## 8738
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                    0 10.5797
                                   38
                    0 10.3232
## 8739
           10.3232
                                   39
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## 8740
                    0 10.1228
                                   40
## 8741
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                    0 10.0054
                                   41
           9.9640
                       9.9640
## 8742
                    0
                                   42
## 8743
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                       9.6155
                                   43
## 8744
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                    0
                       9.4239
                                   44
## 8745
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                       9.3160
                                   45
## 8746
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                    0
                       9.0797
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           -8.9950
## 8747
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                       8.9950
                                   47
## 8748
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                       8.5494
                                   48
                    0
## 8749
           8.4401
                    0
                       8.4401
                                   49
## 8750
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                    0
                       8.2664
                                   50
## 8751
           -8.1416
                    0
                       8.1416
                                   51
## 8752
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                    0
                       7.8975
                                   52
## 8753
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                    0
                       7.8403
                                   53
## 8754
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                    0
                       7.6384
                                   54
## 8755
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                       7.2929
                    0
                                   55
           7.0359
## 8756
                       7.0359
                    0
                                   56
           -7.0260
                       7.0260
## 8757
                    0
                                   57
## 8758
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                       6.9426
                                   58
## 8759
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                       6.8240
                    0
                                   59
## 8760
           6.6024
                       6.6024
                    0
                                   60
                       6.5313
## 8761
           -6.5313
                    0
                                   61
## 8762
           6.4220
                        6.4220
                    0
                                   62
## 8763
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                    0
                        6.2004
                                   63
           6.0338
## 8764
                    0
                        6.0338
                                   64
  8765
           -5.7289
                    0
                       5.7289
##
                                   65
## 8766
           5.5609
                    0
                       5.5609
                                   66
## 8767
           -5.4780
                    0
                       5.4780
                                   67
## 8768
           5.1869
                    0
                       5.1869
                                   68
```

```
## 8769
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                    0
                        4.9348
                                   69
            4.6497
                    0
                        4.6497
                                   70
## 8770
           -4.5944
## 8771
                    0
                        4.5944
                                   71
           -4.4282
                        4.4282
## 8772
                                   72
                    0
## 8773
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                     0
                        4.2827
                                   73
           -4.2034
                     0
                        4.2034
## 8774
                                   74
            4.0269
                    0
                        4.0269
## 8775
                                   75
           -4.0041
                        4.0041
## 8776
                     0
                                   76
## 8777
           -3.8716
                    0
                        3.8716
                                   77
## 8778
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                    0
                        3.7693
                                   78
## 8779
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                    0
                        3.5288
                                   79
## 8780
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                        3.4408
                    0
                                   80
## 8781
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                    0
                        3.2486
                                   81
## 8782
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                        2.9724
                     0
                                   82
## 8783
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                     0
                        2.8884
                                   83
## 8784
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                    0
                        2.5790
                                   84
## 8785
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                        2.4906
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##
   8786
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                     0
                        2.2137
                                   86
  8787
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                        2.1115
##
                    0
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## 8788
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                    0
                        1.9816
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## 8789
            1.7192
                    0
                        1.7192
                                   89
## 8790
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                    0
                        1.6139
                                   90
            1.5366
                        1.5366
## 8791
                    0
                                   91
## 8792
           -1.2917
                    0
                        1.2917
                                   92
## 8793
            1.1541
                    0
                        1.1541
                                   93
## 8794
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                    0
                        0.9147
                                   94
## 8795
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                        0.8617
                    0
                                   95
   8796
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                        0.6388
##
                    0
                                   96
##
   8797
            0.5574
                    0
                        0.5574
                                   97
## 8798
          -0.5126
                    0
                        0.5126
                                   98
## 8799
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                     0
                        0.4541
                                   99
##
   8800
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                    0
                        0.1391
                                  100
##
   8801
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                    0 20.4228
                                    1
   8802
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                    0 19.7494
                                    2
##
##
   8803
         -19.2775
                    0 19.2775
                                    3
   8804
           18.8344
                    0 18.8344
                                    4
##
   8805
         -17.9713
                    0 17.9713
                                    5
  8806
           17.6260
                    0 17.6260
                                    6
##
   8807
         -17.2837
                    0 17.2837
                                    7
##
##
  8808
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                    0 16.9070
                                    8
   8809
           16.6996
                    0 16.6996
                                    9
##
  8810
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                    0 16.4747
##
                                   10
         -15.9865
                    0 15.9865
##
   8811
                                   11
##
   8812
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                    0 15.9009
                                   12
                    0 15.6354
## 8813
           15.6354
                                   13
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## 8814
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                                   14
## 8815
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                                   15
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##
   8816
                    0 14.9752
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##
  8817
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                                   17
##
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                                   18
   8819
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                    0 13.9866
##
                                   19
## 8820
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                    0 13.8054
                                   20
## 8821
           13.6193
                    0 13.6193
                                   21
## 8822
         -13.5208 0 13.5208
                                   22
```

```
## 8823
           13.1503
                    0 13.1503
                                   23
         -12.9594
                    0 12.9594
##
  8824
                                   24
           12.9425
                    0 12.9425
   8825
                                   25
   8826
           12.6346
                    0 12.6346
##
                                   26
##
   8827
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                     0 12.5932
                                   27
   8828
         -12.2133
                     0 12.2133
##
                                   28
           12.1997
                     0 12.1997
##
   8829
                                   29
## 8830
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                     0 11.8432
                                   30
         -11.7702
                    0 11.7702
##
   8831
                                   31
##
   8832
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##
   8833
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   8834
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                     0 11.0901
##
                                   34
##
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##
   8836
                                   36
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           10.6979
                     0 10.6979
                                   37
##
##
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##
   8839
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##
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                        9.8496
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                        9.7575
##
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##
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                     0
                        9.5255
                                   42
##
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                        9.4382
                                   43
##
   8844
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                        9.3760
                                   44
           -8.8278
                        8.8278
##
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                                   45
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                        8.7831
##
                                   46
## 8847
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                        8.5525
                                   47
##
   8848
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                                   48
##
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                        8.3979
                                   49
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                        8.2972
##
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##
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                                   51
##
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##
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                                   53
##
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                        7.4640
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##
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##
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##
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##
   8862
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   8863
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                        5.9956
##
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                                   63
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                        5.9808
##
                     0
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##
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                        5.2880
##
                                   68
                        5.0750
## 8869
           -5.0750
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                        4.9808
##
   8870
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##
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                        4.8796
                                   71
##
   8872
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                        4.8788
                                   72
                        4.3626
   8873
           -4.3626
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                                   73
##
                     0
##
  8874
           -4.1262
                        4.1262
                                   74
## 8875
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                     0
                        4.1182
                                   75
                        3.7987
## 8876
           -3.7987
                    0
                                   76
```

```
## 8877
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                    0
                        3.7954
                                   77
            3.5254
                    0
                                   78
##
  8878
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                    0
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   8880
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                        3.1190
##
                    0
                                   80
##
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                        3.0905
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                        2.9610
##
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                     0
                        2.9554
##
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           -2.9554
                                   83
## 8884
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##
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##
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                        2.3777
                                   86
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                                   91
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##
            1.2150
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##
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   8895
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##
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                                   96
##
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                        0.4859
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##
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                        0.1542
##
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##
                                  100
## 8901
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                    0 19.7241
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##
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                                    4
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   8905
           17.7880
                    0 17.7880
                                    5
##
##
   8906
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                    0 17.6174
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                                    7
##
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                    0 17.4069
##
   8908
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                    0 17.1135
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                                    9
##
   8909
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                    0 16.5915
  8910
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                    0 16.3450
##
                                   10
##
   8911
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                    0 16.2107
                                   11
## 8912
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                    0 15.6542
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## 8913
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## 8914
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## 8915
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                    0 14.8735
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## 8916
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## 8917
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## 8918
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                                   18
##
  8919
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                    0 13.9180
## 8920
           13.9180
                                   20
## 8921
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                    0 13.6752
                                   21
## 8922
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                                   22
## 8923
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                    0 13.2390
                                   23
## 8924
           13.0109
                    0 13.0109
                                   24
   8925
##
         -12.8167
                    0 12.8167
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##
   8926
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                    0 12.5946
                                   26
           12.3988
                    0 12.3988
                                   27
##
   8927
                    0 12.0943
## 8928
         -12.0943
                                   28
## 8929
           12.0071
                    0 12.0071
                                   29
## 8930
         -11.7454 0 11.7454
                                   30
```

```
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                     0 11.6755
                                   31
         -11.2895
                     0 11.2895
                                   32
##
  8932
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           11.2061
                     0 11.2061
                                   33
   8934
          -11.0134
                     0 11.0134
##
                                   34
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   8935
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                     0 10.8725
                                   35
   8936
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                     0 10.8168
##
                                   36
  8937
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                     0 10.5859
##
                                   37
## 8938
           10.5131
                     0 10.5131
                                   38
##
   8939
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                     0 10.2398
                                   39
##
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                     0 10.0077
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   8942
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                        9.3700
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   8943
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                                   43
   8944
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##
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                                   44
##
  8945
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                        8.9945
                                   45
##
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                        8.8143
                                   46
   8947
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                                   47
##
            8.6179
##
   8948
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                        8.5923
                                   48
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                        8.3511
##
                                   49
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##
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                        8.1207
                                   50
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                        7.9945
                                   51
##
   8952
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                        7.9599
                                   52
## 8953
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                        7.6654
                     0
                                   53
   8954
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                     0
                        7.4969
##
                                   54
##
  8955
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                        7.2339
                                   55
##
   8956
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                        7.2237
                                   56
##
   8957
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                        7.0152
                                   57
                     0
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                        6.6371
##
                     0
                                   58
##
   8959
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                        6.6370
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                        6.4429
##
   8960
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                                   60
##
   8961
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                        6.2828
                                   61
##
   8962
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                        6.0483
                                   62
##
   8963
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                        6.0376
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                        5.7896
##
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##
   8965
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                        5.7029
                                   65
##
   8966
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                        5.2730
                                   66
##
   8967
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                        5.2713
                                   67
##
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                        5.1581
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##
  8969
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## 8970
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##
                                   71
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                                   72
##
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                        4.4420
##
   8973
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                                   73
                        4.2036
##
   8974
           -4.2036
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                                   74
## 8975
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                        4.0323
                                   75
                     0
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                        3.8628
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                        3.5319
## 8977
            3.5319
                     0
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  8978
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                                   78
##
           -3.4878
                     0
##
   8979
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                     0
                        3.3283
                                   79
##
   8980
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                     0
                        3.3184
                                   80
   8981
            3.0003
                     0
                        3.0003
##
                                   81
##
  8982
           -2.9544
                     0
                        2.9544
                                   82
## 8983
            2.8360
                     0
                        2.8360
                                   83
## 8984
           -2.5544
                    0
                        2.5544
                                   84
```

```
## 8985
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                    0
                        2.4943
                                   85
           -2.2158
                    0
## 8986
                        2.2158
                                   86
            2.0252
   8987
                    0
                        2.0252
                                   87
           -1.9923
   8988
                        1.9923
##
                     0
                                   88
##
   8989
            1.8642
                     0
                        1.8642
                                   89
           -1.8159
                     0
                        1.8159
##
  8990
                                   90
  8991
            1.6619
                     0
                        1.6619
##
                                   91
## 8992
            1.5324
                     0
                        1.5324
                                   92
## 8993
           -1.3841
                     0
                        1.3841
                                   93
##
  8994
           -1.0197
                     0
                        1.0197
                                   94
##
   8995
            0.9928
                     0
                        0.9928
                                   95
   8996
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                        0.8668
##
                     0
                                   96
##
   8997
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                    0
                        0.4893
                                   97
   8998
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                        0.4034
##
                     0
                                   98
   8999
            0.2649
                     0
                        0.2649
##
                                   99
##
   9000
            0.0228
                     0
                        0.0228
                                  100
           18.9096
                    0 18.9096
##
   9001
                                    1
   9002
         -18.7098
                    0 18.7098
                                    2
  9003
         -18.1870
                                    3
##
                    0 18.1870
##
  9004
           18.0111
                    0 18.0111
                                    4
                    0 17.5747
##
  9005
           17.5747
                                    5
## 9006
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                    0 17.5225
                                    6
                                    7
           17.0507
                    0 17.0507
## 9007
## 9008
         -16.9547
                    0 16.9547
                                    8
                    0 16.4187
                                    9
## 9009
           16.4187
## 9010
           16.3204
                    0 16.3204
                                   10
## 9011
         -15.9629
                    0 15.9629
                                   11
##
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                    0 15.8105
                                   12
           15.7646
                    0 15.7646
## 9013
                                   13
## 9014
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                    0 15.2613
                                   14
## 9015
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                    0 15.1093
                                   15
##
  9016
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                    0 14.9962
                                   16
##
   9017
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                    0 14.6344
                                   17
## 9018
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                    0 14.5308
                                   18
##
  9019
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                    0 14.2648
                                   19
## 9020
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                    0 13.8917
                                   20
## 9021
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                                   21
## 9022
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                    0 13.4731
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## 9023
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                                   23
## 9024
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                                   24
## 9025
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                    0 12.6470
                                   25
## 9026
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                    0 12.5818
                                   26
##
   9027
           12.3387
                    0 12.3387
                                   27
##
   9028
         -12.0681
                    0 12.0681
                                   28
## 9029
           12.0431
                    0 12.0431
                                   29
## 9030
           11.6905
                    0 11.6905
                                   30
## 9031
           11.5538
                    0 11.5538
                                   31
   9032
         -11.3400
##
                    0 11.3400
                                   32
##
   9033
         -11.1495
                    0 11.1495
                                   33
##
   9034
           11.0673
                    0 11.0673
                                   34
         -10.7047
## 9035
                     0 10.7047
                                   35
## 9036
           10.5905
                    0 10.5905
                                   36
## 9037
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                    0 10.4488
                                   37
## 9038
           10.2890
                    0 10.2890
                                   38
```

```
## 9039
          -10.2013
                     0 10.2013
                                   39
## 9040
                     0 10.0323
                                   40
           10.0323
           -9.7560
## 9041
                     0
                        9.7560
                                   41
  9042
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                        9.6068
##
                                   42
                     0
##
   9043
            9.4856
                     0
                        9.4856
                                   43
  9044
           -9.2454
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                        9.2454
                                   44
##
## 9045
            9.1040
                     0
                        9.1040
                                   45
            8.9634
## 9046
                     0
                        8.9634
                                   46
##
  9047
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                        8.5857
                                   47
##
   9048
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                        8.5354
                                   48
##
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                        8.4119
                                   49
            8.2503
                        8.2503
##
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                        7.9939
##
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##
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                        7.9351
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##
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                        7.6299
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                                   55
##
##
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                                   56
   9057
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                        7.1924
##
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                                   57
##
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                        7.0798
                                   58
##
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                        6.9343
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##
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                        6.9319
                                   60
## 9061
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                        6.4713
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                                   61
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                        6.3037
                                   62
##
                        6.1780
           -6.1780
##
  9063
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                                   63
##
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                        5.9012
                                   64
##
   9065
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                        5.5511
                                   65
                     0
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                        5.4530
##
                     0
                                   66
##
   9067
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                     0
                        5.2645
                                   67
                        5.0718
##
  9068
            5.0718
                     0
                                   68
##
  9069
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                        5.0707
                                   69
##
  9070
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                     0
                        4.8300
                                   70
            4.7764
##
   9071
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                                   71
  9072
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                        4.6586
                                   72
##
                     0
##
   9073
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                        4.2337
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  9074
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                        3.9794
                                   74
##
## 9075
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                        3.9760
                                   75
## 9076
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                                   76
## 9077
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                        3.7007
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## 9078
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##
##
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                        2.9321
##
                     0
                                   81
##
   9082
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                        2.7691
                                   82
## 9083
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                        2.7549
                                   83
                        2.4554
## 9084
            2.4554
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                        2.4383
## 9085
           -2.4383
                     0
                                   85
   9086
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                        2.1102
##
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##
   9087
            1.9799
                     0
                        1.9799
                                   87
   9088
                        1.9099
##
           -1.9099
                     0
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   9089
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                        1.7469
##
                                   89
                     0
## 9090
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                        1.6178
                                   90
## 9091
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                        1.4914
                                   91
## 9092
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                    0
                        1.2780
                                   92
```

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                    0
                      1.2230
                                  93
          -0.9024
                    0
                       0.9024
## 9094
                                  94
## 9095
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                    0
                       0.8916
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          -0.8322
  9096
                       0.8322
##
                    0
                                  96
##
  9097
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                    0
                       0.5210
                                  97
           0.4057
                    0
                       0.4057
## 9098
                                  98
## 9099
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                    0
                       0.2031
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## 9100
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                       0.0387
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                    0 19.5494
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                    0 19.5227
## 9103
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                    0 18.5119
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## 9106
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## 9107
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                                   7
## 9108
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                    0 16.6538
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         -16.6324
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                                   9
## 9109
## 9110
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          16.2516
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## 9111
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## 9112
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                                  12
## 9113
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                    0 15.2823
                                  13
## 9114
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                    0 15.1240
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          14.9456
                    0 14.9456
## 9115
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## 9116
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                                  16
## 9117
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                                  17
## 9118
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                    0 14.4696
                                  18
## 9119
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                                  19
         -13.5474
## 9120
                    0 13.5474
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## 9121
          13.3920
                    0 13.3920
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## 9122
         -13.3903
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                                  22
## 9123
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                    0 12.8128
                                  23
## 9124
          12.7230
                    0 12.7230
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## 9125
         -12.6086
                    0 12.6086
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## 9126
          12.3738
                    0 12.3738
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## 9127
         -12.3348
                    0 12.3348
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## 9128
          12.0378
                    0 12.0378
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## 9129
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                    0 11.9465
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## 9130
          11.7134
                    0 11.7134
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## 9131
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                    0 11.5900
                                  31
         -11.4464
                    0 11.4464
## 9132
                                  32
## 9133
          11.2357
                    0 11.2357
                                  33
## 9134
         -11.1117
                    0 11.1117
                                  34
         -10.7009
## 9135
                    0 10.7009
                                  35
## 9136
          10.6699
                    0 10.6699
                                  36
## 9137
          10.4356
                    0 10.4356
                                  37
## 9138
         -10.2590
                    0 10.2590
                                  38
## 9139
           9.8953
                    0
                       9.8953
                                  39
          -9.8586
                       9.8586
## 9140
                    0
                                  40
## 9141
           9.7349
                    0
                       9.7349
                                  41
## 9142
          -9.3251
                    0
                       9.3251
                                  42
## 9143
                    0
                       9.2303
                                  43
           9.2303
## 9144
          -8.9876
                    0
                       8.9876
                                  44
## 9145
           8.9361
                    0
                       8.9361
                                  45
## 9146
          -8.8671 0
                       8.8671
                                  46
```

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## 9147
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                     0
                        8.6191
                                   47
## 9148
            8.4926
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                        8.4926
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## 9149
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                     0
                        8.1008
                                   49
## 9150
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## 9151
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                        7.8973
                                   51
## 9152
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                     0
                        7.8373
                                   52
## 9153
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                     0
                        7.6531
                                   53
## 9154
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                        7.3955
                     0
                                   54
## 9155
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                    0
                        7.3066
                                   55
## 9156
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                        7.1119
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## 9157
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## 9158
            6.5947
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                        6.3917
## 9159
            6.3917
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## 9161
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                     0
                        5.9936
                                   63
## 9163
## 9164
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                        5.8774
                                   64
## 9165
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                        5.7027
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## 9166
           -5.6004
                     0
                                   66
## 9167
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                        5.1882
                                   67
## 9168
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                        5.0202
## 9169
           -5.0202
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                                   69
## 9170
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                        4.7190
## 9171
                     0
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## 9172
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                                   72
## 9173
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## 9176
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                                   76
## 9177
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## 9178
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                                   78
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                        3.3937
## 9179
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                                   79
## 9180
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                        3.0982
## 9181
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## 9182
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                     0
                        2.8855
                                   82
## 9183
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                        2.8238
                                   83
## 9184
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                                   84
## 9185
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                        2.3963
                                   85
## 9186
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                     0
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                                   86
## 9187
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                        2.1235
                     0
                                   87
## 9188
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                        1.9575
                                   88
                     0
           -1.7261
                        1.7261
## 9189
                     0
                                   89
                        1.5895
## 9190
            1.5895
                     0
                                   90
## 9191
            1.3999
                     0
                        1.3999
                                   91
                        1.2519
## 9192
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                     0
                                   92
## 9193
            1.1997
                     0
                        1.1997
                                   93
## 9194
            0.9303
                        0.9303
                     0
                                   94
                        0.8648
## 9195
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                     0
                                   95
            0.6622
                        0.6622
## 9196
                     0
                                   96
## 9197
           -0.6571
                     0
                        0.6571
                                   97
## 9198
           -0.4005
                     0
                        0.4005
                                   98
## 9199
            0.3446
                     0
                        0.3446
                                   99
## 9200
            0.1757
                    0
                        0.1757
                                  100
```

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## 9201
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                                   1
## 9202
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                   0 19.2194
                                   2
                    0 18.3851
## 9203
          18.3851
                                   3
         -18.0312
## 9204
                    0 18.0312
                                   4
## 9205
         -17.6681
                    0 17.6681
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          17.6320
                    0 17.6320
                                   6
## 9206
## 9207
          17.3090
                    0 17.3090
                                   7
## 9208
         -17.1402
                    0 17.1402
                                   8
## 9209
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                    0 16.5037
                                   9
## 9210
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                    0 16.3398
                                  10
## 9211
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                    0 16.3291
                                  11
## 9212
         -15.8977
                    0 15.8977
                                  12
## 9213
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                    0 15.6849
                                  13
         -15.2619
## 9214
                    0 15.2619
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## 9215
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                                  15
## 9216
          14.7480
                    0 14.7480
                                  16
          14.5033
                    0 14.5033
## 9217
                                  17
## 9218
         -14.3271
                    0 14.3271
                                  18
## 9219
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                    0 13.9954
                                  19
## 9220
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                    0 13.9534
                                  20
## 9221
         -13.7729
                    0 13.7729
                                  21
## 9222
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                    0 13.7375
                                  22
## 9223
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                    0 13.2283
                                  23
## 9224
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                    0 13.1350
                                  24
## 9225
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                                  25
## 9226
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                    0 12.8658
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## 9227
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                    0 12.6062
                                  27
## 9228
         -12.3698
                    0 12.3698
                                  28
## 9229
          12.1790
                    0 12.1790
                                  29
## 9230
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                                  30
## 9231
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                    0 11.7636
                                  31
## 9232
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                    0 11.5266
                                  32
## 9233
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                    0 11.4587
                                  33
## 9234
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                    0 11.4306
                                  34
## 9235
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## 9236
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                    0 10.8896
                                  36
## 9237
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                    0 10.7110
                                  37
## 9238
         -10.5945
                    0 10.5945
                                  38
## 9239
         -10.2413
                    0 10.2413
                                  39
## 9240
          10.1364
                    0 10.1364
                                  40
## 9241
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                       9.8281
                    0
                                  41
## 9242
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                    0
                       9.7685
                                  42
          -9.4956
                       9.4956
## 9243
                    0
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## 9244
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                    0
                       9.4253
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## 9245
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                       9.3510
                    0
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                       9.0168
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## 9247
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                                  47
                       8.6281
## 9248
          -8.6281
                    0
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## 9249
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                       8.3798
                                  49
## 9250
          -8.3406
                    0
                       8.3406
                                  50
## 9251
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                    0
                       7.9441
                                  51
                    0
## 9252
          -7.9230
                       7.9230
                                  52
## 9253
           7.7460
                    0
                       7.7460
                                  53
          -7.5449 0 7.5449
## 9254
                                  54
```

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## 9255
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                    0
                        7.4068
                                   55
## 9256
            7.2074
                    0
                        7.2074
                                   56
## 9257
           -7.1390
                     0
                        7.1390
                                   57
## 9258
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                        6.9292
                     0
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## 9259
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                     0
                        6.9118
                                   59
## 9260
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                     0
                        6.4966
                                   60
## 9261
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                     0
                        6.3309
                                   61
## 9262
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                        6.0966
                                   62
## 9263
            6.0779
                     0
                        6.0779
                                   63
## 9264
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                        5.8757
                                   64
##
  9265
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                     0
                        5.7767
                                   65
            5.5900
                        5.5900
   9266
##
                     0
                                   66
                        5.3856
##
   9267
           -5.3856
                     0
                                   67
## 9268
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                        5.2200
                     0
                                   68
## 9269
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                        5.1869
                                   69
## 9270
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                        4.8219
                                   70
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                        4.7692
                                   71
## 9271
## 9272
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                        4.6454
                                   72
## 9273
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                        4.4809
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## 9274
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                        4.2686
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## 9275
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                                   75
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                        4.0861
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                        3.6643
                                   77
## 9277
                     0
## 9278
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                        3.5888
                                   78
## 9279
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                        3.4548
                                   79
## 9280
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## 9281
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                        3.0538
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  9282
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                        2.9391
##
                     0
                                   82
## 9283
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                     0
                        2.8111
                                   83
                        2.6682
## 9284
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                     0
                                   84
## 9285
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                     0
                        2.5031
                                   85
## 9286
           -2.1794
                     0
                        2.1794
                                   86
##
   9287
            1.9613
                     0
                        1.9613
                                   87
  9288
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                        1.8807
##
                     0
                                   88
##
   9289
           -1.8471
                     0
                        1.8471
                                   89
## 9290
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                        1.5719
            1.5719
                                   90
## 9291
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                     0
                        1.5559
                                   91
## 9292
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                        1.2089
                                   92
## 9293
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                        1.1517
                                   93
## 9294
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                     0
                        0.9485
                                   94
  9295
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                        0.9115
##
                     0
                                   95
##
  9296
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                        0.6445
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                                   96
           -0.5765
##
  9297
                     0
                        0.5765
                                   97
##
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                                   98
## 9299
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                        0.1737
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## 9300
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##
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                     0 19.5250
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          -18.8257
                                     2
##
                     0 18.8257
##
   9303
           18.6785
                     0 18.6785
                                     3
          -17.8388
##
   9304
                    0 17.8388
                                     4
   9305
           17.6183
                    0 17.6183
                                     5
##
                     0 17.5187
                                     6
## 9306
         -17.5187
## 9307
          -17.2709
                    0 17.2709
                                    7
## 9308
           17.1412 0 17.1412
                                     8
```

```
## 9309
         -16.7143 0 16.7143
                                    9
                    0 16.3667
## 9310
          16.3667
                                   10
## 9311
         -16.3042
                    0 16.3042
                                   11
## 9312
          16.0733
                    0 16.0733
                                   12
## 9313
         -15.6557
                    0 15.6557
                                   13
                    0 15.4853
## 9314
          15.4853
                                   14
         -15.1860
## 9315
                    0 15.1860
                                   15
## 9316
          15.0681
                    0 15.0681
                                   16
## 9317
         -14.6974
                    0 14.6974
                                   17
## 9318
          14.6649
                    0 14.6649
                                   18
## 9319
         -14.4199
                    0 14.4199
                                   19
## 9320
          14.2293
                    0 14.2293
                                   20
## 9321
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                    0 13.5155
                                   21
## 9322
          13.4879
                    0 13.4879
                                   22
## 9323
         -13.3129
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                                   23
## 9324
          13.1941
                    0 13.1941
                                   24
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                    0 12.8184
                                   25
## 9325
  9326
         -12.7075
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                                   26
                    0 12.5540
         -12.5540
## 9327
                                   27
## 9328
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                    0 12.3680
                                   28
## 9329
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## 9331
                                   31
## 9332
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## 9333
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## 9334
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## 9336
                    0 10.7943
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## 9337
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                                   37
## 9338
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                    0 10.4118
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## 9339
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                    0 10.2036
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## 9340
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## 9342
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                    0
                                   42
##
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                       9.7120
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## 9344
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                    0
                       9.5022
                                   44
## 9345
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                    0
                       9.3448
                                   45
## 9346
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                    0
                       9.2055
                                   46
## 9347
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                    0
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## 9348
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## 9349
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                       8.5782
                    0
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## 9350
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                       8.2161
                    0
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           8.0449
                       8.0449
## 9351
                    0
                                   51
## 9352
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                                   52
## 9353
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                       7.6586
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                       7.4891
## 9354
                                   54
                    0
## 9355
           7.1552
                    0
                       7.1552
                                   55
## 9356
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                       7.0588
                    0
                                   56
                                   57
## 9357
           6.9852
                    0
                        6.9852
##
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                                   58
## 9359
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                                   59
## 9360
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                        6.6019
                                   60
## 9361
           6.3346
                    0
                       6.3346
                                   61
## 9362
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                       6.1280
                                   62
```

```
## 9363
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                    0
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                                   63
## 9364
                    0
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            5.9641
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  9365
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                        5.7104
                                   65
            5.5727
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                        5.5727
##
                     0
                                   66
##
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                        5.3696
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                        5.0825
##
                                   68
## 9369
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                        5.0619
                                   69
           -4.9722
                        4.9722
## 9370
                     0
                                   70
## 9371
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                        4.7155
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           -4.6219
## 9372
                     0
                        4.6219
                                   72
## 9373
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                        4.4832
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                        4.3548
                                   74
##
                     0
##
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                        4.3136
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##
                     0
## 9377
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##
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                        3.7575
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                                   79
##
##
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                                   80
  9381
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                        3.1713
##
                     0
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##
  9382
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                        3.1149
                                   82
##
  9383
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## 9384
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## 9385
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##
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##
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                                   91
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## 9392
            1.3759
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                                   92
## 9393
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                                   93
##
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##
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                                   95
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                        0.7596
##
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##
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                     0
                        0.5113
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                        0.3992
##
                                   98
## 9399
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                     0
                        0.2670
                                   99
## 9400
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                        0.1705
                                  100
## 9401
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                     0 18.9726
                                    1
## 9402
           18.3378
                    0 18.3378
                                    2
  9403
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                    0 18.2590
                                    3
##
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                    0 17.7222
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##
                    0 17.4740
                                    6
##
   9406
           17.4728
                     0 17.4728
## 9407
           17.0680
                     0 17.0680
                                    7
## 9408
         -16.9652
                     0 16.9652
                                    8
                                    9
## 9409
           16.6627
                    0 16.6627
         -16.5733
## 9410
                    0 16.5733
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## 9411
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                     0 15.8377
                                   11
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## 9412
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                                   12
## 9413
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                     0 15.4219
## 9414
          -15.4219
                                   14
## 9415
          -15.2652
                    0 15.2652
                                   15
                   0 14.8578
## 9416
           14.8578
                                   16
```

```
## 9417
           14.3659
                    0 14.3659
                                   17
                    0 14.3122
## 9418
         -14.3122
                                   18
## 9419
          -14.1806
                    0 14.1806
                                   19
## 9420
           14.1177
                    0 14.1177
                                   20
## 9421
         -13.7910
                    0 13.7910
                                   21
## 9422
           13.5338
                    0 13.5338
                                   22
## 9423
           13.2028
                    0 13.2028
                                   23
                    0 13.1372
## 9424
         -13.1372
                                   24
                    0 13.0409
## 9425
         -13.0409
                                   25
## 9426
           12.8578
                    0 12.8578
                                   26
## 9427
          -12.4933
                    0 12.4933
                                   27
  9428
           12.2816
                    0 12.2816
                                   28
##
##
   9429
         -11.7456
                    0 11.7456
                                   29
  9430
                     0 11.6918
##
           11.6918
                                   30
## 9431
         -11.6612
                     0 11.6612
                                   31
## 9432
           11.3849
                     0 11.3849
                                   32
           11.0936
                    0 11.0936
                                   33
## 9433
  9434
         -10.9606
                    0 10.9606
                                   34
         -10.6784
                    0 10.6784
## 9435
                                   35
## 9436
           10.3750
                    0 10.3750
                                   36
##
  9437
          -10.1767
                    0 10.1767
                                   37
## 9438
           10.0885
                     0 10.0885
                                   38
## 9439
            9.9254
                        9.9254
                     0
                                   39
## 9440
           -9.7538
                    0
                        9.7538
                                   40
                        9.6236
## 9441
            9.6236
                    0
                                   41
  9442
           -9.5115
                    0
                        9.5115
                                   42
##
  9443
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                    0
                        9.2248
                                   43
            9.2119
                        9.2119
##
   9444
                    0
                                   44
## 9445
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                        8.8188
                                   45
                        8.7585
## 9446
            8.7585
                     0
                                   46
## 9447
            8.6083
                     0
                        8.6083
                                   47
## 9448
            8.3843
                    0
                        8.3843
                                   48
##
  9449
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                        8.1382
                                   49
## 9450
            7.8760
                        7.8760
                     0
                                   50
##
   9451
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                        7.7935
                                   51
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                     0
                        7.6627
##
                                   52
## 9453
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                        7.4289
                                   53
## 9454
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                     0
                        7.4231
                                   54
## 9455
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                     0
                        7.2258
                                   55
## 9456
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                     0
                        7.0264
                                   56
  9457
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                    0
                        6.8983
##
                                   57
## 9458
           -6.8557
                        6.8557
                     0
                                   58
           -6.6477
                        6.6477
## 9459
                     0
                                   59
## 9460
            6.5264
                     0
                        6.5264
                                   60
## 9461
            6.3454
                        6.3454
                     0
                                   61
                                   62
## 9462
           -6.2961
                     0
                        6.2961
            6.2557
                        6.2557
## 9463
                     0
                                   63
## 9464
           -5.9634
                        5.9634
                     0
                                   64
## 9465
            5.6734
                     0
                        5.6734
                                   65
##
   9466
           -5.5832
                     0
                        5.5832
                                   66
  9467
           -5.3512
                     0
                        5.3512
##
                                   67
                     0
## 9468
            5.1468
                        5.1468
                                   68
## 9469
           -5.0531
                     0
                        5.0531
                                   69
## 9470
            4.9570
                    0
                        4.9570
                                   70
```

```
## 9471
           -4.8703
                    0
                        4.8703
                                   71
## 9472
                    0
                        4.7349
                                   72
            4.7349
                        4.5616
## 9473
           -4.5616
                    0
                                   73
           -4.2627
                        4.2627
## 9474
                                   74
                     0
## 9475
            4.2260
                    0
                        4.2260
                                   75
            3.9971
                     0
                        3.9971
## 9476
                                   76
## 9477
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                     0
                        3.9236
                                   77
                        3.6906
## 9478
            3.6906
                    0
                                   78
## 9479
           -3.5930
                    0
                        3.5930
                                   79
## 9480
           -3.2056
                    0
                        3.2056
                                   80
## 9481
           -2.8811
                    0
                        2.8811
                                   81
## 9482
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                        2.8726
                    0
                                   82
##
   9483
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                    0
                        2.5741
                                   83
                        2.3608
## 9484
           -2.3608
                     0
                                   84
## 9485
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                     0
                        2.3569
                                   85
## 9486
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                        2.0147
                                   86
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                    0
                        1.8666
##
  9487
                                   87
##
   9488
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                     0
                        1.7765
                                   88
## 9489
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                        1.7135
                    0
                                   89
## 9490
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                     0
                        1.4547
                                   90
## 9491
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                     0
                        1.3105
                                   91
## 9492
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                     0
                        1.1788
                                   92
## 9493
            0.9348
                        0.9348
                     0
                                   93
## 9494
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                    0
                        0.9326
                                   94
           -0.7843
## 9495
                    0
                        0.7843
                                   95
   9496
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                    0
                        0.6305
                                   96
##
   9497
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                        0.6191
                                   97
                     0
   9498
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                        0.5175
##
                    0
                                   98
##
   9499
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                    0
                        0.2804
                                   99
                        0.0080
## 9500
           -0.0080
                    0
                                  100
## 9501
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                    0 19.5375
                                    1
##
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                    0 19.4974
                                    2
##
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                    0 18.3030
                                    3
   9504
           18.0375
                    0 18.0375
                                    4
##
##
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                    0 17.7408
                                    5
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                    0 17.3791
                                    6
##
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                    0 17.2759
                                    7
## 9508
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                    0 17.0438
                                    8
## 9509
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                                    9
## 9510
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                    0 16.2110
                                   10
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## 9512
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                    0 15.5107
                                   12
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##
  9513
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                                   13
##
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                    0 15.1988
                                   14
## 9515
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                                   15
           14.7262
## 9516
                    0 14.7262
                                   16
## 9517
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                    0 14.5079
                                   17
         -14.1761
##
  9518
                    0 14.1761
                                   18
##
  9519
           14.1326
                    0 14.1326
                                   19
##
   9520
           13.8540
                    0 13.8540
                                   20
  9521
          -13.7583
                    0 13.7583
                                   21
##
## 9522
           13.3614
                    0 13.3614
                                   22
         -13.1880
## 9523
                    0 13.1880
                                   23
## 9524
                    0 12.8849
           12.8849
                                   24
```

```
## 9525
         -12.7595
                    0 12.7595
                                   25
           12.7409
                    0 12.7409
## 9526
                                   26
  9527
           12.5792
                    0 12.5792
                                   27
  9528
          -12.2366
                     0 12.2366
##
                                   28
##
   9529
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                     0 12.0045
                                   29
           11.9773
                     0 11.9773
##
   9530
                                   30
         -11.5689
                     0 11.5689
##
  9531
                                   31
## 9532
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                     0 11.4010
                                   32
##
  9533
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                                   33
##
   9534
           11.0827
                     0 11.0827
                                   34
##
   9535
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   9536
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                     0 10.6095
##
                                   36
##
   9537
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                     0 10.4832
                                   37
   9538
##
           10.4449
                     0 10.4449
                                   38
  9539
           10.1602
                     0 10.1602
                                   39
##
##
  9540
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                        9.9446
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                        9.8608
##
                                   41
##
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                        9.6841
                                   42
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                        9.4886
##
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##
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                        9.4627
                                   44
##
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                        9.1956
                                   45
##
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## 9547
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                        8.4356
##
                                   48
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## 9549
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                        8.2963
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##
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                        8.2479
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                                   51
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                        8.0193
##
                     0
                                   52
##
   9553
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                     0
                        7.6918
                                   53
## 9554
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                        7.4515
                                   54
##
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                        7.3621
                                   55
##
   9556
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                        7.2326
                                   56
##
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                     0
                        6.9199
                                   57
   9558
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                        6.8340
##
                     0
                                   58
##
   9559
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                        6.7613
                                   59
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                        6.6150
##
                                   60
##
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                        6.2162
                                   61
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                     0
                        6.0679
##
                                   62
##
  9563
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                        6.0651
                                   63
##
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                        5.7519
                                   64
   9565
            5.7134
                        5.7134
##
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   9566
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                        5.3938
##
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            5.3013
                        5.3013
##
   9567
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                                   67
##
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                        5.0448
                                   68
## 9569
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                                   69
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## 9570
            4.8724
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## 9571
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## 9572
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                        4.5349
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                                   72
##
  9573
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                     0
                        4.4270
                                   73
                        4.0690
##
   9574
            4.0690
                     0
                                   74
  9575
           -3.8589
                     0
                        3.8589
                                   75
##
## 9576
            3.6826
                     0
                        3.6826
                                   76
## 9577
           -3.5729
                     0
                        3.5729
                                   77
## 9578
            3.4855
                    0
                        3.4855
                                   78
```

```
## 9579
            3.2983
                    0
                        3.2983
                                   79
                    0
## 9580
           -3.1627
                        3.1627
                                   80
           -3.0891
## 9581
                     0
                        3.0891
                                   81
            2.7510
  9582
                        2.7510
##
                    0
                                   82
##
   9583
           -2.7220
                     0
                        2.7220
                                   83
            2.4716
                    0
##
  9584
                        2.4716
                                   84
## 9585
           -2.3557
                     0
                        2.3557
                                   85
## 9586
            2.2149
                     0
                        2.2149
                                   86
## 9587
           -2.0545
                    0
                        2.0545
                                   87
##
  9588
            1.9820
                    0
                        1.9820
                                   88
##
   9589
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                        1.6011
                                   89
   9590
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                        1.5489
##
                     0
                                   90
##
   9591
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                    0
                        1.3929
                                   91
   9592
                        1.3328
##
            1.3328
                     0
                                   92
  9593
           -1.1341
                        1.1341
                                   93
##
                     0
##
   9594
            1.0300
                    0
                        1.0300
                                   94
           -0.8653
                        0.8653
##
   9595
                    0
                                   95
##
   9596
            0.7697
                     0
                        0.7697
                                   96
   9597
            0.5490
                        0.5490
##
                    0
                                   97
##
   9598
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                    0
                        0.4393
                                   98
##
   9599
            0.2704
                     0
                        0.2704
                                   99
  9600
           -0.1214
                    0
                        0.1214
                                  100
##
           19.6759
                    0 19.6759
## 9601
                                    1
  9602
         -19.1066
                    0 19.1066
                                    2
##
                    0 18.7687
## 9603
           18.7687
                                    3
   9604
         -18.2732
                    0 18.2732
                                    4
   9605
         -17.5355
                    0 17.5355
                                    5
##
   9606
          17.4501
                                    6
##
                    0 17.4501
                                    7
   9607
         -17.1494
                    0 17.1494
##
## 9608
           16.8146
                    0 16.8146
                                    8
## 9609
         -16.7515
                    0 16.7515
                                    9
##
  9610
           16.4293
                    0 16.4293
                                   10
##
   9611
         -15.9369
                    0 15.9369
                                   11
           15.8089
                    0 15.8089
## 9612
                                   12
##
   9613
           15.5087
                    0 15.5087
                                   13
## 9614
         -15.2986
                    0 15.2986
                                   14
## 9615
           14.9611
                    0 14.9611
                                   15
## 9616
         -14.5801
                    0 14.5801
                                   16
## 9617
           14.5414
                    0 14.5414
                                   17
         -14.0228
                    0 14.0228
## 9618
                                   18
## 9619
           13.9197
                    0 13.9197
                                   19
## 9620
         -13.6808
                    0 13.6808
                                   20
           13.3766
##
  9621
                    0 13.3766
                                   21
##
   9622
         -13.2259
                    0 13.2259
                                   22
         -12.9168
## 9623
                    0 12.9168
                                   23
## 9624
           12.8767
                    0 12.8767
                                   24
## 9625
           12.7380
                    0 12.7380
                                   25
##
   9626
         -12.5219
                    0 12.5219
                                   26
##
  9627
           12.3449
                    0 12.3449
                                   27
##
   9628
           12.0930
                    0 12.0930
                                   28
   9629
         -12.0513
                    0 12.0513
                                   29
##
## 9630
         -11.8545
                    0 11.8545
                                   30
## 9631
           11.8256
                    0 11.8256
                                   31
## 9632
           11.6214 0 11.6214
                                   32
```

```
## 9633
         -11.4508
                     0 11.4508
                                   33
                     0 10.9850
                                   34
##
  9634
           10.9850
##
   9635
          -10.9665
                     0 10.9665
                                   35
   9636
          -10.8088
                     0 10.8088
##
                                   36
##
   9637
           10.5581
                     0 10.5581
                                   37
   9638
                     0 10.4284
##
          -10.4284
                                   38
## 9639
           10.2073
                     0 10.2073
                                   39
## 9640
           -9.8701
                     0
                        9.8701
                                   40
## 9641
            9.8017
                     0
                        9.8017
                                   41
## 9642
            9.5777
                     0
                        9.5777
                                   42
##
  9643
            9.4659
                     0
                        9.4659
                                   43
   9644
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                        9.3848
##
                     0
                                   44
                        9.2082
##
   9645
           -9.2082
                     0
                                   45
                        8.8324
##
   9646
           -8.8324
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                                   46
##
  9647
            8.7532
                     0
                        8.7532
                                   47
##
   9648
           -8.5313
                     0
                        8.5313
                                   48
   9649
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                        8.3149
##
            8.3149
                                   49
##
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                        8.1280
                                   50
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            7.9070
                        7.9070
##
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                                   51
##
   9652
            7.5985
                     0
                        7.5985
                                   52
##
   9653
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                        7.5564
                                   53
##
  9654
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                        7.2011
                                   54
## 9655
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                        7.1519
                     0
                                   55
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                        6.9861
##
                                   56
##
  9657
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                        6.8164
                                   57
##
   9658
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                        6.5799
                                   58
##
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            6.5523
                        6.5523
                                   59
                     0
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            6.3264
                        6.3264
##
                     0
                                   60
##
   9661
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                        6.2725
                                   61
##
  9662
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                        6.1150
                                   62
##
  9663
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                        6.0137
                                   63
##
   9664
           -5.8287
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                        5.8287
                                   64
##
   9665
            5.7919
                     0
                        5.7919
                                   65
   9666
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                        5.4817
##
                     0
                                   66
##
   9667
            5.2858
                     0
                        5.2858
                                   67
   9668
           -5.2665
                     0
                        5.2665
##
                                   68
##
   9669
            5.1871
                     0
                        5.1871
                                   69
## 9670
            4.9607
                     0
                        4.9607
                                   70
## 9671
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                        4.9171
                                   71
           -4.6391
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                        4.6391
                                   72
## 9672
  9673
            4.4339
                     0
                        4.4339
##
                                   73
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                        4.3285
                                   74
##
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                        4.0181
##
   9675
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                                   75
                        3.9805
##
   9676
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                                   76
## 9677
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                        3.7565
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## 9678
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                                   78
                        3.3235
## 9679
            3.3235
                     0
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   9680
                        3.1960
##
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                                   80
##
  9681
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                        3.0987
                                   81
##
   9682
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                     0
                        2.7448
                                   82
                                   83
   9683
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                     0
                        2.4470
##
                     0
##
  9684
            2.4397
                        2.4397
                                   84
## 9685
            2.3600
                     0
                        2.3600
                                   85
## 9686
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                    0
                        2.3088
                                   86
```

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## 9687
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                       2.1094
                                  87
          -1.8493
                    0
                       1.8493
## 9688
                                  88
  9689
           1.7844
                    0
                       1.7844
                                  89
  9690
          -1.6781
                       1.6781
##
                    0
                                  90
##
  9691
           1.4974
                    0
                       1.4974
                                  91
          -1.4911
                    0
                       1.4911
##
  9692
                                  92
## 9693
          -1.0589
                    0
                       1.0589
                                  93
## 9694
           0.9715
                    0
                       0.9715
                                  94
## 9695
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                    0
                       0.8142
                                  95
## 9696
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                    0
                       0.7291
                                  96
##
  9697
           0.6019
                    0
                       0.6019
                                  97
   9698
           0.4986
                       0.4986
##
                    0
                                  98
##
   9699
          -0.3313
                    0
                       0.3313
                                  99
## 9700
                       0.1949
           0.1949
                    0
                                 100
## 9701
         -19.1822
                    0 19.1822
                                   1
## 9702
          18.9855
                    0 18.9855
                                   2
         -18.9119
                    0 18.9119
                                   3
## 9703
## 9704
          17.9234
                    0 17.9234
                                   4
## 9705
         -17.8770
                    0 17.8770
                                   5
## 9706
         -17.2916
                    0 17.2916
                                   6
## 9707
          17.0149
                    0 17.0149
                                   7
## 9708
          16.5927
                    0 16.5927
                                   8
## 9709
          16.4454
                    0 16.4454
                                   9
         -16.4203
## 9710
                    0 16.4203
                                  10
## 9711
         -16.1363
                    0 16.1363
                                  11
## 9712
          15.9364
                    0 15.9364
                                  12
## 9713
         -15.8463
                    0 15.8463
                                  13
          15.7048
## 9714
                    0 15.7048
                                  14
## 9715
         -14.8703
                    0 14.8703
                                  15
## 9716
          14.8533
                    0 14.8533
                                  16
## 9717
         -14.8194
                    0 14.8194
                                  17
## 9718
         -14.1461
                    0 14.1461
                                  18
## 9719
          14.1292
                    0 14.1292
                                  19
## 9720
          13.7931
                    0 13.7931
                                  20
## 9721
         -13.6344
                    0 13.6344
                                  21
## 9722
          13.4617
                    0 13.4617
                                  22
## 9723
          13.2113
                    0 13.2113
                                  23
## 9724
         -13.1328
                    0 13.1328
                                  24
## 9725
          12.9642
                    0 12.9642
                                  25
         -12.4649
                    0 12.4649
## 9726
                                  26
## 9727
          12.3961
                    0 12.3961
                                  27
## 9728
         -12.0883
                    0 12.0883
                                  28
          11.9657
## 9729
                    0 11.9657
                                  29
## 9730
         -11.8220
                    0 11.8220
                                  30
          11.6365
## 9731
                    0 11.6365
                                  31
## 9732
         -11.5492
                    0 11.5492
                                  32
## 9733
          11.0908
                    0 11.0908
                                  33
         -11.0155
## 9734
                    0 11.0155
                                  34
## 9735
          10.9078
                    0 10.9078
                                  35
## 9736
         -10.7832
                    0 10.7832
                                  36
          10.5584
                    0 10.5584
                                  37
## 9737
## 9738
         -10.4193
                    0 10.4193
                                  38
## 9739
          10.3232
                    0 10.3232
                                  39
        -10.1822 0 10.1822
## 9740
                                  40
```

```
## 9741
           10.1565
                    0 10.1565
                                   41
## 9742
           -9.8664
                    0
                        9.8664
                                   42
                        9.5851
## 9743
            9.5851
                     0
                                   43
## 9744
           -9.3742
                        9.3742
                     0
                                   44
## 9745
            9.3177
                     0
                        9.3177
                                   45
## 9746
            9.1902
                     0
                        9.1902
                                   46
## 9747
           -8.8436
                     0
                        8.8436
                                   47
                        8.7066
## 9748
           -8.7066
                     0
                                   48
## 9749
            8.6412
                     0
                        8.6412
                                   49
## 9750
            8.4854
                     0
                        8.4854
                                   50
## 9751
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                     0
                        8.3831
                                   51
           -7.9477
                        7.9477
## 9752
                     0
                                   52
                        7.5344
##
  9753
            7.5344
                     0
                                   53
## 9754
           -7.5177
                        7.5177
                     0
                                   54
## 9755
            7.3844
                     0
                        7.3844
                                   55
## 9756
            7.2292
                     0
                        7.2292
                                   56
           -6.9977
                     0
                        6.9977
                                   57
## 9757
##
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            6.8878
                     0
                        6.8878
                                   58
## 9759
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                        6.8750
                     0
                                   59
## 9760
            6.5571
                     0
                        6.5571
                                   60
##
  9761
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                     0
                        6.3506
                                   61
## 9762
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                     0
                        6.2043
                                   62
## 9763
           -6.1101
                     0
                        6.1101
                                   63
## 9764
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                    0
                        5.6073
                                   64
           -5.5882
## 9765
                     0
                        5.5882
                                   65
## 9766
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                     0
                        5.5294
                                   66
## 9767
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                        5.4154
                                   67
                     0
## 9768
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                        5.1579
                     0
                                   68
                        4.9455
## 9769
            4.9455
                     0
                                   69
                        4.5945
## 9770
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                     0
                                   70
                        4.5929
## 9771
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                     0
                                   71
## 9772
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                        4.4096
                                   72
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                        4.2557
## 9773
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                                   73
## 9774
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                        3.9762
                                   74
                     0
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##
   9775
           -3.9081
                     0
                                   75
## 9776
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                     0
                        3.8277
                                   76
## 9777
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                     0
                        3.6980
                                   77
## 9778
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                     0
                        3.6495
                                   78
## 9779
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                    0
                        3.5030
                                   79
## 9780
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                    0
                        3.2155
                                   80
## 9781
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                    0
                        3.0533
                                   81
## 9782
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                     0
                        2.8717
                                   82
           -2.7012
                     0
                        2.7012
## 9783
                                   83
                        2.6119
## 9784
            2.6119
                     0
                                   84
## 9785
            2.4022
                     0
                        2.4022
                                   85
                        2.1605
## 9786
           -2.1605
                     0
                                   86
            1.8784
                        1.8784
## 9787
                     0
                                   87
## 9788
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                        1.8327
                     0
                                   88
## 9789
            1.7297
                     0
                        1.7297
                                   89
  9790
           -1.5860
                        1.5860
##
                     0
                                   90
## 9791
            1.5277
                     0
                        1.5277
                                   91
                     0
## 9792
           -1.3411
                        1.3411
                                   92
## 9793
            1.1862
                     0
                        1.1862
                                   93
## 9794
           -0.9634
                    0
                        0.9634
                                   94
```

```
## 9795
           0.8262
                    0
                       0.8262
                                   95
           -0.7496
                    0
## 9796
                       0.7496
                                   96
           -0.6428
## 9797
                    0
                        0.6428
                                   97
## 9798
           0.4951
                       0.4951
                    0
                                   98
## 9799
           0.2924
                    0
                       0.2924
                                   99
           -0.2508
                    0
                       0.2508
##
  9800
                                  100
## 9801
           18.9755
                    0 18.9755
                                    1
## 9802
         -18.6787
                    0 18.6787
                                    2
                    0 18.0887
##
  9803
           18.0887
                                    3
                                    4
##
   9804
         -18.0376
                    0 18.0376
   9805
         -17.2913
                    0 17.2913
                                    5
   9806
           17.2203
                    0 17.2203
                                    6
##
                                    7
##
   9807
           16.7841
                    0 16.7841
   9808
                                    8
##
         -16.7260
                    0 16.7260
  9809
           16.6326
                    0 16.6326
                                    9
##
  9810
         -16.2097
                    0 16.2097
                                   10
         -15.9897
                    0 15.9897
##
  9811
                                   11
   9812
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                    0 15.7676
                                   12
         -15.4552
##
  9813
                    0 15.4552
                                   13
##
  9814
           15.2744
                    0 15.2744
                                   14
##
  9815
         -14.7524
                    0 14.7524
                                   15
## 9816
           14.7438
                    0 14.7438
                                   16
         -14.5058
                    0 14.5058
## 9817
                                   17
           14.4051
                    0 14.4051
## 9818
                                   18
## 9819
         -14.1303
                    0 14.1303
                                   19
  9820
           13.9453
                    0 13.9453
                                   20
  9821
         -13.7360
                    0 13.7360
                                   21
##
##
  9822
          13.4172
                    0 13.4172
                                   22
  9823
         -13.3459
                    0 13.3459
                                   23
##
## 9824
           13.1135
                    0 13.1135
                                   24
## 9825
         -12.8732
                    0 12.8732
                                   25
##
  9826
           12.8629
                    0 12.8629
                                   26
##
   9827
           12.5844
                    0 12.5844
                                   27
  9828
         -12.2974
                    0 12.2974
##
                                   28
##
   9829
           12.0034
                    0 12.0034
                                   29
  9830
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                    0 11.6831
##
                                   30
  9831
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                                   31
  9832
           11.3265
                    0 11.3265
                                   32
##
  9833
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                    0 11.2190
                                   33
##
           10.9040
                    0 10.9040
##
  9834
                                   34
  9835
         -10.8432
                    0 10.8432
                                   35
  9836
         -10.6670
                    0 10.6670
##
                                   36
##
  9837
           10.5893
                    0 10.5893
                                   37
##
   9838
         -10.2468
                    0 10.2468
                                   38
## 9839
           10.0255
                    0 10.0255
                                   39
## 9840
           -9.9317
                    0
                       9.9317
                                   40
## 9841
           9.8436
                    0
                       9.8436
                                   41
## 9842
           9.4993
                    0
                       9.4993
                                   42
##
  9843
           -9.4426
                    0
                       9.4426
                                   43
##
   9844
           -9.0055
                    0
                        9.0055
                                   44
  9845
           9.0026
                    0
                       9.0026
##
                                   45
## 9846
           8.7760
                    0
                       8.7760
                                   46
## 9847
           -8.6963
                    0
                       8.6963
                                   47
## 9848
           -8.5767
                    0
                       8.5767
                                   48
```

```
## 9849
            8.3091
                     0
                        8.3091
                                   49
## 9850
           -8.2409
                     0
                        8.2409
                                   50
                        8.2259
##
   9851
            8.2259
                     0
                                   51
   9852
           -8.0501
                        8.0501
##
                     0
                                   52
##
   9853
           -7.7042
                     0
                        7.7042
                                   53
   9854
            7.5979
                     0
                        7.5979
##
                                   54
  9855
           -7.4616
                     0
                        7.4616
##
                                   55
            7.2323
                        7.2323
## 9856
                     0
                                   56
##
  9857
            7.1842
                     0
                        7.1842
                                   57
                        6.9352
##
   9858
           -6.9352
                     0
                                   58
##
   9859
            6.8898
                     0
                        6.8898
                                   59
   9860
           -6.7845
                        6.7845
##
                     0
                                   60
                        6.5079
##
   9861
            6.5079
                     0
                                   61
   9862
                        6.1882
##
           -6.1882
                     0
                                   62
##
  9863
            6.1796
                     0
                        6.1796
                                   63
##
   9864
           -5.8581
                     0
                        5.8581
                                   64
   9865
           -5.6463
                     0
                        5.6463
                                   65
##
##
   9866
            5.5163
                     0
                        5.5163
                                   66
   9867
           -5.2330
                        5.2330
##
                     0
                                   67
##
   9868
            5.2192
                     0
                        5.2192
                                   68
##
   9869
            5.1311
                     0
                        5.1311
                                   69
## 9870
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                     0
                        5.0339
                                   70
            4.6518
                     0
                        4.6518
## 9871
                                   71
## 9872
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                        4.6106
                                   72
            4.3493
                        4.3493
## 9873
                     0
                                   73
##
  9874
           -4.1921
                     0
                        4.1921
                                   74
##
   9875
            3.9424
                        3.9424
                                   75
                     0
   9876
           -3.7293
                        3.7293
                                   76
##
                     0
                                   77
##
   9877
            3.7162
                     0
                        3.7162
                        3.4698
##
  9878
           -3.4698
                     0
                                   78
##
  9879
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                     0
                        3.3674
                                   79
##
   9880
            3.2766
                     0
                        3.2766
                                   80
##
   9881
           -3.2591
                     0
                        3.2591
                                   81
   9882
            2.9425
                        2.9425
##
                     0
                                   82
##
   9883
           -2.8479
                     0
                        2.8479
                                   83
##
   9884
            2.6679
                     0
                        2.6679
                                   84
##
   9885
           -2.5419
                     0
                        2.5419
                                   85
##
  9886
            2.4759
                     0
                        2.4759
                                   86
##
   9887
           -2.2934
                     0
                        2.2934
                                   87
##
   9888
            1.9833
                     0
                        1.9833
                                   88
##
   9889
           -1.8700
                        1.8700
                     0
                                   89
##
   9890
            1.7372
                        1.7372
                     0
                                   90
           -1.4754
                        1.4754
##
   9891
                     0
                                   91
                        1.4595
##
   9892
            1.4595
                     0
                                   92
  9893
           -1.2978
                        1.2978
##
                     0
                                   93
                        1.0456
##
  9894
            1.0456
                     0
                                   94
                        1.0221
##
   9895
           -1.0221
                     0
                                   95
   9896
           -0.6125
                        0.6125
##
                     0
                                   96
##
   9897
            0.5679
                     0
                        0.5679
                                   97
           -0.4582
##
   9898
                     0
                        0.4582
                                   98
   9899
            0.2459
                     0
                        0.2459
                                   99
##
                     0
##
  9900
           -0.0880
                        0.0880
                                   100
## 9901
          -19.1373
                     0 19.1373
                                     1
## 9902
                    0 18.5593
           18.5593
                                     2
```

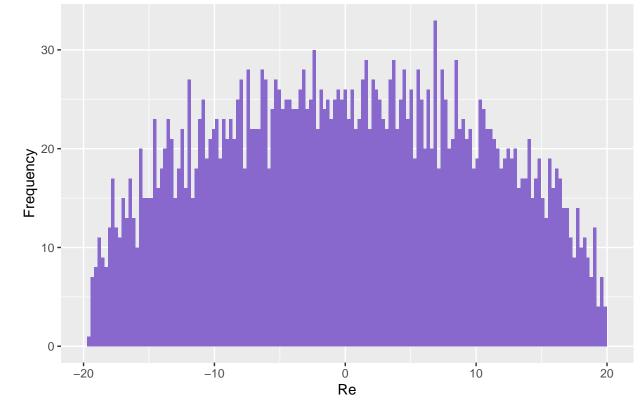
```
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                                    3
          18.1119
                    0 18.1119
                                    4
## 9904
                    0 17.6707
  9905
         -17.6707
                                    5
          17.0025
##
  9906
                    0 17.0025
                                    6
##
  9907
          16.9387
                    0 16.9387
                                    7
  9908
         -16.8712
                    0 16.8712
                                    8
##
## 9909
         -16.5463
                    0 16.5463
                                    9
## 9910
          16.3236
                    0 16.3236
                                   10
## 9911
         -16.1190
                    0 16.1190
                                   11
## 9912
          15.8046
                    0 15.8046
                                   12
## 9913
         -15.4157
                    0 15.4157
                                   13
## 9914
          15.3277
                    0 15.3277
                                   14
##
  9915
         -15.0991
                    0 15.0991
                                   15
  9916
                    0 14.8492
##
          14.8492
                                   16
## 9917
         -14.5920
                    0 14.5920
                                   17
## 9918
          14.3701
                    0 14.3701
                                   18
          14.1626
                    0 14.1626
## 9919
                                   19
  9920
         -14.0508
                    0 14.0508
                                   20
         -13.8972
                    0 13.8972
## 9921
                                   21
## 9922
         -13.2312
                    0 13.2312
                                   22
## 9923
          13.1915
                    0 13.1915
                                   23
## 9924
         -13.0934
                    0 13.0934
                                   24
## 9925
          13.0264
                    0 13.0264
                                   25
## 9926
          12.6385
                    0 12.6385
                                   26
## 9927
         -12.5809
                    0 12.5809
                                   27
  9928
          12.3126
                    0 12.3126
                                   28
  9929
         -12.1280
                    0 12.1280
                                   29
##
         -11.9659
##
   9930
                    0 11.9659
                                   30
  9931
          11.7948
                    0 11.7948
##
                                   31
## 9932
          11.4426
                    0 11.4426
                                   32
## 9933
          11.2853
                    0 11.2853
                                   33
##
  9934
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                    0 11.0774
                                   34
   9935
         -10.9305
                    0 10.9305
                                   35
  9936
          10.5519
                    0 10.5519
##
                                   36
##
  9937
          10.2006
                    0 10.2006
                                   37
## 9938
         -10.1460
                    0 10.1460
                                   38
## 9939
          -9.7686
                    0
                       9.7686
                                   39
## 9940
           9.7519
                    0
                       9.7519
                                   40
## 9941
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                    0
                       9.6452
                                   41
## 9942
           9.6219
                    0
                       9.6219
                                   42
  9943
          -9.2610
                       9.2610
                    0
                                   43
##
  9944
           9.1545
                       9.1545
                    0
                                   44
          -9.1433
##
  9945
                    0
                       9.1433
                                   45
##
  9946
           8.8108
                    0
                       8.8108
                                   46
## 9947
           -8.7239
                       8.7239
                    0
                                   47
## 9948
           8.4159
                    0
                       8.4159
                                   48
## 9949
          -8.3221
                    0
                       8.3221
                                   49
## 9950
           8.1835
                    0
                       8.1835
                                   50
## 9951
          -7.8494
                    0
                       7.8494
                                   51
##
   9952
           -7.6645
                    0
                       7.6645
                                   52
  9953
           7.5877
                    0
                       7.5877
##
                                   53
                    0
## 9954
           7.4090
                       7.4090
                                   54
## 9955
           -7.3240
                    0
                       7.3240
                                   55
                      7.0575
## 9956
           7.0575
                   0
                                   56
```

```
## 9957
          -6.9192
                    0
                       6.9192
                                   57
## 9958
          -6.6369
                    0
                       6.6369
                                   58
## 9959
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                    0
                       6.4805
                                   59
## 9960
           6.2936
                       6.2936
                    0
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## 9961
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                    0
                       6.1570
                                   61
## 9962
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                    0
                       6.1039
                                   62
## 9963
           5.8916
                    0
                       5.8916
                                   63
## 9964
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                    0
                       5.7153
                                   64
## 9965
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                       5.4979
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## 9966
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                    0
                       5.4861
                                   66
## 9967
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                       5.1153
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## 9968
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                       5.0445
                    0
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                       5.0251
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## 9971
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                    0
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                                   72
## 9973
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                       4.1996
## 9974
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## 9976
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## 9977
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                       3.6293
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## 9978
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                                   78
## 9979
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## 9980
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                    0
                       3.3707
                                   80
## 9981
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                       3.0028
                                   81
## 9982
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                       2.8622
                                   82
## 9983
           2.8124
                       2.8124
                                   83
                    0
## 9984
           2.5611
                        2.5611
                    0
                                   84
## 9985
          -2.5387
                    0
                       2.5387
                                   85
## 9986
          -2.3211
                    0
                        2.3211
                                   86
## 9987
                       2.0930
           2.0930
                    0
                                   87
## 9988
           2.0349
                    0
                       2.0349
                                   88
## 9989
           1.7068
                    0
                       1.7068
                                   89
## 9990
          -1.6621
                       1.6621
                    0
                                   90
## 9991
          -1.3929
                    0
                        1.3929
                                   91
## 9992
           1.3248
                    0
                       1.3248
                                   92
## 9993
          -1.1753
                    0
                       1.1753
                                   93
## 9994
           1.0661
                    0
                       1.0661
                                   94
## 9995
          -0.8734
                    0
                       0.8734
                                   95
## 9996
           0.6289
                    0
                       0.6289
                                   96
## 9997
          -0.3861
                       0.3861
                                   97
                    0
## 9998
           0.3612
                       0.3612
                    0
                                   98
## 9999
          -0.1655
                    0
                       0.1655
                                   99
## 10000
           0.1477
                    0
                       0.1477
                                  100
t1 <- Sys.time()</pre>
t1 - t0
## Time difference of 8.53441 secs
t0 <- Sys.time()
spectrum_beta <- RME_beta(N = 100, beta = 2, size = 30) %% spectrum()
t1 <- Sys.time()</pre>
t1 - t0
```

Time difference of 1.893245 secs

```
spectrum_beta %>% spectrum.histogram(component = "Re", bins = 150)
```

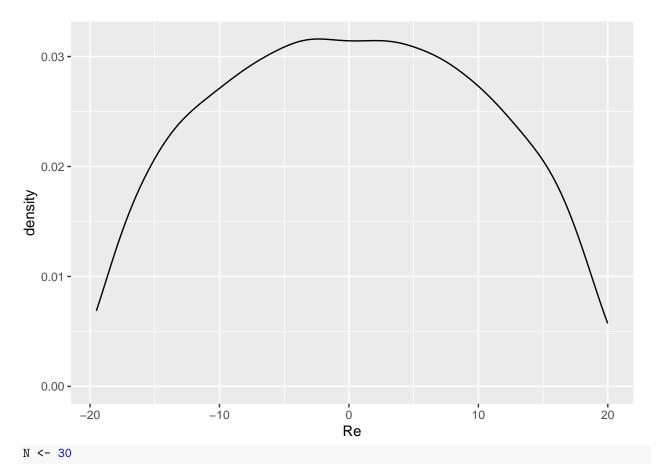
Spectrum of a Matrix Ensemble (Re)



```
spectral_radius <- function(spectrum_){max(abs(spectrum_$Re))}
spectral_radius(spectrum_beta)</pre>
```

```
## [1] 19.9762
((spectral_radius(RME_beta(N = 10, beta = 2, size = 40) %>% spectrum()))^2)
```

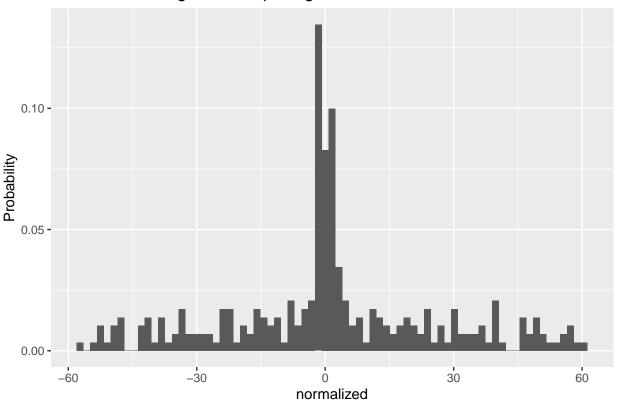
```
## [1] 46.58745
spectrum_beta %>%
   ggplot(aes(x = Re)) +
   geom_density(stat = "density")
```



```
size <- 10
RME_norm(N = N, sd = 0.01, symm = T, size = size) %% normalized_dispersion()
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
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## only the first element will be used
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## only the first element will be used
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## only the first element will be used
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## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```

```
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```

Warning in if (class(array) == "matrix") {: the condition has length > 1 and
only the first element will be used



RME_norm(N = N, sd = 0.1, symm = T, size = size) %>% normalized_dispersion()

```
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

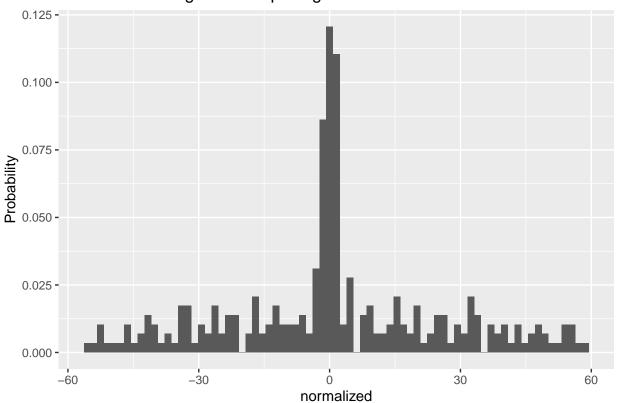
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```

```
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```



RME_norm(N = N, sd = 5, symm = T, size = size) %>% normalized_dispersion()

```
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```

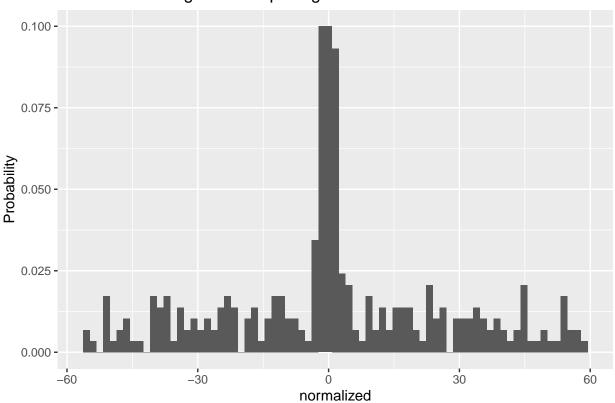
```
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```



RME_norm(N = N, sd = 10, symm = T, size = size) %>% normalized_dispersion()

Warning in if (class(array) == "matrix") {: the condition has length > 1 and
only the first element will be used

Warning in if (class(array) == "matrix") {: the condition has length > 1 and
only the first element will be used

Warning in if (class(array) == "matrix") {: the condition has length > 1 and
only the first element will be used

Warning in if (class(array) == "matrix") {: the condition has length > 1 and
only the first element will be used

```
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

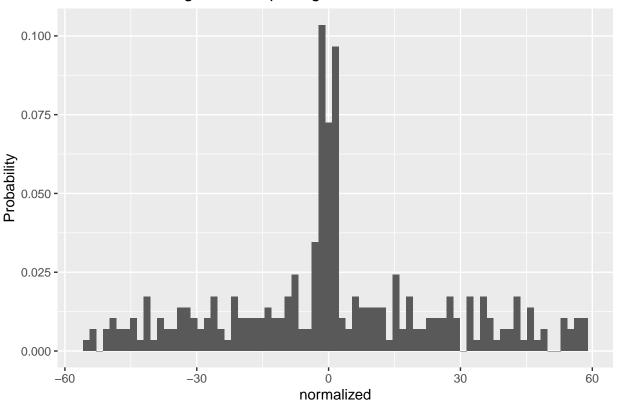
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```



RME_norm(N = N, sd = 20, symm = T, size = size) %>% normalized_dispersion()

```
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
```

```
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

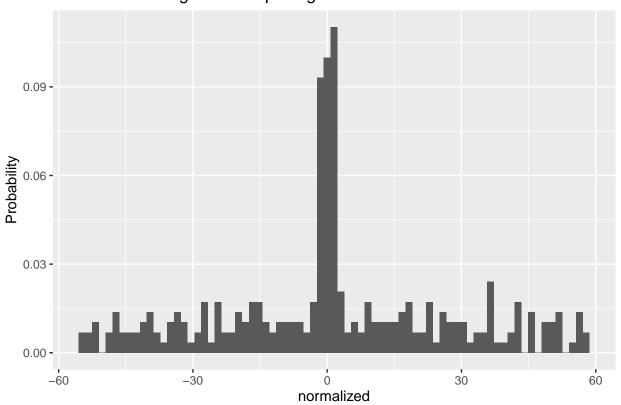
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used

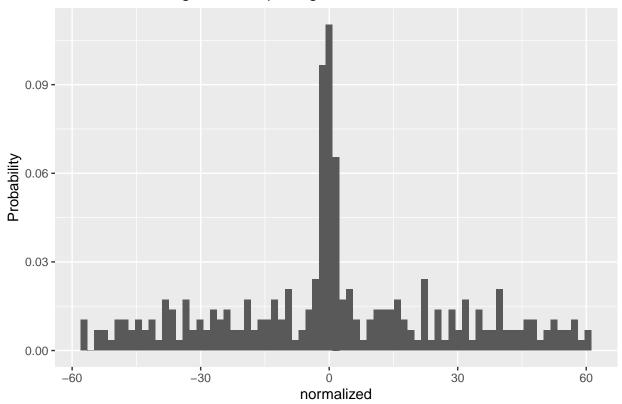
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```



RME_norm(N = N, sd = 50, symm = T, size = size) %>% normalized_dispersion()

Warning in if (class(array) == "matrix") {: the condition has length > 1 and
only the first element will be used

```
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```



```
RME_norm(N = N, sd = 100, symm = T, size = size) %>% normalized_dispersion()
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") \{: \text{ the condition has length} > 1 \text{ and }
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") \{: \text{ the condition has length} > 1 \text{ and } 
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
## Warning in if (class(array) == "matrix") {: the condition has length > 1 and
## only the first element will be used
```

