

FooBar

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Abstract

TBD

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1 weights

```
##      [,1]      [,2]      [,3]      [,4]
## [1,] +0.000000 +1.000000 +2.000000 +3.000000
## [2,] +1.000000 +0.000000 +4.000000 +5.000000
## [3,] +2.000000 +4.000000 +0.000000 +6.000000
## [4,] +3.000000 +5.000000 +6.000000 +0.000000
```

2 normalized weights

```
##      [,1]      [,2]      [,3]      [,4]
## [1,] +0.000000 +0.047619 +0.095238 +0.142857
## [2,] +0.047619 +0.000000 +0.190476 +0.238095
## [3,] +0.095238 +0.190476 +0.000000 +0.285714
## [4,] +0.142857 +0.238095 +0.285714 +0.000000
```

3 delta

```
##      [,1]      [,2]      [,3]      [,4]
## [1,] +0.000000 +1.000000 +2.000000 +3.000000
## [2,] +1.000000 +0.000000 +4.000000 +5.000000
## [3,] +2.000000 +4.000000 +0.000000 +6.000000
## [4,] +3.000000 +5.000000 +6.000000 +0.000000
```

4 normalized delta

```
##      [,1]      [,2]      [,3]      [,4]
## [1,] +0.000000 +0.218218 +0.436436 +0.654654
## [2,] +0.218218 +0.000000 +0.872872 +1.091089
## [3,] +0.436436 +0.872872 +0.000000 +1.309307
## [4,] +0.654654 +1.091089 +1.309307 +0.000000
```

5 v

```
##      [,1]      [,2]      [,3]      [,4]
## [1,] +0.285714 -0.047619 -0.095238 -0.142857
## [2,] -0.047619 +0.476190 -0.190476 -0.238095
## [3,] -0.095238 -0.190476 +0.571429 -0.285714
## [4,] -0.142857 -0.238095 -0.285714 +0.666667
```

6 vinv

```
##      [,1]      [,2]      [,3]      [,4]
## [1,] +2.008880 -0.842738 -0.644447 -0.521695
## [2,] -0.842738 +1.291254 -0.247864 -0.200652
## [3,] -0.644447 -0.247864 +1.045751 -0.153440
## [4,] -0.521695 -0.200652 -0.153440 +0.875787
```

7 xold

```
##      [,1]      [,2]
## [1,] +1.000000 +4.000000
## [2,] +2.000000 +3.000000
## [3,] +3.000000 +2.000000
## [4,] +4.000000 +1.000000
```

8 cross

```
##      [,1]      [,2]      [,3]      [,4]
## [1,] -0.104167 +0.038690 +0.050595 +0.014881
## [2,] +0.038690 +0.229167 -0.068452 -0.199405
## [3,] +0.050595 -0.068452 +0.395833 -0.377976
## [4,] +0.014881 -0.199405 -0.377976 +0.562500
```

9 xold from eigen

```
##      [,1]      [,2]
## [1,] -0.023575 +0.001340
## [2,] -0.169582 -0.460776
## [3,] -0.551259 +0.324247
## [4,] +0.744416 +0.135188
```

10 dold

```
##      1      2      3      4
## 1 +0.000000 +0.484633 +0.618644 +0.779567
## 2 +0.484633 +0.000000 +0.872890 +1.091130
## 3 +0.618644 +0.872890 +0.000000 +1.309395
## 4 +0.779567 +1.091130 +1.309395 +0.000000
```

11 scaled xold

```
##      [,1]      [,2]
## [1,] -0.022884 +0.001301
## [2,] -0.164615 -0.447279
## [3,] -0.535112 +0.314749
## [4,] +0.722611 +0.131228
```

12 scaled dold

```
##      1      2      3      4
## 1 +0.000000 +0.470437 +0.600522 +0.756732
## 2 +0.470437 +0.000000 +0.847322 +1.059169
## 3 +0.600522 +0.847322 +0.000000 +1.271041
## 4 +0.756732 +1.059169 +1.271041 +0.000000
```

13 sold

```
## [1] +0.003934
```

14 guttman transform

```
##      [,1]      [,2]
## [1,] -0.029266 -0.001372
## [2,] -0.163900 -0.442303
## [3,] -0.533326 +0.312222
## [4,] +0.726492 +0.131453
```

15 xold - xnew

```
##      [,1]      [,2]
## [1,] +0.006382 +0.002672
## [2,] -0.000715 -0.004976
## [3,] -0.001786 +0.002527
## [4,] -0.003881 -0.000224
```

16 v %*% (xold - xnew)

```
##      [,1]      [,2]
## [1,] +0.002582 +0.000792
## [2,] +0.000620 -0.002925
```

```
## [3,] -0.000383 +0.002202i
## [4,] -0.002819 -0.000069i
```