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Efficiency test of priority vectors derived from 4×4 pairwise comparison matrices

Ádám ANTAL¹, Sándor BOZÓKI^{2,3,4}

Abstract

Three weighting methods, the eigenvector, the arithmetic mean of all spanning trees' weight vectors (AMAST) and the cosine maximization have been investigated in case of 4×4 pairwise comparison matrices, with elements chosen from the usual ratio scale $1, 2, \dots, 9, 1/2, 1/3, \dots, 1/9$. Out of the 32 157 permutation filtered matrices fulfilling the rule of acceptable inconsistency ($CR \leq 0.1$), 591 (1.84%); 197 (0.61%) and 602 (1.87%) have inefficient eigenvector, AMAST and cosine maximizing weight vector, respectively. All these examples are listed in the appendix.

Keywords: multiple criteria analysis, decision support, pairwise comparison matrix, Pareto optimality, efficiency, eigenvector, spanning trees, cosine similarity

1 Introduction

1.1 Efficiency of weight vectors derived from pairwise comparison matrices

Preference modelling, especially the quantification of decision maker's preferences is fundamental in decision theory and decision support. We focus on decision models based on cardinal information originated from comparisons of two objects at a time. A positive and reciprocal ($a_{ij} = 1/a_{ji}$ for all i, j) matrix is called a pairwise comparison matrix [20]. The matrix element a_{ij} reflects the decision maker's preference on a ratio scale when item (typically the importance of a criterion, or the performance of action) i is compared to item j .

Let \mathbf{A} be a pairwise comparison matrix of size $n \times n$ and $\mathbf{w}, \mathbf{w}' \in \mathbb{R}^n$ be positive weight vectors.

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Definition 1.1. Weight vector $\mathbf{w}' = (w'_1, w'_2, \dots, w'_n)^\top$ dominates weight vector \mathbf{w} if

$$\left| a_{ij} - \frac{w'_i}{w'_j} \right| \leq \left| a_{ij} - \frac{w_i}{w_j} \right| \quad \text{for all } 1 \leq i, j \leq n, \quad (1)$$

$$\left| a_{k\ell} - \frac{w'_k}{w'_\ell} \right| < \left| a_{k\ell} - \frac{w_k}{w_\ell} \right| \quad \text{for some } 1 \leq k, \ell \leq n. \quad (2)$$

If weight vector \mathbf{w} cannot be dominated, then it is called *efficient*, otherwise it is called *inefficient*.

Definition 1.2. Weight vector $\mathbf{w}' = (w'_1, w'_2, \dots, w'_n)^\top$ internally dominates weight vector \mathbf{w} if

$$\left. \begin{aligned} a_{ij} \leq \frac{w_i}{w_j} &\implies a_{ij} \leq \frac{w'_i}{w'_j} \leq \frac{w_i}{w_j} \\ a_{ij} \geq \frac{w_i}{w_j} &\implies a_{ij} \geq \frac{w'_i}{w'_j} \geq \frac{w_i}{w_j} \end{aligned} \right\} \quad \text{for all } 1 \leq i, j \leq n, \quad (3)$$

$$\left. \begin{aligned} a_{k\ell} \leq \frac{w_k}{w_\ell} &\implies \frac{w'_k}{w'_\ell} < \frac{w_k}{w_\ell} \\ a_{k\ell} \geq \frac{w_k}{w_\ell} &\implies \frac{w'_k}{w'_\ell} > \frac{w_k}{w_\ell} \end{aligned} \right\} \quad \text{for some } 1 \leq k, \ell \leq n. \quad (4)$$

If weight vector \mathbf{w} cannot be internally dominated, then it is called *internally efficient*, otherwise it is called *internally inefficient*.

Efficiency implies internal efficiency by definition, but they are in fact equivalent [4, Corollary 1]. Definitions also imply that efficiency is scale invariant: weight vector \mathbf{w} is efficient if and only if $c\mathbf{w}$ is efficient, where $c > 0$ is arbitrary. Ratios $\frac{w_i}{w_j}$ and $\frac{cw_i}{cw_j}$ are clearly equal.

A dominating weight vector \mathbf{w}' , if it exists, can be found by solving the following linear program, developed by Bozóki and Fülöp [4, formulas (26)-(31)]:

$$\min \sum_{(i,j): a_{ij} < \frac{w_i}{w_j}} -s_{ij} \quad (5)$$

$$y_j - y_i \leq -\log a_{ij} \quad \text{for all } (i, j) \text{ such that } a_{ij} < \frac{w_i}{w_j}, \quad (6)$$

$$y_i - y_j + s_{ij} \leq \log w_i - \log w_j \quad \text{for all } (i, j) \text{ such that } a_{ij} < \frac{w_i}{w_j}, \quad (7)$$

$$y_i - y_j = \log a_{ij} \quad \text{for all } (i, j) \text{ such that } a_{ij} = \frac{w_i}{w_j}, \quad (8)$$

$$s_{ij} \geq 0 \quad \text{for all } (i, j) \text{ such that } a_{ij} < \frac{w_i}{w_j}, \quad (9)$$

$$y_1 = 0 \quad (10)$$

Variables are y_i , $1 \leq i \leq n$ and s_{ij} for all (i, j) such that $a_{ij} < \frac{w_i}{w_j}$.

According to Theorem 4.1 in [4], the optimum value of the linear program (5)-(10) is 0 if and only if weight vector \mathbf{w} is efficient. Let $(\mathbf{y}^*, \mathbf{s}^*)$ denote the optimal solution to (5)-(10). If weight vector \mathbf{w} is inefficient, then weight vector $\mathbf{w}' = \exp(\mathbf{y}^*)$ is efficient and dominates \mathbf{w} internally.

1.2 Weighting methods

Several weighting methods have been proposed to find a weight vector \mathbf{w} from a pairwise comparison matrix \mathbf{A} . An inevitably oversimplified conclusion of the comprehensive studies of Golany

and Kress [15], Choo and Wedley [7], Lin [17], Bajwa, Choo and Wedley [2], Fedrizzi and Brunelli [12], is that there is no universal weighting method that outperforms the others.

Several distance minimizing methods, such as the least squares method, where the metric is strictly monotonic [11], always result in efficient weight vectors. Interestingly, not all distance minimizing methods generate efficient weights. The most remarkable example is the eigenvector method, deriving weight from the principal right eigenvector of \mathbf{A} , which minimizes a special (neither continuous, nor strictly monotonic) metric found by Fichtner [13, 14]. Blanquero, Carrizosa and Conde [3] observed first that the eigenvector is not always efficient. However, a necessary and sufficient condition of the efficiency of the eigenvector has not been found.

We show that another two weighting methods, namely the arithmetic mean of weight vectors calculated from all spanning trees and the weight vector calculated by the cosine maximization method can also be inefficient. The spanning tree approach was proposed by Tsyganok [24, 25]. It takes into account all the connected subsets of cardinality $n - 1$ of the set of all comparisons, i.e., all the n^{n-2} spanning trees if the matrix elements are represented by edges in a graph on n vertices. Every spanning tree determines a unique weight vector, and two natural ways of their aggregation are the arithmetic mean [21, 22, 24, 25], denoted here by AMAST (arithmetic mean of all spanning tree weight vectors), and the geometric mean [18, 6]. However, the geometric mean of all spanning tree weight vectors has recently been proved to be equivalent to the Logarithmic Least Squares Method [8, 9, 10, 19], which always provides an efficient weight vector [3, Corollary 7]. The eigenvector and the logarithmic least squares method are equivalent for 3×3 pairwise comparison matrices [8, 9]. Consequently, the smallest matrix size, when the eigenvector can be inefficient, is 4×4 .

The cosine maximization method [16] is based on a geometric intuition of that vectors can be considered similar to each other if their angle is small (cosine of the angle is high), or, equivalently, their dot product is high. The simply computable and unique weight vector [16, Theorem 2], denoted by \mathbf{w}^{\cos} , maximizes the sum of cosine similarity measure for all column vectors of the pairwise comparison matrix. Despite the geometric intuition behind, weight vector \mathbf{w}^{\cos} can be inefficient as it is presented in the next section.

2 Results

There are 1 007 097 pairwise comparison matrices of size 4×4 such that all elements are from the ratio scale $1, 2, \dots, 9, 1/2, 1/3, \dots, 1/9$, and no pair of matrices can be transformed into each other by row/column permutations (without permutation filtering there would be $17^6 = 24\,137\,569$ matrices).

2.1 Matrices with acceptable inconsistency ($CR \leq 0.1$)

The CR inconsistency is below 0.1 [20] for 32 157 out of all permutation filtered matrices, resulting in a ratio 3.19%. It is similar to the frequency 3.15% experienced by Bozóki and Rapcsák [5, Table 4], although their matrices were generated randomly.

Out of the 32 157 permutation filtered matrices fulfilling $CR \leq 0.1$,

- 591 (1.84%) have inefficient eigenvector;
- 197 (0.61%) have inefficient weight vector calculated by the spanning trees' arithmetic mean;
- 602 (1.87%) have inefficient weight vector calculated by the cosine maximization method.

They are listed in the Appendix (Examples A.1–591, B.1–197, C.1–602, respectively), an illustrative example is given below.

Example. (*Example A.73 in the Appendix*)

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 7 \\ 1/2 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 2 \\ 1/7 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.536063 \\ 0.284402 \\ 0.096706 \\ 0.082830 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8849 & 5.5432 & 6.4718 \\ 0.5305 & 1 & 2.9409 & 3.4336 \\ 0.1804 & 0.3400 & 1 & 1.1675 \\ 0.1545 & 0.2912 & 0.8565 & 1 \end{pmatrix},$$

It can be seen that all non-diagonal elements of the first row/column are under/overestimated, indicating that the eigenvector is inefficient. Indeed, the efficient and internally dominating weight vector \mathbf{w}' , found by (5)-(10) is as follows:

$$\mathbf{w}' = \begin{pmatrix} 0.550771 \\ 0.275385 \\ 0.093640 \\ 0.080204 \end{pmatrix}.$$

Its relation to the eigenvector \mathbf{w}^{EM} can be made more visible by an appropriate rescaling

$$\mathbf{w}' = 0.968297 \cdot \begin{pmatrix} 0.568803 \\ 0.284402 \\ 0.096706 \\ 0.082830 \end{pmatrix},$$

which shows that the last three coordinates have not changed, the first coordinate has been increased as we expected. Furthermore, the first coordinate has been increased such that $a_{12} = \frac{w'_1}{w'_2} = 2$, i.e., not only $\left| \frac{w'_1}{w'_2} - a_{12} \right| < \left| \frac{w_1}{w_2} - a_{12} \right|$ holds but the left hand side of the inequality equals to zero.

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.8818 & 6.8671 \\ 1/2 & 1 & 2.9409 & 3.4336 \\ 0.1700 & 0.3400 & 1 & 1.1675 \\ 0.1456 & 0.2912 & 0.8565 & 1 \end{pmatrix},$$

We would also like to draw the attention to a special example.

Example 2.1. (*Example A.116 in the Appendix*)

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 3 \\ 1/8 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1263, \quad CR = 0.0476$$

$$\begin{aligned}
\mathbf{w}^{EM} &= \begin{pmatrix} 0.578100 \\ 0.277375 \\ 0.096350 \\ 0.048175 \end{pmatrix} \\
\left[\frac{w_i^{EM}}{w_j^{EM}} \right] &= \begin{pmatrix} 1 & 2.0842 & 6 & 12 \\ 0.4798 & 1 & 2.8788 & 5.7577 \\ 1/6 & 0.3474 & 1 & 2 \\ 1/12 & 0.1737 & 1/2 & 1 \end{pmatrix}, \\
\mathbf{w}' &= \begin{pmatrix} 0.571429 \\ 0.285714 \\ 0.095238 \\ 0.047619 \end{pmatrix} = 0.988460 \cdot \begin{pmatrix} 0.578100 \\ 0.289050 \\ 0.096350 \\ 0.048175 \end{pmatrix}, \\
\left[\frac{w'_i}{w'_j} \right] &= \begin{pmatrix} 1 & 2 & 6 & 12 \\ 1/2 & 1 & 3 & 6 \\ 1/6 & 1/3 & 1 & 2 \\ 1/12 & 1/6 & 1/2 & 1 \end{pmatrix},
\end{aligned}$$

The ratios calculated from the dominating weight vector give not only an improved, but a perfect approximation of the original pairwise comparison matrix in all entries of a row/column. Examples A.116, A.139, A.162., A.200, A.374 and A.553 have this particular property.

2.2 Matrices with arbitrary CR inconsistency

Since the rule of thumb $CR \leq 0.1$ has been applied in a wide range of decision problems [23, 26], its theoretical foundation is debated. We have considered all the 1 007 097 permutation filtered pairwise comparison matrices of size 4×4 and plotted the frequencies of inefficient eigenvector, arithmetic mean of all spanning tree weight vectors (AMAST), and the weight vector from cosine maximization, as functions of CR inconsistency. $CR = 0$ represents the consistent case. The upper bound of CR is 3.645 since pairwise comparison matrix

$$\begin{pmatrix} 1 & 9 & 1/9 & 9 \\ 1/9 & 1 & 9 & 1/9 \\ 9 & 1/9 & 1 & 9 \\ 1/9 & 9 & 1/9 & 1 \end{pmatrix}$$

has the largest $\lambda_{\max} = 13.66$, consequently the largest CR inconsistency [1].

The number of pairwise comparison matrices as a function of CR (on the left in Figure 1) is similar to the one in Bozóki, Rapcsák [5, Figure 3b], but their matrices were generated randomly.

The right part of Figure 1 shows that the ratio of inefficient EM, AMAST and cos weight vectors is maximal (29%; 28% and 14%, respectively) at around $CR = 1.2$. All the three methods provide efficient priority vectors for matrices with extremely high inconsistency ($CR > 2.6$).

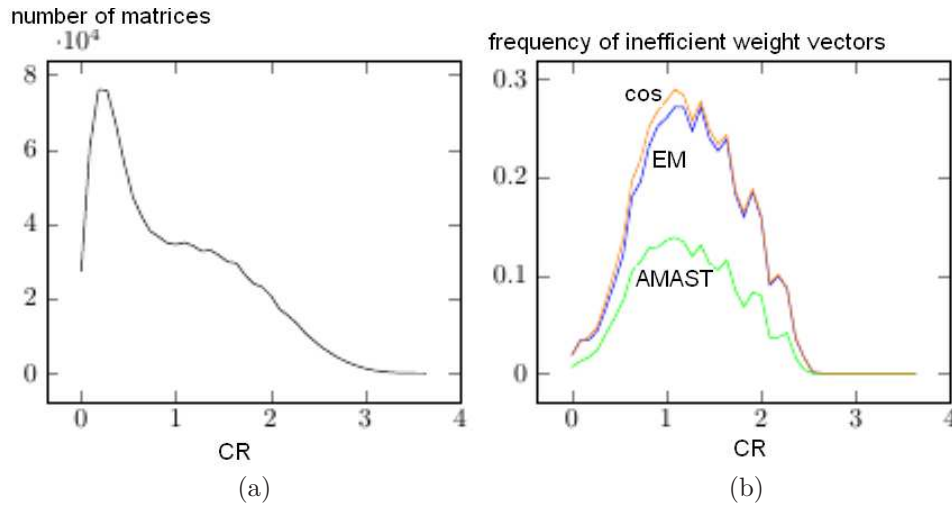


Figure 1. (a) distribution of inconsistency index CR among 4×4 matrices
(b) frequencies of inefficient eigenvectors, AMAST and cosine maximization weight vectors

3 Conclusions

We have found that three weighting methods, the eigenvector, the arithmetic mean of all spanning trees's weight vectors and the cosine maximization provide inefficient priority vectors with a small but not negligible frequency if $CR \leq 0.1$. Hundreds of examples indicate that it is not only a theoretical phenomenon, but it may have effect on the ranking itself, too. Our opinion is that inefficient priority vectors are not acceptable in any decision problem. Consequently, the test of efficiency, and, in case of inefficiency, finding an efficient dominating weight vector is necessary.

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Online appendix

A Inefficient eigenvector

Example A.1.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 2 \\ 1 & 1 & 4 & 6 \\ 1/3 & 1/4 & 1 & 1 \\ 1/2 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.323239 \\ 0.457955 \\ \mathbf{0.107489} \\ 0.111318 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 0.7058 & \mathbf{3.0072} & 2.9038 \\ 1.4168 & 1 & \mathbf{4.2605} & 4.1140 \\ \mathbf{0.3325} & \mathbf{0.2347} & 1 & \mathbf{0.9656} \\ 0.3444 & 0.2431 & \mathbf{1.0356} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.323156 \\ 0.457837 \\ 0.107719 \\ 0.111289 \end{pmatrix} = 0.999742 \cdot \begin{pmatrix} 0.323239 \\ 0.457955 \\ \mathbf{0.107746} \\ 0.111318 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.7058 & \mathbf{3} & 2.9038 \\ 1.4168 & 1 & \mathbf{4.2503} & 4.1140 \\ \mathbf{1/3} & \mathbf{0.2353} & 1 & \mathbf{0.9679} \\ 0.3444 & 0.2431 & \mathbf{1.0331} & 1 \end{pmatrix},$$

Example A.2.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 2 \\ 1 & 1 & 4 & 7 \\ 1/3 & 1/4 & 1 & 1 \\ 1/2 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.318086 \\ 0.471201 \\ \mathbf{0.105051} \\ 0.105662 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 0.6751 & \mathbf{3.0279} & 3.0104 \\ 1.4814 & 1 & \mathbf{4.4855} & 4.4595 \\ \mathbf{0.3303} & \mathbf{0.2229} & 1 & \mathbf{0.9942} \\ 0.3322 & 0.2242 & \mathbf{1.0058} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.317892 \\ 0.470913 \\ 0.105597 \\ 0.105597 \end{pmatrix} = 0.999389 \cdot \begin{pmatrix} 0.318086 \\ 0.471201 \\ \mathbf{0.105662} \\ 0.105662 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.6751 & \mathbf{3.0104} & 3.0104 \\ 1.4814 & 1 & \mathbf{4.4595} & 4.4595 \\ \mathbf{0.3322} & \mathbf{0.2242} & 1 & \mathbf{1} \\ 0.3322 & 0.2242 & \mathbf{1} & 1 \end{pmatrix},$$

Example A.3.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 2 \\ 1 & 1 & 5 & 8 \\ 1/3 & 1/5 & 1 & 1 \\ 1/2 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.309383 \\ 0.496976 \\ \mathbf{0.095105} \\ 0.098536 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 0.6225 & \mathbf{3.2531} & 3.1398 \\ 1.6063 & 1 & \mathbf{5.2255} & 5.0436 \\ \mathbf{0.3074} & \mathbf{0.1914} & 1 & \mathbf{0.9652} \\ 0.3185 & 0.1983 & \mathbf{1.0361} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.308325 \\ 0.495277 \\ 0.098199 \\ 0.098199 \end{pmatrix} = 0.996581 \cdot \begin{pmatrix} 0.309383 \\ 0.496976 \\ \mathbf{0.098536} \\ 0.098536 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.6225 & \mathbf{3.1398} & 3.1398 \\ 1.6063 & 1 & \mathbf{5.0436} & 5.0436 \\ \mathbf{0.3185} & \mathbf{0.1983} & 1 & \mathbf{1} \\ 0.3185 & 0.1983 & \mathbf{1} & 1 \end{pmatrix},$$

Example A.4.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 2 \\ 1 & 1 & 5 & 9 \\ 1/3 & 1/5 & 1 & 1 \\ 1/2 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.305188 \\ 0.507193 \\ \mathbf{0.093121} \\ 0.094498 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 0.6017 & \mathbf{3.2773} & 3.2296 \\ 1.6619 & 1 & \mathbf{5.4466} & 5.3672 \\ \mathbf{0.3051} & \mathbf{0.1836} & 1 & \mathbf{0.9854} \\ 0.3096 & 0.1863 & \mathbf{1.0148} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.304768 \\ 0.506496 \\ 0.094368 \\ 0.094368 \end{pmatrix} = 0.998624 \cdot \begin{pmatrix} 0.305188 \\ 0.507193 \\ \mathbf{0.094498} \\ 0.094498 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.6017 & \mathbf{3.2296} & 3.2296 \\ 1.6619 & 1 & \mathbf{5.3672} & 5.3672 \\ \mathbf{0.3096} & \mathbf{0.1863} & 1 & \mathbf{1} \\ 0.3096 & 0.1863 & \mathbf{1} & 1 \end{pmatrix},$$

Example A.5.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 5 & 7 \\ 1/4 & 1/5 & 1 & 1 \\ 1/3 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0609, \quad CR = 0.0230$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.355882 \\ 0.465883 \\ \mathbf{0.088744} \\ 0.089491 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 0.7639 & \mathbf{4.0102} & 3.9767 \\ 1.3091 & 1 & \mathbf{5.2498} & 5.2059 \\ \mathbf{0.2494} & \mathbf{0.1905} & 1 & \mathbf{0.9916} \\ 0.2515 & 0.1921 & \mathbf{1.0084} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.355801 \\ 0.465778 \\ 0.088950 \\ 0.089471 \end{pmatrix} = 0.999773 \cdot \begin{pmatrix} 0.355882 \\ 0.465883 \\ \mathbf{0.088971} \\ 0.089491 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.7639 & \mathbf{4} & 3.9767 \\ 1.3091 & 1 & \mathbf{5.2364} & 5.2059 \\ \mathbf{1/4} & \mathbf{0.1910} & 1 & \mathbf{0.9942} \\ 0.2515 & 0.1921 & \mathbf{1.0058} & 1 \end{pmatrix},$$

Example A.6.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 6 & 9 \\ 1/4 & 1/6 & 1 & 1 \\ 1/3 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.341478 \\ 0.498030 \\ \mathbf{0.080150} \\ 0.080342 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 0.6857 & \mathbf{4.2605} & 4.2503 \\ 1.4585 & 1 & \mathbf{6.2137} & 6.1989 \\ \mathbf{0.2347} & \mathbf{0.1609} & 1 & \mathbf{0.9976} \\ 0.2353 & 0.1613 & \mathbf{1.0024} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.341413 \\ 0.497934 \\ 0.080327 \\ 0.080327 \end{pmatrix} = 0.999808 \cdot \begin{pmatrix} 0.341478 \\ 0.498030 \\ \mathbf{0.080342} \\ 0.080342 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.6857 & \mathbf{4.2503} & 4.2503 \\ 1.4585 & 1 & \mathbf{6.1989} & 6.1989 \\ \mathbf{0.2353} & \mathbf{0.1613} & 1 & \mathbf{1} \\ 0.2353 & 0.1613 & \mathbf{1} & 1 \end{pmatrix},$$

Example A.7.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 1 \\ 1 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.347588 \\ 0.338539 \\ 0.117377 \\ 0.196496 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0267 & 2.9613 & 1.7689 \\ 0.9740 & 1 & 2.8842 & 1.7229 \\ 0.3377 & 0.3467 & 1 & 0.5973 \\ 0.5653 & 0.5804 & 1.6741 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.344471 \\ 0.344471 \\ 0.116324 \\ 0.194734 \end{pmatrix} = 0.991032 \cdot \begin{pmatrix} 0.347588 \\ 0.338539 \\ 0.117377 \\ 0.196496 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 2.9613 & 1.7689 \\ 1 & 1 & 2.9613 & 1.7689 \\ 0.3377 & 0.3377 & 1 & 0.5973 \\ 0.5653 & 0.5653 & 1.6741 & 1 \end{pmatrix},$$

Example A.8.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 2 \\ 1 & 1 & 3 & 4 \\ 1/5 & 1/3 & 1 & 2 \\ 1/2 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.385459 \\ 0.375424 \\ 0.130165 \\ 0.108952 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0267 & 2.9613 & 3.5379 \\ 0.9740 & 1 & 2.8842 & 3.4458 \\ 0.3377 & 0.3467 & 1 & 1.1947 \\ 0.2827 & 0.2902 & 0.8370 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.381629 \\ 0.381629 \\ 0.128872 \\ 0.107870 \end{pmatrix} = 0.990065 \cdot \begin{pmatrix} 0.385459 \\ 0.385459 \\ 0.130165 \\ 0.108952 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 2.9613 & 3.5379 \\ 1 & 1 & 2.9613 & 3.5379 \\ 0.3377 & 0.3377 & 1 & 1.1947 \\ 0.2827 & 0.2827 & 0.8370 & 1 \end{pmatrix},$$

Example A.9.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 3 & 6 \\ 1/5 & 1/3 & 1 & 3 \\ 1/3 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.399985 \\ 0.389572 \\ 0.135071 \\ 0.075372 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0267 & 2.9613 & 5.3068 \\ 0.9740 & 1 & 2.8842 & 5.1686 \\ 0.3377 & 0.3467 & 1 & 1.7920 \\ 0.1884 & 0.1935 & 0.5580 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.395863 \\ 0.395863 \\ 0.133679 \\ 0.074595 \end{pmatrix} = 0.989694 \cdot \begin{pmatrix} 0.399985 \\ 0.389572 \\ 0.135071 \\ 0.075372 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 2.9613 & 5.3068 \\ 1 & 1 & 2.9613 & 5.3068 \\ 0.3377 & 0.3377 & 1 & 1.7920 \\ 0.1884 & 0.1884 & 0.5580 & 1 \end{pmatrix},$$

Example A.10.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 2 \\ 1 & 1 & 4 & 3 \\ 1/6 & 1/4 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.392093 \\ 0.378607 \\ 0.094879 \\ 0.134421 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0356 & 4.1326 & 2.9169 \\ 0.9656 & 1 & 3.9904 & 2.8166 \\ 0.2420 & 0.2506 & 1 & 0.7058 \\ 0.3428 & 0.3550 & 1.4168 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.391738 \\ 0.379170 \\ 0.094793 \\ 0.134299 \end{pmatrix} = 0.999093 \cdot \begin{pmatrix} 0.392093 \\ 0.379514 \\ 0.094879 \\ 0.134421 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0331 & 4.1326 & 2.9169 \\ 0.9679 & 1 & 4 & 2.8233 \\ 0.2420 & 1/4 & 1 & 0.7058 \\ 0.3428 & 0.3542 & 1.4168 & 1 \end{pmatrix},$$

Example A.11.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 4 & 5 \\ 1/6 & 1/4 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.409202 \\ \mathbf{0.398791} \\ 0.106845 \\ 0.085161 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0261} & 3.8299 & 4.8050 \\ \mathbf{0.9746} & 1 & \mathbf{3.7324} & \mathbf{4.6828} \\ 0.2611 & \mathbf{0.2679} & 1 & 1.2546 \\ 0.2081 & \mathbf{0.2135} & 0.7971 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.404986 \\ 0.404986 \\ 0.105744 \\ 0.084284 \end{pmatrix} = 0.989696 \cdot \begin{pmatrix} 0.409202 \\ \mathbf{0.409202} \\ 0.106845 \\ 0.085161 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 3.8299 & 4.8050 \\ \mathbf{1} & 1 & \mathbf{3.8299} & \mathbf{4.8050} \\ 0.2611 & \mathbf{0.2611} & 1 & 1.2546 \\ 0.2081 & \mathbf{0.2081} & 0.7971 & 1 \end{pmatrix},$$

Example A.12.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 4 & 7 \\ 1/6 & 1/4 & 1 & 3 \\ 1/4 & 1/7 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.416938 \\ \mathbf{0.408107} \\ 0.112385 \\ 0.062570 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0216} & 3.7099 & 6.6636 \\ \mathbf{0.9788} & 1 & \mathbf{3.6313} & \mathbf{6.5224} \\ 0.2695 & \mathbf{0.2754} & 1 & 1.7962 \\ 0.1501 & \mathbf{0.1533} & 0.5567 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.413288 \\ 0.413288 \\ 0.111401 \\ 0.062022 \end{pmatrix} = 0.991246 \cdot \begin{pmatrix} 0.416938 \\ \mathbf{0.416938} \\ 0.112385 \\ 0.062570 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 3.7099 & 6.6636 \\ \mathbf{1} & 1 & \mathbf{3.7099} & \mathbf{6.6636} \\ 0.2695 & \mathbf{0.2695} & 1 & 1.7962 \\ 0.1501 & \mathbf{0.1501} & 0.5567 & 1 \end{pmatrix},$$

Example A.13.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 2 \\ 1 & 1 & 5 & 3 \\ 1/7 & 1/5 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1351, \quad CR = 0.0509$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.396520 \\ 0.387339 \\ 0.084703 \\ 0.131439 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0237 & 4.6813 & 3.0168 \\ 0.9768 & 1 & 4.5729 & 2.9469 \\ 0.2136 & 0.2187 & 1 & 0.6444 \\ 0.3315 & 0.3393 & 1.5518 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.393772 \\ 0.391584 \\ 0.084116 \\ 0.130528 \end{pmatrix} = 0.993070 \cdot \begin{pmatrix} 0.396520 \\ 0.394317 \\ 0.084703 \\ 0.131439 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0056 & 4.6813 & 3.0168 \\ 0.9944 & 1 & 4.6553 & 3 \\ 0.2136 & 0.2148 & 1 & 0.6444 \\ 0.3315 & 1/3 & 1.5518 & 1 \end{pmatrix},$$

Example A.14.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 3 \\ 1 & 1 & 4 & 5 \\ 1/7 & 1/4 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2057, \quad CR = 0.0776$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.423221 \\ \mathbf{0.390610} \\ 0.101899 \\ 0.084271 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0835} & 4.1534 & 5.0222 \\ \mathbf{0.9229} & 1 & \mathbf{3.8333} & \mathbf{4.6352} \\ 0.2408 & \mathbf{0.2609} & 1 & 1.2092 \\ 0.1991 & \mathbf{0.2157} & 0.8270 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.416153 \\ 0.400787 \\ 0.100197 \\ 0.082863 \end{pmatrix} = 0.983299 \cdot \begin{pmatrix} 0.423221 \\ \mathbf{0.407594} \\ 0.101899 \\ 0.084271 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0383} & 4.1534 & 5.0222 \\ \mathbf{0.9631} & 1 & \mathbf{4} & \mathbf{4.8367} \\ 0.2408 & \mathbf{1/4} & 1 & 1.2092 \\ 0.1991 & \mathbf{0.2068} & 0.8270 & 1 \end{pmatrix},$$

Example A.15.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 3 \\ 1 & 1 & 5 & 5 \\ 1/7 & 1/5 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2095, \quad CR = 0.0790$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.413489 \\ 0.407583 \\ 0.095680 \\ 0.083249 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0145 & 4.3216 & 4.9669 \\ 0.9857 & 1 & 4.2599 & 4.8960 \\ 0.2314 & 0.2347 & 1 & 1.1493 \\ 0.2013 & 0.2043 & 0.8701 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.411061 \\ 0.411061 \\ 0.095118 \\ 0.082760 \end{pmatrix} = 0.994128 \cdot \begin{pmatrix} 0.413489 \\ 0.413489 \\ 0.095680 \\ 0.083249 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.3216 & 4.9669 \\ 1 & 1 & 4.3216 & 4.9669 \\ 0.2314 & 0.2314 & 1 & 1.1493 \\ 0.2013 & 0.2013 & 0.8701 & 1 \end{pmatrix},$$

Example A.16.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 4 \\ 1 & 1 & 4 & 8 \\ 1/7 & 1/4 & 1 & 3 \\ 1/4 & 1/8 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.426790 \\ 0.408385 \\ 0.105339 \\ 0.059485 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0451 & 4.0516 & 7.1747 \\ 0.9569 & 1 & 3.8768 & 6.8653 \\ 0.2468 & 0.2579 & 1 & 1.7708 \\ 0.1394 & 0.1457 & 0.5647 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.421324 \\ 0.415962 \\ 0.103990 \\ 0.058724 \end{pmatrix} = 0.987193 \cdot \begin{pmatrix} 0.426790 \\ 0.421358 \\ 0.105339 \\ 0.059485 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0129 & 4.0516 & 7.1747 \\ 0.9873 & 1 & 4 & 7.0834 \\ 0.2468 & 1/4 & 1 & 1.7708 \\ 0.1394 & 0.1412 & 0.5647 & 1 \end{pmatrix},$$

Example A.17.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 4 \\ 1 & 1 & 5 & 6 \\ 1/7 & 1/5 & 1 & 2 \\ 1/4 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1351, \quad CR = 0.0509$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.424412 \\ 0.414585 \\ 0.090661 \\ 0.070342 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0237 & 4.6813 & 6.0335 \\ 0.9768 & 1 & 4.5729 & 5.8938 \\ 0.2136 & 0.2187 & 1 & 1.2889 \\ 0.1657 & 0.1697 & 0.7759 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.421266 \\ 0.418925 \\ 0.089989 \\ 0.069821 \end{pmatrix} = 0.992587 \cdot \begin{pmatrix} 0.424412 \\ 0.422054 \\ 0.090661 \\ 0.070342 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0056 & 4.6813 & 6.0335 \\ 0.9944 & 1 & 4.6553 & 6 \\ 0.2136 & 0.2148 & 1 & 1.2889 \\ 0.1657 & 1/6 & 0.7759 & 1 \end{pmatrix},$$

Example A.18.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 4 \\ 1 & 1 & 5 & 7 \\ 1/7 & 1/5 & 1 & 3 \\ 1/4 & 1/7 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2453, \quad CR = 0.0925$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.421175 \\ \mathbf{0.416917} \\ 0.100760 \\ 0.061147 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0102} & 4.1800 & 6.8879 \\ \mathbf{0.9899} & 1 & \mathbf{4.1377} & \mathbf{6.8182} \\ 0.2392 & \mathbf{0.2417} & 1 & 1.6478 \\ 0.1452 & \mathbf{0.1467} & 0.6069 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.419389 \\ 0.419389 \\ 0.100333 \\ 0.060888 \end{pmatrix} = 0.995760 \cdot \begin{pmatrix} 0.421175 \\ \mathbf{0.421175} \\ 0.100760 \\ 0.061147 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 4.1800 & 6.8879 \\ \mathbf{1} & 1 & \mathbf{4.1800} & \mathbf{6.8879} \\ 0.2392 & \mathbf{0.2392} & 1 & 1.6478 \\ 0.1452 & \mathbf{0.1452} & 0.6069 & 1 \end{pmatrix},$$

Example A.19.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 5 \\ 1 & 1 & 5 & 8 \\ 1/7 & 1/5 & 1 & 3 \\ 1/5 & 1/8 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1801, \quad CR = 0.0679$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.428823 \\ \mathbf{0.421213} \\ 0.096340 \\ 0.053624 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0181} & 4.4511 & 7.9969 \\ \mathbf{0.9823} & 1 & \mathbf{4.3721} & \mathbf{7.8550} \\ 0.2247 & \mathbf{0.2287} & 1 & 1.7966 \\ 0.1250 & \mathbf{0.1273} & 0.5566 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.425584 \\ 0.425584 \\ 0.095613 \\ 0.053219 \end{pmatrix} = 0.992448 \cdot \begin{pmatrix} 0.428823 \\ \mathbf{0.428823} \\ 0.096340 \\ 0.053624 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 4.4511 & 7.9969 \\ \mathbf{1} & 1 & \mathbf{4.4511} & \mathbf{7.9969} \\ 0.2247 & \mathbf{0.2247} & 1 & 1.7966 \\ 0.1250 & \mathbf{0.1250} & 0.5566 & 1 \end{pmatrix},$$

Example A.20.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 2 \\ 1 & 1 & 5 & 3 \\ 1/8 & 1/5 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.407909 \\ 0.380623 \\ 0.081282 \\ 0.130187 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0717 & 5.0185 & 3.1333 \\ 0.9331 & 1 & 4.6828 & 2.9237 \\ 0.1993 & 0.2135 & 1 & 0.6243 \\ 0.3192 & 0.3420 & 1.6017 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.403895 \\ 0.386717 \\ 0.080482 \\ 0.128906 \end{pmatrix} = 0.990161 \cdot \begin{pmatrix} 0.407909 \\ 0.390560 \\ 0.081282 \\ 0.130187 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0444 & 5.0185 & 3.1333 \\ 0.9575 & 1 & 4.8050 & 3 \\ 0.1993 & 0.2081 & 1 & 0.6243 \\ 0.3192 & 1/3 & 1.6017 & 1 \end{pmatrix},$$

Example A.21.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 3 \\ 1 & 1 & 4 & 5 \\ 1/8 & 1/4 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.435826 \\ 0.383095 \\ 0.097675 \\ 0.083404 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1376 & 4.4620 & 5.2255 \\ 0.8790 & 1 & 3.9221 & 4.5933 \\ 0.2241 & 0.2550 & 1 & 1.1711 \\ 0.1914 & 0.2177 & 0.8539 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.432535 \\ 0.387752 \\ 0.096938 \\ 0.082774 \end{pmatrix} = 0.992451 \cdot \begin{pmatrix} 0.435826 \\ 0.390702 \\ 0.097675 \\ 0.083404 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1155 & 4.4620 & 5.2255 \\ 0.8965 & 1 & 4 & 4.6845 \\ 0.2241 & 1/4 & 1 & 1.1711 \\ 0.1914 & 0.2135 & 0.8539 & 1 \end{pmatrix},$$

Example A.22.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 3 \\ 1 & 1 & 5 & 5 \\ 1/8 & 1/5 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.425832 \\ 0.399788 \\ 0.091868 \\ 0.082511 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0651 & 4.6352 & 5.1609 \\ 0.9388 & 1 & 4.3517 & 4.8452 \\ 0.2157 & 0.2298 & 1 & 1.1134 \\ 0.1938 & 0.2064 & 0.8981 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.420463 \\ 0.407356 \\ 0.090710 \\ 0.081471 \end{pmatrix} = 0.987392 \cdot \begin{pmatrix} 0.425832 \\ 0.412557 \\ 0.091868 \\ 0.082511 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0322 & 4.6352 & 5.1609 \\ 0.9688 & 1 & 4.4907 & 5 \\ 0.2157 & 0.2227 & 1 & 1.1134 \\ 0.1938 & 1/5 & 0.8981 & 1 \end{pmatrix},$$

Example A.23.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 3 \\ 1 & 1 & 5 & 6 \\ 1/8 & 1/5 & 1 & 2 \\ 1/3 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.420183 \\ \mathbf{0.412002} \\ 0.089697 \\ 0.078118 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0199} & 4.6845 & 5.3788 \\ \mathbf{0.9805} & 1 & \mathbf{4.5933} & \mathbf{5.2741} \\ 0.2135 & \mathbf{0.2177} & 1 & 1.1482 \\ 0.1859 & \mathbf{0.1896} & 0.8709 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.416773 \\ 0.416773 \\ 0.088969 \\ 0.077485 \end{pmatrix} = 0.991886 \cdot \begin{pmatrix} 0.420183 \\ \mathbf{0.420183} \\ 0.089697 \\ 0.078118 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 4.6845 & 5.3788 \\ \mathbf{1} & 1 & \mathbf{4.6845} & \mathbf{5.3788} \\ 0.2135 & \mathbf{0.2135} & 1 & 1.1482 \\ 0.1859 & \mathbf{0.1859} & 0.8709 & 1 \end{pmatrix},$$

Example A.24.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 4 \\ 1 & 1 & 5 & 6 \\ 1/8 & 1/5 & 1 & 2 \\ 1/4 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.436309 \\ 0.407124 \\ 0.086941 \\ 0.069625 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0717 & 5.0185 & 6.2665 \\ 0.9331 & 1 & 4.6828 & 5.8473 \\ 0.1993 & 0.2135 & 1 & 1.2487 \\ 0.1596 & 0.1710 & 0.8008 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.431721 \\ 0.413359 \\ 0.086027 \\ 0.068893 \end{pmatrix} = 0.989483 \cdot \begin{pmatrix} 0.436309 \\ 0.417753 \\ 0.086941 \\ 0.069625 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0444 & 5.0185 & 6.2665 \\ 0.9575 & 1 & 4.8050 & 6 \\ 0.1993 & 0.2081 & 1 & 1.2487 \\ 0.1596 & 1/6 & 0.8008 & 1 \end{pmatrix},$$

Example A.25.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 4 \\ 1 & 1 & 5 & 7 \\ 1/8 & 1/5 & 1 & 2 \\ 1/4 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.431023 \\ 0.417383 \\ 0.085269 \\ 0.066325 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0327 & 5.0549 & 6.4987 \\ 0.9684 & 1 & 4.8949 & 6.2930 \\ 0.1978 & 0.2043 & 1 & 1.2856 \\ 0.1539 & 0.1589 & 0.7778 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427195 \\ 0.422558 \\ 0.084512 \\ 0.065735 \end{pmatrix} = 0.991118 \cdot \begin{pmatrix} 0.431023 \\ 0.426345 \\ 0.085269 \\ 0.066325 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0110 & 5.0549 & 6.4987 \\ 0.9891 & 1 & 5 & 6.4282 \\ 0.1978 & 1/5 & 1 & 1.2856 \\ 0.1539 & 0.1556 & 0.7778 & 1 \end{pmatrix},$$

Example A.26.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 5 \\ 1 & 1 & 5 & 9 \\ 1/8 & 1/5 & 1 & 3 \\ 1/5 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2138, \quad CR = 0.0806$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.437016 \\ 0.420838 \\ 0.090965 \\ 0.051181 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0384 & 4.8042 & 8.5386 \\ 0.9630 & 1 & 4.6264 & 8.2225 \\ 0.2081 & 0.2162 & 1 & 1.7773 \\ 0.1171 & 0.1216 & 0.5627 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.430058 \\ 0.430058 \\ 0.089517 \\ 0.050367 \end{pmatrix} = 0.984080 \cdot \begin{pmatrix} 0.437016 \\ 0.437016 \\ 0.090965 \\ 0.051181 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.8042 & 8.5386 \\ 1 & 1 & 4.8042 & 8.5386 \\ 0.2081 & 0.2081 & 1 & 1.7773 \\ 0.1171 & 0.1171 & 0.5627 & 1 \end{pmatrix},$$

Example A.27.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 2 \\ 1 & 1 & 5 & 3 \\ 1/9 & 1/5 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.418313 \\ 0.374401 \\ 0.078313 \\ 0.128973 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1173 & 5.3416 & 3.2434 \\ 0.8950 & 1 & 4.7808 & 2.9029 \\ 0.1872 & 0.2092 & 1 & 0.6072 \\ 0.3083 & 0.3445 & 1.6469 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.413142 \\ 0.382135 \\ 0.077345 \\ 0.127378 \end{pmatrix} = 0.987637 \cdot \begin{pmatrix} 0.418313 \\ 0.386919 \\ 0.078313 \\ 0.128973 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0811 & 5.3416 & 3.2434 \\ 0.9250 & 1 & 4.9407 & 3 \\ 0.1872 & 0.2024 & 1 & 0.6072 \\ 0.3083 & 1/3 & 1.6469 & 1 \end{pmatrix},$$

Example A.28.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 3 \\ 1 & 1 & 6 & 4 \\ 1/9 & 1/6 & 1 & 1 \\ 1/3 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.428048 \\ 0.401877 \\ 0.069365 \\ 0.100710 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0651 & 6.1709 & 4.2503 \\ 0.9389 & 1 & 5.7936 & 3.9904 \\ 0.1621 & 0.1726 & 1 & 0.6888 \\ 0.2353 & 0.2506 & 1.4519 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427636 \\ 0.402452 \\ 0.069299 \\ 0.100613 \end{pmatrix} = 0.999038 \cdot \begin{pmatrix} 0.428048 \\ 0.402840 \\ 0.069365 \\ 0.100710 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0626 & 6.1709 & 4.2503 \\ 0.9411 & 1 & 5.8075 & 4 \\ 0.1621 & 0.1722 & 1 & 0.6888 \\ 0.2353 & 1/4 & 1.4519 & 1 \end{pmatrix},$$

Example A.29.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 4 \\ 1 & 1 & 5 & 6 \\ 1/9 & 1/5 & 1 & 2 \\ 1/4 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.447148 \\ 0.400209 \\ 0.083711 \\ 0.068932 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1173 & 5.3416 & 6.4868 \\ 0.8950 & 1 & 4.7808 & 5.8059 \\ 0.1872 & 0.2092 & 1 & 1.2144 \\ 0.1542 & 0.1722 & 0.8234 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.441244 \\ 0.408129 \\ 0.082606 \\ 0.068021 \end{pmatrix} = 0.986796 \cdot \begin{pmatrix} 0.447148 \\ 0.413590 \\ 0.083711 \\ 0.068932 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0811 & 5.3416 & 6.4868 \\ 0.9250 & 1 & 4.9407 & 6 \\ 0.1872 & 0.2024 & 1 & 1.2144 \\ 0.1542 & 1/6 & 0.8234 & 1 \end{pmatrix},$$

Example A.30.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 4 \\ 1 & 1 & 5 & 7 \\ 1/9 & 1/5 & 1 & 2 \\ 1/4 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1975, \quad CR = 0.0745$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.441726 \\ 0.410432 \\ 0.082126 \\ 0.065716 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0762 & 5.3787 & 6.7218 \\ 0.9292 & 1 & 4.9976 & 6.2456 \\ 0.1859 & 0.2001 & 1 & 1.2497 \\ 0.1488 & 0.1601 & 0.8002 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.441639 \\ 0.410548 \\ 0.082110 \\ 0.065703 \end{pmatrix} = 0.999804 \cdot \begin{pmatrix} 0.441726 \\ 0.410629 \\ 0.082126 \\ 0.065716 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0757 & 5.3787 & 6.7218 \\ 0.9296 & 1 & 5 & 6.2486 \\ 0.1859 & 1/5 & 1 & 1.2497 \\ 0.1488 & 0.1600 & 0.8002 & 1 \end{pmatrix},$$

Example A.31.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 4 \\ 1 & 1 & 6 & 7 \\ 1/9 & 1/6 & 1 & 2 \\ 1/4 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.433165 \\ 0.423990 \\ 0.077839 \\ 0.065005 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0216 & 5.5649 & 6.6636 \\ 0.9788 & 1 & 5.4470 & 6.5224 \\ 0.1797 & 0.1836 & 1 & 1.1974 \\ 0.1501 & 0.1533 & 0.8351 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.429227 \\ 0.429227 \\ 0.077132 \\ 0.064414 \end{pmatrix} = 0.990908 \cdot \begin{pmatrix} 0.433165 \\ 0.433165 \\ 0.077839 \\ 0.065005 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.5649 & 6.6636 \\ 1 & 1 & 5.5649 & 6.6636 \\ 0.1797 & 0.1797 & 1 & 1.1974 \\ 0.1501 & 0.1501 & 0.8351 & 1 \end{pmatrix},$$

Example A.32.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 5 \\ 1 & 1 & 6 & 8 \\ 1/9 & 1/6 & 1 & 2 \\ 1/5 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.440614 \\ 0.427856 \\ 0.074569 \\ 0.056961 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0298 & 5.9088 & 7.7354 \\ 0.9710 & 1 & 5.7377 & 7.5114 \\ 0.1692 & 0.1743 & 1 & 1.3091 \\ 0.1293 & 0.1331 & 0.7639 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.435064 \\ 0.435064 \\ 0.073629 \\ 0.056243 \end{pmatrix} = 0.987403 \cdot \begin{pmatrix} 0.440614 \\ 0.440614 \\ 0.074569 \\ 0.056961 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.9088 & 7.7354 \\ 1 & 1 & 5.9088 & 7.7354 \\ 0.1692 & 0.1692 & 1 & 1.3091 \\ 0.1293 & 0.1293 & 0.7639 & 1 \end{pmatrix},$$

Example A.33.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 5 \\ 1 & 1 & 6 & 9 \\ 1/9 & 1/6 & 1 & 2 \\ 1/5 & 1/9 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1433, \quad CR = 0.0540$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.436000 \\ 0.435779 \\ 0.073399 \\ 0.054821 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0005 & 5.9401 & 7.9531 \\ 0.9995 & 1 & 5.9371 & 7.9491 \\ 0.1683 & 0.1684 & 1 & 1.3389 \\ 0.1257 & 0.1258 & 0.7469 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.435904 \\ 0.435904 \\ 0.073383 \\ 0.054809 \end{pmatrix} = 0.999780 \cdot \begin{pmatrix} 0.436000 \\ 0.436000 \\ 0.073399 \\ 0.054821 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.9401 & 7.9531 \\ 1 & 1 & 5.9401 & 7.9531 \\ 0.1683 & 0.1683 & 1 & 1.3389 \\ 0.1257 & 0.1257 & 0.7469 & 1 \end{pmatrix},$$

Example A.34.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 5 \\ 1 & 1 & 6 & 9 \\ 1/9 & 1/6 & 1 & 3 \\ 1/5 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.439075 \\ 0.427544 \\ 0.083220 \\ 0.050161 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0270 & 5.2761 & 8.7534 \\ 0.9737 & 1 & 5.1375 & 8.5235 \\ 0.1895 & 0.1946 & 1 & 1.6591 \\ 0.1142 & 0.1173 & 0.6028 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.434070 \\ 0.434070 \\ 0.082271 \\ 0.049589 \end{pmatrix} = 0.988600 \cdot \begin{pmatrix} 0.439075 \\ 0.439075 \\ 0.083220 \\ 0.050161 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.2761 & 8.7534 \\ 1 & 1 & 5.2761 & 8.7534 \\ 0.1895 & 0.1895 & 1 & 1.6591 \\ 0.1142 & 0.1142 & 0.6028 & 1 \end{pmatrix},$$

Example A.35.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1 & 1/2 & 1 & 3 \\ 1/5 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.383585 \\ 0.304215 \\ 0.238794 \\ \mathbf{0.073406} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2609 & 1.6063 & \mathbf{5.2255} \\ 0.7931 & 1 & 1.2740 & \mathbf{4.1443} \\ 0.6225 & 0.7850 & 1 & \mathbf{3.2531} \\ \mathbf{0.1914} & \mathbf{0.2413} & \mathbf{0.3074} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.382572 \\ 0.303412 \\ 0.238163 \\ 0.075853 \end{pmatrix} = 0.997359 \cdot \begin{pmatrix} 0.383585 \\ 0.304215 \\ 0.238794 \\ \mathbf{0.076054} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2609 & 1.6063 & \mathbf{5.0436} \\ 0.7931 & 1 & 1.2740 & \mathbf{4} \\ 0.6225 & 0.7850 & 1 & \mathbf{3.1398} \\ \mathbf{0.1983} & \mathbf{1/4} & \mathbf{0.3185} & 1 \end{pmatrix},$$

Example A.36.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 6 \\ 1/2 & 1 & 2 & 5 \\ 1 & 1/2 & 1 & 4 \\ 1/6 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.385526 \\ 0.309644 \\ 0.245574 \\ \mathbf{0.059256} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2451 & 1.5699 & \mathbf{6.5061} \\ 0.8032 & 1 & 1.2609 & \mathbf{5.2255} \\ 0.6370 & 0.7931 & 1 & \mathbf{4.1443} \\ \mathbf{0.1537} & \mathbf{0.1914} & \mathbf{0.2413} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.384704 \\ 0.308984 \\ 0.245050 \\ 0.061262 \end{pmatrix} = 0.997867 \cdot \begin{pmatrix} 0.385526 \\ 0.309644 \\ 0.245574 \\ \mathbf{0.061393} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2451 & 1.5699 & \mathbf{6.2796} \\ 0.8032 & 1 & 1.2609 & \mathbf{5.0436} \\ 0.6370 & 0.7931 & 1 & \mathbf{4} \\ \mathbf{0.1592} & \mathbf{0.1983} & \mathbf{1/4} & 1 \end{pmatrix},$$

Example A.37.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.394416 \\ 0.305311 \\ 0.243936 \\ \mathbf{0.056337} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2919 & 1.6169 & \mathbf{7.0010} \\ 0.7741 & 1 & 1.2516 & \mathbf{5.4194} \\ 0.6185 & 0.7990 & 1 & \mathbf{4.3299} \\ \mathbf{0.1428} & \mathbf{0.1845} & \mathbf{0.2310} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.394413 \\ 0.305308 \\ 0.243934 \\ 0.056345 \end{pmatrix} = 0.999992 \cdot \begin{pmatrix} 0.394416 \\ 0.305311 \\ 0.243936 \\ \mathbf{0.056345} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2919 & 1.6169 & \mathbf{7} \\ 0.7741 & 1 & 1.2516 & \mathbf{5.4186} \\ 0.6185 & 0.7990 & 1 & \mathbf{4.3293} \\ \mathbf{1/7} & \mathbf{0.1846} & \mathbf{0.2310} & 1 \end{pmatrix},$$

Example A.38.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 7 \\ 1/2 & 1 & 2 & 6 \\ 1 & 1/2 & 1 & 5 \\ 1/7 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.386811 \\ 0.313301 \\ 0.250150 \\ \mathbf{0.049738} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2346 & 1.5463 & \mathbf{7.7770} \\ 0.8100 & 1 & 1.2525 & \mathbf{6.2990} \\ 0.6467 & 0.7984 & 1 & \mathbf{5.0294} \\ \mathbf{0.1286} & \mathbf{0.1588} & \mathbf{0.1988} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.386698 \\ 0.313210 \\ 0.250077 \\ 0.050015 \end{pmatrix} = 0.999708 \cdot \begin{pmatrix} 0.386811 \\ 0.313301 \\ 0.250150 \\ \mathbf{0.050030} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2346 & 1.5463 & \mathbf{7.7316} \\ 0.8100 & 1 & 1.2525 & \mathbf{6.2623} \\ 0.6467 & 0.7984 & 1 & \mathbf{5} \\ \mathbf{0.1293} & \mathbf{0.1597} & \mathbf{1/5} & 1 \end{pmatrix},$$

Example A.39.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1 & 1/2 & 1 & 5 \\ 1/8 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.394314 \\ 0.309517 \\ 0.248596 \\ \mathbf{0.047573} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2740 & 1.5862 & \mathbf{8.2886} \\ 0.7850 & 1 & 1.2451 & \mathbf{6.5061} \\ 0.6305 & 0.8032 & 1 & \mathbf{5.2255} \\ \mathbf{0.1206} & \mathbf{0.1537} & \mathbf{0.1914} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.393639 \\ 0.308987 \\ 0.248170 \\ 0.049205 \end{pmatrix} = 0.998287 \cdot \begin{pmatrix} 0.394314 \\ 0.309517 \\ 0.248596 \\ \mathbf{0.049289} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2740 & 1.5862 & \mathbf{8} \\ 0.7850 & 1 & 1.2451 & \mathbf{6.2796} \\ 0.6305 & 0.8032 & 1 & \mathbf{5.0436} \\ \mathbf{1/8} & \mathbf{0.1592} & \mathbf{0.1983} & 1 \end{pmatrix},$$

Example A.40.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 8 \\ 1/2 & 1 & 2 & 7 \\ 1 & 1/2 & 1 & 5 \\ 1/8 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.392200 \\ 0.317071 \\ 0.245439 \\ 0.045289 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2369 & 1.5979 & 8.6598 \\ 0.8084 & 1 & 1.2919 & 7.0010 \\ 0.6258 & 0.7741 & 1 & 5.4194 \\ 0.1155 & 0.1428 & 0.1845 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.392197 \\ 0.317069 \\ 0.245438 \\ 0.045296 \end{pmatrix} = 0.999994 \cdot \begin{pmatrix} 0.392200 \\ 0.317071 \\ 0.245439 \\ 0.045296 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2369 & 1.5979 & 8.6586 \\ 0.8084 & 1 & 1.2919 & 7 \\ 0.6258 & 0.7741 & 1 & 5.4186 \\ 0.1155 & 1/7 & 0.1846 & 1 \end{pmatrix},$$

Example A.41.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 9 \\ 1/2 & 1 & 2 & 7 \\ 1 & 1/2 & 1 & 5 \\ 1/9 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1669, \quad CR = 0.0629$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.398823 \\ 0.313442 \\ 0.244183 \\ \mathbf{0.043553} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2724 & 1.6333 & \mathbf{9.1573} \\ 0.7859 & 1 & 1.2836 & \mathbf{7.1969} \\ 0.6123 & 0.7790 & 1 & \mathbf{5.6066} \\ \mathbf{0.1092} & \mathbf{0.1389} & \mathbf{0.1784} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.398520 \\ 0.313203 \\ 0.243997 \\ 0.044280 \end{pmatrix} = 0.999240 \cdot \begin{pmatrix} 0.398823 \\ 0.313442 \\ 0.244183 \\ \mathbf{0.044314} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2724 & 1.6333 & \mathbf{9} \\ 0.7859 & 1 & 1.2836 & \mathbf{7.0733} \\ 0.6123 & 0.7790 & 1 & \mathbf{5.5103} \\ \mathbf{1/9} & \mathbf{0.1414} & \mathbf{0.1815} & 1 \end{pmatrix},$$

Example A.42.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 9 \\ 1/2 & 1 & 2 & 7 \\ 1 & 1/2 & 1 & 6 \\ 1/9 & 1/7 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.394221 \\ 0.312577 \\ 0.251994 \\ \mathbf{0.041208} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2612 & 1.5644 & \mathbf{9.5666} \\ 0.7929 & 1 & 1.2404 & \mathbf{7.5854} \\ 0.6392 & 0.8062 & 1 & \mathbf{6.1152} \\ \mathbf{0.1045} & \mathbf{0.1318} & \mathbf{0.1635} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.393910 \\ 0.312330 \\ 0.251794 \\ 0.041966 \end{pmatrix} = 0.999210 \cdot \begin{pmatrix} 0.394221 \\ 0.312577 \\ 0.251994 \\ \mathbf{0.041999} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2612 & 1.5644 & \mathbf{9.3865} \\ 0.7929 & 1 & 1.2404 & \mathbf{7.4425} \\ 0.6392 & 0.8062 & 1 & \mathbf{6} \\ \mathbf{0.1065} & \mathbf{0.1344} & \mathbf{1/6} & 1 \end{pmatrix},$$

Example A.43.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 9 \\ 1/2 & 1 & 2 & 8 \\ 1 & 1/2 & 1 & 6 \\ 1/9 & 1/8 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.392386 \\ 0.319037 \\ 0.249102 \\ \mathbf{0.039475} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2299 & 1.5752 & \mathbf{9.9400} \\ 0.8131 & 1 & 1.2807 & \mathbf{8.0819} \\ 0.6348 & 0.7808 & 1 & \mathbf{6.3103} \\ \mathbf{0.1006} & \mathbf{0.1237} & \mathbf{0.1585} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.392228 \\ 0.318908 \\ 0.249001 \\ 0.039863 \end{pmatrix} = 0.999596 \cdot \begin{pmatrix} 0.392386 \\ 0.319037 \\ 0.249102 \\ \mathbf{0.039880} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2299 & 1.5752 & \mathbf{9.8393} \\ 0.8131 & 1 & 1.2807 & \mathbf{8} \\ 0.6348 & 0.7808 & 1 & \mathbf{6.2463} \\ \mathbf{0.1016} & \mathbf{1/8} & \mathbf{0.1601} & 1 \end{pmatrix},$$

Example A.44.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 2 \\ 1/2 & 1 & 2 & 3 \\ 1/3 & 1/2 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.419234 \\ 0.296979 \\ \mathbf{0.139411} \\ 0.144376 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{3.0072} & 2.9038 \\ 0.7084 & 1 & \mathbf{2.1302} & 2.0570 \\ \mathbf{0.3325} & \mathbf{0.4694} & 1 & \mathbf{0.9656} \\ 0.3444 & 0.4862 & \mathbf{1.0356} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.419094 \\ 0.296880 \\ 0.139698 \\ 0.144328 \end{pmatrix} = 0.999666 \cdot \begin{pmatrix} 0.419234 \\ 0.296979 \\ \mathbf{0.139745} \\ 0.144376 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{3} & 2.9038 \\ 0.7084 & 1 & \mathbf{2.1252} & 2.0570 \\ \mathbf{1/3} & \mathbf{0.4706} & 1 & \mathbf{0.9679} \\ 0.3444 & 0.4862 & \mathbf{1.0331} & 1 \end{pmatrix},$$

Example A.45.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 2 \\ 1/2 & 1 & 3 & 5 \\ 1/3 & 1/3 & 1 & 1 \\ 1/2 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.404811 \\ 0.358042 \\ \mathbf{0.116240} \\ 0.120907 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1306 & \mathbf{3.4825} & 3.3481 \\ 0.8845 & 1 & \mathbf{3.0802} & 2.9613 \\ \mathbf{0.2871} & \mathbf{0.3247} & 1 & \mathbf{0.9614} \\ 0.2987 & 0.3377 & \mathbf{1.0401} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.403557 \\ 0.356933 \\ 0.118978 \\ 0.120532 \end{pmatrix} = 0.996902 \cdot \begin{pmatrix} 0.404811 \\ 0.358042 \\ \mathbf{0.119347} \\ 0.120907 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1306 & \mathbf{3.3919} & 3.3481 \\ 0.8845 & 1 & \mathbf{3} & 2.9613 \\ \mathbf{0.2948} & \mathbf{1/3} & 1 & \mathbf{0.9871} \\ 0.2987 & 0.3377 & \mathbf{1.0131} & 1 \end{pmatrix},$$

Example A.46.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 6 \\ 1/2 & 1 & 2 & 2 \\ 1/3 & 1/2 & 1 & 3 \\ 1/6 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.492892 \\ 0.247037 \\ 0.174997 \\ 0.085075 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9952 & 2.8166 & 5.7936 \\ 0.5012 & 1 & 1.4117 & 2.9038 \\ 0.3550 & 0.7084 & 1 & 2.0570 \\ 0.1726 & 0.3444 & 0.4862 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.493490 \\ 0.246745 \\ 0.174790 \\ 0.084974 \end{pmatrix} = 0.998820 \cdot \begin{pmatrix} 0.494073 \\ 0.247037 \\ 0.174997 \\ 0.085075 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 2.8233 & 5.8075 \\ 1/2 & 1 & 1.4117 & 2.9038 \\ 0.3542 & 0.7084 & 1 & 2.0570 \\ 0.1722 & 0.3444 & 0.4862 & 1 \end{pmatrix},$$

Example A.47.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 8 \\ 1/2 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.500463 \\ 0.259145 \\ 0.177685 \\ 0.062708 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9312 & 2.8166 & 7.9809 \\ 0.5178 & 1 & 1.4585 & 4.1326 \\ 0.3550 & 0.6857 & 1 & 2.8335 \\ 0.1253 & 0.2420 & 0.3529 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.501061 \\ 0.258834 \\ 0.177472 \\ 0.062633 \end{pmatrix} = 0.998802 \cdot \begin{pmatrix} 0.501662 \\ 0.259145 \\ 0.177685 \\ 0.062708 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9358 & 2.8233 & 8 \\ 0.5166 & 1 & 1.4585 & 4.1326 \\ 0.3542 & 0.6857 & 1 & 2.8335 \\ 1/8 & 0.2420 & 0.3529 & 1 \end{pmatrix},$$

Example A.48.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 9 \\ 1/2 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.508970 \\ 0.255095 \\ 0.175700 \\ 0.060235 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9952 & 2.8968 & 8.4497 \\ 0.5012 & 1 & 1.4519 & 4.2350 \\ 0.3452 & 0.6888 & 1 & 2.9169 \\ 0.1183 & 0.2361 & 0.3428 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.509568 \\ 0.254784 \\ 0.175486 \\ 0.060162 \end{pmatrix} = 0.998782 \cdot \begin{pmatrix} 0.510190 \\ 0.255095 \\ 0.175700 \\ 0.060235 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 2.9038 & 8.4700 \\ 1/2 & 1 & 1.4519 & 4.2350 \\ 0.3444 & 0.6888 & 1 & 2.9169 \\ 0.1181 & 0.2361 & 0.3428 & 1 \end{pmatrix},$$

Example A.49.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 9 \\ 1/2 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.502382 \\ 0.264986 \\ 0.174850 \\ 0.057782 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8959 & 2.8732 & 8.6944 \\ 0.5275 & 1 & 1.5155 & 4.5859 \\ 0.3480 & 0.6598 & 1 & 3.0260 \\ 0.1150 & 0.2181 & 0.3305 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.511016 \\ 0.260388 \\ 0.171816 \\ 0.056780 \end{pmatrix} = 0.982649 \cdot \begin{pmatrix} 0.520040 \\ 0.264986 \\ 0.174850 \\ 0.057782 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9625 & 2.9742 & 9 \\ 0.5095 & 1 & 1.5155 & 4.5859 \\ 0.3362 & 0.6598 & 1 & 3.0260 \\ 1/9 & 0.2181 & 0.3305 & 1 \end{pmatrix},$$

Example A.50.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 9 \\ 1/2 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 2 \\ 1/9 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.496267 \\ 0.274050 \\ 0.173978 \\ 0.055705 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8109 & 2.8525 & 8.9088 \\ 0.5522 & 1 & 1.5752 & 4.9196 \\ 0.3506 & 0.6348 & 1 & 3.1232 \\ 0.1122 & 0.2033 & 0.3202 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.498814 \\ 0.272665 \\ 0.173098 \\ 0.055424 \end{pmatrix} = 0.994944 \cdot \begin{pmatrix} 0.501348 \\ 0.274050 \\ 0.173978 \\ 0.055705 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8294 & 2.8817 & 9 \\ 0.5466 & 1 & 1.5752 & 4.9196 \\ 0.3470 & 0.6348 & 1 & 3.1232 \\ 1/9 & 0.2033 & 0.3202 & 1 \end{pmatrix},$$

Example A.51.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 6 \\ 1/2 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 2 \\ 1/6 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.513893 \\ 0.266099 \\ 0.128781 \\ 0.091227 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9312 & 3.9904 & 5.6331 \\ 0.5178 & 1 & 2.0663 & 2.9169 \\ 0.2506 & 0.4840 & 1 & 1.4117 \\ 0.1775 & 0.3428 & 0.7084 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.514491 \\ 0.265772 \\ 0.128623 \\ 0.091114 \end{pmatrix} = 0.998770 \cdot \begin{pmatrix} 0.515125 \\ 0.266099 \\ 0.128781 \\ 0.091227 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9358 & 4 & 5.6467 \\ 0.5166 & 1 & 2.0663 & 2.9169 \\ 1/4 & 0.4840 & 1 & 1.4117 \\ 0.1771 & 0.3428 & 0.7084 & 1 \end{pmatrix},$$

Example A.52.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 6 \\ 1/2 & 1 & 7 & 4 \\ 1/4 & 1/7 & 1 & 1 \\ 1/6 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.482649 \\ 0.357489 \\ 0.080163 \\ \mathbf{0.079699} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3501 & 6.0208 & \mathbf{6.0559} \\ 0.7407 & 1 & 4.4595 & \mathbf{4.4855} \\ 0.1661 & 0.2242 & 1 & \mathbf{1.0058} \\ \mathbf{0.1651} & \mathbf{0.2229} & \mathbf{0.9942} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.482425 \\ 0.357323 \\ 0.080126 \\ 0.080126 \end{pmatrix} = 0.999536 \cdot \begin{pmatrix} 0.482649 \\ 0.357489 \\ 0.080163 \\ \mathbf{0.080163} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3501 & 6.0208 & \mathbf{6.0208} \\ 0.7407 & 1 & 4.4595 & \mathbf{4.4595} \\ 0.1661 & 0.2242 & 1 & \mathbf{1} \\ \mathbf{0.1661} & \mathbf{0.2242} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.53.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 7 \\ 1/2 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 3 \\ 1/7 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.515592 \\ 0.263375 \\ 0.141984 \\ 0.079049 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9576 & 3.6313 & 6.5224 \\ 0.5108 & 1 & 1.8550 & 3.3318 \\ 0.2754 & 0.5391 & 1 & 1.7962 \\ 0.1533 & 0.3001 & 0.5567 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.520937 \\ 0.260469 \\ 0.140418 \\ 0.078177 \end{pmatrix} = 0.988966 \cdot \begin{pmatrix} 0.526749 \\ 0.263375 \\ 0.141984 \\ 0.079049 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.7099 & 6.6636 \\ 1/2 & 1 & 1.8550 & 3.3318 \\ 0.2695 & 0.5391 & 1 & 1.7962 \\ 0.1501 & 0.3001 & 0.5567 & 1 \end{pmatrix},$$

Example A.54.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 3 \\ 1/2 & 1 & 4 & 6 \\ 1/5 & 1/4 & 1 & 1 \\ 1/3 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.456212 \\ 0.361814 \\ \mathbf{0.087304} \\ 0.094669 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2609 & \mathbf{5.2255} & 4.8190 \\ 0.7931 & 1 & \mathbf{4.1443} & 3.8219 \\ \mathbf{0.1914} & \mathbf{0.2413} & 1 & \mathbf{0.9222} \\ 0.2075 & 0.2617 & \mathbf{1.0844} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.454780 \\ 0.360679 \\ 0.090170 \\ 0.094372 \end{pmatrix} = 0.996861 \cdot \begin{pmatrix} 0.456212 \\ 0.361814 \\ \mathbf{0.090454} \\ 0.094669 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2609 & \mathbf{5.0436} & 4.8190 \\ 0.7931 & 1 & \mathbf{4} & 3.8219 \\ \mathbf{0.1983} & \mathbf{1/4} & 1 & \mathbf{0.9555} \\ 0.2075 & 0.2617 & \mathbf{1.0466} & 1 \end{pmatrix},$$

Example A.55.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 3 \\ 1/2 & 1 & 4 & 7 \\ 1/5 & 1/4 & 1 & 1 \\ 1/3 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2057, \quad CR = 0.0776$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.450725 \\ 0.373725 \\ \mathbf{0.085391} \\ 0.090159 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2060 & \mathbf{5.2784} & 4.9992 \\ 0.8292 & 1 & \mathbf{4.3766} & 4.1452 \\ \mathbf{0.1895} & \mathbf{0.2285} & 1 & \mathbf{0.9471} \\ 0.2000 & 0.2412 & \mathbf{1.0558} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.448593 \\ 0.371956 \\ 0.089719 \\ 0.089733 \end{pmatrix} = 0.995268 \cdot \begin{pmatrix} 0.450725 \\ 0.373725 \\ \mathbf{0.090145} \\ 0.090159 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2060 & \mathbf{5} & 4.9992 \\ 0.8292 & 1 & \mathbf{4.1458} & 4.1452 \\ \mathbf{1/5} & \mathbf{0.2412} & 1 & \mathbf{0.9998} \\ 0.2000 & 0.2412 & \mathbf{1.0002} & 1 \end{pmatrix},$$

Example A.56.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 3 \\ 1/2 & 1 & 4 & 8 \\ 1/5 & 1/4 & 1 & 1 \\ 1/3 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.445536 \\ 0.384478 \\ \mathbf{0.083657} \\ 0.086329 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1588 & \mathbf{5.3257} & 5.1609 \\ 0.8630 & 1 & \mathbf{4.5959} & 4.4536 \\ \mathbf{0.1878} & \mathbf{0.2176} & 1 & \mathbf{0.9690} \\ 0.1938 & 0.2245 & \mathbf{1.0319} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.444349 \\ 0.383453 \\ 0.086099 \\ 0.086099 \end{pmatrix} = 0.997335 \cdot \begin{pmatrix} 0.445536 \\ 0.384478 \\ \mathbf{0.086329} \\ 0.086329 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1588 & \mathbf{5.1609} & 5.1609 \\ 0.8630 & 1 & \mathbf{4.4536} & 4.4536 \\ \mathbf{0.1938} & \mathbf{0.2245} & 1 & \mathbf{1} \\ 0.1938 & 0.2245 & \mathbf{1} & 1 \end{pmatrix},$$

Example A.57.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 3 \\ 1/2 & 1 & 5 & 8 \\ 1/5 & 1/5 & 1 & 1 \\ 1/3 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.441767 \\ 0.396028 \\ \mathbf{0.077664} \\ 0.084541 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1155 & \mathbf{5.6882} & 5.2255 \\ 0.8965 & 1 & \mathbf{5.0993} & 4.6845 \\ \mathbf{0.1758} & \mathbf{0.1961} & 1 & \mathbf{0.9187} \\ 0.1914 & 0.2135 & \mathbf{1.0885} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.441087 \\ 0.395419 \\ 0.079084 \\ 0.084410 \end{pmatrix} = 0.998460 \cdot \begin{pmatrix} 0.441767 \\ 0.396028 \\ \mathbf{0.079206} \\ 0.084541 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1155 & \mathbf{5.5775} & 5.2255 \\ 0.8965 & 1 & \mathbf{5} & 4.6845 \\ \mathbf{0.1793} & \mathbf{1/5} & 1 & \mathbf{0.9369} \\ 0.1914 & 0.2135 & \mathbf{1.0674} & 1 \end{pmatrix},$$

Example A.58.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 6 \\ 1/2 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 2 \\ 1/6 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.520722 \\ 0.279025 \\ 0.111200 \\ 0.089053 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8662 & 4.6828 & 5.8473 \\ 0.5358 & 1 & 2.5092 & 3.1333 \\ 0.2135 & 0.3985 & 1 & 1.2487 \\ 0.1710 & 0.3192 & 0.8008 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.527150 \\ 0.275283 \\ 0.109708 \\ 0.087858 \end{pmatrix} = 0.986588 \cdot \begin{pmatrix} 0.534316 \\ 0.279025 \\ 0.111200 \\ 0.089053 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9149 & 4.8050 & 6 \\ 0.5222 & 1 & 2.5092 & 3.1333 \\ 0.2081 & 0.3985 & 1 & 1.2487 \\ 1/6 & 0.3192 & 0.8008 & 1 \end{pmatrix},$$

Example A.59.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 7 \\ 1/2 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 2 \\ 1/7 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.532045 \\ 0.274716 \\ 0.108694 \\ 0.084545 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9367 & 4.8949 & 6.2930 \\ 0.5163 & 1 & 2.5274 & 3.2493 \\ 0.2043 & 0.3957 & 1 & 1.2856 \\ 0.1589 & 0.3078 & 0.7778 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.537330 \\ 0.271613 \\ 0.107466 \\ 0.083590 \end{pmatrix} = 0.988705 \cdot \begin{pmatrix} 0.543469 \\ 0.274716 \\ 0.108694 \\ 0.084545 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9783 & 5 & 6.4282 \\ 0.5055 & 1 & 2.5274 & 3.2493 \\ 1/5 & 0.3957 & 1 & 1.2856 \\ 0.1556 & 0.3078 & 0.7778 & 1 \end{pmatrix},$$

Example A.60.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 7 \\ 1/2 & 1 & 8 & 5 \\ 1/5 & 1/8 & 1 & 1 \\ 1/7 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1159, \quad CR = 0.0437$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.497843 \\ 0.365367 \\ 0.068522 \\ \mathbf{0.068268} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3626 & 7.2654 & \mathbf{7.2925} \\ 0.7339 & 1 & 5.3321 & \mathbf{5.3519} \\ 0.1376 & 0.1875 & 1 & \mathbf{1.0037} \\ \mathbf{0.1371} & \mathbf{0.1868} & \mathbf{0.9963} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.497716 \\ 0.365274 \\ 0.068505 \\ 0.068505 \end{pmatrix} = 0.999746 \cdot \begin{pmatrix} 0.497843 \\ 0.365367 \\ 0.068522 \\ \mathbf{0.068522} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3626 & 7.2654 & \mathbf{7.2654} \\ 0.7339 & 1 & 5.3321 & \mathbf{5.3321} \\ 0.1376 & 0.1875 & 1 & \mathbf{1} \\ \mathbf{0.1376} & \mathbf{0.1875} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.61.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 3 \\ 1/2 & 1 & 5 & 7 \\ 1/6 & 1/5 & 1 & 1 \\ 1/3 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2095, \quad CR = 0.0790$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.458175 \\ 0.379286 \\ \mathbf{0.074774} \\ 0.087765 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2080 & \mathbf{6.1275} & 5.2205 \\ 0.8278 & 1 & \mathbf{5.0725} & 4.3216 \\ \mathbf{0.1632} & \mathbf{0.1971} & 1 & \mathbf{0.8520} \\ 0.1916 & 0.2314 & \mathbf{1.1737} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.457679 \\ 0.378875 \\ 0.075775 \\ 0.087670 \end{pmatrix} = 0.998918 \cdot \begin{pmatrix} 0.458175 \\ 0.379286 \\ \mathbf{0.075857} \\ 0.087765 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2080 & \mathbf{6.0400} & 5.2205 \\ 0.8278 & 1 & \mathbf{5} & 4.3216 \\ \mathbf{0.1656} & \mathbf{1/5} & 1 & \mathbf{0.8643} \\ 0.1916 & 0.2314 & \mathbf{1.1570} & 1 \end{pmatrix},$$

Example A.62.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 3 \\ 1/2 & 1 & 5 & 8 \\ 1/6 & 1/5 & 1 & 1 \\ 1/3 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.453058 \\ 0.389697 \\ \mathbf{0.073173} \\ 0.084073 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1626 & \mathbf{6.1916} & 5.3889 \\ 0.8601 & 1 & \mathbf{5.3257} & 4.6352 \\ \mathbf{0.1615} & \mathbf{0.1878} & 1 & \mathbf{0.8703} \\ 0.1856 & 0.2157 & \mathbf{1.1490} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.452002 \\ 0.388788 \\ 0.075334 \\ 0.083877 \end{pmatrix} = 0.997668 \cdot \begin{pmatrix} 0.453058 \\ 0.389697 \\ \mathbf{0.075510} \\ 0.084073 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1626 & \mathbf{6} & 5.3889 \\ 0.8601 & 1 & \mathbf{5.1609} & 4.6352 \\ \mathbf{1/6} & \mathbf{0.1938} & 1 & \mathbf{0.8981} \\ 0.1856 & 0.2157 & \mathbf{1.1134} & 1 \end{pmatrix},$$

Example A.63.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 4 \\ 1/2 & 1 & 2 & 3 \\ 1/6 & 1/2 & 1 & 2 \\ 1/4 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.527371 \\ 0.254616 \\ 0.127613 \\ 0.090399 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0712 & 4.1326 & 5.8338 \\ 0.4828 & 1 & 1.9952 & 2.8166 \\ 0.2420 & 0.5012 & 1 & 1.4117 \\ 0.1714 & 0.3550 & 0.7084 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.527050 \\ 0.255071 \\ 0.127535 \\ 0.090344 \end{pmatrix} = 0.999390 \cdot \begin{pmatrix} 0.527371 \\ 0.255226 \\ 0.127613 \\ 0.090399 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0663 & 4.1326 & 5.8338 \\ 0.4840 & 1 & 2 & 2.8233 \\ 0.2420 & 1/2 & 1 & 1.4117 \\ 0.1714 & 0.3542 & 0.7084 & 1 \end{pmatrix},$$

Example A.64.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 4 \\ 1/2 & 1 & 4 & 6 \\ 1/6 & 1/4 & 1 & 1 \\ 1/4 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.488557 \\ 0.346086 \\ \mathbf{0.081231} \\ 0.084125 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{6.0144} & 5.8075 \\ 0.7084 & 1 & \mathbf{4.2605} & 4.1140 \\ \mathbf{0.1663} & \mathbf{0.2347} & 1 & \mathbf{0.9656} \\ 0.1722 & 0.2431 & \mathbf{1.0356} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.488462 \\ 0.346019 \\ 0.081410 \\ 0.084109 \end{pmatrix} = 0.999805 \cdot \begin{pmatrix} 0.488557 \\ 0.346086 \\ \mathbf{0.081426} \\ 0.084125 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{6} & 5.8075 \\ 0.7084 & 1 & \mathbf{4.2503} & 4.1140 \\ \mathbf{1/6} & \mathbf{0.2353} & 1 & \mathbf{0.9679} \\ 0.1722 & 0.2431 & \mathbf{1.0331} & 1 \end{pmatrix},$$

Example A.65.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 4 \\ 1/2 & 1 & 5 & 8 \\ 1/6 & 1/5 & 1 & 1 \\ 1/4 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.472563 \\ 0.379550 \\ \mathbf{0.072634} \\ 0.075254 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2451 & \mathbf{6.5061} & 6.2796 \\ 0.8032 & 1 & \mathbf{5.2255} & 5.0436 \\ \mathbf{0.1537} & \mathbf{0.1914} & 1 & \mathbf{0.9652} \\ 0.1592 & 0.1983 & \mathbf{1.0361} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.471328 \\ 0.378558 \\ 0.075057 \\ 0.075057 \end{pmatrix} = 0.997387 \cdot \begin{pmatrix} 0.472563 \\ 0.379550 \\ \mathbf{0.075254} \\ 0.075254 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2451 & \mathbf{6.2796} & 6.2796 \\ 0.8032 & 1 & \mathbf{5.0436} & 5.0436 \\ \mathbf{0.1592} & \mathbf{0.1983} & 1 & \mathbf{1} \\ 0.1592 & 0.1983 & \mathbf{1} & 1 \end{pmatrix},$$

Example A.66.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 4 \\ 1/2 & 1 & 5 & 9 \\ 1/6 & 1/5 & 1 & 1 \\ 1/4 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.467653 \\ 0.388598 \\ \mathbf{0.071347} \\ 0.072402 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2034 & \mathbf{6.5547} & 6.4591 \\ 0.8310 & 1 & \mathbf{5.4466} & 5.3672 \\ \mathbf{0.1526} & \mathbf{0.1836} & 1 & \mathbf{0.9854} \\ 0.1548 & 0.1863 & \mathbf{1.0148} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.467160 \\ 0.388188 \\ 0.072326 \\ 0.072326 \end{pmatrix} = 0.998946 \cdot \begin{pmatrix} 0.467653 \\ 0.388598 \\ \mathbf{0.072402} \\ 0.072402 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2034 & \mathbf{6.4591} & 6.4591 \\ 0.8310 & 1 & \mathbf{5.3672} & 5.3672 \\ \mathbf{0.1548} & \mathbf{0.1863} & 1 & \mathbf{1} \\ 0.1548 & 0.1863 & \mathbf{1} & 1 \end{pmatrix},$$

Example A.67.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1/6 & 1/2 & 1 & 3 \\ 1/5 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.535144 \\ 0.259825 \\ 0.135850 \\ 0.069181 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0596 & 3.9392 & 7.7354 \\ 0.4855 & 1 & 1.9126 & 3.7557 \\ 0.2539 & 0.5229 & 1 & 1.9637 \\ 0.1293 & 0.2663 & 0.5092 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.531030 \\ 0.265515 \\ 0.134806 \\ 0.068649 \end{pmatrix} = 0.992312 \cdot \begin{pmatrix} 0.535144 \\ 0.267572 \\ 0.135850 \\ 0.069181 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.9392 & 7.7354 \\ 1/2 & 1 & 1.9696 & 3.8677 \\ 0.2539 & 0.5077 & 1 & 1.9637 \\ 0.1293 & 0.2586 & 0.5092 & 1 \end{pmatrix},$$

Example A.68.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1/6 & 1/2 & 1 & 4 \\ 1/5 & 1/4 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.533486 \\ 0.254711 \\ 0.147374 \\ 0.064429 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0945 & 3.6200 & 8.2802 \\ 0.4774 & 1 & 1.7283 & 3.9534 \\ 0.2762 & 0.5786 & 1 & 2.2874 \\ 0.1208 & 0.2529 & 0.4372 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.531888 \\ 0.256944 \\ 0.146932 \\ 0.064236 \end{pmatrix} = 0.997003 \cdot \begin{pmatrix} 0.533486 \\ 0.257717 \\ 0.147374 \\ 0.064429 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0700 & 3.6200 & 8.2802 \\ 0.4831 & 1 & 1.7487 & 4 \\ 0.2762 & 0.5718 & 1 & 2.2874 \\ 0.1208 & 1/4 & 0.4372 & 1 \end{pmatrix},$$

Example A.69.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/6 & 1/2 & 1 & 3 \\ 1/6 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.546405 \\ 0.256499 \\ 0.132818 \\ 0.064278 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1302 & 4.1140 & 8.5006 \\ 0.4694 & 1 & 1.9312 & 3.9904 \\ 0.2431 & 0.5178 & 1 & 2.0663 \\ 0.1176 & 0.2506 & 0.4840 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.546070 \\ 0.256955 \\ 0.132736 \\ 0.064239 \end{pmatrix} = 0.999386 \cdot \begin{pmatrix} 0.546405 \\ 0.257113 \\ 0.132818 \\ 0.064278 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1252 & 4.1140 & 8.5006 \\ 0.4706 & 1 & 1.9358 & 4 \\ 0.2431 & 0.5166 & 1 & 2.0663 \\ 0.1176 & 1/4 & 0.4840 & 1 \end{pmatrix},$$

Example A.70.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 6 \\ 1/2 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 4 \\ 1/6 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.539828 \\ 0.263047 \\ 0.140952 \\ 0.056173 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0522 & 3.8299 & 9.6100 \\ 0.4873 & 1 & 1.8662 & 4.6828 \\ 0.2611 & 0.5358 & 1 & 2.5092 \\ 0.1041 & 0.2135 & 0.3985 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.536146 \\ 0.268073 \\ 0.139991 \\ 0.055790 \end{pmatrix} = 0.993180 \cdot \begin{pmatrix} 0.539828 \\ 0.269914 \\ 0.140952 \\ 0.056173 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.8299 & 9.6100 \\ 1/2 & 1 & 1.9149 & 4.8050 \\ 0.2611 & 0.5222 & 1 & 2.5092 \\ 0.1041 & 0.2081 & 0.3985 & 1 \end{pmatrix},$$

Example A.71.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 6 \\ 1/2 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 5 \\ 1/6 & 1/5 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.538091 \\ 0.258661 \\ 0.150133 \\ 0.053115 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0803 & 3.5841 & 10.1307 \\ 0.4807 & 1 & 1.7229 & 4.8698 \\ 0.2790 & 0.5804 & 1 & 2.8266 \\ 0.0987 & 0.2053 & 0.3538 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.534396 \\ 0.263752 \\ 0.149102 \\ 0.052750 \end{pmatrix} = 0.993133 \cdot \begin{pmatrix} 0.538091 \\ 0.265575 \\ 0.150133 \\ 0.053115 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0261 & 3.5841 & 10.1307 \\ 0.4936 & 1 & 1.7689 & 5 \\ 0.2790 & 0.5653 & 1 & 2.8266 \\ 0.0987 & 1/5 & 0.3538 & 1 \end{pmatrix},$$

Example A.72.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1301, \quad CR = 0.0490$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.548958 \\ \mathbf{0.260173} \\ 0.138155 \\ 0.052713 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{2.1100} & 3.9735 & 10.4140 \\ \mathbf{0.4739} & 1 & \mathbf{1.8832} & \mathbf{4.9356} \\ 0.2517 & \mathbf{0.5310} & 1 & 2.6209 \\ 0.0960 & \mathbf{0.2026} & 0.3816 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547101 \\ 0.262676 \\ 0.137688 \\ 0.052535 \end{pmatrix} = 0.996617 \cdot \begin{pmatrix} 0.548958 \\ \mathbf{0.263567} \\ 0.138155 \\ 0.052713 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{2.0828} & 3.9735 & 10.4140 \\ \mathbf{0.4801} & 1 & \mathbf{1.9078} & \mathbf{5} \\ 0.2517 & \mathbf{0.5242} & 1 & 2.6209 \\ 0.0960 & \mathbf{1/5} & 0.3816 & 1 \end{pmatrix},$$

Example A.73.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 7 \\ 1/2 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 2 \\ 1/7 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.536063 \\ 0.284402 \\ 0.096706 \\ 0.082830 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8849 & 5.5432 & 6.4718 \\ 0.5305 & 1 & 2.9409 & 3.4336 \\ 0.1804 & 0.3400 & 1 & 1.1675 \\ 0.1545 & 0.2912 & 0.8565 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.550771 \\ 0.275385 \\ 0.093640 \\ 0.080204 \end{pmatrix} = 0.968297 \cdot \begin{pmatrix} 0.568803 \\ 0.284402 \\ 0.096706 \\ 0.082830 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.8818 & 6.8671 \\ 1/2 & 1 & 2.9409 & 3.4336 \\ 0.1700 & 0.3400 & 1 & 1.1675 \\ 0.1456 & 0.2912 & 0.8565 & 1 \end{pmatrix},$$

Example A.74.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 8 \\ 1/2 & 1 & 1 & 3 \\ 1/6 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.583653 \\ 0.205980 \\ 0.141871 \\ 0.068496 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8335 & 4.1140 & 8.5210 \\ 0.3529 & 1 & 1.4519 & 3.0072 \\ 0.2431 & 0.6888 & 1 & 2.0712 \\ 0.1174 & 0.3325 & 0.4828 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.583557 \\ 0.205946 \\ 0.141848 \\ 0.068649 \end{pmatrix} = 0.999836 \cdot \begin{pmatrix} 0.583653 \\ 0.205980 \\ 0.141871 \\ 0.068660 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8335 & 4.1140 & 8.5006 \\ 0.3529 & 1 & 1.4519 & 3 \\ 0.2431 & 0.6888 & 1 & 2.0663 \\ 0.1176 & 1/3 & 0.4840 & 1 \end{pmatrix},$$

Example A.75.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 8 \\ 1/2 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.545903 \\ 0.280247 \\ 0.094636 \\ 0.079214 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9479 & 5.7684 & 6.8915 \\ 0.5134 & 1 & 2.9613 & 3.5379 \\ 0.1734 & 0.3377 & 1 & 1.1947 \\ 0.1451 & 0.2827 & 0.8370 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552433 \\ 0.276217 \\ 0.093275 \\ 0.078074 \end{pmatrix} = 0.985618 \cdot \begin{pmatrix} 0.560495 \\ 0.280247 \\ 0.094636 \\ 0.079214 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.9226 & 7.0757 \\ 1/2 & 1 & 2.9613 & 3.5379 \\ 0.1688 & 0.3377 & 1 & 1.1947 \\ 0.1413 & 0.2827 & 0.8370 & 1 \end{pmatrix},$$

Example A.76.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 8 \\ 1/2 & 1 & 7 & 5 \\ 1/6 & 1/7 & 1 & 1 \\ 1/8 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0609, \quad CR = 0.0230$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.524945 \\ 0.343602 \\ 0.066002 \\ \mathbf{0.065451} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.5278 & 7.9535 & \mathbf{8.0205} \\ 0.6545 & 1 & 5.2059 & \mathbf{5.2498} \\ 0.1257 & 0.1921 & 1 & \mathbf{1.0084} \\ \mathbf{0.1247} & \mathbf{0.1905} & \mathbf{0.9916} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.524858 \\ 0.343544 \\ 0.065991 \\ 0.065607 \end{pmatrix} = 0.999833 \cdot \begin{pmatrix} 0.524945 \\ 0.343602 \\ 0.066002 \\ \mathbf{0.065618} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5278 & 7.9535 & \mathbf{8} \\ 0.6545 & 1 & 5.2059 & \mathbf{5.2364} \\ 0.1257 & 0.1921 & 1 & \mathbf{1.0058} \\ \mathbf{1/8} & \mathbf{0.1910} & \mathbf{0.9942} & 1 \end{pmatrix},$$

Example A.77.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 8 \\ 1/2 & 1 & 9 & 6 \\ 1/6 & 1/9 & 1 & 1 \\ 1/8 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.509108 \\ 0.371254 \\ 0.059891 \\ \mathbf{0.059747} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3713 & 8.5006 & \mathbf{8.5210} \\ 0.7292 & 1 & 6.1989 & \mathbf{6.2137} \\ 0.1176 & 0.1613 & 1 & \mathbf{1.0024} \\ \mathbf{0.1174} & \mathbf{0.1609} & \mathbf{0.9976} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.509035 \\ 0.371201 \\ 0.059882 \\ 0.059882 \end{pmatrix} = 0.999857 \cdot \begin{pmatrix} 0.509108 \\ 0.371254 \\ 0.059891 \\ \mathbf{0.059891} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3713 & 8.5006 & \mathbf{8.5006} \\ 0.7292 & 1 & 6.1989 & \mathbf{6.1989} \\ 0.1176 & 0.1613 & 1 & \mathbf{1} \\ \mathbf{0.1176} & \mathbf{0.1613} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.78.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 9 \\ 1/2 & 1 & 1 & 3 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.591242 \\ 0.203613 \\ 0.139609 \\ \mathbf{0.065536} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9038 & 4.2350 & \mathbf{9.0216} \\ 0.3444 & 1 & 1.4585 & \mathbf{3.1069} \\ 0.2361 & 0.6857 & 1 & \mathbf{2.1302} \\ \mathbf{0.1108} & \mathbf{0.3219} & \mathbf{0.4694} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.591149 \\ 0.203581 \\ 0.139587 \\ 0.065683 \end{pmatrix} = 0.999843 \cdot \begin{pmatrix} 0.591242 \\ 0.203613 \\ 0.139609 \\ \mathbf{0.065694} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9038 & 4.2350 & \mathbf{9} \\ 0.3444 & 1 & 1.4585 & \mathbf{3.0994} \\ 0.2361 & 0.6857 & 1 & \mathbf{2.1252} \\ \mathbf{1/9} & \mathbf{0.3226} & \mathbf{0.4706} & 1 \end{pmatrix},$$

Example A.79.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 4 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 3 \\ 1/4 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.536298 \\ 0.256585 \\ 0.132368 \\ 0.074749 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0901 & 4.0516 & 7.1747 \\ 0.4784 & 1 & 1.9384 & 3.4326 \\ 0.2468 & 0.5159 & 1 & 1.7708 \\ 0.1394 & 0.2913 & 0.5647 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.531962 \\ 0.262596 \\ 0.131298 \\ 0.074144 \end{pmatrix} = 0.991915 \cdot \begin{pmatrix} 0.536298 \\ 0.264736 \\ 0.132368 \\ 0.074749 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0258 & 4.0516 & 7.1747 \\ 0.4936 & 1 & 2 & 3.5417 \\ 0.2468 & 1/2 & 1 & 1.7708 \\ 0.1394 & 0.2824 & 0.5647 & 1 \end{pmatrix},$$

Example A.80.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 4 \\ 1/2 & 1 & 5 & 8 \\ 1/7 & 1/5 & 1 & 1 \\ 1/4 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.482733 \\ 0.373675 \\ \mathbf{0.068952} \\ 0.074639 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2919 & \mathbf{7.0010} & 6.4676 \\ 0.7741 & 1 & \mathbf{5.4194} & 5.0064 \\ \mathbf{0.1428} & \mathbf{0.1845} & 1 & \mathbf{0.9238} \\ 0.1546 & 0.1997 & \mathbf{1.0825} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.482729 \\ 0.373672 \\ 0.068961 \\ 0.074639 \end{pmatrix} = 0.999990 \cdot \begin{pmatrix} 0.482733 \\ 0.373675 \\ \mathbf{0.068962} \\ 0.074639 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2919 & \mathbf{7} & 6.4676 \\ 0.7741 & 1 & \mathbf{5.4186} & 5.0064 \\ \mathbf{1/7} & \mathbf{0.1846} & 1 & \mathbf{0.9239} \\ 0.1546 & 0.1997 & \mathbf{1.0823} & 1 \end{pmatrix},$$

Example A.81.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 4 \\ 1/2 & 1 & 5 & 9 \\ 1/7 & 1/5 & 1 & 1 \\ 1/4 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1975, \quad CR = 0.0745$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.477613 \\ 0.382807 \\ \mathbf{0.067748} \\ 0.071832 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2477 & \mathbf{7.0499} & 6.6490 \\ 0.8015 & 1 & \mathbf{5.6505} & 5.3292 \\ \mathbf{0.1418} & \mathbf{0.1770} & 1 & \mathbf{0.9431} \\ 0.1504 & 0.1876 & \mathbf{1.0603} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.477382 \\ 0.382623 \\ 0.068197 \\ 0.071798 \end{pmatrix} = 0.999517 \cdot \begin{pmatrix} 0.477613 \\ 0.382807 \\ \mathbf{0.068230} \\ 0.071832 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2477 & \mathbf{7} & 6.6490 \\ 0.8015 & 1 & \mathbf{5.6105} & 5.3292 \\ \mathbf{1/7} & \mathbf{0.1782} & 1 & \mathbf{0.9499} \\ 0.1504 & 0.1876 & \mathbf{1.0528} & 1 \end{pmatrix},$$

Example A.82.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 4 \\ 1/2 & 1 & 6 & 9 \\ 1/7 & 1/6 & 1 & 1 \\ 1/4 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.473343 \\ 0.392370 \\ \mathbf{0.063698} \\ 0.070589 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2064 & \mathbf{7.4310} & 6.7056 \\ 0.8289 & 1 & \mathbf{6.1598} & 5.5585 \\ \mathbf{0.1346} & \mathbf{0.1623} & 1 & \mathbf{0.9024} \\ 0.1491 & 0.1799 & \mathbf{1.1082} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.472541 \\ 0.391705 \\ 0.065284 \\ 0.070470 \end{pmatrix} = 0.998306 \cdot \begin{pmatrix} 0.473343 \\ 0.392370 \\ \mathbf{0.065395} \\ 0.070589 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2064 & \mathbf{7.2382} & 6.7056 \\ 0.8289 & 1 & \mathbf{6} & 5.5585 \\ \mathbf{0.1382} & \mathbf{1/6} & 1 & \mathbf{0.9264} \\ 0.1491 & 0.1799 & \mathbf{1.0794} & 1 \end{pmatrix},$$

Example A.83.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 3 \\ 1/5 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.549998 \\ \mathbf{0.253192} \\ 0.128775 \\ 0.068034 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{2.1723} & 4.2710 & 8.0842 \\ \mathbf{0.4604} & 1 & \mathbf{1.9662} & \mathbf{3.7216} \\ 0.2341 & \mathbf{0.5086} & 1 & 1.8928 \\ 0.1237 & \mathbf{0.2687} & 0.5283 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547611 \\ 0.256433 \\ 0.128217 \\ 0.067739 \end{pmatrix} = 0.995660 \cdot \begin{pmatrix} 0.549998 \\ \mathbf{0.257551} \\ 0.128775 \\ 0.068034 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{2.1355} & 4.2710 & 8.0842 \\ \mathbf{0.4683} & 1 & \mathbf{2} & \mathbf{3.7856} \\ 0.2341 & \mathbf{1/2} & 1 & 1.8928 \\ 0.1237 & \mathbf{0.2642} & 0.5283 & 1 \end{pmatrix},$$

Example A.84.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 4 \\ 1/5 & 1/4 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.549151 \\ 0.247681 \\ 0.139783 \\ 0.063385 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2172 & 3.9286 & 8.6638 \\ 0.4510 & 1 & 1.7719 & 3.9076 \\ 0.2545 & 0.5644 & 1 & 2.2053 \\ 0.1154 & 0.2559 & 0.4535 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.545953 \\ 0.252062 \\ 0.138969 \\ 0.063016 \end{pmatrix} = 0.994176 \cdot \begin{pmatrix} 0.549151 \\ 0.253539 \\ 0.139783 \\ 0.063385 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1659 & 3.9286 & 8.6638 \\ 0.4617 & 1 & 1.8138 & 4 \\ 0.2545 & 0.5513 & 1 & 2.2053 \\ 0.1154 & 1/4 & 0.4535 & 1 \end{pmatrix},$$

Example A.85.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 5 \\ 1/2 & 1 & 2 & 5 \\ 1/7 & 1/2 & 1 & 4 \\ 1/5 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.544321 \\ 0.259042 \\ 0.136873 \\ 0.059765 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1013 & 3.9768 & 9.1078 \\ 0.4759 & 1 & 1.8926 & 4.3344 \\ 0.2515 & 0.5284 & 1 & 2.2902 \\ 0.1098 & 0.2307 & 0.4366 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.537272 \\ 0.268636 \\ 0.135101 \\ 0.058991 \end{pmatrix} = 0.987051 \cdot \begin{pmatrix} 0.544321 \\ 0.272160 \\ 0.136873 \\ 0.059765 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.9768 & 9.1078 \\ 1/2 & 1 & 1.9884 & 4.5539 \\ 0.2515 & 0.5029 & 1 & 2.2902 \\ 0.1098 & 0.2196 & 0.4366 & 1 \end{pmatrix},$$

Example A.86.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 5 \\ 1/2 & 1 & 5 & 7 \\ 1/7 & 1/5 & 1 & 1 \\ 1/5 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0899, \quad CR = 0.0339$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.503288 \\ 0.355778 \\ \mathbf{0.069437} \\ 0.071498 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4146 & \mathbf{7.2481} & 7.0392 \\ 0.7069 & 1 & \mathbf{5.1238} & 4.9761 \\ \mathbf{0.1380} & \mathbf{0.1952} & 1 & \mathbf{0.9712} \\ 0.1421 & 0.2010 & \mathbf{1.0297} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.502424 \\ 0.355167 \\ 0.071033 \\ 0.071375 \end{pmatrix} = 0.998284 \cdot \begin{pmatrix} 0.503288 \\ 0.355778 \\ \mathbf{0.071156} \\ 0.071498 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4146 & \mathbf{7.0731} & 7.0392 \\ 0.7069 & 1 & \mathbf{5} & 4.9761 \\ \mathbf{0.1414} & \mathbf{1/5} & 1 & \mathbf{0.9952} \\ 0.1421 & 0.2010 & \mathbf{1.0048} & 1 \end{pmatrix},$$

Example A.87.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 5 \\ 1/2 & 1 & 6 & 9 \\ 1/7 & 1/6 & 1 & 1 \\ 1/5 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1417, \quad CR = 0.0534$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.488194 \\ 0.383868 \\ \mathbf{0.063176} \\ 0.064762 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2718 & \mathbf{7.7275} & 7.5382 \\ 0.7863 & 1 & \mathbf{6.0762} & 5.9273 \\ \mathbf{0.1294} & \mathbf{0.1646} & 1 & \mathbf{0.9755} \\ 0.1327 & 0.1687 & \mathbf{1.0251} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.487803 \\ 0.383560 \\ 0.063927 \\ 0.064710 \end{pmatrix} = 0.999199 \cdot \begin{pmatrix} 0.488194 \\ 0.383868 \\ \mathbf{0.063978} \\ 0.064762 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2718 & \mathbf{7.6307} & 7.5382 \\ 0.7863 & 1 & \mathbf{6} & 5.9273 \\ \mathbf{0.1311} & \mathbf{1/6} & 1 & \mathbf{0.9879} \\ 0.1327 & 0.1687 & \mathbf{1.0123} & 1 \end{pmatrix},$$

Example A.88.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 3 \\ 1/6 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.560968 \\ \mathbf{0.250127} \\ 0.125791 \\ 0.063114 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{2.2427} & 4.4595 & 8.8882 \\ \mathbf{0.4459} & 1 & \mathbf{1.9884} & \mathbf{3.9631} \\ 0.2242 & \mathbf{0.5029} & 1 & 1.9931 \\ 0.1125 & \mathbf{0.2523} & 0.5017 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.560153 \\ 0.251217 \\ 0.125608 \\ 0.063022 \end{pmatrix} = 0.998547 \cdot \begin{pmatrix} 0.560968 \\ \mathbf{0.251582} \\ 0.125791 \\ 0.063114 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{2.2298} & 4.4595 & 8.8882 \\ \mathbf{0.4485} & 1 & \mathbf{2} & \mathbf{3.9862} \\ 0.2242 & \mathbf{1/2} & 1 & 1.9931 \\ 0.1125 & \mathbf{0.2509} & 0.5017 & 1 \end{pmatrix},$$

Example A.89.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 6 \\ 1/2 & 1 & 2 & 5 \\ 1/7 & 1/2 & 1 & 4 \\ 1/6 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2057, \quad CR = 0.0776$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.555001 \\ 0.256117 \\ 0.133627 \\ 0.055255 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.1670 & 4.1534 & 10.0443 \\ 0.4615 & 1 & 1.9167 & 4.6352 \\ 0.2408 & 0.5217 & 1 & 2.4184 \\ 0.0996 & 0.2157 & 0.4135 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548888 \\ 0.264310 \\ 0.132155 \\ 0.054647 \end{pmatrix} = 0.988986 \cdot \begin{pmatrix} 0.555001 \\ 0.267254 \\ 0.133627 \\ 0.055255 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2.0767 & 4.1534 & 10.0443 \\ 0.4815 & 1 & 2 & 4.8367 \\ 0.2408 & 1/2 & 1 & 2.4184 \\ 0.0996 & 0.2068 & 0.4135 & 1 \end{pmatrix},$$

Example A.90.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/7 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.563879 \\ 0.253465 \\ 0.130874 \\ 0.051781 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2247 & 4.3086 & 10.8896 \\ 0.4495 & 1 & 1.9367 & 4.8949 \\ 0.2321 & 0.5163 & 1 & 2.5274 \\ 0.0918 & 0.2043 & 0.3957 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.560827 \\ 0.257506 \\ 0.130166 \\ 0.051501 \end{pmatrix} = 0.994587 \cdot \begin{pmatrix} 0.563879 \\ 0.258907 \\ 0.130874 \\ 0.051781 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1779 & 4.3086 & 10.8896 \\ 0.4592 & 1 & 1.9783 & 5 \\ 0.2321 & 0.5055 & 1 & 2.5274 \\ 0.0918 & 1/5 & 0.3957 & 1 \end{pmatrix},$$

Example A.91.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 7 \\ 1/2 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 5 \\ 1/7 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.558372 \\ 0.258121 \\ 0.136943 \\ 0.046565 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.1632 & 4.0774 & 11.9912 \\ 0.4623 & 1 & 1.8849 & 5.5432 \\ 0.2453 & 0.5305 & 1 & 2.9409 \\ 0.0834 & 0.1804 & 0.3400 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.549705 \\ 0.269635 \\ 0.134817 \\ 0.045842 \end{pmatrix} = 0.984480 \cdot \begin{pmatrix} 0.558372 \\ 0.273886 \\ 0.136943 \\ 0.046565 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2.0387 & 4.0774 & 11.9912 \\ 0.4905 & 1 & 2 & 5.8818 \\ 0.2453 & 1/2 & 1 & 2.9409 \\ 0.0834 & 0.1700 & 0.3400 & 1 \end{pmatrix},$$

Example A.92.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 7 \\ 1/2 & 1 & 5 & 2 \\ 1/7 & 1/5 & 1 & 2 \\ 1/7 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.548483 \\ 0.277948 \\ 0.092008 \\ 0.081561 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9733 & 5.9612 & 6.7249 \\ 0.5068 & 1 & 3.0209 & 3.4079 \\ 0.1678 & 0.3310 & 1 & 1.1281 \\ 0.1487 & 0.2934 & 0.8864 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551805 \\ 0.275903 \\ 0.091331 \\ 0.080960 \end{pmatrix} = 0.992642 \cdot \begin{pmatrix} 0.555896 \\ 0.277948 \\ 0.092008 \\ 0.081561 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 6.0418 & 6.8157 \\ 1/2 & 1 & 3.0209 & 3.4079 \\ 0.1655 & 0.3310 & 1 & 1.1281 \\ 0.1467 & 0.2934 & 0.8864 & 1 \end{pmatrix},$$

Example A.93.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 8 \\ 1/2 & 1 & 1 & 3 \\ 1/7 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.597644 \\ 0.201721 \\ 0.134015 \\ \mathbf{0.066620} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9627 & 4.4595 & \mathbf{8.9709} \\ 0.3375 & 1 & 1.5052 & \mathbf{3.0279} \\ 0.2242 & 0.6644 & 1 & \mathbf{2.0116} \\ \mathbf{0.1115} & \mathbf{0.3303} & \mathbf{0.4971} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.597412 \\ 0.201643 \\ 0.133963 \\ 0.066982 \end{pmatrix} = 0.999612 \cdot \begin{pmatrix} 0.597644 \\ 0.201721 \\ 0.134015 \\ \mathbf{0.067008} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9627 & 4.4595 & \mathbf{8.9190} \\ 0.3375 & 1 & 1.5052 & \mathbf{3.0104} \\ 0.2242 & 0.6644 & 1 & \mathbf{2} \\ \mathbf{0.1121} & \mathbf{0.3322} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.94.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 5 \\ 1/8 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.565827 \\ 0.255778 \\ 0.134415 \\ 0.043980 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2122 & 4.2096 & 12.8657 \\ 0.4520 & 1 & 1.9029 & 5.8158 \\ 0.2376 & 0.5255 & 1 & 3.0563 \\ 0.0777 & 0.1719 & 0.3272 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.561281 \\ 0.261757 \\ 0.133335 \\ 0.043626 \end{pmatrix} = 0.991966 \cdot \begin{pmatrix} 0.565827 \\ 0.263877 \\ 0.134415 \\ 0.043980 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1443 & 4.2096 & 12.8657 \\ 0.4664 & 1 & 1.9632 & 6 \\ 0.2376 & 0.5094 & 1 & 3.0563 \\ 0.0777 & 1/6 & 0.3272 & 1 \end{pmatrix},$$

Example A.95.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 9 \\ 1/2 & 1 & 1 & 3 \\ 1/7 & 1 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.604849 \\ 0.199553 \\ 0.131892 \\ \mathbf{0.063707} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0310 & 4.5859 & \mathbf{9.4943} \\ 0.3299 & 1 & 1.5130 & \mathbf{3.1324} \\ 0.2181 & 0.6609 & 1 & \mathbf{2.0703} \\ \mathbf{0.1053} & \mathbf{0.3192} & \mathbf{0.4830} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.603497 \\ 0.199107 \\ 0.131597 \\ 0.065799 \end{pmatrix} = 0.997766 \cdot \begin{pmatrix} 0.604849 \\ 0.199553 \\ 0.131892 \\ \mathbf{0.065946} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0310 & 4.5859 & \mathbf{9.1719} \\ 0.3299 & 1 & 1.5130 & \mathbf{3.0260} \\ 0.2181 & 0.6609 & 1 & \mathbf{2} \\ \mathbf{0.1090} & \mathbf{0.3305} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.96.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 9 \\ 1/2 & 1 & 8 & 6 \\ 1/7 & 1/8 & 1 & 1 \\ 1/9 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.532478 \\ 0.351916 \\ 0.058079 \\ \mathbf{0.057527} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.5131 & 9.1682 & \mathbf{9.2562} \\ 0.6609 & 1 & 6.0593 & \mathbf{6.1174} \\ 0.1091 & 0.1650 & 1 & \mathbf{1.0096} \\ \mathbf{0.1080} & \mathbf{0.1635} & \mathbf{0.9905} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.532184 \\ 0.351722 \\ 0.058047 \\ 0.058047 \end{pmatrix} = 0.999448 \cdot \begin{pmatrix} 0.532478 \\ 0.351916 \\ 0.058079 \\ \mathbf{0.058079} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5131 & 9.1682 & \mathbf{9.1682} \\ 0.6609 & 1 & 6.0593 & \mathbf{6.0593} \\ 0.1091 & 0.1650 & 1 & \mathbf{1} \\ \mathbf{0.1091} & \mathbf{0.1650} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.97.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 5 \\ 1/2 & 1 & 6 & 8 \\ 1/8 & 1/6 & 1 & 1 \\ 1/5 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1163, \quad CR = 0.0439$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.501969 \\ 0.369957 \\ \mathbf{0.061336} \\ 0.066737 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3568 & \mathbf{8.1839} & 7.5215 \\ 0.7370 & 1 & \mathbf{6.0316} & 5.5435 \\ \mathbf{0.1222} & \mathbf{0.1658} & 1 & \mathbf{0.9191} \\ 0.1330 & 0.1804 & \mathbf{1.0881} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.501807 \\ 0.369838 \\ 0.061640 \\ 0.066716 \end{pmatrix} = 0.999677 \cdot \begin{pmatrix} 0.501969 \\ 0.369957 \\ \mathbf{0.061660} \\ 0.066737 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3568 & \mathbf{8.1410} & 7.5215 \\ 0.7370 & 1 & \mathbf{6} & 5.5435 \\ \mathbf{0.1228} & \mathbf{1/6} & 1 & \mathbf{0.9239} \\ 0.1330 & 0.1804 & \mathbf{1.0824} & 1 \end{pmatrix},$$

Example A.98.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 5 \\ 1/2 & 1 & 6 & 9 \\ 1/8 & 1/6 & 1 & 1 \\ 1/5 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.496962 \\ 0.378472 \\ \mathbf{0.060322} \\ 0.064245 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3131 & \mathbf{8.2385} & 7.7354 \\ 0.7616 & 1 & \mathbf{6.2742} & 5.8911 \\ \mathbf{0.1214} & \mathbf{0.1594} & 1 & \mathbf{0.9389} \\ 0.1293 & 0.1697 & \mathbf{1.0650} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.496069 \\ 0.377792 \\ 0.062009 \\ 0.064130 \end{pmatrix} = 0.998205 \cdot \begin{pmatrix} 0.496962 \\ 0.378472 \\ \mathbf{0.062120} \\ 0.064245 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3131 & \mathbf{8} & 7.7354 \\ 0.7616 & 1 & \mathbf{6.0926} & 5.8911 \\ \mathbf{1/8} & \mathbf{0.1641} & 1 & \mathbf{0.9669} \\ 0.1293 & 0.1697 & \mathbf{1.0342} & 1 \end{pmatrix},$$

Example A.99.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 2 & 5 \\ 1/8 & 1/2 & 1 & 4 \\ 1/6 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.568406 \\ 0.249817 \\ 0.127389 \\ 0.054388 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2753 & 4.4620 & 10.4510 \\ 0.4395 & 1 & 1.9611 & 4.5933 \\ 0.2241 & 0.5099 & 1 & 2.3422 \\ 0.0957 & 0.2177 & 0.4269 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.565600 \\ 0.253520 \\ 0.126760 \\ 0.054119 \end{pmatrix} = 0.995064 \cdot \begin{pmatrix} 0.568406 \\ 0.254778 \\ 0.127389 \\ 0.054388 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2310 & 4.4620 & 10.4510 \\ 0.4482 & 1 & 2 & 4.6845 \\ 0.2241 & 1/2 & 1 & 2.3422 \\ 0.0957 & 0.2135 & 0.4269 & 1 \end{pmatrix},$$

Example A.100.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.549260 \\ 0.284413 \\ 0.068822 \\ 0.097505 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9312 & 7.9809 & 5.6331 \\ 0.5178 & 1 & 4.1326 & 2.9169 \\ 0.1253 & 0.2420 & 1 & 0.7058 \\ 0.1775 & 0.3428 & 1.4168 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.549853 \\ 0.284039 \\ 0.068732 \\ 0.097377 \end{pmatrix} = 0.998685 \cdot \begin{pmatrix} 0.550577 \\ 0.284413 \\ 0.068822 \\ 0.097505 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9358 & 8 & 5.6467 \\ 0.5166 & 1 & 4.1326 & 2.9169 \\ 1/8 & 0.2420 & 1 & 0.7058 \\ 0.1771 & 0.3428 & 1.4168 & 1 \end{pmatrix},$$

Example A.101.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/8 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2035, \quad CR = 0.0767$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.577044 \\ 0.247362 \\ 0.124687 \\ 0.050906 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3328 & 4.6279 & 11.3354 \\ 0.4287 & 1 & 1.9839 & 4.8592 \\ 0.2161 & 0.5041 & 1 & 2.4493 \\ 0.0882 & 0.2058 & 0.4083 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575885 \\ 0.248874 \\ 0.124437 \\ 0.050804 \end{pmatrix} = 0.997992 \cdot \begin{pmatrix} 0.577044 \\ 0.249375 \\ 0.124687 \\ 0.050906 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3140 & 4.6279 & 11.3354 \\ 0.4322 & 1 & 2 & 4.8987 \\ 0.2161 & 1/2 & 1 & 2.4493 \\ 0.0882 & 0.2041 & 0.4083 & 1 \end{pmatrix},$$

Example A.102.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1/8 & 1/2 & 1 & 5 \\ 1/8 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.579205 \\ 0.249475 \\ 0.128072 \\ 0.043248 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3217 & 4.5225 & 13.3925 \\ 0.4307 & 1 & 1.9479 & 5.7684 \\ 0.2211 & 0.5134 & 1 & 2.9613 \\ 0.0747 & 0.1734 & 0.3377 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575368 \\ 0.254447 \\ 0.127223 \\ 0.042962 \end{pmatrix} = 0.993376 \cdot \begin{pmatrix} 0.579205 \\ 0.256144 \\ 0.128072 \\ 0.043248 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2612 & 4.5225 & 13.3925 \\ 0.4422 & 1 & 2 & 5.9226 \\ 0.2211 & 1/2 & 1 & 2.9613 \\ 0.0747 & 0.1688 & 0.3377 & 1 \end{pmatrix},$$

Example A.103.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 9 \\ 1/2 & 1 & 1 & 3 \\ 1/8 & 1 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.616793 \\ 0.195782 \\ 0.125374 \\ \mathbf{0.062051} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1504 & 4.9196 & \mathbf{9.9400} \\ 0.3174 & 1 & 1.5616 & \mathbf{3.1552} \\ 0.2033 & 0.6404 & 1 & \mathbf{2.0205} \\ \mathbf{0.1006} & \mathbf{0.3169} & \mathbf{0.4949} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.616401 \\ 0.195658 \\ 0.125294 \\ 0.062647 \end{pmatrix} = 0.999365 \cdot \begin{pmatrix} 0.616793 \\ 0.195782 \\ 0.125374 \\ \mathbf{0.062687} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1504 & 4.9196 & \mathbf{9.8393} \\ 0.3174 & 1 & 1.5616 & \mathbf{3.1232} \\ 0.2033 & 0.6404 & 1 & \mathbf{2} \\ \mathbf{0.1016} & \mathbf{0.3202} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.104.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 9 \\ 1/2 & 1 & 2 & 7 \\ 1/8 & 1/2 & 1 & 6 \\ 1/9 & 1/7 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2463, \quad CR = 0.0929$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.580762 \\ 0.251034 \\ 0.130575 \\ 0.037629 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3135 & 4.4477 & 15.4340 \\ 0.4322 & 1 & 1.9225 & 6.6714 \\ 0.2248 & 0.5201 & 1 & 3.4701 \\ 0.0648 & 0.1499 & 0.2882 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.574946 \\ 0.258534 \\ 0.129267 \\ 0.037252 \end{pmatrix} = 0.989986 \cdot \begin{pmatrix} 0.580762 \\ 0.261150 \\ 0.130575 \\ 0.037629 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2239 & 4.4477 & 15.4340 \\ 0.4497 & 1 & 2 & 6.9402 \\ 0.2248 & 1/2 & 1 & 3.4701 \\ 0.0648 & 0.1441 & 0.2882 & 1 \end{pmatrix},$$

Example A.105.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 3 & 2 \\ 1/9 & 1/3 & 1 & 1 \\ 1/3 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.535689 \\ 0.251468 \\ 0.086808 \\ 0.126035 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1302 & 6.1709 & 4.2503 \\ 0.4694 & 1 & 2.8968 & 1.9952 \\ 0.1621 & 0.3452 & 1 & 0.6888 \\ 0.2353 & 0.5012 & 1.4519 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.535366 \\ 0.251919 \\ 0.086756 \\ 0.125959 \end{pmatrix} = 0.999398 \cdot \begin{pmatrix} 0.535689 \\ 0.252070 \\ 0.086808 \\ 0.126035 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1252 & 6.1709 & 4.2503 \\ 0.4706 & 1 & 2.9038 & 2 \\ 0.1621 & 0.3444 & 1 & 0.6888 \\ 0.2353 & 1/2 & 1.4519 & 1 \end{pmatrix},$$

Example A.106.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 2 \\ 1/5 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.560527 \\ 0.272148 \\ 0.094862 \\ 0.072463 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0596 & 5.9088 & 7.7354 \\ 0.4855 & 1 & 2.8689 & 3.7557 \\ 0.1692 & 0.3486 & 1 & 1.3091 \\ 0.1293 & 0.2663 & 0.7639 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.556015 \\ 0.278007 \\ 0.094099 \\ 0.071879 \end{pmatrix} = 0.991951 \cdot \begin{pmatrix} 0.560527 \\ 0.280263 \\ 0.094862 \\ 0.072463 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.9088 & 7.7354 \\ 1/2 & 1 & 2.9544 & 3.8677 \\ 0.1692 & 0.3385 & 1 & 1.3091 \\ 0.1293 & 0.2586 & 0.7639 & 1 \end{pmatrix},$$

Example A.107.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 3 \\ 1/5 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.555864 \\ 0.277462 \\ 0.104671 \\ 0.062003 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0034 & 5.3106 & 8.9651 \\ 0.4992 & 1 & 2.6508 & 4.4750 \\ 0.1883 & 0.3772 & 1 & 1.6882 \\ 0.1115 & 0.2235 & 0.5924 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.555603 \\ 0.277802 \\ 0.104622 \\ 0.061974 \end{pmatrix} = 0.999530 \cdot \begin{pmatrix} 0.555864 \\ 0.277932 \\ 0.104671 \\ 0.062003 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.3106 & 8.9651 \\ 1/2 & 1 & 2.6553 & 4.4826 \\ 0.1883 & 0.3766 & 1 & 1.6882 \\ 0.1115 & 0.2231 & 0.5924 & 1 \end{pmatrix},$$

Example A.108.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 2 \\ 1/6 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.571717 \\ 0.268380 \\ 0.092647 \\ 0.067256 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1302 & 6.1709 & 8.5006 \\ 0.4694 & 1 & 2.8968 & 3.9904 \\ 0.1621 & 0.3452 & 1 & 1.3775 \\ 0.1176 & 0.2506 & 0.7259 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571349 \\ 0.268851 \\ 0.092587 \\ 0.067213 \end{pmatrix} = 0.999357 \cdot \begin{pmatrix} 0.571717 \\ 0.269024 \\ 0.092647 \\ 0.067256 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1252 & 6.1709 & 8.5006 \\ 0.4706 & 1 & 2.9038 & 4 \\ 0.1621 & 0.3444 & 1 & 1.3775 \\ 0.1176 & 1/4 & 0.7259 & 1 \end{pmatrix},$$

Example A.109.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 3 \\ 1/6 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.566503 \\ 0.274088 \\ 0.102078 \\ 0.057331 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0669 & 5.5497 & 9.8813 \\ 0.4838 & 1 & 2.6851 & 4.7808 \\ 0.1802 & 0.3724 & 1 & 1.7805 \\ 0.1012 & 0.2092 & 0.5616 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.561359 \\ 0.280680 \\ 0.101151 \\ 0.056810 \end{pmatrix} = 0.990920 \cdot \begin{pmatrix} 0.566503 \\ 0.283252 \\ 0.102078 \\ 0.057331 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.5497 & 9.8813 \\ 1/2 & 1 & 2.7749 & 4.9407 \\ 0.1802 & 0.3604 & 1 & 1.7805 \\ 0.1012 & 0.2024 & 0.5616 & 1 \end{pmatrix},$$

Example A.110.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.557989 \\ 0.279663 \\ 0.066036 \\ 0.096311 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9952 & 8.4497 & 5.7936 \\ 0.5012 & 1 & 4.2350 & 2.9038 \\ 0.1183 & 0.2361 & 1 & 0.6857 \\ 0.1726 & 0.3444 & 1.4585 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.558580 \\ 0.279290 \\ 0.065948 \\ 0.096182 \end{pmatrix} = 0.998664 \cdot \begin{pmatrix} 0.559327 \\ 0.279663 \\ 0.066036 \\ 0.096311 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.4700 & 5.8075 \\ 1/2 & 1 & 4.2350 & 2.9038 \\ 0.1181 & 0.2361 & 1 & 0.6857 \\ 0.1722 & 0.3444 & 1.4585 & 1 \end{pmatrix},$$

Example A.111.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 6 & 9 \\ 1/9 & 1/6 & 1 & 1 \\ 1/6 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.517057 \\ 0.366275 \\ \mathbf{0.057313} \\ 0.059355 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{9.0216} & 8.7113 \\ 0.7084 & 1 & \mathbf{6.3907} & 6.1709 \\ \mathbf{0.1108} & \mathbf{0.1565} & 1 & \mathbf{0.9656} \\ 0.1148 & 0.1621 & \mathbf{1.0356} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.516986 \\ 0.366225 \\ 0.057443 \\ 0.059347 \end{pmatrix} = 0.999863 \cdot \begin{pmatrix} 0.517057 \\ 0.366275 \\ \mathbf{0.057451} \\ 0.059355 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{9} & 8.7113 \\ 0.7084 & 1 & \mathbf{6.3755} & 6.1709 \\ \mathbf{1/9} & \mathbf{0.1569} & 1 & \mathbf{0.9679} \\ 0.1148 & 0.1621 & \mathbf{1.0331} & 1 \end{pmatrix},$$

Example A.112.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.550511 \\ 0.290372 \\ 0.063318 \\ 0.095800 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8959 & 8.6944 & 5.7465 \\ 0.5275 & 1 & 4.5859 & 3.0310 \\ 0.1150 & 0.2181 & 1 & 0.6609 \\ 0.1740 & 0.3299 & 1.5130 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.559043 \\ 0.284860 \\ 0.062116 \\ 0.093982 \end{pmatrix} = 0.981018 \cdot \begin{pmatrix} 0.569859 \\ 0.290372 \\ 0.063318 \\ 0.095800 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9625 & 9 & 5.9484 \\ 0.5095 & 1 & 4.5859 & 3.0310 \\ 1/9 & 0.2181 & 1 & 0.6609 \\ 0.1681 & 0.3299 & 1.5130 & 1 \end{pmatrix},$$

Example A.113.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 8 & 2 \\ 1/9 & 1/8 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.543550 \\ 0.300161 \\ 0.061013 \\ 0.095277 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8109 & 8.9088 & 5.7050 \\ 0.5522 & 1 & 4.9196 & 3.1504 \\ 0.1122 & 0.2033 & 1 & 0.6404 \\ 0.1753 & 0.3174 & 1.5616 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.546076 \\ 0.298499 \\ 0.060675 \\ 0.094749 \end{pmatrix} = 0.994465 \cdot \begin{pmatrix} 0.549115 \\ 0.300161 \\ 0.061013 \\ 0.095277 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8294 & 9 & 5.7634 \\ 0.5466 & 1 & 4.9196 & 3.1504 \\ 1/9 & 0.2033 & 1 & 0.6404 \\ 0.1735 & 0.3174 & 1.5616 & 1 \end{pmatrix},$$

Example A.114.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 3 \\ 1/7 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1571, \quad CR = 0.0593$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.570430 \\ 0.280465 \\ 0.098128 \\ 0.050978 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0339 & 5.8131 & 11.1898 \\ 0.4917 & 1 & 2.8582 & 5.5017 \\ 0.1720 & 0.3499 & 1 & 1.9249 \\ 0.0894 & 0.1818 & 0.5195 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567733 \\ 0.283866 \\ 0.097664 \\ 0.050737 \end{pmatrix} = 0.995272 \cdot \begin{pmatrix} 0.570430 \\ 0.285215 \\ 0.098128 \\ 0.050978 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.8131 & 11.1898 \\ 1/2 & 1 & 2.9066 & 5.5949 \\ 0.1720 & 0.3440 & 1 & 1.9249 \\ 0.0894 & 0.1787 & 0.5195 & 1 \end{pmatrix},$$

Example A.115.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 4 \\ 1/7 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.570212 \\ 0.275386 \\ 0.106795 \\ 0.047607 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0706 & 5.3393 & 11.9774 \\ 0.4830 & 1 & 2.5786 & 5.7845 \\ 0.1873 & 0.3878 & 1 & 2.2432 \\ 0.0835 & 0.1729 & 0.4458 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.564723 \\ 0.282361 \\ 0.105767 \\ 0.047149 \end{pmatrix} = 0.990374 \cdot \begin{pmatrix} 0.570212 \\ 0.285106 \\ 0.106795 \\ 0.047607 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.3393 & 11.9774 \\ 1/2 & 1 & 2.6697 & 5.9887 \\ 0.1873 & 0.3746 & 1 & 2.2432 \\ 0.0835 & 0.1670 & 0.4458 & 1 \end{pmatrix},$$

Example A.116.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 3 \\ 1/8 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1263, \quad CR = 0.0476$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.578100 \\ 0.277375 \\ 0.096350 \\ 0.048175 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0842 & 6 & 12 \\ 0.4798 & 1 & 2.8788 & 5.7577 \\ 1/6 & 0.3474 & 1 & 2 \\ 1/12 & 0.1737 & 1/2 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571429 \\ 0.285714 \\ 0.095238 \\ 0.047619 \end{pmatrix} = 0.988460 \cdot \begin{pmatrix} 0.578100 \\ 0.289050 \\ 0.096350 \\ 0.048175 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 6 & 12 \\ 1/2 & 1 & 3 & 6 \\ 1/6 & 1/3 & 1 & 2 \\ 1/12 & 1/6 & 1/2 & 1 \end{pmatrix},$$

Example A.117.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 7 \\ 1/9 & 1/3 & 1 & 4 \\ 1/8 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.573348 \\ 0.280601 \\ 0.103030 \\ 0.043021 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0433 & 5.5649 & 13.3271 \\ 0.4894 & 1 & 2.7235 & 6.5224 \\ 0.1797 & 0.3672 & 1 & 2.3949 \\ 0.0750 & 0.1533 & 0.4176 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.569887 \\ 0.284944 \\ 0.102408 \\ 0.042761 \end{pmatrix} = 0.993964 \cdot \begin{pmatrix} 0.573348 \\ 0.286674 \\ 0.103030 \\ 0.043021 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.5649 & 13.3271 \\ 1/2 & 1 & 2.7824 & 6.6636 \\ 0.1797 & 0.3594 & 1 & 2.3949 \\ 0.0750 & 0.1501 & 0.4176 & 1 \end{pmatrix},$$

Example A.118.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 7 \\ 1/9 & 1/3 & 1 & 5 \\ 1/8 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2649, \quad CR = 0.0999$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.572771 \\ 0.276325 \\ 0.110137 \\ 0.040767 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0728 & 5.2005 & 14.0499 \\ 0.4824 & 1 & 2.5089 & 6.7782 \\ 0.1923 & 0.3986 & 1 & 2.7016 \\ 0.0712 & 0.1475 & 0.3701 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567637 \\ 0.282811 \\ 0.109150 \\ 0.040402 \end{pmatrix} = 0.991038 \cdot \begin{pmatrix} 0.572771 \\ 0.285369 \\ 0.110137 \\ 0.040767 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0071 & 5.2005 & 14.0499 \\ 0.4982 & 1 & 2.5910 & 7 \\ 0.1923 & 0.3859 & 1 & 2.7016 \\ 0.0712 & 1/7 & 0.3701 & 1 \end{pmatrix},$$

Example A.119.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 8 \\ 1/9 & 1/3 & 1 & 5 \\ 1/8 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2637, \quad CR = 0.0994$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.569021 \\ 0.283203 \\ 0.108488 \\ 0.039289 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0092 & 5.2450 & 14.4831 \\ 0.4977 & 1 & 2.6105 & 7.2083 \\ 0.1907 & 0.3831 & 1 & 2.7613 \\ 0.0690 & 0.1387 & 0.3621 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568278 \\ 0.284139 \\ 0.108346 \\ 0.039237 \end{pmatrix} = 0.998694 \cdot \begin{pmatrix} 0.569021 \\ 0.284511 \\ 0.108488 \\ 0.039289 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.2450 & 14.4831 \\ 1/2 & 1 & 2.6225 & 7.2415 \\ 0.1907 & 0.3813 & 1 & 2.7613 \\ 0.0690 & 0.1381 & 0.3621 & 1 \end{pmatrix},$$

Example A.120.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 8 & 3 \\ 1/9 & 1/8 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.555911 \\ 0.313115 \\ 0.069156 \\ 0.061818 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7754 & 8.0385 & 8.9927 \\ 0.5632 & 1 & 4.5277 & 5.0651 \\ 0.1244 & 0.2209 & 1 & 1.1187 \\ 0.1112 & 0.1974 & 0.8939 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.556111 \\ 0.312974 \\ 0.069125 \\ 0.061790 \end{pmatrix} = 0.999550 \cdot \begin{pmatrix} 0.556362 \\ 0.313115 \\ 0.069156 \\ 0.061818 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7769 & 8.0450 & 9 \\ 0.5628 & 1 & 4.5277 & 5.0651 \\ 0.1243 & 0.2209 & 1 & 1.1187 \\ 1/9 & 0.1974 & 0.8939 & 1 \end{pmatrix},$$

Example A.121.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 3 \\ 1/3 & 1 & 1 & 3 \\ 1/2 & 1 & 1 & 2 \\ 1/3 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.456442 \\ 0.221900 \\ \mathbf{0.214267} \\ 0.107390 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{2.1302} & 4.2503 \\ 0.4862 & 1 & \mathbf{1.0356} & 2.0663 \\ \mathbf{0.4694} & \mathbf{0.9656} & 1 & \mathbf{1.9952} \\ 0.2353 & 0.4840 & \mathbf{0.5012} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.456208 \\ 0.221786 \\ 0.214671 \\ 0.107335 \end{pmatrix} = 0.999487 \cdot \begin{pmatrix} 0.456442 \\ 0.221900 \\ \mathbf{0.214781} \\ 0.107390 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{2.1252} & 4.2503 \\ 0.4862 & 1 & \mathbf{1.0331} & 2.0663 \\ \mathbf{0.4706} & \mathbf{0.9679} & 1 & \mathbf{2} \\ 0.2353 & 0.4840 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.122.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 4 \\ 1/3 & 1 & 1 & 4 \\ 1/2 & 1 & 1 & 3 \\ 1/4 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.467688 \\ 0.226342 \\ \mathbf{0.225801} \\ 0.080169 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0663 & \mathbf{2.0712} & 5.8338 \\ 0.4840 & 1 & \mathbf{1.0024} & 2.8233 \\ \mathbf{0.4828} & \mathbf{0.9976} & 1 & \mathbf{2.8166} \\ 0.1714 & 0.3542 & \mathbf{0.3550} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.467435 \\ 0.226220 \\ 0.226220 \\ 0.080125 \end{pmatrix} = 0.999459 \cdot \begin{pmatrix} 0.467688 \\ 0.226342 \\ \mathbf{0.226342} \\ 0.080169 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0663 & \mathbf{2.0663} & 5.8338 \\ 0.4840 & 1 & \mathbf{1} & 2.8233 \\ \mathbf{0.4840} & \mathbf{1} & 1 & \mathbf{2.8233} \\ 0.1714 & 0.3542 & \mathbf{0.3542} & 1 \end{pmatrix},$$

Example A.123.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 4 \\ 1/3 & 1 & 1 & 5 \\ 1/2 & 1 & 1 & 3 \\ 1/4 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.464056 \\ 0.239113 \\ \mathbf{0.221397} \\ 0.075435 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9407 & \mathbf{2.0960} & 6.1517 \\ 0.5153 & 1 & \mathbf{1.0800} & 3.1698 \\ \mathbf{0.4771} & \mathbf{0.9259} & 1 & \mathbf{2.9349} \\ 0.1626 & 0.3155 & \mathbf{0.3407} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.461789 \\ 0.237945 \\ 0.225199 \\ 0.075066 \end{pmatrix} = 0.995116 \cdot \begin{pmatrix} 0.464056 \\ 0.239113 \\ \mathbf{0.226304} \\ 0.075435 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9407 & \mathbf{2.0506} & 6.1517 \\ 0.5153 & 1 & \mathbf{1.0566} & 3.1698 \\ \mathbf{0.4877} & \mathbf{0.9464} & 1 & \mathbf{3} \\ 0.1626 & 0.3155 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.124.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 5 \\ 1/3 & 1 & 1 & 6 \\ 1/2 & 1 & 1 & 4 \\ 1/5 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.471140 \\ 0.239204 \\ \mathbf{0.228749} \\ 0.060907 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9696 & \mathbf{2.0596} & 7.7354 \\ 0.5077 & 1 & \mathbf{1.0457} & 3.9274 \\ \mathbf{0.4855} & \mathbf{0.9563} & 1 & \mathbf{3.7557} \\ 0.1293 & 0.2546 & \mathbf{0.2663} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.467948 \\ 0.237584 \\ 0.233974 \\ 0.060494 \end{pmatrix} = 0.993225 \cdot \begin{pmatrix} 0.471140 \\ 0.239204 \\ \mathbf{0.235570} \\ 0.060907 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9696 & \mathbf{2} & 7.7354 \\ 0.5077 & 1 & \mathbf{1.0154} & 3.9274 \\ \mathbf{1/2} & \mathbf{0.9848} & 1 & \mathbf{3.8677} \\ 0.1293 & 0.2546 & \mathbf{0.2586} & 1 \end{pmatrix},$$

Example A.125.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 5 \\ 1/3 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 4 \\ 1/5 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.468012 \\ 0.248435 \\ \mathbf{0.225218} \\ 0.058335 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8838 & \mathbf{2.0780} & 8.0228 \\ 0.5308 & 1 & \mathbf{1.1031} & 4.2588 \\ \mathbf{0.4812} & \mathbf{0.9065} & 1 & \mathbf{3.8608} \\ 0.1246 & 0.2348 & \mathbf{0.2590} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.464241 \\ 0.246434 \\ 0.231460 \\ 0.057865 \end{pmatrix} = 0.991944 \cdot \begin{pmatrix} 0.468012 \\ 0.248435 \\ \mathbf{0.233340} \\ 0.058335 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8838 & \mathbf{2.0057} & 8.0228 \\ 0.5308 & 1 & \mathbf{1.0647} & 4.2588 \\ \mathbf{0.4986} & \mathbf{0.9392} & 1 & \mathbf{4} \\ 0.1246 & 0.2348 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example A.126.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 5 \\ 1/3 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 4 \\ 1/5 & 1/8 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.464963 \\ 0.256889 \\ \mathbf{0.221995} \\ 0.056154 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8100 & \mathbf{2.0945} & 8.2802 \\ 0.5525 & 1 & \mathbf{1.1572} & 4.5748 \\ \mathbf{0.4774} & \mathbf{0.8642} & 1 & \mathbf{3.9534} \\ 0.1208 & 0.2186 & \mathbf{0.2529} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.463748 \\ 0.256218 \\ 0.224027 \\ 0.056007 \end{pmatrix} = 0.997387 \cdot \begin{pmatrix} 0.464963 \\ 0.256889 \\ \mathbf{0.224614} \\ 0.056154 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8100 & \mathbf{2.0700} & 8.2802 \\ 0.5525 & 1 & \mathbf{1.1437} & 4.5748 \\ \mathbf{0.4831} & \mathbf{0.8744} & 1 & \mathbf{4} \\ 0.1208 & 0.2186 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example A.127.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 5 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 5 \\ 1/5 & 1/9 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.459642 \\ 0.259656 \\ \mathbf{0.229432} \\ 0.051270 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7702 & \mathbf{2.0034} & 8.9651 \\ 0.5649 & 1 & \mathbf{1.1317} & 5.0645 \\ \mathbf{0.4992} & \mathbf{0.8836} & 1 & \mathbf{4.4750} \\ 0.1115 & 0.1975 & \mathbf{0.2235} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.459464 \\ 0.259555 \\ 0.229732 \\ 0.051250 \end{pmatrix} = 0.999611 \cdot \begin{pmatrix} 0.459642 \\ 0.259656 \\ \mathbf{0.229821} \\ 0.051270 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7702 & \mathbf{2} & 8.9651 \\ 0.5649 & 1 & \mathbf{1.1298} & 5.0645 \\ \mathbf{1/2} & \mathbf{0.8851} & 1 & \mathbf{4.4826} \\ 0.1115 & 0.1975 & \mathbf{0.2231} & 1 \end{pmatrix},$$

Example A.128.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 6 \\ 1/3 & 1 & 1 & 6 \\ 1/2 & 1 & 1 & 4 \\ 1/6 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.482342 \\ 0.234491 \\ \mathbf{0.226425} \\ 0.056742 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{2.1302} & 8.5006 \\ 0.4862 & 1 & \mathbf{1.0356} & 4.1326 \\ \mathbf{0.4694} & \mathbf{0.9656} & 1 & \mathbf{3.9904} \\ 0.1176 & 0.2420 & \mathbf{0.2506} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.482080 \\ 0.234364 \\ 0.226845 \\ 0.056711 \end{pmatrix} = 0.999458 \cdot \begin{pmatrix} 0.482342 \\ 0.234491 \\ \mathbf{0.226968} \\ 0.056742 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{2.1252} & 8.5006 \\ 0.4862 & 1 & \mathbf{1.0331} & 4.1326 \\ \mathbf{0.4706} & \mathbf{0.9679} & 1 & \mathbf{4} \\ 0.1176 & 0.2420 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example A.129.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 6 \\ 1/3 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 5 \\ 1/6 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1351, \quad CR = 0.0509$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.475884 \\ 0.239272 \\ \mathbf{0.233732} \\ 0.051112 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9889 & \mathbf{2.0360} & 9.3106 \\ 0.5028 & 1 & \mathbf{1.0237} & 4.6813 \\ \mathbf{0.4912} & \mathbf{0.9768} & 1 & \mathbf{4.5729} \\ 0.1074 & 0.2136 & \mathbf{0.2187} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.473889 \\ 0.238269 \\ 0.236945 \\ 0.050898 \end{pmatrix} = 0.995807 \cdot \begin{pmatrix} 0.475884 \\ 0.239272 \\ \mathbf{0.237942} \\ 0.051112 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9889 & \mathbf{2} & 9.3106 \\ 0.5028 & 1 & \mathbf{1.0056} & 4.6813 \\ \mathbf{1/2} & \mathbf{0.9944} & 1 & \mathbf{4.6553} \\ 0.1074 & 0.2136 & \mathbf{0.2148} & 1 \end{pmatrix},$$

Example A.130.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 6 \\ 1/3 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 5 \\ 1/6 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.473138 \\ 0.247078 \\ \mathbf{0.230550} \\ 0.049234 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9149 & \mathbf{2.0522} & 9.6100 \\ 0.5222 & 1 & \mathbf{1.0717} & 5.0185 \\ \mathbf{0.4873} & \mathbf{0.9331} & 1 & \mathbf{4.6828} \\ 0.1041 & 0.1993 & \mathbf{0.2135} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.470308 \\ 0.245599 \\ 0.235154 \\ 0.048939 \end{pmatrix} = 0.994017 \cdot \begin{pmatrix} 0.473138 \\ 0.247078 \\ \mathbf{0.236569} \\ 0.049234 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9149 & \mathbf{2} & 9.6100 \\ 0.5222 & 1 & \mathbf{1.0444} & 5.0185 \\ \mathbf{1/2} & \mathbf{0.9575} & 1 & \mathbf{4.8050} \\ 0.1041 & 0.1993 & \mathbf{0.2081} & 1 \end{pmatrix},$$

Example A.131.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 6 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 5 \\ 1/6 & 1/9 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.470457 \\ 0.254315 \\ \mathbf{0.227618} \\ 0.047611 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8499 & \mathbf{2.0669} & 9.8813 \\ 0.5406 & 1 & \mathbf{1.1173} & 5.3416 \\ \mathbf{0.4838} & \mathbf{0.8950} & 1 & \mathbf{4.7808} \\ 0.1012 & 0.1872 & \mathbf{0.2092} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.466903 \\ 0.252394 \\ 0.233452 \\ 0.047251 \end{pmatrix} = 0.992447 \cdot \begin{pmatrix} 0.470457 \\ 0.254315 \\ \mathbf{0.235228} \\ 0.047611 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8499 & \mathbf{2} & 9.8813 \\ 0.5406 & 1 & \mathbf{1.0811} & 5.3416 \\ \mathbf{1/2} & \mathbf{0.9250} & 1 & \mathbf{4.9407} \\ 0.1012 & 0.1872 & \mathbf{0.2024} & 1 \end{pmatrix},$$

Example A.132.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 6 \\ 1/3 & 1 & 2 & 3 \\ 1/2 & 1/2 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.503088 \\ 0.243474 \\ 0.172473 \\ \mathbf{0.080964} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0663 & 2.9169 & \mathbf{6.2137} \\ 0.4840 & 1 & 1.4117 & \mathbf{3.0072} \\ 0.3428 & 0.7084 & 1 & \mathbf{2.1302} \\ \mathbf{0.1609} & \mathbf{0.3325} & \mathbf{0.4694} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.502991 \\ 0.243427 \\ 0.172440 \\ 0.081142 \end{pmatrix} = 0.999806 \cdot \begin{pmatrix} 0.503088 \\ 0.243474 \\ 0.172473 \\ \mathbf{0.081158} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0663 & 2.9169 & \mathbf{6.1989} \\ 0.4840 & 1 & 1.4117 & \mathbf{3} \\ 0.3428 & 0.7084 & 1 & \mathbf{2.1252} \\ \mathbf{0.1613} & \mathbf{1/3} & \mathbf{0.4706} & 1 \end{pmatrix},$$

Example A.133.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1027, \quad CR = 0.0387$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.485172 \\ 0.235235 \\ \mathbf{0.231501} \\ 0.048092 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0625 & \mathbf{2.0958} & 10.0884 \\ 0.4848 & 1 & \mathbf{1.0161} & 4.8914 \\ \mathbf{0.4772} & \mathbf{0.9841} & 1 & \mathbf{4.8137} \\ 0.0991 & 0.2044 & \mathbf{0.2077} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.483367 \\ 0.234360 \\ 0.234360 \\ 0.047913 \end{pmatrix} = 0.996279 \cdot \begin{pmatrix} 0.485172 \\ 0.235235 \\ \mathbf{0.235235} \\ 0.048092 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0625 & \mathbf{2.0625} & 10.0884 \\ 0.4848 & 1 & \mathbf{1} & 4.8914 \\ \mathbf{0.4848} & \mathbf{1} & 1 & \mathbf{4.8914} \\ 0.0991 & 0.2044 & \mathbf{0.2044} & 1 \end{pmatrix},$$

Example A.134.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1301, \quad CR = 0.0490$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.482323 \\ 0.242770 \\ \mathbf{0.228592} \\ 0.046315 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9867 & \mathbf{2.1100} & 10.4140 \\ 0.5033 & 1 & \mathbf{1.0620} & 5.2417 \\ \mathbf{0.4739} & \mathbf{0.9416} & 1 & \mathbf{4.9356} \\ 0.0960 & 0.1908 & \mathbf{0.2026} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.480889 \\ 0.242048 \\ 0.230885 \\ 0.046177 \end{pmatrix} = 0.997027 \cdot \begin{pmatrix} 0.482323 \\ 0.242770 \\ \mathbf{0.231574} \\ 0.046315 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9867 & \mathbf{2.0828} & 10.4140 \\ 0.5033 & 1 & \mathbf{1.0483} & 5.2417 \\ \mathbf{0.4801} & \mathbf{0.9539} & 1 & \mathbf{5} \\ 0.0960 & 0.1908 & \mathbf{1/5} & 1 \end{pmatrix},$$

Example A.135.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 6 \\ 1/7 & 1/8 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1317, \quad CR = 0.0496$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.479292 \\ 0.239324 \\ \mathbf{0.237336} \\ 0.044048 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0027 & \mathbf{2.0195} & 10.8812 \\ 0.4993 & 1 & \mathbf{1.0084} & 5.4333 \\ \mathbf{0.4952} & \mathbf{0.9917} & 1 & \mathbf{5.3882} \\ 0.0919 & 0.1840 & \mathbf{0.1856} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.478341 \\ 0.238849 \\ 0.238849 \\ 0.043960 \end{pmatrix} = 0.998016 \cdot \begin{pmatrix} 0.479292 \\ 0.239324 \\ \mathbf{0.239324} \\ 0.044048 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0027 & \mathbf{2.0027} & 10.8812 \\ 0.4993 & 1 & \mathbf{1} & 5.4333 \\ \mathbf{0.4993} & \mathbf{1} & 1 & \mathbf{5.4333} \\ 0.0919 & 0.1840 & \mathbf{0.1840} & 1 \end{pmatrix},$$

Example A.136.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 6 \\ 1/7 & 1/9 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1571, \quad CR = 0.0593$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.476846 \\ 0.246087 \\ \mathbf{0.234452} \\ 0.042614 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9377 & \mathbf{2.0339} & 11.1898 \\ 0.5161 & 1 & \mathbf{1.0496} & 5.7747 \\ \mathbf{0.4917} & \mathbf{0.9527} & 1 & \mathbf{5.5017} \\ 0.0894 & 0.1732 & \mathbf{0.1818} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.474960 \\ 0.245114 \\ 0.237480 \\ 0.042446 \end{pmatrix} = 0.996045 \cdot \begin{pmatrix} 0.476846 \\ 0.246087 \\ \mathbf{0.238423} \\ 0.042614 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9377 & \mathbf{2} & 11.1898 \\ 0.5161 & 1 & \mathbf{1.0321} & 5.7747 \\ \mathbf{1/2} & \mathbf{0.9689} & 1 & \mathbf{5.5949} \\ 0.0894 & 0.1732 & \mathbf{0.1787} & 1 \end{pmatrix},$$

Example A.137.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 3 & 4 \\ 1/2 & 1/3 & 1 & 2 \\ 1/7 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.503663 \\ 0.278336 \\ 0.150222 \\ 0.067779 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8096 & 3.3528 & 7.4310 \\ 0.5526 & 1 & 1.8528 & 4.1065 \\ 0.2983 & 0.5397 & 1 & 2.2164 \\ 0.1346 & 0.2435 & 0.4512 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.502756 \\ 0.277834 \\ 0.149951 \\ 0.069459 \end{pmatrix} = 0.998198 \cdot \begin{pmatrix} 0.503663 \\ 0.278336 \\ 0.150222 \\ 0.069584 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8096 & 3.3528 & 7.2382 \\ 0.5526 & 1 & 1.8528 & 4 \\ 0.2983 & 0.5397 & 1 & 2.1589 \\ 0.1382 & 1/4 & 0.4632 & 1 \end{pmatrix},$$

Example A.138.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 8 \\ 1/3 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 6 \\ 1/8 & 1/8 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.487218 \\ 0.235794 \\ \mathbf{0.235230} \\ 0.041758 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0663 & \mathbf{2.0712} & 11.6676 \\ 0.4840 & 1 & \mathbf{1.0024} & 5.6467 \\ \mathbf{0.4828} & \mathbf{0.9976} & 1 & \mathbf{5.6331} \\ 0.0857 & 0.1771 & \mathbf{0.1775} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.486944 \\ 0.235661 \\ 0.235661 \\ 0.041735 \end{pmatrix} = 0.999437 \cdot \begin{pmatrix} 0.487218 \\ 0.235794 \\ \mathbf{0.235794} \\ 0.041758 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0663 & \mathbf{2.0663} & 11.6676 \\ 0.4840 & 1 & \mathbf{1} & 5.6467 \\ \mathbf{0.4840} & \mathbf{1} & 1 & \mathbf{5.6467} \\ 0.0857 & 0.1771 & \mathbf{0.1771} & 1 \end{pmatrix},$$

Example A.139.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 8 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 6 \\ 1/8 & 1/9 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1263, \quad CR = 0.0476$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.484699 \\ 0.242349 \\ \mathbf{0.232560} \\ 0.040392 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2 & \mathbf{2.0842} & 12 \\ 1/2 & 1 & \mathbf{1.0421} & 6 \\ \mathbf{0.4798} & \mathbf{0.9596} & 1 & \mathbf{5.7577} \\ 1/12 & 1/6 & \mathbf{0.1737} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.48 \\ 0.24 \\ 0.24 \\ 0.04 \end{pmatrix} = 0.990306 \cdot \begin{pmatrix} 0.484699 \\ 0.242349 \\ \mathbf{0.242349} \\ 0.040392 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & \mathbf{2} & 12 \\ 1/2 & 1 & \mathbf{1} & 6 \\ \mathbf{1/2} & \mathbf{1} & 1 & \mathbf{6} \\ 1/12 & 1/6 & \mathbf{1/6} & 1 \end{pmatrix},$$

Example A.140.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 8 \\ 1/3 & 1 & 2 & 4 \\ 1/2 & 1/2 & 1 & 3 \\ 1/8 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.511137 \\ 0.248489 \\ 0.180388 \\ \mathbf{0.059986} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & 2.8335 & \mathbf{8.5210} \\ 0.4862 & 1 & 1.3775 & \mathbf{4.1425} \\ 0.3529 & 0.7259 & 1 & \mathbf{3.0072} \\ \mathbf{0.1174} & \mathbf{0.2414} & \mathbf{0.3325} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.511063 \\ 0.248454 \\ 0.180362 \\ 0.060121 \end{pmatrix} = 0.999856 \cdot \begin{pmatrix} 0.511137 \\ 0.248489 \\ 0.180388 \\ \mathbf{0.060129} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & 2.8335 & \mathbf{8.5006} \\ 0.4862 & 1 & 1.3775 & \mathbf{4.1326} \\ 0.3529 & 0.7259 & 1 & \mathbf{3} \\ \mathbf{0.1176} & \mathbf{0.2420} & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.141.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 9 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 6 \\ 1/9 & 1/9 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.491641 \\ 0.239011 \\ \mathbf{0.230790} \\ 0.038557 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{2.1302} & 12.7509 \\ 0.4862 & 1 & \mathbf{1.0356} & 6.1989 \\ \mathbf{0.4694} & \mathbf{0.9656} & 1 & \mathbf{5.9857} \\ 0.0784 & 0.1613 & \mathbf{0.1671} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.491369 \\ 0.238879 \\ 0.231216 \\ 0.038536 \end{pmatrix} = 0.999447 \cdot \begin{pmatrix} 0.491641 \\ 0.239011 \\ \mathbf{0.231344} \\ 0.038557 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{2.1252} & 12.7509 \\ 0.4862 & 1 & \mathbf{1.0331} & 6.1989 \\ \mathbf{0.4706} & \mathbf{0.9679} & 1 & \mathbf{6} \\ 0.0784 & 0.1613 & \mathbf{1/6} & 1 \end{pmatrix},$$

Example A.142.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 9 \\ 1/3 & 1 & 2 & 4 \\ 1/2 & 1/2 & 1 & 3 \\ 1/9 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.518811 \\ 0.245012 \\ 0.178669 \\ \mathbf{0.057508} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1175 & 2.9038 & \mathbf{9.0216} \\ 0.4723 & 1 & 1.3713 & \mathbf{4.2605} \\ 0.3444 & 0.7292 & 1 & \mathbf{3.1069} \\ \mathbf{0.1108} & \mathbf{0.2347} & \mathbf{0.3219} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.518740 \\ 0.244978 \\ 0.178644 \\ 0.057638 \end{pmatrix} = 0.999862 \cdot \begin{pmatrix} 0.518811 \\ 0.245012 \\ 0.178669 \\ \mathbf{0.057646} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1175 & 2.9038 & \mathbf{9} \\ 0.4723 & 1 & 1.3713 & \mathbf{4.2503} \\ 0.3444 & 0.7292 & 1 & \mathbf{3.0994} \\ \mathbf{1/9} & \mathbf{0.2353} & \mathbf{0.3226} & 1 \end{pmatrix},$$

Example A.143.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 9 \\ 1/3 & 1 & 3 & 5 \\ 1/2 & 1/3 & 1 & 3 \\ 1/9 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.508824 \\ 0.281872 \\ 0.157552 \\ \mathbf{0.051752} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8052 & 3.2296 & \mathbf{9.8320} \\ 0.5540 & 1 & 1.7891 & \mathbf{5.4466} \\ 0.3096 & 0.5589 & 1 & \mathbf{3.0444} \\ \mathbf{0.1017} & \mathbf{0.1836} & \mathbf{0.3285} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.508435 \\ 0.281657 \\ 0.157431 \\ 0.052477 \end{pmatrix} = 0.999235 \cdot \begin{pmatrix} 0.508824 \\ 0.281872 \\ 0.157552 \\ \mathbf{0.052517} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8052 & 3.2296 & \mathbf{9.6887} \\ 0.5540 & 1 & 1.7891 & \mathbf{5.3672} \\ 0.3096 & 0.5589 & 1 & \mathbf{3} \\ \mathbf{0.1032} & \mathbf{0.1863} & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.144.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 4 \\ 1/3 & 1 & 2 & 7 \\ 1/3 & 1/2 & 1 & 2 \\ 1/4 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.492243 \\ 0.294308 \\ \mathbf{0.140808} \\ 0.072640 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.6725 & \mathbf{3.4958} & 6.7764 \\ 0.5979 & 1 & \mathbf{2.0901} & 4.0516 \\ \mathbf{0.2861} & \mathbf{0.4784} & 1 & \mathbf{1.9384} \\ 0.1476 & 0.2468 & \mathbf{0.5159} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.490051 \\ 0.292997 \\ 0.144634 \\ 0.072317 \end{pmatrix} = 0.995547 \cdot \begin{pmatrix} 0.492243 \\ 0.294308 \\ \mathbf{0.145281} \\ 0.072640 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6725 & \mathbf{3.3882} & 6.7764 \\ 0.5979 & 1 & \mathbf{2.0258} & 4.0516 \\ \mathbf{0.2951} & \mathbf{0.4936} & 1 & \mathbf{2} \\ 0.1476 & 0.2468 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.145.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 4 \\ 1/3 & 1 & 3 & 2 \\ 1/3 & 1/3 & 1 & 1 \\ 1/4 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.511210 \\ 0.248525 \\ 0.120276 \\ \mathbf{0.119988} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & 4.2503 & \mathbf{4.2605} \\ 0.4862 & 1 & 2.0663 & \mathbf{2.0712} \\ 0.2353 & 0.4840 & 1 & \mathbf{1.0024} \\ \mathbf{0.2347} & \mathbf{0.4828} & \mathbf{0.9976} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.511063 \\ 0.248454 \\ 0.120241 \\ 0.120241 \end{pmatrix} = 0.999712 \cdot \begin{pmatrix} 0.511210 \\ 0.248525 \\ 0.120276 \\ \mathbf{0.120276} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & 4.2503 & \mathbf{4.2503} \\ 0.4862 & 1 & 2.0663 & \mathbf{2.0663} \\ 0.2353 & 0.4840 & 1 & \mathbf{1} \\ \mathbf{0.2353} & \mathbf{0.4840} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.146.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 5 \\ 1/3 & 1 & 2 & 9 \\ 1/3 & 1/2 & 1 & 3 \\ 1/5 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.497871 \\ 0.297566 \\ \mathbf{0.148531} \\ 0.056032 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.6731 & \mathbf{3.3520} & 8.8854 \\ 0.5977 & 1 & \mathbf{2.0034} & 5.3106 \\ \mathbf{0.2983} & \mathbf{0.4992} & 1 & \mathbf{2.6508} \\ 0.1125 & 0.1883 & \mathbf{0.3772} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.497745 \\ 0.297491 \\ 0.148745 \\ 0.056018 \end{pmatrix} = 0.999748 \cdot \begin{pmatrix} 0.497871 \\ 0.297566 \\ \mathbf{0.148783} \\ 0.056032 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6731 & \mathbf{3.3463} & 8.8854 \\ 0.5977 & 1 & \mathbf{2} & 5.3106 \\ \mathbf{0.2988} & \mathbf{1/2} & 1 & \mathbf{2.6553} \\ 0.1125 & 0.1883 & \mathbf{0.3766} & 1 \end{pmatrix},$$

Example A.147.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 8 \\ 1/3 & 1 & 4 & 5 \\ 1/3 & 1/4 & 1 & 2 \\ 1/8 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1689, \quad CR = 0.0637$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.533160 \\ 0.293334 \\ 0.115705 \\ \mathbf{0.057801} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8176 & 4.6079 & \mathbf{9.2241} \\ 0.5502 & 1 & 2.5352 & \mathbf{5.0749} \\ 0.2170 & 0.3944 & 1 & \mathbf{2.0018} \\ \mathbf{0.1084} & \mathbf{0.1970} & \mathbf{0.4996} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.533133 \\ 0.293319 \\ 0.115699 \\ 0.057849 \end{pmatrix} = 0.999948 \cdot \begin{pmatrix} 0.533160 \\ 0.293334 \\ 0.115705 \\ \mathbf{0.057852} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8176 & 4.6079 & \mathbf{9.2159} \\ 0.5502 & 1 & 2.5352 & \mathbf{5.0704} \\ 0.2170 & 0.3944 & 1 & \mathbf{2} \\ \mathbf{0.1085} & \mathbf{0.1972} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.148.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 9 \\ 1/3 & 1 & 2 & 2 \\ 1/3 & 1/2 & 1 & 5 \\ 1/9 & 1/2 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.542075 \\ 0.209755 \\ 0.185522 \\ 0.062649 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.5843 & 2.9219 & 8.6526 \\ 0.3869 & 1 & 1.1306 & 3.3481 \\ 0.3422 & 0.8845 & 1 & 2.9613 \\ 0.1156 & 0.2987 & 0.3377 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548615 \\ 0.206759 \\ 0.182872 \\ 0.061754 \end{pmatrix} = 0.985717 \cdot \begin{pmatrix} 0.556565 \\ 0.209755 \\ 0.185522 \\ 0.062649 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6534 & 3 & 8.8839 \\ 0.3769 & 1 & 1.1306 & 3.3481 \\ 1/3 & 0.8845 & 1 & 2.9613 \\ 0.1126 & 0.2987 & 0.3377 & 1 \end{pmatrix},$$

Example A.149.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 9 \\ 1/3 & 1 & 4 & 5 \\ 1/3 & 1/4 & 1 & 2 \\ 1/9 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.540469 \\ 0.289393 \\ 0.114757 \\ \mathbf{0.055381} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8676 & 4.7097 & \mathbf{9.7592} \\ 0.5354 & 1 & 2.5218 & \mathbf{5.2255} \\ 0.2123 & 0.3965 & 1 & \mathbf{2.0721} \\ \mathbf{0.1025} & \mathbf{0.1914} & \mathbf{0.4826} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539392 \\ 0.288817 \\ 0.114528 \\ 0.057264 \end{pmatrix} = 0.998006 \cdot \begin{pmatrix} 0.540469 \\ 0.289393 \\ 0.114757 \\ \mathbf{0.057378} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8676 & 4.7097 & \mathbf{9.4194} \\ 0.5354 & 1 & 2.5218 & \mathbf{5.0436} \\ 0.2123 & 0.3965 & 1 & \mathbf{2} \\ \mathbf{0.1062} & \mathbf{0.1983} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.150.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 9 \\ 1/3 & 1 & 5 & 6 \\ 1/3 & 1/5 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.530651 \\ 0.312896 \\ 0.105661 \\ \mathbf{0.050792} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.6959 & 5.0222 & \mathbf{10.4476} \\ 0.5896 & 1 & 2.9613 & \mathbf{6.1604} \\ 0.1991 & 0.3377 & 1 & \mathbf{2.0803} \\ \mathbf{0.0957} & \mathbf{0.1623} & \mathbf{0.4807} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.529932 \\ 0.312471 \\ 0.105518 \\ 0.052079 \end{pmatrix} = 0.998644 \cdot \begin{pmatrix} 0.530651 \\ 0.312896 \\ 0.105661 \\ \mathbf{0.052149} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6959 & 5.0222 & \mathbf{10.1756} \\ 0.5896 & 1 & 2.9613 & \mathbf{6} \\ 0.1991 & 0.3377 & 1 & \mathbf{2.0261} \\ \mathbf{0.0983} & \mathbf{1/6} & \mathbf{0.4936} & 1 \end{pmatrix},$$

Example A.151.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 5 \\ 1/3 & 1 & 2 & 6 \\ 1/4 & 1/2 & 1 & 2 \\ 1/5 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.531985 \\ 0.270096 \\ \mathbf{0.129145} \\ 0.068773 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9696 & \mathbf{4.1193} & 7.7354 \\ 0.5077 & 1 & \mathbf{2.0914} & 3.9274 \\ \mathbf{0.2428} & \mathbf{0.4781} & 1 & \mathbf{1.8779} \\ 0.1293 & 0.2546 & \mathbf{0.5325} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.529944 \\ 0.269060 \\ 0.132486 \\ 0.068509 \end{pmatrix} = 0.996164 \cdot \begin{pmatrix} 0.531985 \\ 0.270096 \\ \mathbf{0.132996} \\ 0.068773 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9696 & \mathbf{4} & 7.7354 \\ 0.5077 & 1 & \mathbf{2.0309} & 3.9274 \\ \mathbf{1/4} & \mathbf{0.4924} & 1 & \mathbf{1.9338} \\ 0.1293 & 0.2546 & \mathbf{0.5171} & 1 \end{pmatrix},$$

Example A.152.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 5 \\ 1/3 & 1 & 2 & 7 \\ 1/4 & 1/2 & 1 & 2 \\ 1/5 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.527402 \\ 0.279961 \\ \mathbf{0.126899} \\ 0.065738 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8838 & \mathbf{4.1561} & 8.0228 \\ 0.5308 & 1 & \mathbf{2.2062} & 4.2588 \\ \mathbf{0.2406} & \mathbf{0.4533} & 1 & \mathbf{1.9304} \\ 0.1246 & 0.2348 & \mathbf{0.5180} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.525000 \\ 0.278686 \\ 0.130876 \\ 0.065438 \end{pmatrix} = 0.995445 \cdot \begin{pmatrix} 0.527402 \\ 0.279961 \\ \mathbf{0.131475} \\ 0.065738 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8838 & \mathbf{4.0114} & 8.0228 \\ 0.5308 & 1 & \mathbf{2.1294} & 4.2588 \\ \mathbf{0.2493} & \mathbf{0.4696} & 1 & \mathbf{2} \\ 0.1246 & 0.2348 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.153.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 5 \\ 1/3 & 1 & 2 & 8 \\ 1/4 & 1/2 & 1 & 2 \\ 1/5 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.523016 \\ 0.288963 \\ \mathbf{0.124856} \\ 0.063165 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8100 & \mathbf{4.1890} & 8.2802 \\ 0.5525 & 1 & \mathbf{2.3144} & 4.5748 \\ \mathbf{0.2387} & \mathbf{0.4321} & 1 & \mathbf{1.9767} \\ 0.1208 & 0.2186 & \mathbf{0.5059} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.522247 \\ 0.288538 \\ 0.126144 \\ 0.063072 \end{pmatrix} = 0.998529 \cdot \begin{pmatrix} 0.523016 \\ 0.288963 \\ \mathbf{0.126329} \\ 0.063165 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8100 & \mathbf{4.1401} & 8.2802 \\ 0.5525 & 1 & \mathbf{2.2874} & 4.5748 \\ \mathbf{0.2415} & \mathbf{0.4372} & 1 & \mathbf{2} \\ 0.1208 & 0.2186 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.154.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 2 & 6 \\ 1/4 & 1/2 & 1 & 2 \\ 1/6 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.543921 \\ 0.264427 \\ \mathbf{0.127666} \\ 0.063986 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{4.2605} & 8.5006 \\ 0.4862 & 1 & \mathbf{2.0712} & 4.1326 \\ \mathbf{0.2347} & \mathbf{0.4828} & 1 & \mathbf{1.9952} \\ 0.1176 & 0.2420 & \mathbf{0.5012} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543754 \\ 0.264346 \\ 0.127933 \\ 0.063966 \end{pmatrix} = 0.999694 \cdot \begin{pmatrix} 0.543921 \\ 0.264427 \\ \mathbf{0.127972} \\ 0.063986 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{4.2503} & 8.5006 \\ 0.4862 & 1 & \mathbf{2.0663} & 4.1326 \\ \mathbf{0.2353} & \mathbf{0.4840} & 1 & \mathbf{2} \\ 0.1176 & 0.2420 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.155.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 4 & 3 \\ 1/4 & 1/4 & 1 & 1 \\ 1/6 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.550567 \\ 0.266452 \\ 0.094375 \\ \mathbf{0.088605} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0663 & 5.8338 & \mathbf{6.2137} \\ 0.4840 & 1 & 2.8233 & \mathbf{3.0072} \\ 0.1714 & 0.3542 & 1 & \mathbf{1.0651} \\ \mathbf{0.1609} & \mathbf{0.3325} & \mathbf{0.9389} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.550450 \\ 0.266396 \\ 0.094355 \\ 0.088799 \end{pmatrix} = 0.999788 \cdot \begin{pmatrix} 0.550567 \\ 0.266452 \\ 0.094375 \\ \mathbf{0.088817} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0663 & 5.8338 & \mathbf{6.1989} \\ 0.4840 & 1 & 2.8233 & \mathbf{3} \\ 0.1714 & 0.3542 & 1 & \mathbf{1.0626} \\ \mathbf{0.1613} & \mathbf{1/3} & \mathbf{0.9411} & 1 \end{pmatrix},$$

Example A.156.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 5 & 3 \\ 1/4 & 1/5 & 1 & 1 \\ 1/6 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.544409 \\ 0.280517 \\ 0.088497 \\ \mathbf{0.086578} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9407 & 6.1517 & \mathbf{6.2881} \\ 0.5153 & 1 & 3.1698 & \mathbf{3.2401} \\ 0.1626 & 0.3155 & 1 & \mathbf{1.0222} \\ \mathbf{0.1590} & \mathbf{0.3086} & \mathbf{0.9783} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543366 \\ 0.279979 \\ 0.088327 \\ 0.088327 \end{pmatrix} = 0.998084 \cdot \begin{pmatrix} 0.544409 \\ 0.280517 \\ 0.088497 \\ \mathbf{0.088497} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9407 & 6.1517 & \mathbf{6.1517} \\ 0.5153 & 1 & 3.1698 & \mathbf{3.1698} \\ 0.1626 & 0.3155 & 1 & \mathbf{1} \\ \mathbf{0.1626} & \mathbf{0.3155} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.157.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 7 & 4 \\ 1/4 & 1/7 & 1 & 1 \\ 1/6 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.529524 \\ 0.316598 \\ 0.078142 \\ \mathbf{0.075736} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.6725 & 6.7764 & \mathbf{6.9917} \\ 0.5979 & 1 & 4.0516 & \mathbf{4.1803} \\ 0.1476 & 0.2468 & 1 & \mathbf{1.0318} \\ \mathbf{0.1430} & \mathbf{0.2392} & \mathbf{0.9692} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.528253 \\ 0.315838 \\ 0.077954 \\ 0.077954 \end{pmatrix} = 0.997600 \cdot \begin{pmatrix} 0.529524 \\ 0.316598 \\ 0.078142 \\ \mathbf{0.078142} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6725 & 6.7764 & \mathbf{6.7764} \\ 0.5979 & 1 & 4.0516 & \mathbf{4.0516} \\ 0.1476 & 0.2468 & 1 & \mathbf{1} \\ \mathbf{0.1476} & \mathbf{0.2468} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.158.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 7 \\ 1/3 & 1 & 2 & 8 \\ 1/4 & 1/2 & 1 & 3 \\ 1/7 & 1/8 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1317, \quad CR = 0.0496$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.543827 \\ 0.271548 \\ \mathbf{0.134646} \\ 0.049978 \end{pmatrix}$$

$$\begin{bmatrix} w_i^{EM} \\ w_j^{EM} \end{bmatrix} = \begin{pmatrix} 1 & 2.0027 & \mathbf{4.0389} & 10.8812 \\ 0.4993 & 1 & \mathbf{2.0168} & 5.4333 \\ \mathbf{0.2476} & \mathbf{0.4958} & 1 & \mathbf{2.6941} \\ 0.0919 & 0.1840 & \mathbf{0.3712} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543214 \\ 0.271242 \\ 0.135621 \\ 0.049922 \end{pmatrix} = 0.998874 \cdot \begin{pmatrix} 0.543827 \\ 0.271548 \\ \mathbf{0.135774} \\ 0.049978 \end{pmatrix},$$

$$\begin{bmatrix} w'_i \\ w'_j \end{bmatrix} = \begin{pmatrix} 1 & 2.0027 & \mathbf{4.0054} & 10.8812 \\ 0.4993 & 1 & \mathbf{2} & 5.4333 \\ \mathbf{0.2497} & \mathbf{1/2} & 1 & \mathbf{2.7167} \\ 0.0919 & 0.1840 & \mathbf{0.3681} & 1 \end{pmatrix},$$

Example A.159.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 7 \\ 1/3 & 1 & 2 & 9 \\ 1/4 & 1/2 & 1 & 3 \\ 1/7 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1571, \quad CR = 0.0593$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.540168 \\ 0.278766 \\ \mathbf{0.132793} \\ 0.048273 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9377 & \mathbf{4.0677} & 11.1898 \\ 0.5161 & 1 & \mathbf{2.0993} & 5.7747 \\ \mathbf{0.2458} & \mathbf{0.4764} & 1 & \mathbf{2.7509} \\ 0.0894 & 0.1732 & \mathbf{0.3635} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.538956 \\ 0.278140 \\ 0.134739 \\ 0.048165 \end{pmatrix} = 0.997756 \cdot \begin{pmatrix} 0.540168 \\ 0.278766 \\ \mathbf{0.135042} \\ 0.048273 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9377 & \mathbf{4} & 11.1898 \\ 0.5161 & 1 & \mathbf{2.0643} & 5.7747 \\ \mathbf{1/4} & \mathbf{0.4844} & 1 & \mathbf{2.7974} \\ 0.0894 & 0.1732 & \mathbf{0.3575} & 1 \end{pmatrix},$$

Example A.160.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 8 \\ 1/3 & 1 & 2 & 2 \\ 1/4 & 1/2 & 1 & 3 \\ 1/8 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.574962 \\ 0.204135 \\ 0.148861 \\ 0.072042 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8166 & 3.8624 & 7.9809 \\ 0.3550 & 1 & 1.3713 & 2.8335 \\ 0.2589 & 0.7292 & 1 & 2.0663 \\ 0.1253 & 0.3529 & 0.4840 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575547 \\ 0.203854 \\ 0.148656 \\ 0.071943 \end{pmatrix} = 0.998624 \cdot \begin{pmatrix} 0.576340 \\ 0.204135 \\ 0.148861 \\ 0.072042 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8233 & 3.8717 & 8 \\ 0.3542 & 1 & 1.3713 & 2.8335 \\ 0.2583 & 0.7292 & 1 & 2.0663 \\ 1/8 & 0.3529 & 0.4840 & 1 \end{pmatrix},$$

Example A.161.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 8 \\ 1/3 & 1 & 2 & 8 \\ 1/4 & 1/2 & 1 & 3 \\ 1/8 & 1/8 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.552160 \\ 0.267223 \\ \mathbf{0.133292} \\ 0.047324 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0663 & \mathbf{4.1425} & 11.6676 \\ 0.4840 & 1 & \mathbf{2.0048} & 5.6467 \\ \mathbf{0.2414} & \mathbf{0.4988} & 1 & \mathbf{2.8166} \\ 0.0857 & 0.1771 & \mathbf{0.3550} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551984 \\ 0.267138 \\ 0.133569 \\ 0.047309 \end{pmatrix} = 0.999681 \cdot \begin{pmatrix} 0.552160 \\ 0.267223 \\ \mathbf{0.133612} \\ 0.047324 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0663 & \mathbf{4.1326} & 11.6676 \\ 0.4840 & 1 & \mathbf{2} & 5.6467 \\ \mathbf{0.2420} & \mathbf{1/2} & 1 & \mathbf{2.8233} \\ 0.0857 & 0.1771 & \mathbf{0.3542} & 1 \end{pmatrix},$$

Example A.162.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 8 \\ 1/3 & 1 & 2 & 9 \\ 1/4 & 1/2 & 1 & 3 \\ 1/8 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1263, \quad CR = 0.0476$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.548476 \\ 0.274238 \\ \mathbf{0.131580} \\ 0.045706 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2 & \mathbf{4.1684} & 12 \\ 1/2 & 1 & \mathbf{2.0842} & 6 \\ \mathbf{0.2399} & \mathbf{0.4798} & 1 & \mathbf{2.8788} \\ 1/12 & 1/6 & \mathbf{0.3474} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.545455 \\ 0.272727 \\ 0.136364 \\ 0.045455 \end{pmatrix} = 0.994492 \cdot \begin{pmatrix} 0.548476 \\ 0.274238 \\ \mathbf{0.137119} \\ 0.045706 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & \mathbf{4} & 12 \\ 1/2 & 1 & \mathbf{2} & 6 \\ \mathbf{1/4} & \mathbf{1/2} & 1 & \mathbf{3} \\ 1/12 & 1/6 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.163.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 9 \\ 1/3 & 1 & 2 & 2 \\ 1/4 & 1/2 & 1 & 3 \\ 1/9 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.583378 \\ 0.201386 \\ 0.146194 \\ 0.069041 \end{pmatrix}$$

$$\begin{bmatrix} w_i^{EM} \\ w_j^{EM} \end{bmatrix} = \begin{pmatrix} 1 & 2.8968 & 3.9904 & 8.4497 \\ 0.3452 & 1 & 1.3775 & 2.9169 \\ 0.2506 & 0.7259 & 1 & 2.1175 \\ 0.1183 & 0.3428 & 0.4723 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.583960 \\ 0.201105 \\ 0.145990 \\ 0.068945 \end{pmatrix} = 0.998604 \cdot \begin{pmatrix} 0.584777 \\ 0.201386 \\ 0.146194 \\ 0.069041 \end{pmatrix},$$

$$\begin{bmatrix} w'_i \\ w'_j \end{bmatrix} = \begin{pmatrix} 1 & 2.9038 & 4 & 8.4700 \\ 0.3444 & 1 & 1.3775 & 2.9169 \\ 1/4 & 0.7259 & 1 & 2.1175 \\ 0.1181 & 0.3428 & 0.4723 & 1 \end{pmatrix},$$

Example A.164.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 9 \\ 1/3 & 1 & 2 & 2 \\ 1/4 & 1/2 & 1 & 4 \\ 1/9 & 1/2 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.575065 \\ 0.201602 \\ 0.158782 \\ 0.064550 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8525 & 3.6217 & 8.9088 \\ 0.3506 & 1 & 1.2697 & 3.1232 \\ 0.2761 & 0.7876 & 1 & 2.4598 \\ 0.1122 & 0.3202 & 0.4065 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.577553 \\ 0.200422 \\ 0.157853 \\ 0.064173 \end{pmatrix} = 0.994146 \cdot \begin{pmatrix} 0.580954 \\ 0.201602 \\ 0.158782 \\ 0.064550 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8817 & 3.6588 & 9 \\ 0.3470 & 1 & 1.2697 & 3.1232 \\ 0.2733 & 0.7876 & 1 & 2.4598 \\ 1/9 & 0.3202 & 0.4065 & 1 \end{pmatrix},$$

Example A.165.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 9 \\ 1/3 & 1 & 2 & 9 \\ 1/4 & 1/2 & 1 & 3 \\ 1/9 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.555775 \\ 0.270190 \\ \mathbf{0.130448} \\ 0.043587 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{4.2605} & 12.7509 \\ 0.4862 & 1 & \mathbf{2.0712} & 6.1989 \\ \mathbf{0.2347} & \mathbf{0.4828} & 1 & \mathbf{2.9928} \\ 0.0784 & 0.1613 & \mathbf{0.3341} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.555601 \\ 0.270106 \\ 0.130720 \\ 0.043573 \end{pmatrix} = 0.999687 \cdot \begin{pmatrix} 0.555775 \\ 0.270190 \\ \mathbf{0.130761} \\ 0.043587 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{4.2503} & 12.7509 \\ 0.4862 & 1 & \mathbf{2.0663} & 6.1989 \\ \mathbf{0.2353} & \mathbf{0.4840} & 1 & \mathbf{3} \\ 0.0784 & 0.1613 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.166.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 3 \\ 1/3 & 1 & 3 & 5 \\ 1/5 & 1/3 & 1 & 1 \\ 1/3 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.511864 \\ 0.294801 \\ \mathbf{0.093243} \\ 0.100092 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7363 & \mathbf{5.4896} & 5.1139 \\ 0.5759 & 1 & \mathbf{3.1617} & 2.9453 \\ \mathbf{0.1822} & \mathbf{0.3163} & 1 & \mathbf{0.9316} \\ 0.1955 & 0.3395 & \mathbf{1.0735} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.509305 \\ 0.293327 \\ 0.097776 \\ 0.099592 \end{pmatrix} = 0.995001 \cdot \begin{pmatrix} 0.511864 \\ 0.294801 \\ \mathbf{0.098267} \\ 0.100092 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7363 & \mathbf{5.2089} & 5.1139 \\ 0.5759 & 1 & \mathbf{3} & 2.9453 \\ \mathbf{0.1920} & \mathbf{1/3} & 1 & \mathbf{0.9818} \\ 0.1955 & 0.3395 & \mathbf{1.0186} & 1 \end{pmatrix},$$

Example A.167.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 7 \\ 1/3 & 1 & 6 & 4 \\ 1/5 & 1/6 & 1 & 1 \\ 1/7 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1417, \quad CR = 0.0534$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.559827 \\ 0.293462 \\ 0.074265 \\ \mathbf{0.072446} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9077 & 7.5382 & \mathbf{7.7275} \\ 0.5242 & 1 & 3.9516 & \mathbf{4.0508} \\ 0.1327 & 0.2531 & 1 & \mathbf{1.0251} \\ \mathbf{0.1294} & \mathbf{0.2469} & \mathbf{0.9755} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.559313 \\ 0.293192 \\ 0.074197 \\ 0.073298 \end{pmatrix} = 0.999081 \cdot \begin{pmatrix} 0.559827 \\ 0.293462 \\ 0.074265 \\ \mathbf{0.073366} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9077 & 7.5382 & \mathbf{7.6307} \\ 0.5242 & 1 & 3.9516 & \mathbf{4} \\ 0.1327 & 0.2531 & 1 & \mathbf{1.0123} \\ \mathbf{0.1311} & \mathbf{1/4} & \mathbf{0.9879} & 1 \end{pmatrix},$$

Example A.168.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 7 \\ 1/3 & 1 & 9 & 5 \\ 1/5 & 1/9 & 1 & 1 \\ 1/7 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2539, \quad CR = 0.0957$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.541040 \\ 0.330974 \\ 0.064169 \\ \mathbf{0.063817} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.6347 & 8.4315 & \mathbf{8.4779} \\ 0.6117 & 1 & 5.1578 & \mathbf{5.1863} \\ 0.1186 & 0.1939 & 1 & \mathbf{1.0055} \\ \mathbf{0.1180} & \mathbf{0.1928} & \mathbf{0.9945} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.540849 \\ 0.330857 \\ 0.064147 \\ 0.064147 \end{pmatrix} = 0.999648 \cdot \begin{pmatrix} 0.541040 \\ 0.330974 \\ 0.064169 \\ \mathbf{0.064169} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6347 & 8.4315 & \mathbf{8.4315} \\ 0.6117 & 1 & 5.1578 & \mathbf{5.1578} \\ 0.1186 & 0.1939 & 1 & \mathbf{1} \\ \mathbf{0.1186} & \mathbf{0.1939} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.169.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 8 \\ 1/3 & 1 & 2 & 5 \\ 1/5 & 1/2 & 1 & 2 \\ 1/8 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0332, \quad CR = 0.0125$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.585026 \\ 0.238888 \\ \mathbf{0.116947} \\ 0.059139 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4490 & \mathbf{5.0025} & 9.8925 \\ 0.4083 & 1 & \mathbf{2.0427} & 4.0395 \\ \mathbf{0.1999} & \mathbf{0.4896} & 1 & \mathbf{1.9775} \\ 0.1011 & 0.2476 & \mathbf{0.5057} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.584993 \\ 0.238874 \\ 0.116999 \\ 0.059135 \end{pmatrix} = 0.999942 \cdot \begin{pmatrix} 0.585026 \\ 0.238888 \\ \mathbf{0.117005} \\ 0.059139 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4490 & \mathbf{5} & 9.8925 \\ 0.4083 & 1 & \mathbf{2.0417} & 4.0395 \\ \mathbf{1/5} & \mathbf{0.4898} & 1 & \mathbf{1.9785} \\ 0.1011 & 0.2476 & \mathbf{0.5054} & 1 \end{pmatrix},$$

Example A.170.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 8 \\ 1/3 & 1 & 6 & 4 \\ 1/5 & 1/6 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.568708 \\ 0.288741 \\ 0.073520 \\ \mathbf{0.069030} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9696 & 7.7354 & \mathbf{8.2385} \\ 0.5077 & 1 & 3.9274 & \mathbf{4.1828} \\ 0.1293 & 0.2546 & 1 & \mathbf{1.0650} \\ \mathbf{0.1214} & \mathbf{0.2391} & \mathbf{0.9389} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567540 \\ 0.288148 \\ 0.073369 \\ 0.070943 \end{pmatrix} = 0.997946 \cdot \begin{pmatrix} 0.568708 \\ 0.288741 \\ 0.073520 \\ \mathbf{0.071089} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9696 & 7.7354 & \mathbf{8} \\ 0.5077 & 1 & 3.9274 & \mathbf{4.0617} \\ 0.1293 & 0.2546 & 1 & \mathbf{1.0342} \\ \mathbf{1/8} & \mathbf{0.2462} & \mathbf{0.9669} & 1 \end{pmatrix},$$

Example A.171.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 8 \\ 1/3 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.563133 \\ 0.298928 \\ 0.070191 \\ \mathbf{0.067748} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8838 & 8.0228 & \mathbf{8.3121} \\ 0.5308 & 1 & 4.2588 & \mathbf{4.4123} \\ 0.1246 & 0.2348 & 1 & \mathbf{1.0361} \\ \mathbf{0.1203} & \mathbf{0.2266} & \mathbf{0.9652} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.561760 \\ 0.298200 \\ 0.070020 \\ 0.070020 \end{pmatrix} = 0.997563 \cdot \begin{pmatrix} 0.563133 \\ 0.298928 \\ 0.070191 \\ \mathbf{0.070191} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8838 & 8.0228 & \mathbf{8.0228} \\ 0.5308 & 1 & 4.2588 & \mathbf{4.2588} \\ 0.1246 & 0.2348 & 1 & \mathbf{1} \\ \mathbf{0.1246} & \mathbf{0.2348} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.172.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 8 \\ 1/3 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.557841 \\ 0.308203 \\ 0.067371 \\ \mathbf{0.066585} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8100 & 8.2802 & \mathbf{8.3779} \\ 0.5525 & 1 & 4.5748 & \mathbf{4.6287} \\ 0.1208 & 0.2186 & 1 & \mathbf{1.0118} \\ \mathbf{0.1194} & \mathbf{0.2160} & \mathbf{0.9883} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.557403 \\ 0.307961 \\ 0.067318 \\ 0.067318 \end{pmatrix} = 0.999215 \cdot \begin{pmatrix} 0.557841 \\ 0.308203 \\ 0.067371 \\ \mathbf{0.067371} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8100 & 8.2802 & \mathbf{8.2802} \\ 0.5525 & 1 & 4.5748 & \mathbf{4.5748} \\ 0.1208 & 0.2186 & 1 & \mathbf{1} \\ \mathbf{0.1208} & \mathbf{0.2186} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.173.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 8 \\ 1/3 & 1 & 9 & 5 \\ 1/5 & 1/9 & 1 & 1 \\ 1/8 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2489, \quad CR = 0.0939$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.549132 \\ 0.326362 \\ 0.063686 \\ \mathbf{0.060820} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.6826 & 8.6225 & \mathbf{9.0287} \\ 0.5943 & 1 & 5.1246 & \mathbf{5.3660} \\ 0.1160 & 0.1951 & 1 & \mathbf{1.0471} \\ \mathbf{0.1108} & \mathbf{0.1864} & \mathbf{0.9550} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547563 \\ 0.325429 \\ 0.063504 \\ 0.063504 \end{pmatrix} = 0.997143 \cdot \begin{pmatrix} 0.549132 \\ 0.326362 \\ 0.063686 \\ \mathbf{0.063686} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6826 & 8.6225 & \mathbf{8.6225} \\ 0.5943 & 1 & 5.1246 & \mathbf{5.1246} \\ 0.1160 & 0.1951 & 1 & \mathbf{1} \\ \mathbf{0.1160} & \mathbf{0.1951} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.174.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 9 \\ 1/3 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 3 \\ 1/9 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.589476 \\ 0.219538 \\ 0.123300 \\ 0.067687 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.6851 & 4.7808 & 8.7088 \\ 0.3724 & 1 & 1.7805 & 3.2434 \\ 0.2092 & 0.5616 & 1 & 1.8216 \\ 0.1148 & 0.3083 & 0.5490 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.597410 \\ 0.215294 \\ 0.120917 \\ 0.066379 \end{pmatrix} = 0.980673 \cdot \begin{pmatrix} 0.609184 \\ 0.219538 \\ 0.123300 \\ 0.067687 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7749 & 4.9407 & 9 \\ 0.3604 & 1 & 1.7805 & 3.2434 \\ 0.2024 & 0.5616 & 1 & 1.8216 \\ 1/9 & 0.3083 & 0.5490 & 1 \end{pmatrix},$$

Example A.175.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.604981 \\ 0.214793 \\ 0.104422 \\ 0.075804 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8166 & 5.7936 & 7.9809 \\ 0.3550 & 1 & 2.0570 & 2.8335 \\ 0.1726 & 0.4862 & 1 & 1.3775 \\ 0.1253 & 0.3529 & 0.7259 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.605553 \\ 0.214482 \\ 0.104271 \\ 0.075694 \end{pmatrix} = 0.998552 \cdot \begin{pmatrix} 0.606431 \\ 0.214793 \\ 0.104422 \\ 0.075804 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8233 & 5.8075 & 8 \\ 0.3542 & 1 & 2.0570 & 2.8335 \\ 0.1722 & 0.4862 & 1 & 1.3775 \\ 1/8 & 0.3529 & 0.7259 & 1 \end{pmatrix},$$

Example A.176.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 6 & 4 \\ 1/6 & 1/6 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.581008 \\ 0.282457 \\ 0.068349 \\ \mathbf{0.068186} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & 8.5006 & \mathbf{8.5210} \\ 0.4862 & 1 & 4.1326 & \mathbf{4.1425} \\ 0.1176 & 0.2420 & 1 & \mathbf{1.0024} \\ \mathbf{0.1174} & \mathbf{0.2414} & \mathbf{0.9976} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.580913 \\ 0.282411 \\ 0.068338 \\ 0.068338 \end{pmatrix} = 0.999837 \cdot \begin{pmatrix} 0.581008 \\ 0.282457 \\ 0.068349 \\ \mathbf{0.068349} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & 8.5006 & \mathbf{8.5006} \\ 0.4862 & 1 & 4.1326 & \mathbf{4.1326} \\ 0.1176 & 0.2420 & 1 & \mathbf{1} \\ \mathbf{0.1176} & \mathbf{0.2420} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.177.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 8 & 5 \\ 1/6 & 1/8 & 1 & 1 \\ 1/8 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1689, \quad CR = 0.0637$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.565899 \\ 0.311346 \\ 0.061405 \\ \mathbf{0.061350} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8176 & 9.2159 & \mathbf{9.2241} \\ 0.5502 & 1 & 5.0704 & \mathbf{5.0749} \\ 0.1085 & 0.1972 & 1 & \mathbf{1.0009} \\ \mathbf{0.1084} & \mathbf{0.1970} & \mathbf{0.9991} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.565868 \\ 0.311329 \\ 0.061401 \\ 0.061401 \end{pmatrix} = 0.999945 \cdot \begin{pmatrix} 0.565899 \\ 0.311346 \\ 0.061405 \\ \mathbf{0.061405} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8176 & 9.2159 & \mathbf{9.2159} \\ 0.5502 & 1 & 5.0704 & \mathbf{5.0704} \\ 0.1085 & 0.1972 & 1 & \mathbf{1} \\ \mathbf{0.1085} & \mathbf{0.1972} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.178.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.613264 \\ 0.211703 \\ 0.102456 \\ 0.072578 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8968 & 5.9857 & 8.4497 \\ 0.3452 & 1 & 2.0663 & 2.9169 \\ 0.1671 & 0.4840 & 1 & 1.4117 \\ 0.1183 & 0.3428 & 0.7084 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.613831 \\ 0.211392 \\ 0.102305 \\ 0.072471 \end{pmatrix} = 0.998532 \cdot \begin{pmatrix} 0.614733 \\ 0.211703 \\ 0.102456 \\ 0.072578 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9038 & 6 & 8.4700 \\ 0.3444 & 1 & 2.0663 & 2.9169 \\ 1/6 & 0.4840 & 1 & 1.4117 \\ 0.1181 & 0.3428 & 0.7084 & 1 \end{pmatrix},$$

Example A.179.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 6 & 4 \\ 1/6 & 1/6 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.588964 \\ 0.278142 \\ 0.067609 \\ \mathbf{0.065284} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1175 & 8.7113 & \mathbf{9.0216} \\ 0.4723 & 1 & 4.1140 & \mathbf{4.2605} \\ 0.1148 & 0.2431 & 1 & \mathbf{1.0356} \\ \mathbf{0.1108} & \mathbf{0.2347} & \mathbf{0.9656} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.588872 \\ 0.278099 \\ 0.067599 \\ 0.065430 \end{pmatrix} = 0.999844 \cdot \begin{pmatrix} 0.588964 \\ 0.278142 \\ 0.067609 \\ \mathbf{0.065440} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1175 & 8.7113 & \mathbf{9} \\ 0.4723 & 1 & 4.1140 & \mathbf{4.2503} \\ 0.1148 & 0.2431 & 1 & \mathbf{1.0331} \\ \mathbf{1/9} & \mathbf{0.2353} & \mathbf{0.9679} & 1 \end{pmatrix},$$

Example A.180.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 7 & 4 \\ 1/6 & 1/7 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.583226 \\ 0.287990 \\ 0.064579 \\ \mathbf{0.064205} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0252 & 9.0313 & \mathbf{9.0838} \\ 0.4938 & 1 & 4.4595 & \mathbf{4.4855} \\ 0.1107 & 0.2242 & 1 & \mathbf{1.0058} \\ \mathbf{0.1101} & \mathbf{0.2229} & \mathbf{0.9942} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.583008 \\ 0.287882 \\ 0.064555 \\ 0.064555 \end{pmatrix} = 0.999627 \cdot \begin{pmatrix} 0.583226 \\ 0.287990 \\ 0.064579 \\ \mathbf{0.064579} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0252 & 9.0313 & \mathbf{9.0313} \\ 0.4938 & 1 & 4.4595 & \mathbf{4.4595} \\ 0.1107 & 0.2242 & 1 & \mathbf{1} \\ \mathbf{0.1107} & \mathbf{0.2242} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.181.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 8 & 5 \\ 1/6 & 1/8 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.573368 \\ 0.307009 \\ 0.060871 \\ \mathbf{0.058752} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8676 & 9.4194 & \mathbf{9.7592} \\ 0.5354 & 1 & 5.0436 & \mathbf{5.2255} \\ 0.1062 & 0.1983 & 1 & \mathbf{1.0361} \\ \mathbf{0.1025} & \mathbf{0.1914} & \mathbf{0.9652} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.572156 \\ 0.306360 \\ 0.060742 \\ 0.060742 \end{pmatrix} = 0.997885 \cdot \begin{pmatrix} 0.573368 \\ 0.307009 \\ 0.060871 \\ \mathbf{0.060871} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8676 & 9.4194 & \mathbf{9.4194} \\ 0.5354 & 1 & 5.0436 & \mathbf{5.0436} \\ 0.1062 & 0.1983 & 1 & \mathbf{1} \\ \mathbf{0.1062} & \mathbf{0.1983} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.182.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.568540 \\ 0.314953 \\ 0.058681 \\ \mathbf{0.057825} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8052 & 9.6887 & \mathbf{9.8320} \\ 0.5540 & 1 & 5.3672 & \mathbf{5.4466} \\ 0.1032 & 0.1863 & 1 & \mathbf{1.0148} \\ \mathbf{0.1017} & \mathbf{0.1836} & \mathbf{0.9854} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568054 \\ 0.314684 \\ 0.058631 \\ 0.058631 \end{pmatrix} = 0.999145 \cdot \begin{pmatrix} 0.568540 \\ 0.314953 \\ 0.058681 \\ \mathbf{0.058681} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8052 & 9.6887 & \mathbf{9.6887} \\ 0.5540 & 1 & 5.3672 & \mathbf{5.3672} \\ 0.1032 & 0.1863 & 1 & \mathbf{1} \\ \mathbf{0.1032} & \mathbf{0.1863} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.183.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 4 \\ 1/3 & 1 & 4 & 6 \\ 1/7 & 1/4 & 1 & 1 \\ 1/4 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.544566 \\ 0.300940 \\ \mathbf{0.073283} \\ 0.081211 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8096 & \mathbf{7.4310} & 6.7056 \\ 0.5526 & 1 & \mathbf{4.1065} & 3.7057 \\ \mathbf{0.1346} & \mathbf{0.2435} & 1 & \mathbf{0.9024} \\ 0.1491 & 0.2699 & \mathbf{1.1082} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543505 \\ 0.300353 \\ 0.075088 \\ 0.081053 \end{pmatrix} = 0.998052 \cdot \begin{pmatrix} 0.544566 \\ 0.300940 \\ \mathbf{0.075235} \\ 0.081211 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8096 & \mathbf{7.2382} & 6.7056 \\ 0.5526 & 1 & \mathbf{4} & 3.7057 \\ \mathbf{0.1382} & \mathbf{1/4} & 1 & \mathbf{0.9264} \\ 0.1491 & 0.2699 & \mathbf{1.0794} & 1 \end{pmatrix},$$

Example A.184.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 4 \\ 1/3 & 1 & 4 & 7 \\ 1/7 & 1/4 & 1 & 1 \\ 1/4 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2395, \quad CR = 0.0903$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.539224 \\ 0.311534 \\ \mathbf{0.071744} \\ 0.077499 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7309 & \mathbf{7.5159} & 6.9579 \\ 0.5777 & 1 & \mathbf{4.3423} & 4.0199 \\ \mathbf{0.1331} & \mathbf{0.2303} & 1 & \mathbf{0.9257} \\ 0.1437 & 0.2488 & \mathbf{1.0802} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.536387 \\ 0.309895 \\ 0.076627 \\ 0.077091 \end{pmatrix} = 0.994740 \cdot \begin{pmatrix} 0.539224 \\ 0.311534 \\ \mathbf{0.077032} \\ 0.077499 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7309 & \mathbf{7} & 6.9579 \\ 0.5777 & 1 & \mathbf{4.0442} & 4.0199 \\ \mathbf{1/7} & \mathbf{0.2473} & 1 & \mathbf{0.9940} \\ 0.1437 & 0.2488 & \mathbf{1.0061} & 1 \end{pmatrix},$$

Example A.185.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 9 \\ 1/3 & 1 & 4 & 2 \\ 1/7 & 1/4 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.614493 \\ 0.223904 \\ 0.090396 \\ 0.071207 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.7445 & 6.7978 & 8.6296 \\ 0.3644 & 1 & 2.4769 & 3.1444 \\ 0.1471 & 0.4037 & 1 & 1.2695 \\ 0.1159 & 0.3180 & 0.7877 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.621414 \\ 0.219884 \\ 0.088773 \\ 0.069929 \end{pmatrix} = 0.982047 \cdot \begin{pmatrix} 0.632774 \\ 0.223904 \\ 0.090396 \\ 0.071207 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8261 & 7 & 8.8864 \\ 0.3538 & 1 & 2.4769 & 3.1444 \\ 1/7 & 0.4037 & 1 & 1.2695 \\ 0.1125 & 0.3180 & 0.7877 & 1 \end{pmatrix},$$

Example A.186.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 5 \\ 1/3 & 1 & 5 & 8 \\ 1/8 & 1/5 & 1 & 1 \\ 1/5 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2144, \quad CR = 0.0808$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.553822 \\ 0.318194 \\ \mathbf{0.061895} \\ 0.066089 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7405 & \mathbf{8.9477} & 8.3800 \\ 0.5745 & 1 & \mathbf{5.1408} & 4.8146 \\ \mathbf{0.1118} & \mathbf{0.1945} & 1 & \mathbf{0.9366} \\ 0.1193 & 0.2077 & \mathbf{1.0677} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552858 \\ 0.317640 \\ 0.063528 \\ 0.065974 \end{pmatrix} = 0.998260 \cdot \begin{pmatrix} 0.553822 \\ 0.318194 \\ \mathbf{0.063639} \\ 0.066089 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7405 & \mathbf{8.7026} & 8.3800 \\ 0.5745 & 1 & \mathbf{5} & 4.8146 \\ \mathbf{0.1149} & \mathbf{1/5} & 1 & \mathbf{0.9629} \\ 0.1193 & 0.2077 & \mathbf{1.0385} & 1 \end{pmatrix},$$

Example A.187.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 7 \\ 1/3 & 1 & 2 & 3 \\ 1/8 & 1/2 & 1 & 2 \\ 1/7 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.625623 \\ 0.202769 \\ 0.103369 \\ 0.068239 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0854 & 6.0523 & 9.1682 \\ 0.3241 & 1 & 1.9616 & 2.9715 \\ 0.1652 & 0.5098 & 1 & 1.5148 \\ 0.1091 & 0.3365 & 0.6601 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.624408 \\ 0.204318 \\ 0.103168 \\ 0.068106 \end{pmatrix} = 0.998057 \cdot \begin{pmatrix} 0.625623 \\ 0.204716 \\ 0.103369 \\ 0.068239 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0561 & 6.0523 & 9.1682 \\ 0.3272 & 1 & 1.9804 & 3 \\ 0.1652 & 0.5049 & 1 & 1.5148 \\ 0.1091 & 1/3 & 0.6601 & 1 \end{pmatrix},$$

Example A.188.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 8 \\ 1/3 & 1 & 2 & 4 \\ 1/8 & 1/2 & 1 & 3 \\ 1/8 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.626673 \\ 0.208392 \\ 0.110981 \\ 0.053954 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0072 & 5.6467 & 11.6150 \\ 0.3325 & 1 & 1.8777 & 3.8624 \\ 0.1771 & 0.5326 & 1 & 2.0570 \\ 0.0861 & 0.2589 & 0.4862 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.626360 \\ 0.208787 \\ 0.110926 \\ 0.053927 \end{pmatrix} = 0.999501 \cdot \begin{pmatrix} 0.626673 \\ 0.208891 \\ 0.110981 \\ 0.053954 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.6467 & 11.6150 \\ 1/3 & 1 & 1.8822 & 3.8717 \\ 0.1771 & 0.5313 & 1 & 2.0570 \\ 0.0861 & 0.2583 & 0.4862 & 1 \end{pmatrix},$$

Example A.189.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 9 \\ 1/3 & 1 & 4 & 2 \\ 1/8 & 1/4 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.624657 \\ 0.218988 \\ 0.086238 \\ 0.070117 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8525 & 7.2434 & 8.9088 \\ 0.3506 & 1 & 2.5394 & 3.1232 \\ 0.1381 & 0.3938 & 1 & 1.2299 \\ 0.1122 & 0.3202 & 0.8131 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.627043 \\ 0.217596 \\ 0.085690 \\ 0.069671 \end{pmatrix} = 0.993644 \cdot \begin{pmatrix} 0.631054 \\ 0.218988 \\ 0.086238 \\ 0.070117 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8817 & 7.3176 & 9 \\ 0.3470 & 1 & 2.5394 & 3.1232 \\ 0.1367 & 0.3938 & 1 & 1.2299 \\ 1/9 & 0.3202 & 0.8131 & 1 \end{pmatrix},$$

Example A.190.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 9 \\ 1/3 & 1 & 5 & 2 \\ 1/8 & 1/5 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2267, \quad CR = 0.0855$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.614838 \\ 0.233474 \\ 0.081681 \\ 0.070006 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.6334 & 7.5273 & 8.7826 \\ 0.3797 & 1 & 2.8584 & 3.3350 \\ 0.1328 & 0.3498 & 1 & 1.1668 \\ 0.1139 & 0.2998 & 0.8571 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.620613 \\ 0.229974 \\ 0.080456 \\ 0.068957 \end{pmatrix} = 0.985009 \cdot \begin{pmatrix} 0.630058 \\ 0.233474 \\ 0.081681 \\ 0.070006 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6986 & 7.7137 & 9 \\ 0.3706 & 1 & 2.8584 & 3.3350 \\ 0.1296 & 0.3498 & 1 & 1.1668 \\ 1/9 & 0.2998 & 0.8571 & 1 \end{pmatrix},$$

Example A.191.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 5 \\ 1/3 & 1 & 2 & 3 \\ 1/9 & 1/2 & 1 & 2 \\ 1/5 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1433, \quad CR = 0.0540$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.614534 \\ 0.204741 \\ 0.103455 \\ 0.077269 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0015 & 5.9401 & 7.9531 \\ 0.3332 & 1 & 1.9790 & 2.6497 \\ 0.1683 & 0.5053 & 1 & 1.3389 \\ 0.1257 & 0.3774 & 0.7469 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.614471 \\ 0.204824 \\ 0.103444 \\ 0.077261 \end{pmatrix} = 0.999896 \cdot \begin{pmatrix} 0.614534 \\ 0.204845 \\ 0.103455 \\ 0.077269 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.9401 & 7.9531 \\ 1/3 & 1 & 1.9800 & 2.6510 \\ 0.1683 & 0.5050 & 1 & 1.3389 \\ 0.1257 & 0.3772 & 0.7469 & 1 \end{pmatrix},$$

Example A.192.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 5 \\ 1/3 & 1 & 2 & 3 \\ 1/9 & 1/2 & 1 & 3 \\ 1/5 & 1/3 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.614117 \\ 0.199330 \\ 0.116396 \\ 0.070158 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0809 & 5.2761 & 8.7534 \\ 0.3246 & 1 & 1.7125 & 2.8412 \\ 0.1895 & 0.5839 & 1 & 1.6591 \\ 0.1142 & 0.3520 & 0.6028 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.610833 \\ 0.203611 \\ 0.115773 \\ 0.069783 \end{pmatrix} = 0.994653 \cdot \begin{pmatrix} 0.614117 \\ 0.204706 \\ 0.116396 \\ 0.070158 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.2761 & 8.7534 \\ 1/3 & 1 & 1.7587 & 2.9178 \\ 0.1895 & 0.5686 & 1 & 1.6591 \\ 0.1142 & 0.3427 & 0.6028 & 1 \end{pmatrix},$$

Example A.193.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 5 \\ 1/3 & 1 & 5 & 7 \\ 1/9 & 1/5 & 1 & 1 \\ 1/5 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1795, \quad CR = 0.0677$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.566299 \\ 0.304902 \\ \mathbf{0.060462} \\ 0.068337 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8573 & \mathbf{9.3662} & 8.2868 \\ 0.5384 & 1 & \mathbf{5.0429} & 4.4617 \\ \mathbf{0.1068} & \mathbf{0.1983} & 1 & \mathbf{0.8848} \\ 0.1207 & 0.2241 & \mathbf{1.1303} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566005 \\ 0.304744 \\ 0.060949 \\ 0.068302 \end{pmatrix} = 0.999482 \cdot \begin{pmatrix} 0.566299 \\ 0.304902 \\ \mathbf{0.060980} \\ 0.068337 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8573 & \mathbf{9.2866} & 8.2868 \\ 0.5384 & 1 & \mathbf{5} & 4.4617 \\ \mathbf{0.1077} & \mathbf{1/5} & 1 & \mathbf{0.8923} \\ 0.1207 & 0.2241 & \mathbf{1.1206} & 1 \end{pmatrix},$$

Example A.194.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 5 \\ 1/3 & 1 & 5 & 8 \\ 1/9 & 1/5 & 1 & 1 \\ 1/5 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2138, \quad CR = 0.0806$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.561218 \\ 0.313837 \\ \mathbf{0.059346} \\ 0.065599 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7882 & \mathbf{9.4567} & 8.5553 \\ 0.5592 & 1 & \mathbf{5.2882} & 4.7842 \\ \mathbf{0.1057} & \mathbf{0.1891} & 1 & \mathbf{0.9047} \\ 0.1169 & 0.2090 & \mathbf{1.1054} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.559533 \\ 0.312894 \\ 0.062170 \\ 0.065402 \end{pmatrix} = 0.996998 \cdot \begin{pmatrix} 0.561218 \\ 0.313837 \\ \mathbf{0.062358} \\ 0.065599 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7882 & \mathbf{9} & 8.5553 \\ 0.5592 & 1 & \mathbf{5.0329} & 4.7842 \\ \mathbf{1/9} & \mathbf{0.1987} & 1 & \mathbf{0.9506} \\ 0.1169 & 0.2090 & \mathbf{1.0520} & 1 \end{pmatrix},$$

Example A.195.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 5 \\ 1/3 & 1 & 5 & 9 \\ 1/9 & 1/5 & 1 & 1 \\ 1/5 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2483, \quad CR = 0.0936$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.556379 \\ 0.322064 \\ \mathbf{0.058327} \\ 0.063229 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7275 & \mathbf{9.5390} & 8.7994 \\ 0.5789 & 1 & \mathbf{5.5217} & 5.0936 \\ \mathbf{0.1048} & \mathbf{0.1811} & 1 & \mathbf{0.9225} \\ 0.1136 & 0.1963 & \mathbf{1.0841} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.554443 \\ 0.320943 \\ 0.061605 \\ 0.063009 \end{pmatrix} = 0.996519 \cdot \begin{pmatrix} 0.556379 \\ 0.322064 \\ \mathbf{0.061820} \\ 0.063229 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7275 & \mathbf{9} & 8.7994 \\ 0.5789 & 1 & \mathbf{5.2097} & 5.0936 \\ \mathbf{1/9} & \mathbf{0.1919} & 1 & \mathbf{0.9777} \\ 0.1136 & 0.1963 & \mathbf{1.0228} & 1 \end{pmatrix},$$

Example A.196.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 5 \\ 1/3 & 1 & 6 & 9 \\ 1/9 & 1/6 & 1 & 1 \\ 1/5 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.552588 \\ 0.330269 \\ \mathbf{0.054952} \\ 0.062191 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.6731 & \mathbf{10.0559} & 8.8854 \\ 0.5977 & 1 & \mathbf{6.0102} & 5.3106 \\ \mathbf{0.0994} & \mathbf{0.1664} & 1 & \mathbf{0.8836} \\ 0.1125 & 0.1883 & \mathbf{1.1317} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552537 \\ 0.330238 \\ 0.055040 \\ 0.062185 \end{pmatrix} = 0.999907 \cdot \begin{pmatrix} 0.552588 \\ 0.330269 \\ \mathbf{0.055045} \\ 0.062191 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6731 & \mathbf{10.0389} & 8.8854 \\ 0.5977 & 1 & \mathbf{6} & 5.3106 \\ \mathbf{0.0996} & \mathbf{1/6} & 1 & \mathbf{0.8851} \\ 0.1125 & 0.1883 & \mathbf{1.1298} & 1 \end{pmatrix},$$

Example A.197.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 6 \\ 1/3 & 1 & 2 & 3 \\ 1/9 & 1/2 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.625992 \\ 0.201487 \\ 0.100985 \\ 0.071536 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1069 & 6.1989 & 8.7507 \\ 0.3219 & 1 & 1.9952 & 2.8166 \\ 0.1613 & 0.5012 & 1 & 1.4117 \\ 0.1143 & 0.3550 & 0.7084 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.625690 \\ 0.201872 \\ 0.100936 \\ 0.071502 \end{pmatrix} = 0.999517 \cdot \begin{pmatrix} 0.625992 \\ 0.201970 \\ 0.100985 \\ 0.071536 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0994 & 6.1989 & 8.7507 \\ 0.3226 & 1 & 2 & 2.8233 \\ 0.1613 & 1/2 & 1 & 1.4117 \\ 0.1143 & 0.3542 & 0.7084 & 1 \end{pmatrix},$$

Example A.198.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 7 \\ 1/3 & 1 & 2 & 4 \\ 1/9 & 1/2 & 1 & 3 \\ 1/7 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1571, \quad CR = 0.0593$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.629258 \\ 0.206259 \\ 0.108248 \\ 0.056235 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0508 & 5.8131 & 11.1898 \\ 0.3278 & 1 & 1.9054 & 3.6678 \\ 0.1720 & 0.5248 & 1 & 1.9249 \\ 0.0894 & 0.2726 & 0.5195 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.627067 \\ 0.209022 \\ 0.107871 \\ 0.056039 \end{pmatrix} = 0.996519 \cdot \begin{pmatrix} 0.629258 \\ 0.209753 \\ 0.108248 \\ 0.056235 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.8131 & 11.1898 \\ 1/3 & 1 & 1.9377 & 3.7299 \\ 0.1720 & 0.5161 & 1 & 1.9249 \\ 0.0894 & 0.2681 & 0.5195 & 1 \end{pmatrix},$$

Example A.199.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 7 \\ 1/3 & 1 & 2 & 4 \\ 1/9 & 1/2 & 1 & 4 \\ 1/7 & 1/4 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.627845 \\ 0.202147 \\ 0.117589 \\ 0.052419 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1059 & 5.3393 & 11.9774 \\ 0.3220 & 1 & 1.7191 & 3.8563 \\ 0.1873 & 0.5817 & 1 & 2.2432 \\ 0.0835 & 0.2593 & 0.4458 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.623397 \\ 0.207799 \\ 0.116756 \\ 0.052048 \end{pmatrix} = 0.992916 \cdot \begin{pmatrix} 0.627845 \\ 0.209282 \\ 0.117589 \\ 0.052419 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.3393 & 11.9774 \\ 1/3 & 1 & 1.7798 & 3.9925 \\ 0.1873 & 0.5619 & 1 & 2.2432 \\ 0.0835 & 0.2505 & 0.4458 & 1 \end{pmatrix},$$

Example A.200.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 8 \\ 1/3 & 1 & 2 & 4 \\ 1/9 & 1/2 & 1 & 3 \\ 1/8 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1263, \quad CR = 0.0476$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.636996 \\ 0.203755 \\ 0.106166 \\ 0.053083 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1263 & 6 & 12 \\ 0.3199 & 1 & 1.9192 & 3.8384 \\ 1/6 & 0.5210 & 1 & 2 \\ 1/12 & 0.2605 & 1/2 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.631579 \\ 0.210526 \\ 0.105263 \\ 0.052632 \end{pmatrix} = 0.991497 \cdot \begin{pmatrix} 0.636996 \\ 0.212332 \\ 0.106166 \\ 0.053083 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 6 & 12 \\ 1/3 & 1 & 2 & 4 \\ 1/6 & 1/2 & 1 & 2 \\ 1/12 & 1/4 & 1/2 & 1 \end{pmatrix},$$

Example A.201.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 8 \\ 1/3 & 1 & 2 & 5 \\ 1/9 & 1/2 & 1 & 4 \\ 1/8 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1972, \quad CR = 0.0744$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.631073 \\ 0.209348 \\ 0.112976 \\ 0.046603 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0145 & 5.5859 & 13.5415 \\ 0.3317 & 1 & 1.8530 & 4.4922 \\ 0.1790 & 0.5397 & 1 & 2.4242 \\ 0.0738 & 0.2226 & 0.4125 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.630436 \\ 0.210145 \\ 0.112862 \\ 0.046556 \end{pmatrix} = 0.998992 \cdot \begin{pmatrix} 0.631073 \\ 0.210358 \\ 0.112976 \\ 0.046603 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.5859 & 13.5415 \\ 1/3 & 1 & 1.8620 & 4.5138 \\ 0.1790 & 0.5371 & 1 & 2.4242 \\ 0.0738 & 0.2215 & 0.4125 & 1 \end{pmatrix},$$

Example A.202.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 8 \\ 1/3 & 1 & 2 & 5 \\ 1/9 & 1/2 & 1 & 5 \\ 1/8 & 1/5 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2637, \quad CR = 0.0994$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.629618 \\ 0.205743 \\ 0.120530 \\ 0.044109 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0602 & 5.2237 & 14.2742 \\ 0.3268 & 1 & 1.7070 & 4.6644 \\ 0.1914 & 0.5858 & 1 & 2.7326 \\ 0.0701 & 0.2144 & 0.3660 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.627028 \\ 0.209009 \\ 0.120035 \\ 0.043927 \end{pmatrix} = 0.995887 \cdot \begin{pmatrix} 0.629618 \\ 0.209873 \\ 0.120530 \\ 0.044109 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.2237 & 14.2742 \\ 1/3 & 1 & 1.7412 & 4.7581 \\ 0.1914 & 0.5743 & 1 & 2.7326 \\ 0.0701 & 0.2102 & 0.3660 & 1 \end{pmatrix},$$

Example A.203.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 9 \\ 1/3 & 1 & 2 & 4 \\ 1/9 & 1/2 & 1 & 3 \\ 1/9 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.643737 \\ 0.201459 \\ 0.104318 \\ 0.050486 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1954 & 6.1709 & 12.7509 \\ 0.3130 & 1 & 1.9312 & 3.9904 \\ 0.1621 & 0.5178 & 1 & 2.0663 \\ 0.0784 & 0.2506 & 0.4840 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.643427 \\ 0.201845 \\ 0.104267 \\ 0.050461 \end{pmatrix} = 0.999517 \cdot \begin{pmatrix} 0.643737 \\ 0.201942 \\ 0.104318 \\ 0.050486 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1877 & 6.1709 & 12.7509 \\ 0.3137 & 1 & 1.9358 & 4 \\ 0.1621 & 0.5166 & 1 & 2.0663 \\ 0.0784 & 1/4 & 0.4840 & 1 \end{pmatrix},$$

Example A.204.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 9 \\ 1/3 & 1 & 2 & 5 \\ 1/9 & 1/2 & 1 & 4 \\ 1/9 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.637635 \\ 0.207138 \\ 0.110993 \\ 0.044234 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0783 & 5.7448 & 14.4151 \\ 0.3249 & 1 & 1.8662 & 4.6828 \\ 0.1741 & 0.5358 & 1 & 2.5092 \\ 0.0694 & 0.2135 & 0.3985 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.634206 \\ 0.211402 \\ 0.110396 \\ 0.043996 \end{pmatrix} = 0.994622 \cdot \begin{pmatrix} 0.637635 \\ 0.212545 \\ 0.110993 \\ 0.044234 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.7448 & 14.4151 \\ 1/3 & 1 & 1.9149 & 4.8050 \\ 0.1741 & 0.5222 & 1 & 2.5092 \\ 0.0694 & 0.2081 & 0.3985 & 1 \end{pmatrix},$$

Example A.205.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 9 \\ 1/3 & 1 & 2 & 5 \\ 1/9 & 1/2 & 1 & 5 \\ 1/9 & 1/5 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.636019 \\ 0.203823 \\ 0.118304 \\ 0.041854 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1204 & 5.3761 & 15.1960 \\ 0.3205 & 1 & 1.7229 & 4.8698 \\ 0.1860 & 0.5804 & 1 & 2.8266 \\ 0.0658 & 0.2053 & 0.3538 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.632572 \\ 0.208138 \\ 0.117663 \\ 0.041628 \end{pmatrix} = 0.994581 \cdot \begin{pmatrix} 0.636019 \\ 0.209272 \\ 0.118304 \\ 0.041854 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0392 & 5.3761 & 15.1960 \\ 0.3290 & 1 & 1.7689 & 5 \\ 0.1860 & 0.5653 & 1 & 2.8266 \\ 0.0658 & 1/5 & 0.3538 & 1 \end{pmatrix},$$

Example A.206.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 4 \\ 1/4 & 1 & 1 & 5 \\ 1/2 & 1 & 1 & 3 \\ 1/4 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.494489 \\ 0.218679 \\ \mathbf{0.212986} \\ 0.073846 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2612 & \mathbf{2.3217} & 6.6962 \\ 0.4422 & 1 & \mathbf{1.0267} & 2.9613 \\ \mathbf{0.4307} & \mathbf{0.9740} & 1 & \mathbf{2.8842} \\ 0.1493 & 0.3377 & \mathbf{0.3467} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.491689 \\ 0.217441 \\ 0.217441 \\ 0.073428 \end{pmatrix} = 0.994339 \cdot \begin{pmatrix} 0.494489 \\ 0.218679 \\ \mathbf{0.218679} \\ 0.073846 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2612 & \mathbf{2.2612} & 6.6962 \\ 0.4422 & 1 & \mathbf{1} & 2.9613 \\ \mathbf{0.4422} & \mathbf{1} & 1 & \mathbf{2.9613} \\ 0.1493 & 0.3377 & \mathbf{0.3377} & 1 \end{pmatrix},$$

Example A.207.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 5 \\ 1/4 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 4 \\ 1/5 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.499168 \\ 0.227315 \\ \mathbf{0.216358} \\ 0.057160 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1959 & \mathbf{2.3071} & 8.7329 \\ 0.4554 & 1 & \mathbf{1.0506} & 3.9768 \\ \mathbf{0.4334} & \mathbf{0.9518} & 1 & \mathbf{3.7851} \\ 0.1145 & 0.2515 & \mathbf{0.2642} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.493758 \\ 0.224851 \\ 0.224851 \\ 0.056540 \end{pmatrix} = 0.989162 \cdot \begin{pmatrix} 0.499168 \\ 0.227315 \\ \mathbf{0.227315} \\ 0.057160 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1959 & \mathbf{2.1959} & 8.7329 \\ 0.4554 & 1 & \mathbf{1} & 3.9768 \\ \mathbf{0.4554} & \mathbf{1} & 1 & \mathbf{3.9768} \\ 0.1145 & 0.2515 & \mathbf{0.2515} & 1 \end{pmatrix},$$

Example A.208.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 6 \\ 1/4 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 5 \\ 1/6 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.504179 \\ 0.225989 \\ \mathbf{0.221589} \\ 0.048242 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2310 & \mathbf{2.2753} & 10.4510 \\ 0.4482 & 1 & \mathbf{1.0199} & 4.6845 \\ \mathbf{0.4395} & \mathbf{0.9805} & 1 & \mathbf{4.5933} \\ 0.0957 & 0.2135 & \mathbf{0.2177} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.501971 \\ 0.224999 \\ 0.224999 \\ 0.048031 \end{pmatrix} = 0.995619 \cdot \begin{pmatrix} 0.504179 \\ 0.225989 \\ \mathbf{0.225989} \\ 0.048242 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2310 & \mathbf{2.2310} & 10.4510 \\ 0.4482 & 1 & \mathbf{1} & 4.6845 \\ \mathbf{0.4482} & \mathbf{1} & 1 & \mathbf{4.6845} \\ 0.0957 & 0.2135 & \mathbf{0.2135} & 1 \end{pmatrix},$$

Example A.209.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 7 \\ 1/4 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2035, \quad CR = 0.0767$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.513071 \\ 0.221728 \\ \mathbf{0.219939} \\ 0.045263 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3140 & \mathbf{2.3328} & 11.3354 \\ 0.4322 & 1 & \mathbf{1.0081} & 4.8987 \\ \mathbf{0.4287} & \mathbf{0.9919} & 1 & \mathbf{4.8592} \\ 0.0882 & 0.2041 & \mathbf{0.2058} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.512154 \\ 0.221332 \\ 0.221332 \\ 0.045182 \end{pmatrix} = 0.998214 \cdot \begin{pmatrix} 0.513071 \\ 0.221728 \\ \mathbf{0.221728} \\ 0.045263 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3140 & \mathbf{2.3140} & 11.3354 \\ 0.4322 & 1 & \mathbf{1} & 4.8987 \\ \mathbf{0.4322} & \mathbf{1} & 1 & \mathbf{4.8987} \\ 0.0882 & 0.2041 & \mathbf{0.2041} & 1 \end{pmatrix},$$

Example A.210.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 7 \\ 1/4 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/9 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2371, \quad CR = 0.0894$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.510875 \\ 0.228266 \\ \mathbf{0.217067} \\ 0.043792 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2381 & \mathbf{2.3535} & 11.6659 \\ 0.4468 & 1 & \mathbf{1.0516} & 5.2125 \\ \mathbf{0.4249} & \mathbf{0.9509} & 1 & \mathbf{4.9568} \\ 0.0857 & 0.1918 & \mathbf{0.2017} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.509909 \\ 0.227835 \\ 0.218547 \\ 0.043709 \end{pmatrix} = 0.998110 \cdot \begin{pmatrix} 0.510875 \\ 0.228266 \\ \mathbf{0.218960} \\ 0.043792 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2381 & \mathbf{2.3332} & 11.6659 \\ 0.4468 & 1 & \mathbf{1.0425} & 5.2125 \\ \mathbf{0.4286} & \mathbf{0.9592} & 1 & \mathbf{5} \\ 0.0857 & 0.1918 & \mathbf{1/5} & 1 \end{pmatrix},$$

Example A.211.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 9 \\ 1/4 & 1 & 2 & 4 \\ 1/2 & 1/2 & 1 & 3 \\ 1/9 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.548078 \\ 0.222813 \\ 0.173971 \\ \mathbf{0.055139} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4598 & 3.1504 & \mathbf{9.9400} \\ 0.4065 & 1 & 1.2807 & \mathbf{4.0410} \\ 0.3174 & 0.7808 & 1 & \mathbf{3.1552} \\ \mathbf{0.1006} & \mathbf{0.2475} & \mathbf{0.3169} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547769 \\ 0.222687 \\ 0.173872 \\ 0.055672 \end{pmatrix} = 0.999436 \cdot \begin{pmatrix} 0.548078 \\ 0.222813 \\ 0.173971 \\ \mathbf{0.055703} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4598 & 3.1504 & \mathbf{9.8393} \\ 0.4065 & 1 & 1.2807 & \mathbf{4} \\ 0.3174 & 0.7808 & 1 & \mathbf{3.1232} \\ \mathbf{0.1016} & \mathbf{1/4} & \mathbf{0.3202} & 1 \end{pmatrix},$$

Example A.212.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 4 \\ 1/4 & 1 & 1 & 3 \\ 1/3 & 1 & 1 & 2 \\ 1/4 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.537947 \\ 0.190537 \\ \mathbf{0.178887} \\ 0.092629 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8233 & \mathbf{3.0072} & 5.8075 \\ 0.3542 & 1 & \mathbf{1.0651} & 2.0570 \\ \mathbf{0.3325} & \mathbf{0.9389} & 1 & \mathbf{1.9312} \\ 0.1722 & 0.4862 & \mathbf{0.5178} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.537716 \\ 0.190455 \\ 0.179239 \\ 0.092590 \end{pmatrix} = 0.999571 \cdot \begin{pmatrix} 0.537947 \\ 0.190537 \\ \mathbf{0.179316} \\ 0.092629 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8233 & \mathbf{3} & 5.8075 \\ 0.3542 & 1 & \mathbf{1.0626} & 2.0570 \\ \mathbf{1/3} & \mathbf{0.9411} & 1 & \mathbf{1.9358} \\ 0.1722 & 0.4862 & \mathbf{0.5166} & 1 \end{pmatrix},$$

Example A.213.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 5 \\ 1/4 & 1 & 3 & 2 \\ 1/3 & 1/3 & 1 & 1 \\ 1/5 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.556973 \\ 0.220863 \\ 0.115578 \\ \mathbf{0.106587} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.5218 & 4.8190 & \mathbf{5.2255} \\ 0.3965 & 1 & 1.9109 & \mathbf{2.0721} \\ 0.2075 & 0.5233 & 1 & \mathbf{1.0844} \\ \mathbf{0.1914} & \mathbf{0.4826} & \mathbf{0.9222} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.554840 \\ 0.220017 \\ 0.115135 \\ 0.110008 \end{pmatrix} = 0.996170 \cdot \begin{pmatrix} 0.556973 \\ 0.220863 \\ 0.115578 \\ \mathbf{0.110431} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5218 & 4.8190 & \mathbf{5.0436} \\ 0.3965 & 1 & 1.9109 & \mathbf{2} \\ 0.2075 & 0.5233 & 1 & \mathbf{1.0466} \\ \mathbf{0.1983} & \mathbf{1/2} & \mathbf{0.9555} & 1 \end{pmatrix},$$

Example A.214.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 5 \\ 1/4 & 1 & 4 & 2 \\ 1/3 & 1/4 & 1 & 1 \\ 1/5 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.551569 \\ 0.237990 \\ 0.106875 \\ \mathbf{0.103567} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3176 & 5.1609 & \mathbf{5.3257} \\ 0.4315 & 1 & 2.2268 & \mathbf{2.2979} \\ 0.1938 & 0.4491 & 1 & \mathbf{1.0319} \\ \mathbf{0.1878} & \mathbf{0.4352} & \mathbf{0.9690} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.549750 \\ 0.237205 \\ 0.106522 \\ 0.106522 \end{pmatrix} = 0.996703 \cdot \begin{pmatrix} 0.551569 \\ 0.237990 \\ 0.106875 \\ \mathbf{0.106875} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3176 & 5.1609 & \mathbf{5.1609} \\ 0.4315 & 1 & 2.2268 & \mathbf{2.2268} \\ 0.1938 & 0.4491 & 1 & \mathbf{1} \\ \mathbf{0.1938} & \mathbf{0.4491} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.215.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 6 \\ 1/4 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/6 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.553080 \\ 0.201918 \\ \mathbf{0.183060} \\ 0.061942 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.7391 & \mathbf{3.0213} & 8.9290 \\ 0.3651 & 1 & \mathbf{1.1030} & 3.2598 \\ \mathbf{0.3310} & \mathbf{0.9066} & 1 & \mathbf{2.9553} \\ 0.1120 & 0.3068 & \mathbf{0.3384} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552362 \\ 0.201656 \\ 0.184121 \\ 0.061862 \end{pmatrix} = 0.998701 \cdot \begin{pmatrix} 0.553080 \\ 0.201918 \\ \mathbf{0.184360} \\ 0.061942 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7391 & \mathbf{3} & 8.9290 \\ 0.3651 & 1 & \mathbf{1.0952} & 3.2598 \\ \mathbf{1/3} & \mathbf{0.9130} & 1 & \mathbf{2.9763} \\ 0.1120 & 0.3068 & \mathbf{0.3360} & 1 \end{pmatrix},$$

Example A.216.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 7 \\ 1/4 & 1 & 1 & 4 \\ 1/3 & 1 & 1 & 3 \\ 1/7 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.567012 \\ 0.187370 \\ \mathbf{0.183773} \\ 0.061846 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0262 & \mathbf{3.0854} & 9.1682 \\ 0.3305 & 1 & \mathbf{1.0196} & 3.0296 \\ \mathbf{0.3241} & \mathbf{0.9808} & 1 & \mathbf{2.9715} \\ 0.1091 & 0.3301 & \mathbf{0.3365} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566013 \\ 0.187040 \\ 0.185210 \\ 0.061737 \end{pmatrix} = 0.998239 \cdot \begin{pmatrix} 0.567012 \\ 0.187370 \\ \mathbf{0.185537} \\ 0.061846 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0262 & \mathbf{3.0561} & 9.1682 \\ 0.3305 & 1 & \mathbf{1.0099} & 3.0296 \\ \mathbf{0.3272} & \mathbf{0.9902} & 1 & \mathbf{3} \\ 0.1091 & 0.3301 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.217.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 8 \\ 1/4 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.564072 \\ 0.199790 \\ \mathbf{0.187574} \\ 0.048564 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8233 & \mathbf{3.0072} & 11.6150 \\ 0.3542 & 1 & \mathbf{1.0651} & 4.1140 \\ \mathbf{0.3325} & \mathbf{0.9389} & 1 & \mathbf{3.8624} \\ 0.0861 & 0.2431 & \mathbf{0.2589} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.563818 \\ 0.199700 \\ 0.187939 \\ 0.048542 \end{pmatrix} = 0.999551 \cdot \begin{pmatrix} 0.564072 \\ 0.199790 \\ \mathbf{0.188024} \\ 0.048564 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8233 & \mathbf{3} & 11.6150 \\ 0.3542 & 1 & \mathbf{1.0626} & 4.1140 \\ \mathbf{1/3} & \mathbf{0.9411} & 1 & \mathbf{3.8717} \\ 0.0861 & 0.2431 & \mathbf{0.2583} & 1 \end{pmatrix},$$

Example A.218.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 8 \\ 1/4 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.560650 \\ 0.207632 \\ \mathbf{0.185159} \\ 0.046559 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.7002 & \mathbf{3.0279} & 12.0417 \\ 0.3703 & 1 & \mathbf{1.1214} & 4.4595 \\ \mathbf{0.3303} & \mathbf{0.8918} & 1 & \mathbf{3.9769} \\ 0.0830 & 0.2242 & \mathbf{0.2515} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.560047 \\ 0.207408 \\ 0.186036 \\ 0.046509 \end{pmatrix} = 0.998924 \cdot \begin{pmatrix} 0.560650 \\ 0.207632 \\ \mathbf{0.186237} \\ 0.046559 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2.7002 & \mathbf{3.0104} & 12.0417 \\ 0.3703 & 1 & \mathbf{1.1149} & 4.4595 \\ \mathbf{0.3322} & \mathbf{0.8970} & 1 & \mathbf{4} \\ 0.0830 & 0.2242 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example A.219.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 9 \\ 1/4 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0539, \quad CR = 0.0203$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.574879 \\ 0.188326 \\ \mathbf{0.188142} \\ 0.048652 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0526 & \mathbf{3.0556} & 11.8162 \\ 0.3276 & 1 & \mathbf{1.0010} & 3.8709 \\ \mathbf{0.3273} & \mathbf{0.9990} & 1 & \mathbf{3.8671} \\ 0.0846 & 0.2583 & \mathbf{0.2586} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.574774 \\ 0.188292 \\ 0.188292 \\ 0.048643 \end{pmatrix} = 0.999816 \cdot \begin{pmatrix} 0.574879 \\ 0.188326 \\ \mathbf{0.188326} \\ 0.048652 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0526 & \mathbf{3.0526} & 11.8162 \\ 0.3276 & 1 & \mathbf{1} & 3.8709 \\ \mathbf{0.3276} & \mathbf{1} & 1 & \mathbf{3.8709} \\ 0.0846 & 0.2583 & \mathbf{0.2583} & 1 \end{pmatrix},$$

Example A.220.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 9 \\ 1/4 & 1 & 4 & 4 \\ 1/3 & 1/4 & 1 & 2 \\ 1/9 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.575443 \\ 0.254190 \\ 0.113609 \\ \mathbf{0.056759} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2638 & 5.0651 & \mathbf{10.1384} \\ 0.4417 & 1 & 2.2374 & \mathbf{4.4784} \\ 0.1974 & 0.4469 & 1 & \mathbf{2.0016} \\ \mathbf{0.0986} & \mathbf{0.2233} & \mathbf{0.4996} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575416 \\ 0.254178 \\ 0.113604 \\ 0.056802 \end{pmatrix} = 0.999954 \cdot \begin{pmatrix} 0.575443 \\ 0.254190 \\ 0.113609 \\ \mathbf{0.056805} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2638 & 5.0651 & \mathbf{10.1302} \\ 0.4417 & 1 & 2.2374 & \mathbf{4.4748} \\ 0.1974 & 0.4469 & 1 & \mathbf{2} \\ \mathbf{0.0987} & \mathbf{0.2235} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.221.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 5 \\ 1/4 & 1 & 2 & 7 \\ 1/4 & 1/2 & 1 & 2 \\ 1/5 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.559717 \\ 0.254888 \\ \mathbf{0.121301} \\ 0.064093 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1959 & \mathbf{4.6143} & 8.7329 \\ 0.4554 & 1 & \mathbf{2.1013} & 3.9768 \\ \mathbf{0.2167} & \mathbf{0.4759} & 1 & \mathbf{1.8926} \\ 0.1145 & 0.2515 & \mathbf{0.5284} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.556300 \\ 0.253332 \\ 0.126666 \\ 0.063702 \end{pmatrix} = 0.993894 \cdot \begin{pmatrix} 0.559717 \\ 0.254888 \\ \mathbf{0.127444} \\ 0.064093 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1959 & \mathbf{4.3919} & 8.7329 \\ 0.4554 & 1 & \mathbf{2} & 3.9768 \\ \mathbf{0.2277} & \mathbf{1/2} & 1 & \mathbf{1.9884} \\ 0.1145 & 0.2515 & \mathbf{0.5029} & 1 \end{pmatrix},$$

Example A.222.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 6 \\ 1/4 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.590789 \\ 0.209253 \\ 0.101728 \\ \mathbf{0.098229} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8233 & 5.8075 & \mathbf{6.0144} \\ 0.3542 & 1 & 2.0570 & \mathbf{2.1302} \\ 0.1722 & 0.4862 & 1 & \mathbf{1.0356} \\ \mathbf{0.1663} & \mathbf{0.4694} & \mathbf{0.9656} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.590650 \\ 0.209204 \\ 0.101704 \\ 0.098442 \end{pmatrix} = 0.999765 \cdot \begin{pmatrix} 0.590789 \\ 0.209253 \\ 0.101728 \\ \mathbf{0.098465} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8233 & 5.8075 & \mathbf{6} \\ 0.3542 & 1 & 2.0570 & \mathbf{2.1252} \\ 0.1722 & 0.4862 & 1 & \mathbf{1.0331} \\ \mathbf{1/6} & \mathbf{0.4706} & \mathbf{0.9679} & 1 \end{pmatrix},$$

Example A.223.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 6 \\ 1/4 & 1 & 5 & 3 \\ 1/4 & 1/5 & 1 & 1 \\ 1/6 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.576321 \\ 0.254868 \\ 0.086066 \\ \mathbf{0.082744} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2612 & 6.6962 & \mathbf{6.9651} \\ 0.4422 & 1 & 2.9613 & \mathbf{3.0802} \\ 0.1493 & 0.3377 & 1 & \mathbf{1.0401} \\ \mathbf{0.1436} & \mathbf{0.3247} & \mathbf{0.9614} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575049 \\ 0.254306 \\ 0.085876 \\ 0.084769 \end{pmatrix} = 0.997793 \cdot \begin{pmatrix} 0.576321 \\ 0.254868 \\ 0.086066 \\ \mathbf{0.084956} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2612 & 6.6962 & \mathbf{6.7837} \\ 0.4422 & 1 & 2.9613 & \mathbf{3} \\ 0.1493 & 0.3377 & 1 & \mathbf{1.0131} \\ \mathbf{0.1474} & \mathbf{1/3} & \mathbf{0.9871} & 1 \end{pmatrix},$$

Example A.224.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 7 \\ 1/4 & 1 & 5 & 3 \\ 1/4 & 1/5 & 1 & 1 \\ 1/7 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.586125 \\ 0.250377 \\ 0.085230 \\ \mathbf{0.078268} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3410 & 6.8770 & \mathbf{7.4887} \\ 0.4272 & 1 & 2.9377 & \mathbf{3.1990} \\ 0.1454 & 0.3404 & 1 & \mathbf{1.0890} \\ \mathbf{0.1335} & \mathbf{0.3126} & \mathbf{0.9183} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.583098 \\ 0.249084 \\ 0.084790 \\ 0.083028 \end{pmatrix} = 0.994836 \cdot \begin{pmatrix} 0.586125 \\ 0.250377 \\ 0.085230 \\ \mathbf{0.083459} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3410 & 6.8770 & \mathbf{7.0229} \\ 0.4272 & 1 & 2.9377 & \mathbf{3} \\ 0.1454 & 0.3404 & 1 & \mathbf{1.0212} \\ \mathbf{0.1424} & \mathbf{1/3} & \mathbf{0.9792} & 1 \end{pmatrix},$$

Example A.225.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 5 \\ 1/4 & 1 & 2 & 6 \\ 1/5 & 1/2 & 1 & 2 \\ 1/5 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.579359 \\ 0.239860 \\ \mathbf{0.114520} \\ 0.066261 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4154 & \mathbf{5.0590} & 8.7436 \\ 0.4140 & 1 & \mathbf{2.0945} & 3.6200 \\ \mathbf{0.1977} & \mathbf{0.4774} & 1 & \mathbf{1.7283} \\ 0.1144 & 0.2762 & \mathbf{0.5786} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.578577 \\ 0.239537 \\ 0.115715 \\ 0.066171 \end{pmatrix} = 0.998650 \cdot \begin{pmatrix} 0.579359 \\ 0.239860 \\ \mathbf{0.115872} \\ 0.066261 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4154 & \mathbf{5} & 8.7436 \\ 0.4140 & 1 & \mathbf{2.0700} & 3.6200 \\ \mathbf{1/5} & \mathbf{0.4831} & 1 & \mathbf{1.7487} \\ 0.1144 & 0.2762 & \mathbf{0.5718} & 1 \end{pmatrix},$$

Example A.226.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 5 \\ 1/4 & 1 & 2 & 7 \\ 1/5 & 1/2 & 1 & 2 \\ 1/5 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.575098 \\ 0.249126 \\ \mathbf{0.112362} \\ 0.063414 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3085 & \mathbf{5.1183} & 9.0690 \\ 0.4332 & 1 & \mathbf{2.2172} & 3.9286 \\ \mathbf{0.1954} & \mathbf{0.4510} & 1 & \mathbf{1.7719} \\ 0.1103 & 0.2545 & \mathbf{0.5644} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.573574 \\ 0.248466 \\ 0.114715 \\ 0.063245 \end{pmatrix} = 0.997349 \cdot \begin{pmatrix} 0.575098 \\ 0.249126 \\ \mathbf{0.115020} \\ 0.063414 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3085 & \mathbf{5} & 9.0690 \\ 0.4332 & 1 & \mathbf{2.1659} & 3.9286 \\ \mathbf{1/5} & \mathbf{0.4617} & 1 & \mathbf{1.8138} \\ 0.1103 & 0.2545 & \mathbf{0.5513} & 1 \end{pmatrix},$$

Example A.227.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 6 \\ 1/4 & 1 & 2 & 6 \\ 1/5 & 1/2 & 1 & 2 \\ 1/6 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.591134 \\ 0.234409 \\ \mathbf{0.113124} \\ 0.061333 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.5218 & \mathbf{5.2255} & 9.6381 \\ 0.3965 & 1 & \mathbf{2.0721} & 3.8219 \\ \mathbf{0.1914} & \mathbf{0.4826} & 1 & \mathbf{1.8444} \\ 0.1038 & 0.2617 & \mathbf{0.5422} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.588731 \\ 0.233456 \\ 0.116728 \\ 0.061084 \end{pmatrix} = 0.995936 \cdot \begin{pmatrix} 0.591134 \\ 0.234409 \\ \mathbf{0.117205} \\ 0.061333 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5218 & \mathbf{5.0436} & 9.6381 \\ 0.3965 & 1 & \mathbf{2} & 3.8219 \\ \mathbf{0.1983} & \mathbf{1/2} & 1 & \mathbf{1.9109} \\ 0.1038 & 0.2617 & \mathbf{0.5233} & 1 \end{pmatrix},$$

Example A.228.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 6 \\ 1/4 & 1 & 2 & 7 \\ 1/5 & 1/2 & 1 & 2 \\ 1/6 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2057, \quad CR = 0.0776$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.586838 \\ 0.243292 \\ \mathbf{0.111178} \\ 0.058693 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4121 & \mathbf{5.2784} & 9.9984 \\ 0.4146 & 1 & \mathbf{2.1883} & 4.1452 \\ \mathbf{0.1895} & \mathbf{0.4570} & 1 & \mathbf{1.8942} \\ 0.1000 & 0.2412 & \mathbf{0.5279} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.583227 \\ 0.241795 \\ 0.116645 \\ 0.058332 \end{pmatrix} = 0.993848 \cdot \begin{pmatrix} 0.586838 \\ 0.243292 \\ \mathbf{0.117368} \\ 0.058693 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4121 & \mathbf{5} & 9.9984 \\ 0.4146 & 1 & \mathbf{2.0729} & 4.1452 \\ \mathbf{1/5} & \mathbf{0.4824} & 1 & \mathbf{1.9997} \\ 0.1000 & 0.2412 & \mathbf{0.5001} & 1 \end{pmatrix},$$

Example A.229.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 6 \\ 1/4 & 1 & 2 & 8 \\ 1/5 & 1/2 & 1 & 2 \\ 1/6 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.582707 \\ 0.251425 \\ \mathbf{0.109414} \\ 0.056454 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3176 & \mathbf{5.3257} & 10.3218 \\ 0.4315 & 1 & \mathbf{2.2979} & 4.4536 \\ \mathbf{0.1878} & \mathbf{0.4352} & 1 & \mathbf{1.9381} \\ 0.0969 & 0.2245 & \mathbf{0.5160} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.580678 \\ 0.250550 \\ 0.112515 \\ 0.056258 \end{pmatrix} = 0.996518 \cdot \begin{pmatrix} 0.582707 \\ 0.251425 \\ \mathbf{0.112908} \\ 0.056454 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3176 & \mathbf{5.1609} & 10.3218 \\ 0.4315 & 1 & \mathbf{2.2268} & 4.4536 \\ \mathbf{0.1938} & \mathbf{0.4491} & 1 & \mathbf{2} \\ 0.0969 & 0.2245 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.230.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 2 & 6 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1301, \quad CR = 0.0490$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.600896 \\ 0.229730 \\ \mathbf{0.111849} \\ 0.057525 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.6157 & \mathbf{5.3724} & 10.4459 \\ 0.3823 & 1 & \mathbf{2.0539} & 3.9936 \\ \mathbf{0.1861} & \mathbf{0.4869} & 1 & \mathbf{1.9444} \\ 0.0957 & 0.2504 & \mathbf{0.5143} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.599089 \\ 0.229040 \\ 0.114520 \\ 0.057352 \end{pmatrix} = 0.996993 \cdot \begin{pmatrix} 0.600896 \\ 0.229730 \\ \mathbf{0.114865} \\ 0.057525 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6157 & \mathbf{5.2313} & 10.4459 \\ 0.3823 & 1 & \mathbf{2} & 3.9936 \\ \mathbf{0.1912} & \mathbf{1/2} & 1 & \mathbf{1.9968} \\ 0.0957 & 0.2504 & \mathbf{0.5008} & 1 \end{pmatrix},$$

Example A.231.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 2 & 7 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.596557 \\ 0.238317 \\ \mathbf{0.110079} \\ 0.055047 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.5032 & \mathbf{5.4194} & 10.8372 \\ 0.3995 & 1 & \mathbf{2.1650} & 4.3293 \\ \mathbf{0.1845} & \mathbf{0.4619} & 1 & \mathbf{1.9997} \\ 0.0923 & 0.2310 & \mathbf{0.5001} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.596547 \\ 0.238313 \\ 0.110093 \\ 0.055046 \end{pmatrix} = 0.999984 \cdot \begin{pmatrix} 0.596557 \\ 0.238317 \\ \mathbf{0.110095} \\ 0.055047 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5032 & \mathbf{5.4186} & 10.8372 \\ 0.3995 & 1 & \mathbf{2.1647} & 4.3293 \\ \mathbf{0.1846} & \mathbf{0.4620} & 1 & \mathbf{2} \\ 0.0923 & 0.2310 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.232.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 5 & 3 \\ 1/5 & 1/5 & 1 & 1 \\ 1/7 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.601358 \\ 0.243538 \\ 0.077779 \\ \mathbf{0.077325} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4693 & 7.7316 & \mathbf{7.7770} \\ 0.4050 & 1 & 3.1311 & \mathbf{3.1495} \\ 0.1293 & 0.3194 & 1 & \mathbf{1.0059} \\ \mathbf{0.1286} & \mathbf{0.3175} & \mathbf{0.9942} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.601085 \\ 0.243427 \\ 0.077744 \\ 0.077744 \end{pmatrix} = 0.999546 \cdot \begin{pmatrix} 0.601358 \\ 0.243538 \\ 0.077779 \\ \mathbf{0.077779} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4693 & 7.7316 & \mathbf{7.7316} \\ 0.4050 & 1 & 3.1311 & \mathbf{3.1311} \\ 0.1293 & 0.3194 & 1 & \mathbf{1} \\ \mathbf{0.1293} & \mathbf{0.3194} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.233.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 8 \\ 1/4 & 1 & 2 & 8 \\ 1/5 & 1/2 & 1 & 3 \\ 1/8 & 1/8 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1689, \quad CR = 0.0637$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.599798 \\ 0.236588 \\ \mathbf{0.118189} \\ 0.045424 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.5352 & \mathbf{5.0749} & 13.2043 \\ 0.3944 & 1 & \mathbf{2.0018} & 5.2084 \\ \mathbf{0.1970} & \mathbf{0.4996} & 1 & \mathbf{2.6019} \\ 0.0757 & 0.1920 & \mathbf{0.3843} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.599735 \\ 0.236564 \\ 0.118282 \\ 0.045420 \end{pmatrix} = 0.999895 \cdot \begin{pmatrix} 0.599798 \\ 0.236588 \\ \mathbf{0.118294} \\ 0.045424 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5352 & \mathbf{5.0704} & 13.2043 \\ 0.3944 & 1 & \mathbf{2} & 5.2084 \\ \mathbf{0.1972} & \mathbf{1/2} & 1 & \mathbf{2.6042} \\ 0.0757 & 0.1920 & \mathbf{0.3840} & 1 \end{pmatrix},$$

Example A.234.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 8 \\ 1/4 & 1 & 2 & 9 \\ 1/5 & 1/2 & 1 & 3 \\ 1/8 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1972, \quad CR = 0.0744$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.596374 \\ 0.243164 \\ \mathbf{0.116543} \\ 0.043918 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4526 & \mathbf{5.1172} & 13.5794 \\ 0.4077 & 1 & \mathbf{2.0865} & 5.5368 \\ \mathbf{0.1954} & \mathbf{0.4793} & 1 & \mathbf{2.6537} \\ 0.0736 & 0.1806 & \mathbf{0.3768} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.594750 \\ 0.242502 \\ 0.118950 \\ 0.043798 \end{pmatrix} = 0.997276 \cdot \begin{pmatrix} 0.596374 \\ 0.243164 \\ \mathbf{0.119275} \\ 0.043918 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4526 & \mathbf{5} & 13.5794 \\ 0.4077 & 1 & \mathbf{2.0387} & 5.5368 \\ \mathbf{1/5} & \mathbf{0.4905} & 1 & \mathbf{2.7159} \\ 0.0736 & 0.1806 & \mathbf{0.3682} & 1 \end{pmatrix},$$

Example A.235.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 8 \\ 1/4 & 1 & 4 & 3 \\ 1/5 & 1/4 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1163, \quad CR = 0.0439$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.615897 \\ 0.226962 \\ 0.081884 \\ \mathbf{0.075257} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.7137 & 7.5215 & \mathbf{8.1839} \\ 0.3685 & 1 & 2.7717 & \mathbf{3.0158} \\ 0.1330 & 0.3608 & 1 & \mathbf{1.0881} \\ \mathbf{0.1222} & \mathbf{0.3316} & \mathbf{0.9191} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.615653 \\ 0.226872 \\ 0.081852 \\ 0.075624 \end{pmatrix} = 0.999604 \cdot \begin{pmatrix} 0.615897 \\ 0.226962 \\ 0.081884 \\ \mathbf{0.075654} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7137 & 7.5215 & \mathbf{8.1410} \\ 0.3685 & 1 & 2.7717 & \mathbf{3} \\ 0.1330 & 0.3608 & 1 & \mathbf{1.0824} \\ \mathbf{0.1228} & \mathbf{1/3} & \mathbf{0.9239} & 1 \end{pmatrix},$$

Example A.236.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 8 \\ 1/4 & 1 & 5 & 3 \\ 1/5 & 1/5 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.610049 \\ 0.239429 \\ 0.076921 \\ \mathbf{0.073601} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.5479 & 7.9308 & \mathbf{8.2886} \\ 0.3925 & 1 & 3.1127 & \mathbf{3.2531} \\ 0.1261 & 0.3213 & 1 & \mathbf{1.0451} \\ \mathbf{0.1206} & \mathbf{0.3074} & \mathbf{0.9568} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.608433 \\ 0.238795 \\ 0.076717 \\ 0.076054 \end{pmatrix} = 0.997352 \cdot \begin{pmatrix} 0.610049 \\ 0.239429 \\ 0.076921 \\ \mathbf{0.076256} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5479 & 7.9308 & \mathbf{8} \\ 0.3925 & 1 & 3.1127 & \mathbf{3.1398} \\ 0.1261 & 0.3213 & 1 & \mathbf{1.0087} \\ \mathbf{1/8} & \mathbf{0.3185} & \mathbf{0.9914} & 1 \end{pmatrix},$$

Example A.237.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 8 \\ 1/4 & 1 & 6 & 3 \\ 1/5 & 1/6 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.604412 \\ 0.250450 \\ 0.072995 \\ \mathbf{0.072144} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4133 & 8.2802 & \mathbf{8.3779} \\ 0.4144 & 1 & 3.4311 & \mathbf{3.4716} \\ 0.1208 & 0.2915 & 1 & \mathbf{1.0118} \\ \mathbf{0.1194} & \mathbf{0.2881} & \mathbf{0.9883} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.603898 \\ 0.250237 \\ 0.072933 \\ 0.072933 \end{pmatrix} = 0.999149 \cdot \begin{pmatrix} 0.604412 \\ 0.250450 \\ 0.072995 \\ \mathbf{0.072995} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4133 & 8.2802 & \mathbf{8.2802} \\ 0.4144 & 1 & 3.4311 & \mathbf{3.4311} \\ 0.1208 & 0.2915 & 1 & \mathbf{1} \\ \mathbf{0.1208} & \mathbf{0.2915} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.238.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 8 \\ 1/4 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.595856 \\ 0.271346 \\ 0.068232 \\ 0.064567 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1959 & 8.7329 & 9.2286 \\ 0.4554 & 1 & 3.9768 & 4.2026 \\ 0.1145 & 0.2515 & 1 & 1.0568 \\ 0.1084 & 0.2379 & 0.9463 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.593914 \\ 0.270461 \\ 0.068009 \\ 0.067615 \end{pmatrix} = 0.996741 \cdot \begin{pmatrix} 0.595856 \\ 0.271346 \\ 0.068232 \\ 0.067836 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1959 & 8.7329 & 8.7837 \\ 0.4554 & 1 & 3.9768 & 4 \\ 0.1145 & 0.2515 & 1 & 1.0058 \\ 0.1138 & 1/4 & 0.9942 & 1 \end{pmatrix},$$

Example A.239.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 9 \\ 1/4 & 1 & 2 & 9 \\ 1/5 & 1/2 & 1 & 3 \\ 1/9 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.603471 \\ 0.239301 \\ \mathbf{0.115485} \\ 0.041742 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.5218 & \mathbf{5.2255} & 14.4571 \\ 0.3965 & 1 & \mathbf{2.0721} & 5.7328 \\ \mathbf{0.1914} & \mathbf{0.4826} & 1 & \mathbf{2.7666} \\ 0.0692 & 0.1744 & \mathbf{0.3615} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.600968 \\ 0.238309 \\ 0.119154 \\ 0.041569 \end{pmatrix} = 0.995851 \cdot \begin{pmatrix} 0.603471 \\ 0.239301 \\ \mathbf{0.119651} \\ 0.041742 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5218 & \mathbf{5.0436} & 14.4571 \\ 0.3965 & 1 & \mathbf{2} & 5.7328 \\ \mathbf{0.1983} & \mathbf{1/2} & 1 & \mathbf{2.8664} \\ 0.0692 & 0.1744 & \mathbf{0.3489} & 1 \end{pmatrix},$$

Example A.240.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 9 \\ 1/4 & 1 & 6 & 4 \\ 1/5 & 1/6 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2146, \quad CR = 0.0809$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.607993 \\ 0.258046 \\ 0.070841 \\ \mathbf{0.063120} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3561 & 8.5825 & \mathbf{9.6323} \\ 0.4244 & 1 & 3.6426 & \mathbf{4.0882} \\ 0.1165 & 0.2745 & 1 & \mathbf{1.1223} \\ \mathbf{0.1038} & \mathbf{0.2446} & \mathbf{0.8910} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.607148 \\ 0.257688 \\ 0.070742 \\ 0.064422 \end{pmatrix} = 0.998610 \cdot \begin{pmatrix} 0.607993 \\ 0.258046 \\ 0.070841 \\ \mathbf{0.064512} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3561 & 8.5825 & \mathbf{9.4246} \\ 0.4244 & 1 & 3.6426 & \mathbf{4} \\ 0.1165 & 0.2745 & 1 & \mathbf{1.0981} \\ \mathbf{0.1061} & \mathbf{1/4} & \mathbf{0.9107} & 1 \end{pmatrix},$$

Example A.241.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 9 \\ 1/4 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2594, \quad CR = 0.0978$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.602932 \\ 0.267529 \\ 0.067696 \\ \mathbf{0.061843} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2537 & 8.9064 & \mathbf{9.7494} \\ 0.4437 & 1 & 3.9519 & \mathbf{4.3259} \\ 0.1123 & 0.2530 & 1 & \mathbf{1.0946} \\ \mathbf{0.1026} & \mathbf{0.2312} & \mathbf{0.9135} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.599909 \\ 0.266188 \\ 0.067357 \\ 0.066547 \end{pmatrix} = 0.994986 \cdot \begin{pmatrix} 0.602932 \\ 0.267529 \\ 0.067696 \\ \mathbf{0.066882} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2537 & 8.9064 & \mathbf{9.0148} \\ 0.4437 & 1 & 3.9519 & \mathbf{4} \\ 0.1123 & 0.2530 & 1 & \mathbf{1.0122} \\ \mathbf{0.1109} & \mathbf{1/4} & \mathbf{0.9880} & 1 \end{pmatrix},$$

Example A.242.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 8 \\ 1/4 & 1 & 2 & 6 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.622450 \\ 0.220467 \\ \mathbf{0.103494} \\ 0.053590 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8233 & \mathbf{6.0144} & 11.6150 \\ 0.3542 & 1 & \mathbf{2.1302} & 4.1140 \\ \mathbf{0.1663} & \mathbf{0.4694} & 1 & \mathbf{1.9312} \\ 0.0861 & 0.2431 & \mathbf{0.5178} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.622295 \\ 0.220412 \\ 0.103716 \\ 0.053577 \end{pmatrix} = 0.999752 \cdot \begin{pmatrix} 0.622450 \\ 0.220467 \\ \mathbf{0.103742} \\ 0.053590 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8233 & \mathbf{6} & 11.6150 \\ 0.3542 & 1 & \mathbf{2.1252} & 4.1140 \\ \mathbf{1/6} & \mathbf{0.4706} & 1 & \mathbf{1.9358} \\ 0.0861 & 0.2431 & \mathbf{0.5166} & 1 \end{pmatrix},$$

Example A.243.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 8 \\ 1/4 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.617850 \\ 0.228815 \\ \mathbf{0.102025} \\ 0.051309 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.7002 & \mathbf{6.0559} & 12.0417 \\ 0.3703 & 1 & \mathbf{2.2427} & 4.4595 \\ \mathbf{0.1651} & \mathbf{0.4459} & 1 & \mathbf{1.9884} \\ 0.0830 & 0.2242 & \mathbf{0.5029} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.617484 \\ 0.228679 \\ 0.102558 \\ 0.051279 \end{pmatrix} = 0.999407 \cdot \begin{pmatrix} 0.617850 \\ 0.228815 \\ \mathbf{0.102619} \\ 0.051309 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7002 & \mathbf{6.0208} & 12.0417 \\ 0.3703 & 1 & \mathbf{2.2298} & 4.4595 \\ \mathbf{0.1661} & \mathbf{0.4485} & 1 & \mathbf{2} \\ 0.0830 & 0.2242 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.244.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 2 \\ 1/9 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0539, \quad CR = 0.0203$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.634574 \\ 0.207882 \\ \mathbf{0.103840} \\ 0.053704 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0526 & \mathbf{6.1111} & 11.8162 \\ 0.3276 & 1 & \mathbf{2.0020} & 3.8709 \\ \mathbf{0.1636} & \mathbf{0.4995} & 1 & \mathbf{1.9336} \\ 0.0846 & 0.2583 & \mathbf{0.5172} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.634510 \\ 0.207861 \\ 0.103930 \\ 0.053699 \end{pmatrix} = 0.999899 \cdot \begin{pmatrix} 0.634574 \\ 0.207882 \\ \mathbf{0.103941} \\ 0.053704 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0526 & \mathbf{6.1051} & 11.8162 \\ 0.3276 & 1 & \mathbf{2} & 3.8709 \\ \mathbf{0.1638} & \mathbf{1/2} & 1 & \mathbf{1.9354} \\ 0.0846 & 0.2583 & \mathbf{0.5167} & 1 \end{pmatrix},$$

Example A.245.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 5 & 3 \\ 1/6 & 1/5 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.629960 \\ 0.229985 \\ 0.070552 \\ \mathbf{0.069502} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.7391 & 8.9290 & \mathbf{9.0639} \\ 0.3651 & 1 & 3.2598 & \mathbf{3.3090} \\ 0.1120 & 0.3068 & 1 & \mathbf{1.0151} \\ \mathbf{0.1103} & \mathbf{0.3022} & \mathbf{0.9851} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.629650 \\ 0.229872 \\ 0.070518 \\ 0.069961 \end{pmatrix} = 0.999507 \cdot \begin{pmatrix} 0.629960 \\ 0.229985 \\ 0.070552 \\ \mathbf{0.069996} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7391 & 8.9290 & \mathbf{9} \\ 0.3651 & 1 & 3.2598 & \mathbf{3.2857} \\ 0.1120 & 0.3068 & 1 & \mathbf{1.0080} \\ \mathbf{1/9} & \mathbf{0.3043} & \mathbf{0.9921} & 1 \end{pmatrix},$$

Example A.246.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 6 & 4 \\ 1/6 & 1/6 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.619984 \\ 0.252045 \\ 0.065598 \\ \mathbf{0.062373} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4598 & 9.4512 & \mathbf{9.9400} \\ 0.4065 & 1 & 3.8422 & \mathbf{4.0410} \\ 0.1058 & 0.2603 & 1 & \mathbf{1.0517} \\ \mathbf{0.1006} & \mathbf{0.2475} & \mathbf{0.9508} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.619589 \\ 0.251884 \\ 0.065556 \\ 0.062971 \end{pmatrix} = 0.999362 \cdot \begin{pmatrix} 0.619984 \\ 0.252045 \\ 0.065598 \\ \mathbf{0.063011} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4598 & 9.4512 & \mathbf{9.8393} \\ 0.4065 & 1 & 3.8422 & \mathbf{4} \\ 0.1058 & 0.2603 & 1 & \mathbf{1.0411} \\ \mathbf{0.1016} & \mathbf{1/4} & \mathbf{0.9606} & 1 \end{pmatrix},$$

Example A.247.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 7 & 4 \\ 1/6 & 1/7 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.614924 \\ 0.261166 \\ 0.062690 \\ \mathbf{0.061220} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3545 & 9.8090 & \mathbf{10.0444} \\ 0.4247 & 1 & 4.1660 & \mathbf{4.2660} \\ 0.1019 & 0.2400 & 1 & \mathbf{1.0240} \\ \mathbf{0.0996} & \mathbf{0.2344} & \mathbf{0.9766} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.614022 \\ 0.260783 \\ 0.062598 \\ 0.062598 \end{pmatrix} = 0.998533 \cdot \begin{pmatrix} 0.614924 \\ 0.261166 \\ 0.062690 \\ \mathbf{0.062690} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3545 & 9.8090 & \mathbf{9.8090} \\ 0.4247 & 1 & 4.1660 & \mathbf{4.1660} \\ 0.1019 & 0.2400 & 1 & \mathbf{1} \\ \mathbf{0.1019} & \mathbf{0.2400} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.248.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.610099 \\ 0.269498 \\ 0.060226 \\ \mathbf{0.060177} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2638 & 10.1302 & \mathbf{10.1384} \\ 0.4417 & 1 & 4.4748 & \mathbf{4.4784} \\ 0.0987 & 0.2235 & 1 & \mathbf{1.0008} \\ \mathbf{0.0986} & \mathbf{0.2233} & \mathbf{0.9992} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.610069 \\ 0.269485 \\ 0.060223 \\ 0.060223 \end{pmatrix} = 0.999951 \cdot \begin{pmatrix} 0.610099 \\ 0.269498 \\ 0.060226 \\ \mathbf{0.060226} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2638 & 10.1302 & \mathbf{10.1302} \\ 0.4417 & 1 & 4.4748 & \mathbf{4.4748} \\ 0.0987 & 0.2235 & 1 & \mathbf{1} \\ \mathbf{0.0987} & \mathbf{0.2235} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.249.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 9 \\ 1/4 & 1 & 4 & 3 \\ 1/7 & 1/4 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.646179 \\ 0.213530 \\ 0.070481 \\ \mathbf{0.069810} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0262 & 9.1682 & \mathbf{9.2562} \\ 0.3305 & 1 & 3.0296 & \mathbf{3.0587} \\ 0.1091 & 0.3301 & 1 & \mathbf{1.0096} \\ \mathbf{0.1080} & \mathbf{0.3269} & \mathbf{0.9905} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.645746 \\ 0.213387 \\ 0.070433 \\ 0.070433 \end{pmatrix} = 0.999330 \cdot \begin{pmatrix} 0.646179 \\ 0.213530 \\ 0.070481 \\ \mathbf{0.070481} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0262 & 9.1682 & \mathbf{9.1682} \\ 0.3305 & 1 & 3.0296 & \mathbf{3.0296} \\ 0.1091 & 0.3301 & 1 & \mathbf{1} \\ \mathbf{0.1091} & \mathbf{0.3301} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.250.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 2 & 7 \\ 1/5 & 1 & 2 & 2 \\ 1/2 & 1/2 & 1 & 2 \\ 1/7 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.566438 \\ 0.187506 \\ 0.166215 \\ \mathbf{0.079841} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0209 & 3.4079 & \mathbf{7.0946} \\ 0.3310 & 1 & 1.1281 & \mathbf{2.3485} \\ 0.2934 & 0.8864 & 1 & \mathbf{2.0818} \\ \mathbf{0.1410} & \mathbf{0.4258} & \mathbf{0.4803} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.565828 \\ 0.187304 \\ 0.166035 \\ 0.080833 \end{pmatrix} = 0.998922 \cdot \begin{pmatrix} 0.566438 \\ 0.187506 \\ 0.166215 \\ \mathbf{0.080920} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0209 & 3.4079 & \mathbf{7} \\ 0.3310 & 1 & 1.1281 & \mathbf{2.3172} \\ 0.2934 & 0.8864 & 1 & \mathbf{2.0541} \\ \mathbf{1/7} & \mathbf{0.4316} & \mathbf{0.4868} & 1 \end{pmatrix},$$

Example A.251.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 3 \\ 1/5 & 1 & 1 & 3 \\ 1/3 & 1 & 1 & 2 \\ 1/3 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.540312 \\ 0.182458 \\ \mathbf{0.175415} \\ 0.101815 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{3.0802} & 5.3068 \\ 0.3377 & 1 & \mathbf{1.0401} & 1.7920 \\ \mathbf{0.3247} & \mathbf{0.9614} & 1 & \mathbf{1.7229} \\ 0.1884 & 0.5580 & \mathbf{0.5804} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.537791 \\ 0.181606 \\ 0.179264 \\ 0.101340 \end{pmatrix} = 0.995333 \cdot \begin{pmatrix} 0.540312 \\ 0.182458 \\ \mathbf{0.180104} \\ 0.101815 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{3} & 5.3068 \\ 0.3377 & 1 & \mathbf{1.0131} & 1.7920 \\ \mathbf{1/3} & \mathbf{0.9871} & 1 & \mathbf{1.7689} \\ 0.1884 & 0.5580 & \mathbf{0.5653} & 1 \end{pmatrix},$$

Example A.252.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 4 \\ 1/5 & 1 & 1 & 3 \\ 1/3 & 1 & 1 & 2 \\ 1/4 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.559960 \\ 0.176655 \\ \mathbf{0.172824} \\ 0.090561 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1698 & \mathbf{3.2401} & 6.1832 \\ 0.3155 & 1 & \mathbf{1.0222} & 1.9507 \\ \mathbf{0.3086} & \mathbf{0.9783} & 1 & \mathbf{1.9084} \\ 0.1617 & 0.5126 & \mathbf{0.5240} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.557823 \\ 0.175981 \\ 0.175981 \\ 0.090216 \end{pmatrix} = 0.996184 \cdot \begin{pmatrix} 0.559960 \\ 0.176655 \\ \mathbf{0.176655} \\ 0.090561 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1698 & \mathbf{3.1698} & 6.1832 \\ 0.3155 & 1 & \mathbf{1} & 1.9507 \\ \mathbf{0.3155} & \mathbf{1} & 1 & \mathbf{1.9507} \\ 0.1617 & 0.5126 & \mathbf{0.5126} & 1 \end{pmatrix},$$

Example A.253.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 5 \\ 1/5 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/5 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.564472 \\ 0.191652 \\ \mathbf{0.178537} \\ 0.065339 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9453 & \mathbf{3.1617} & 8.6391 \\ 0.3395 & 1 & \mathbf{1.0735} & 2.9332 \\ \mathbf{0.3163} & \mathbf{0.9316} & 1 & \mathbf{2.7324} \\ 0.1158 & 0.3409 & \mathbf{0.3660} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.559093 \\ 0.189826 \\ 0.186364 \\ 0.064717 \end{pmatrix} = 0.990471 \cdot \begin{pmatrix} 0.564472 \\ 0.191652 \\ \mathbf{0.188157} \\ 0.065339 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9453 & \mathbf{3} & 8.6391 \\ 0.3395 & 1 & \mathbf{1.0186} & 2.9332 \\ \mathbf{1/3} & \mathbf{0.9818} & 1 & \mathbf{2.8797} \\ 0.1158 & 0.3409 & \mathbf{0.3473} & 1 \end{pmatrix},$$

Example A.254.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 6 \\ 1/5 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/6 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1758, \quad CR = 0.0663$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.575775 \\ 0.187150 \\ \mathbf{0.176543} \\ 0.060532 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0765 & \mathbf{3.2614} & 9.5119 \\ 0.3250 & 1 & \mathbf{1.0601} & 3.0917 \\ \mathbf{0.3066} & \mathbf{0.9433} & 1 & \mathbf{2.9165} \\ 0.1051 & 0.3234 & \mathbf{0.3429} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.572880 \\ 0.186209 \\ 0.180683 \\ 0.060228 \end{pmatrix} = 0.994972 \cdot \begin{pmatrix} 0.575775 \\ 0.187150 \\ \mathbf{0.181596} \\ 0.060532 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0765 & \mathbf{3.1706} & 9.5119 \\ 0.3250 & 1 & \mathbf{1.0306} & 3.0917 \\ \mathbf{0.3154} & \mathbf{0.9703} & 1 & \mathbf{3} \\ 0.1051 & 0.3234 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.255.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 6 \\ 1/5 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/6 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.569294 \\ 0.192244 \\ \mathbf{0.184824} \\ 0.053638 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{3.0802} & 10.6136 \\ 0.3377 & 1 & \mathbf{1.0401} & 3.5841 \\ \mathbf{0.3247} & \mathbf{0.9614} & 1 & \mathbf{3.4458} \\ 0.0942 & 0.2790 & \mathbf{0.2902} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566495 \\ 0.191299 \\ 0.188832 \\ 0.053374 \end{pmatrix} = 0.995084 \cdot \begin{pmatrix} 0.569294 \\ 0.192244 \\ \mathbf{0.189765} \\ 0.053638 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{3} & 10.6136 \\ 0.3377 & 1 & \mathbf{1.0131} & 3.5841 \\ \mathbf{1/3} & \mathbf{0.9871} & 1 & \mathbf{3.5379} \\ 0.0942 & 0.2790 & \mathbf{0.2827} & 1 \end{pmatrix},$$

Example A.256.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 6 \\ 1/5 & 1 & 3 & 2 \\ 1/3 & 1/3 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.592258 \\ 0.199999 \\ 0.111604 \\ \mathbf{0.096140} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9613 & 5.3068 & \mathbf{6.1604} \\ 0.3377 & 1 & 1.7920 & \mathbf{2.0803} \\ 0.1884 & 0.5580 & 1 & \mathbf{1.1608} \\ \mathbf{0.1623} & \mathbf{0.4807} & \mathbf{0.8614} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.590740 \\ 0.199486 \\ 0.111317 \\ 0.098457 \end{pmatrix} = 0.997437 \cdot \begin{pmatrix} 0.592258 \\ 0.199999 \\ 0.111604 \\ \mathbf{0.098710} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9613 & 5.3068 & \mathbf{6} \\ 0.3377 & 1 & 1.7920 & \mathbf{2.0261} \\ 0.1884 & 0.5580 & 1 & \mathbf{1.1306} \\ \mathbf{1/6} & \mathbf{0.4936} & \mathbf{0.8845} & 1 \end{pmatrix},$$

Example A.257.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 7 \\ 1/5 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/7 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1832, \quad CR = 0.0691$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.578587 \\ 0.188389 \\ \mathbf{0.182835} \\ 0.050189 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0712 & \mathbf{3.1645} & 11.5282 \\ 0.3256 & 1 & \mathbf{1.0304} & 3.7536 \\ \mathbf{0.3160} & \mathbf{0.9705} & 1 & \mathbf{3.6430} \\ 0.0867 & 0.2664 & \mathbf{0.2745} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575391 \\ 0.187349 \\ 0.187349 \\ 0.049912 \end{pmatrix} = 0.994477 \cdot \begin{pmatrix} 0.578587 \\ 0.188389 \\ \mathbf{0.188389} \\ 0.050189 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0712 & \mathbf{3.0712} & 11.5282 \\ 0.3256 & 1 & \mathbf{1} & 3.7536 \\ \mathbf{0.3256} & \mathbf{1} & 1 & \mathbf{3.7536} \\ 0.0867 & 0.2664 & \mathbf{0.2664} & 1 \end{pmatrix},$$

Example A.258.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 7 \\ 1/5 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/7 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.575833 \\ 0.196018 \\ \mathbf{0.180006} \\ 0.048143 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9377 & \mathbf{3.1990} & 11.9608 \\ 0.3404 & 1 & \mathbf{1.0890} & 4.0716 \\ \mathbf{0.3126} & \mathbf{0.9183} & 1 & \mathbf{3.7390} \\ 0.0836 & 0.2456 & \mathbf{0.2675} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.569039 \\ 0.193705 \\ 0.189680 \\ 0.047575 \end{pmatrix} = 0.988203 \cdot \begin{pmatrix} 0.575833 \\ 0.196018 \\ \mathbf{0.191944} \\ 0.048143 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9377 & \mathbf{3} & 11.9608 \\ 0.3404 & 1 & \mathbf{1.0212} & 4.0716 \\ \mathbf{1/3} & \mathbf{0.9792} & 1 & \mathbf{3.9869} \\ 0.0836 & 0.2456 & \mathbf{0.2508} & 1 \end{pmatrix},$$

Example A.259.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 7 \\ 1/5 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 5 \\ 1/7 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2309, \quad CR = 0.0871$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.572563 \\ 0.192688 \\ \mathbf{0.189201} \\ 0.045548 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9714 & \mathbf{3.0262} & 12.5704 \\ 0.3365 & 1 & \mathbf{1.0184} & 4.2304 \\ \mathbf{0.3304} & \mathbf{0.9819} & 1 & \mathbf{4.1538} \\ 0.0796 & 0.2364 & \mathbf{0.2407} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571618 \\ 0.192370 \\ 0.190539 \\ 0.045473 \end{pmatrix} = 0.998349 \cdot \begin{pmatrix} 0.572563 \\ 0.192688 \\ \mathbf{0.190854} \\ 0.045548 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9714 & \mathbf{3} & 12.5704 \\ 0.3365 & 1 & \mathbf{1.0096} & 4.2304 \\ \mathbf{1/3} & \mathbf{0.9905} & 1 & \mathbf{4.1901} \\ 0.0796 & 0.2364 & \mathbf{0.2387} & 1 \end{pmatrix},$$

Example A.260.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.586518 \\ 0.185033 \\ \mathbf{0.181020} \\ 0.047428 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1698 & \mathbf{3.2401} & 12.3664 \\ 0.3155 & 1 & \mathbf{1.0222} & 3.9013 \\ \mathbf{0.3086} & \mathbf{0.9783} & 1 & \mathbf{3.8167} \\ 0.0809 & 0.2563 & \mathbf{0.2620} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.584174 \\ 0.184294 \\ 0.184294 \\ 0.047239 \end{pmatrix} = 0.996003 \cdot \begin{pmatrix} 0.586518 \\ 0.185033 \\ \mathbf{0.185033} \\ 0.047428 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1698 & \mathbf{3.1698} & 12.3664 \\ 0.3155 & 1 & \mathbf{1} & 3.9013 \\ \mathbf{0.3155} & \mathbf{1} & 1 & \mathbf{3.9013} \\ 0.0809 & 0.2563 & \mathbf{0.2563} & 1 \end{pmatrix},$$

Example A.261.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.583681 \\ 0.192415 \\ \mathbf{0.178416} \\ 0.045488 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0334 & \mathbf{3.2715} & 12.8315 \\ 0.3297 & 1 & \mathbf{1.0785} & 4.2300 \\ \mathbf{0.3057} & \mathbf{0.9272} & 1 & \mathbf{3.9222} \\ 0.0779 & 0.2364 & \mathbf{0.2550} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.581624 \\ 0.191737 \\ 0.181312 \\ 0.045328 \end{pmatrix} = 0.996475 \cdot \begin{pmatrix} 0.583681 \\ 0.192415 \\ \mathbf{0.181953} \\ 0.045488 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0334 & \mathbf{3.2079} & 12.8315 \\ 0.3297 & 1 & \mathbf{1.0575} & 4.2300 \\ \mathbf{0.3117} & \mathbf{0.9456} & 1 & \mathbf{4} \\ 0.0779 & 0.2364 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example A.262.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 5 \\ 1/8 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1907, \quad CR = 0.0719$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.580448 \\ 0.189315 \\ \mathbf{0.187283} \\ 0.042955 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0660 & \mathbf{3.0993} & 13.5130 \\ 0.3262 & 1 & \mathbf{1.0109} & 4.4073 \\ \mathbf{0.3227} & \mathbf{0.9893} & 1 & \mathbf{4.3600} \\ 0.0740 & 0.2269 & \mathbf{0.2294} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.579271 \\ 0.188931 \\ 0.188931 \\ 0.042868 \end{pmatrix} = 0.997972 \cdot \begin{pmatrix} 0.580448 \\ 0.189315 \\ \mathbf{0.189315} \\ 0.042955 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0660 & \mathbf{3.0660} & 13.5130 \\ 0.3262 & 1 & \mathbf{1} & 4.4073 \\ \mathbf{0.3262} & \mathbf{1} & 1 & \mathbf{4.4073} \\ 0.0740 & 0.2269 & \mathbf{0.2269} & 1 \end{pmatrix},$$

Example A.263.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 5 \\ 1/8 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.578051 \\ 0.195845 \\ \mathbf{0.184667} \\ 0.041437 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9516 & \mathbf{3.1302} & 13.9501 \\ 0.3388 & 1 & \mathbf{1.0605} & 4.7263 \\ \mathbf{0.3195} & \mathbf{0.9429} & 1 & \mathbf{4.4566} \\ 0.0717 & 0.2116 & \mathbf{0.2244} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.573454 \\ 0.194288 \\ 0.191151 \\ 0.041107 \end{pmatrix} = 0.992047 \cdot \begin{pmatrix} 0.578051 \\ 0.195845 \\ \mathbf{0.192684} \\ 0.041437 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9516 & \mathbf{3} & 13.9501 \\ 0.3388 & 1 & \mathbf{1.0164} & 4.7263 \\ \mathbf{1/3} & \mathbf{0.9839} & 1 & \mathbf{4.6500} \\ 0.0717 & 0.2116 & \mathbf{0.2151} & 1 \end{pmatrix},$$

Example A.264.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 9 \\ 1/3 & 1 & 1 & 5 \\ 1/8 & 1/9 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2612, \quad CR = 0.0985$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.575680 \\ 0.201924 \\ \mathbf{0.182273} \\ 0.040123 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8510 & \mathbf{3.1583} & 14.3478 \\ 0.3508 & 1 & \mathbf{1.1078} & 5.0326 \\ \mathbf{0.3166} & \mathbf{0.9027} & 1 & \mathbf{4.5428} \\ 0.0697 & 0.1987 & \mathbf{0.2201} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.570195 \\ 0.199999 \\ 0.190065 \\ 0.039741 \end{pmatrix} = 0.990471 \cdot \begin{pmatrix} 0.575680 \\ 0.201924 \\ \mathbf{0.191893} \\ 0.040123 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8510 & \mathbf{3} & 14.3478 \\ 0.3508 & 1 & \mathbf{1.0523} & 5.0326 \\ \mathbf{1/3} & \mathbf{0.9503} & 1 & \mathbf{4.7826} \\ 0.0697 & 0.1987 & \mathbf{0.2091} & 1 \end{pmatrix},$$

Example A.265.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 9 \\ 1/5 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.593452 \\ 0.182052 \\ \mathbf{0.179342} \\ 0.045154 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.2598 & \mathbf{3.3090} & 13.1428 \\ 0.3068 & 1 & \mathbf{1.0151} & 4.0318 \\ \mathbf{0.3022} & \mathbf{0.9851} & 1 & \mathbf{3.9718} \\ 0.0761 & 0.2480 & \mathbf{0.2518} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.592697 \\ 0.181821 \\ 0.180386 \\ 0.045097 \end{pmatrix} = 0.998728 \cdot \begin{pmatrix} 0.593452 \\ 0.182052 \\ \mathbf{0.180616} \\ 0.045154 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.2598 & \mathbf{3.2857} & 13.1428 \\ 0.3068 & 1 & \mathbf{1.0080} & 4.0318 \\ \mathbf{0.3043} & \mathbf{0.9921} & 1 & \mathbf{4} \\ 0.0761 & 0.2480 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example A.266.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 9 \\ 1/5 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 5 \\ 1/9 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1596, \quad CR = 0.0602$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.587309 \\ 0.186335 \\ \mathbf{0.185533} \\ 0.040822 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1519 & \mathbf{3.1655} & 14.3870 \\ 0.3173 & 1 & \mathbf{1.0043} & 4.5646 \\ \mathbf{0.3159} & \mathbf{0.9957} & 1 & \mathbf{4.5449} \\ 0.0695 & 0.2191 & \mathbf{0.2200} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.586838 \\ 0.186186 \\ 0.186186 \\ 0.040789 \end{pmatrix} = 0.999199 \cdot \begin{pmatrix} 0.587309 \\ 0.186335 \\ \mathbf{0.186335} \\ 0.040822 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1519 & \mathbf{3.1519} & 14.3870 \\ 0.3173 & 1 & \mathbf{1} & 4.5646 \\ \mathbf{0.3173} & \mathbf{1} & 1 & \mathbf{4.5646} \\ 0.0695 & 0.2191 & \mathbf{0.2191} & 1 \end{pmatrix},$$

Example A.267.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 9 \\ 1/5 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 5 \\ 1/9 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1922, \quad CR = 0.0725$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.584858 \\ 0.192671 \\ \mathbf{0.183097} \\ 0.039373 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0355 & \mathbf{3.1943} & 14.8543 \\ 0.3294 & 1 & \mathbf{1.0523} & 4.8935 \\ \mathbf{0.3131} & \mathbf{0.9503} & 1 & \mathbf{4.6503} \\ 0.0673 & 0.2044 & \mathbf{0.2150} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.579312 \\ 0.190844 \\ 0.190844 \\ 0.039000 \end{pmatrix} = 0.990517 \cdot \begin{pmatrix} 0.584858 \\ 0.192671 \\ \mathbf{0.192671} \\ 0.039373 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0355 & \mathbf{3.0355} & 14.8543 \\ 0.3294 & 1 & \mathbf{1} & 4.8935 \\ \mathbf{0.3294} & \mathbf{1} & 1 & \mathbf{4.8935} \\ 0.0673 & 0.2044 & \mathbf{0.2044} & 1 \end{pmatrix},$$

Example A.268.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 9 \\ 1/5 & 1 & 1 & 9 \\ 1/3 & 1 & 1 & 5 \\ 1/9 & 1/9 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.582445 \\ 0.198571 \\ \mathbf{0.180862} \\ 0.038122 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9332 & \mathbf{3.2204} & 15.2786 \\ 0.3409 & 1 & \mathbf{1.0979} & 5.2089 \\ \mathbf{0.3105} & \mathbf{0.9108} & 1 & \mathbf{4.7444} \\ 0.0655 & 0.1920 & \mathbf{0.2108} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.576823 \\ 0.196655 \\ 0.188768 \\ 0.037754 \end{pmatrix} = 0.990348 \cdot \begin{pmatrix} 0.582445 \\ 0.198571 \\ \mathbf{0.190608} \\ 0.038122 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9332 & \mathbf{3.0557} & 15.2786 \\ 0.3409 & 1 & \mathbf{1.0418} & 5.2089 \\ \mathbf{0.3273} & \mathbf{0.9599} & 1 & \mathbf{5} \\ 0.0655 & 0.1920 & \mathbf{1/5} & 1 \end{pmatrix},$$

Example A.269.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 9 \\ 1/5 & 1 & 1 & 9 \\ 1/3 & 1 & 1 & 6 \\ 1/9 & 1/9 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.579657 \\ 0.195744 \\ \mathbf{0.188189} \\ 0.036410 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{3.0802} & 15.9204 \\ 0.3377 & 1 & \mathbf{1.0401} & 5.3761 \\ \mathbf{0.3247} & \mathbf{0.9614} & 1 & \mathbf{5.1686} \\ 0.0628 & 0.1860 & \mathbf{0.1935} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.576756 \\ 0.194764 \\ 0.192252 \\ 0.036227 \end{pmatrix} = 0.994995 \cdot \begin{pmatrix} 0.579657 \\ 0.195744 \\ \mathbf{0.193219} \\ 0.036410 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{3} & 15.9204 \\ 0.3377 & 1 & \mathbf{1.0131} & 5.3761 \\ \mathbf{1/3} & \mathbf{0.9871} & 1 & \mathbf{5.3068} \\ 0.0628 & 0.1860 & \mathbf{0.1884} & 1 \end{pmatrix},$$

Example A.270.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 4 & 6 \\ 1/5 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.612924 \\ 0.193364 \\ 0.099127 \\ \mathbf{0.094585} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1698 & 6.1832 & \mathbf{6.4801} \\ 0.3155 & 1 & 1.9507 & \mathbf{2.0443} \\ 0.1617 & 0.5126 & 1 & \mathbf{1.0480} \\ \mathbf{0.1543} & \mathbf{0.4892} & \mathbf{0.9542} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.611642 \\ 0.192959 \\ 0.098920 \\ 0.096480 \end{pmatrix} = 0.997908 \cdot \begin{pmatrix} 0.612924 \\ 0.193364 \\ 0.099127 \\ \mathbf{0.096682} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1698 & 6.1832 & \mathbf{6.3396} \\ 0.3155 & 1 & 1.9507 & \mathbf{2} \\ 0.1617 & 0.5126 & 1 & \mathbf{1.0253} \\ \mathbf{0.1577} & \mathbf{1/2} & \mathbf{0.9753} & 1 \end{pmatrix},$$

Example A.271.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 4 & 7 \\ 1/5 & 1 & 4 & 2 \\ 1/4 & 1/4 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.617780 \\ 0.204502 \\ 0.090640 \\ \mathbf{0.087078} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0209 & 6.8157 & \mathbf{7.0946} \\ 0.3310 & 1 & 2.2562 & \mathbf{2.3485} \\ 0.1467 & 0.4432 & 1 & \mathbf{1.0409} \\ \mathbf{0.1410} & \mathbf{0.4258} & \mathbf{0.9607} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.617054 \\ 0.204262 \\ 0.090534 \\ 0.088151 \end{pmatrix} = 0.998825 \cdot \begin{pmatrix} 0.617780 \\ 0.204502 \\ 0.090640 \\ \mathbf{0.088254} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0209 & 6.8157 & \mathbf{7} \\ 0.3310 & 1 & 2.2562 & \mathbf{2.3172} \\ 0.1467 & 0.4432 & 1 & \mathbf{1.0270} \\ \mathbf{1/7} & \mathbf{0.4316} & \mathbf{0.9737} & 1 \end{pmatrix},$$

Example A.272.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 4 & 9 \\ 1/5 & 1 & 1 & 4 \\ 1/4 & 1 & 1 & 3 \\ 1/9 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0539, \quad CR = 0.0203$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.627790 \\ 0.162183 \\ \mathbf{0.156794} \\ 0.053233 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.8709 & \mathbf{4.0039} & 11.7933 \\ 0.2583 & 1 & \mathbf{1.0344} & 3.0467 \\ \mathbf{0.2498} & \mathbf{0.9668} & 1 & \mathbf{2.9455} \\ 0.0848 & 0.3282 & \mathbf{0.3395} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.627694 \\ 0.162158 \\ 0.156924 \\ 0.053224 \end{pmatrix} = 0.999847 \cdot \begin{pmatrix} 0.627790 \\ 0.162183 \\ \mathbf{0.156948} \\ 0.053233 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8709 & \mathbf{4} & 11.7933 \\ 0.2583 & 1 & \mathbf{1.0334} & 3.0467 \\ \mathbf{1/4} & \mathbf{0.9677} & 1 & \mathbf{2.9483} \\ 0.0848 & 0.3282 & \mathbf{0.3392} & 1 \end{pmatrix},$$

Example A.273.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 7 \\ 1/5 & 1 & 2 & 7 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.620651 \\ 0.220070 \\ \mathbf{0.105710} \\ 0.053569 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8202 & \mathbf{5.8713} & 11.5860 \\ 0.3546 & 1 & \mathbf{2.0818} & 4.1081 \\ \mathbf{0.1703} & \mathbf{0.4803} & 1 & \mathbf{1.9733} \\ 0.0863 & 0.2434 & \mathbf{0.5068} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.619766 \\ 0.219756 \\ 0.106986 \\ 0.053493 \end{pmatrix} = 0.998573 \cdot \begin{pmatrix} 0.620651 \\ 0.220070 \\ \mathbf{0.107138} \\ 0.053569 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8202 & \mathbf{5.7930} & 11.5860 \\ 0.3546 & 1 & \mathbf{2.0541} & 4.1081 \\ \mathbf{0.1726} & \mathbf{0.4868} & 1 & \mathbf{2} \\ 0.0863 & 0.2434 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.274.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 7 \\ 1/5 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1027, \quad CR = 0.0387$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.638762 \\ 0.184117 \\ 0.089269 \\ \mathbf{0.087852} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.4693 & 7.1555 & \mathbf{7.2709} \\ 0.2882 & 1 & 2.0625 & \mathbf{2.0958} \\ 0.1398 & 0.4848 & 1 & \mathbf{1.0161} \\ \mathbf{0.1375} & \mathbf{0.4772} & \mathbf{0.9841} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.637858 \\ 0.183857 \\ 0.089143 \\ 0.089143 \end{pmatrix} = 0.998585 \cdot \begin{pmatrix} 0.638762 \\ 0.184117 \\ 0.089269 \\ \mathbf{0.089269} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.4693 & 7.1555 & \mathbf{7.1555} \\ 0.2882 & 1 & 2.0625 & \mathbf{2.0625} \\ 0.1398 & 0.4848 & 1 & \mathbf{1} \\ \mathbf{0.1398} & \mathbf{0.4848} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.275.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 7 \\ 1/5 & 1 & 5 & 3 \\ 1/5 & 1/5 & 1 & 1 \\ 1/7 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2309, \quad CR = 0.0871$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.625507 \\ 0.224654 \\ 0.075604 \\ \mathbf{0.074236} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.7843 & 8.2735 & \mathbf{8.4260} \\ 0.3592 & 1 & 2.9714 & \mathbf{3.0262} \\ 0.1209 & 0.3365 & 1 & \mathbf{1.0184} \\ \mathbf{0.1187} & \mathbf{0.3304} & \mathbf{0.9819} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.625101 \\ 0.224508 \\ 0.075555 \\ 0.074836 \end{pmatrix} = 0.999352 \cdot \begin{pmatrix} 0.625507 \\ 0.224654 \\ 0.075604 \\ \mathbf{0.074885} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7843 & 8.2735 & \mathbf{8.3530} \\ 0.3592 & 1 & 2.9714 & \mathbf{3} \\ 0.1209 & 0.3365 & 1 & \mathbf{1.0096} \\ \mathbf{0.1197} & \mathbf{1/3} & \mathbf{0.9905} & 1 \end{pmatrix},$$

Example A.276.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 8 \\ 1/5 & 1 & 2 & 9 \\ 1/5 & 1/2 & 1 & 3 \\ 1/8 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2637, \quad CR = 0.0994$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.620611 \\ 0.224709 \\ \mathbf{0.111838} \\ 0.042842 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.7618 & \mathbf{5.5492} & 14.4859 \\ 0.3621 & 1 & \mathbf{2.0092} & 5.2450 \\ \mathbf{0.1802} & \mathbf{0.4977} & 1 & \mathbf{2.6105} \\ 0.0690 & 0.1907 & \mathbf{0.3831} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.620290 \\ 0.224593 \\ 0.112297 \\ 0.042820 \end{pmatrix} = 0.999484 \cdot \begin{pmatrix} 0.620611 \\ 0.224709 \\ \mathbf{0.112355} \\ 0.042842 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7618 & \mathbf{5.5237} & 14.4859 \\ 0.3621 & 1 & \mathbf{2} & 5.2450 \\ \mathbf{0.1810} & \mathbf{1/2} & 1 & \mathbf{2.6225} \\ 0.0690 & 0.1907 & \mathbf{0.3813} & 1 \end{pmatrix},$$

Example A.277.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 8 \\ 1/5 & 1 & 5 & 3 \\ 1/5 & 1/5 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.633582 \\ 0.220964 \\ 0.074863 \\ \mathbf{0.070590} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8674 & 8.4632 & \mathbf{8.9755} \\ 0.3488 & 1 & 2.9516 & \mathbf{3.1302} \\ 0.1182 & 0.3388 & 1 & \mathbf{1.0605} \\ \mathbf{0.1114} & \mathbf{0.3195} & \mathbf{0.9429} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.631647 \\ 0.220289 \\ 0.074635 \\ 0.073430 \end{pmatrix} = 0.996945 \cdot \begin{pmatrix} 0.633582 \\ 0.220964 \\ 0.074863 \\ \mathbf{0.073655} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8674 & 8.4632 & \mathbf{8.6021} \\ 0.3488 & 1 & 2.9516 & \mathbf{3} \\ 0.1182 & 0.3388 & 1 & \mathbf{1.0164} \\ \mathbf{0.1163} & \mathbf{1/3} & \mathbf{0.9839} & 1 \end{pmatrix},$$

Example A.278.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 9 \\ 1/5 & 1 & 5 & 3 \\ 1/5 & 1/5 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.640735 \\ 0.217545 \\ 0.074167 \\ \mathbf{0.067553} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9453 & 8.6391 & \mathbf{9.4850} \\ 0.3395 & 1 & 2.9332 & \mathbf{3.2204} \\ 0.1158 & 0.3409 & 1 & \mathbf{1.0979} \\ \mathbf{0.1054} & \mathbf{0.3105} & \mathbf{0.9108} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.638411 \\ 0.216756 \\ 0.073898 \\ 0.070935 \end{pmatrix} = 0.996373 \cdot \begin{pmatrix} 0.640735 \\ 0.217545 \\ 0.074167 \\ \mathbf{0.071193} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9453 & 8.6391 & \mathbf{9} \\ 0.3395 & 1 & 2.9332 & \mathbf{3.0557} \\ 0.1158 & 0.3409 & 1 & \mathbf{1.0418} \\ \mathbf{1/9} & \mathbf{0.3273} & \mathbf{0.9599} & 1 \end{pmatrix},$$

Example A.279.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 6 \\ 1/5 & 1 & 2 & 6 \\ 1/6 & 1/2 & 1 & 2 \\ 1/6 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.627260 \\ 0.211819 \\ \mathbf{0.101822} \\ 0.059100 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{6.1604} & 10.6136 \\ 0.3377 & 1 & \mathbf{2.0803} & 3.5841 \\ \mathbf{0.1623} & \mathbf{0.4807} & 1 & \mathbf{1.7229} \\ 0.0942 & 0.2790 & \mathbf{0.5804} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.625557 \\ 0.211244 \\ 0.104260 \\ 0.058939 \end{pmatrix} = 0.997286 \cdot \begin{pmatrix} 0.627260 \\ 0.211819 \\ \mathbf{0.104543} \\ 0.059100 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{6} & 10.6136 \\ 0.3377 & 1 & \mathbf{2.0261} & 3.5841 \\ \mathbf{1/6} & \mathbf{0.4936} & 1 & \mathbf{1.7689} \\ 0.0942 & 0.2790 & \mathbf{0.5653} & 1 \end{pmatrix},$$

Example A.280.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 7 \\ 1/5 & 1 & 2 & 6 \\ 1/6 & 1/2 & 1 & 2 \\ 1/7 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1832, \quad CR = 0.0691$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.636802 \\ 0.207344 \\ \mathbf{0.100616} \\ 0.055239 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0712 & \mathbf{6.3290} & 11.5282 \\ 0.3256 & 1 & \mathbf{2.0608} & 3.7536 \\ \mathbf{0.1580} & \mathbf{0.4853} & 1 & \mathbf{1.8215} \\ 0.0867 & 0.2664 & \mathbf{0.5490} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.634861 \\ 0.206712 \\ 0.103356 \\ 0.055070 \end{pmatrix} = 0.996953 \cdot \begin{pmatrix} 0.636802 \\ 0.207344 \\ \mathbf{0.103672} \\ 0.055239 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0712 & \mathbf{6.1425} & 11.5282 \\ 0.3256 & 1 & \mathbf{2} & 3.7536 \\ \mathbf{0.1628} & \mathbf{1/2} & 1 & \mathbf{1.8768} \\ 0.0867 & 0.2664 & \mathbf{0.5328} & 1 \end{pmatrix},$$

Example A.281.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 7 \\ 1/5 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/7 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.632785 \\ 0.215405 \\ \mathbf{0.098905} \\ 0.052905 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9377 & \mathbf{6.3979} & 11.9608 \\ 0.3404 & 1 & \mathbf{2.1779} & 4.0716 \\ \mathbf{0.1563} & \mathbf{0.4592} & 1 & \mathbf{1.8695} \\ 0.0836 & 0.2456 & \mathbf{0.5349} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.628662 \\ 0.214001 \\ 0.104777 \\ 0.052560 \end{pmatrix} = 0.993483 \cdot \begin{pmatrix} 0.632785 \\ 0.215405 \\ \mathbf{0.105464} \\ 0.052905 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9377 & \mathbf{6} & 11.9608 \\ 0.3404 & 1 & \mathbf{2.0424} & 4.0716 \\ \mathbf{1/6} & \mathbf{0.4896} & 1 & \mathbf{1.9935} \\ 0.0836 & 0.2456 & \mathbf{0.5016} & 1 \end{pmatrix},$$

Example A.282.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 8 \\ 1/5 & 1 & 2 & 6 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.644887 \\ 0.203447 \\ \mathbf{0.099518} \\ 0.052148 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1698 & \mathbf{6.4801} & 12.3664 \\ 0.3155 & 1 & \mathbf{2.0443} & 3.9013 \\ \mathbf{0.1543} & \mathbf{0.4892} & 1 & \mathbf{1.9084} \\ 0.0809 & 0.2563 & \mathbf{0.5240} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.643467 \\ 0.203000 \\ 0.101500 \\ 0.052033 \end{pmatrix} = 0.997799 \cdot \begin{pmatrix} 0.644887 \\ 0.203447 \\ \mathbf{0.101724} \\ 0.052148 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1698 & \mathbf{6.3396} & 12.3664 \\ 0.3155 & 1 & \mathbf{2} & 3.9013 \\ \mathbf{0.1577} & \mathbf{1/2} & 1 & \mathbf{1.9507} \\ 0.0809 & 0.2563 & \mathbf{0.5126} & 1 \end{pmatrix},$$

Example A.283.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 8 \\ 1/5 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.640850 \\ 0.211261 \\ \mathbf{0.097945} \\ 0.049944 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0334 & \mathbf{6.5429} & 12.8315 \\ 0.3297 & 1 & \mathbf{2.1569} & 4.2300 \\ \mathbf{0.1528} & \mathbf{0.4636} & 1 & \mathbf{1.9611} \\ 0.0779 & 0.2364 & \mathbf{0.5099} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.639608 \\ 0.210852 \\ 0.099694 \\ 0.049847 \end{pmatrix} = 0.998062 \cdot \begin{pmatrix} 0.640850 \\ 0.211261 \\ \mathbf{0.099887} \\ 0.049944 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0334 & \mathbf{6.4157} & 12.8315 \\ 0.3297 & 1 & \mathbf{2.1150} & 4.2300 \\ \mathbf{0.1559} & \mathbf{0.4728} & 1 & \mathbf{2} \\ 0.0779 & 0.2364 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.284.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 9 \\ 1/5 & 1 & 2 & 6 \\ 1/6 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.651909 \\ 0.199985 \\ \mathbf{0.098504} \\ 0.049602 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.2598 & \mathbf{6.6181} & 13.1428 \\ 0.3068 & 1 & \mathbf{2.0302} & 4.0318 \\ \mathbf{0.1511} & \mathbf{0.4926} & 1 & \mathbf{1.9859} \\ 0.0761 & 0.2480 & \mathbf{0.5036} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.651453 \\ 0.199845 \\ 0.099134 \\ 0.049567 \end{pmatrix} = 0.999301 \cdot \begin{pmatrix} 0.651909 \\ 0.199985 \\ \mathbf{0.099204} \\ 0.049602 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.2598 & \mathbf{6.5714} & 13.1428 \\ 0.3068 & 1 & \mathbf{2.0159} & 4.0318 \\ \mathbf{0.1522} & \mathbf{0.4961} & 1 & \mathbf{2} \\ 0.0761 & 0.2480 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.285.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 9 \\ 1/5 & 1 & 2 & 9 \\ 1/6 & 1/2 & 1 & 3 \\ 1/9 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.639865 \\ 0.216076 \\ \mathbf{0.103868} \\ 0.040192 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{6.1604} & 15.9204 \\ 0.3377 & 1 & \mathbf{2.0803} & 5.3761 \\ \mathbf{0.1623} & \mathbf{0.4807} & 1 & \mathbf{2.5843} \\ 0.0628 & 0.1860 & \mathbf{0.3869} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.638094 \\ 0.215477 \\ 0.106349 \\ 0.040080 \end{pmatrix} = 0.997231 \cdot \begin{pmatrix} 0.639865 \\ 0.216076 \\ \mathbf{0.106644} \\ 0.040192 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{6} & 15.9204 \\ 0.3377 & 1 & \mathbf{2.0261} & 5.3761 \\ \mathbf{1/6} & \mathbf{0.4936} & 1 & \mathbf{2.6534} \\ 0.0628 & 0.1860 & \mathbf{0.3769} & 1 \end{pmatrix},$$

Example A.286.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 9 \\ 1/5 & 1 & 5 & 3 \\ 1/6 & 1/5 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1758, \quad CR = 0.0663$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.652581 \\ 0.212115 \\ 0.068607 \\ \mathbf{0.066698} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0765 & 9.5119 & \mathbf{9.7842} \\ 0.3250 & 1 & 3.0917 & \mathbf{3.1802} \\ 0.1051 & 0.3234 & 1 & \mathbf{1.0286} \\ \mathbf{0.1022} & \mathbf{0.3144} & \mathbf{0.9722} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.651337 \\ 0.211711 \\ 0.068476 \\ 0.068476 \end{pmatrix} = 0.998094 \cdot \begin{pmatrix} 0.652581 \\ 0.212115 \\ 0.068607 \\ \mathbf{0.068607} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0765 & 9.5119 & \mathbf{9.5119} \\ 0.3250 & 1 & 3.0917 & \mathbf{3.0917} \\ 0.1051 & 0.3234 & 1 & \mathbf{1} \\ \mathbf{0.1051} & \mathbf{0.3234} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.287.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 8 \\ 1/5 & 1 & 2 & 7 \\ 1/7 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1897, \quad CR = 0.0715$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.651171 \\ 0.207015 \\ \mathbf{0.092521} \\ 0.049293 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.1455 & \mathbf{7.0381} & 13.2103 \\ 0.3179 & 1 & \mathbf{2.2375} & 4.1997 \\ \mathbf{0.1421} & \mathbf{0.4469} & 1 & \mathbf{1.8770} \\ 0.0757 & 0.2381 & \mathbf{0.5328} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.650843 \\ 0.206911 \\ 0.092978 \\ 0.049268 \end{pmatrix} = 0.999497 \cdot \begin{pmatrix} 0.651171 \\ 0.207015 \\ \mathbf{0.093024} \\ 0.049293 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1455 & \mathbf{7} & 13.2103 \\ 0.3179 & 1 & \mathbf{2.2254} & 4.1997 \\ \mathbf{1/7} & \mathbf{0.4494} & 1 & \mathbf{1.8872} \\ 0.0757 & 0.2381 & \mathbf{0.5299} & 1 \end{pmatrix},$$

Example A.288.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 8 \\ 1/5 & 1 & 2 & 8 \\ 1/7 & 1/2 & 1 & 2 \\ 1/8 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.647107 \\ 0.214210 \\ \mathbf{0.091211} \\ 0.047472 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0209 & \mathbf{7.0946} & 13.6315 \\ 0.3310 & 1 & \mathbf{2.3485} & 4.5124 \\ \mathbf{0.1410} & \mathbf{0.4258} & 1 & \mathbf{1.9214} \\ 0.0734 & 0.2216 & \mathbf{0.5205} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.646310 \\ 0.213946 \\ 0.092330 \\ 0.047413 \end{pmatrix} = 0.998769 \cdot \begin{pmatrix} 0.647107 \\ 0.214210 \\ \mathbf{0.092444} \\ 0.047472 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0209 & \mathbf{7} & 13.6315 \\ 0.3310 & 1 & \mathbf{2.3172} & 4.5124 \\ \mathbf{1/7} & \mathbf{0.4316} & 1 & \mathbf{1.9474} \\ 0.0734 & 0.2216 & \mathbf{0.5135} & 1 \end{pmatrix},$$

Example A.289.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 9 \\ 1/5 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1239, \quad CR = 0.0467$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.662413 \\ 0.195784 \\ \mathbf{0.092923} \\ 0.048880 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.3834 & \mathbf{7.1286} & 13.5520 \\ 0.2956 & 1 & \mathbf{2.1069} & 4.0054 \\ \mathbf{0.1403} & \mathbf{0.4746} & 1 & \mathbf{1.9011} \\ 0.0738 & 0.2497 & \mathbf{0.5260} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.661284 \\ 0.195450 \\ 0.094469 \\ 0.048796 \end{pmatrix} = 0.998296 \cdot \begin{pmatrix} 0.662413 \\ 0.195784 \\ \mathbf{0.094630} \\ 0.048880 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.3834 & \mathbf{7} & 13.5520 \\ 0.2956 & 1 & \mathbf{2.0689} & 4.0054 \\ \mathbf{1/7} & \mathbf{0.4833} & 1 & \mathbf{1.9360} \\ 0.0738 & 0.2497 & \mathbf{0.5165} & 1 \end{pmatrix},$$

Example A.290.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 9 \\ 1/5 & 1 & 2 & 7 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1597, \quad CR = 0.0602$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.658179 \\ 0.203396 \\ \mathbf{0.091590} \\ 0.046835 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.2360 & \mathbf{7.1861} & 14.0532 \\ 0.3090 & 1 & \mathbf{2.2207} & 4.3428 \\ \mathbf{0.1392} & \mathbf{0.4503} & 1 & \mathbf{1.9556} \\ 0.0712 & 0.2303 & \mathbf{0.5114} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.656813 \\ 0.202973 \\ 0.093476 \\ 0.046738 \end{pmatrix} = 0.997924 \cdot \begin{pmatrix} 0.658179 \\ 0.203396 \\ \mathbf{0.093670} \\ 0.046835 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.2360 & \mathbf{7.0266} & 14.0532 \\ 0.3090 & 1 & \mathbf{2.1714} & 4.3428 \\ \mathbf{0.1423} & \mathbf{0.4605} & 1 & \mathbf{2} \\ 0.0712 & 0.2303 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.291.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 6 \\ 1/6 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/6 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.594697 \\ 0.175330 \\ \mathbf{0.170765} \\ 0.059207 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.3919 & \mathbf{3.4825} & 10.0444 \\ 0.2948 & 1 & \mathbf{1.0267} & 2.9613 \\ \mathbf{0.2871} & \mathbf{0.9740} & 1 & \mathbf{2.8842} \\ 0.0996 & 0.3377 & \mathbf{0.3467} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.591995 \\ 0.174533 \\ 0.174533 \\ 0.058938 \end{pmatrix} = 0.995456 \cdot \begin{pmatrix} 0.594697 \\ 0.175330 \\ \mathbf{0.175330} \\ 0.059207 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.3919 & \mathbf{3.3919} & 10.0444 \\ 0.2948 & 1 & \mathbf{1} & 2.9613 \\ \mathbf{0.2948} & \mathbf{1} & 1 & \mathbf{2.9613} \\ 0.0996 & 0.3377 & \mathbf{0.3377} & 1 \end{pmatrix},$$

Example A.292.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 8 \\ 1/6 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.602851 \\ 0.180220 \\ \mathbf{0.172448} \\ 0.044481 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.3451 & \mathbf{3.4958} & 13.5529 \\ 0.2989 & 1 & \mathbf{1.0451} & 4.0516 \\ \mathbf{0.2861} & \mathbf{0.9569} & 1 & \mathbf{3.8768} \\ 0.0738 & 0.2468 & \mathbf{0.2579} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.599567 \\ 0.179238 \\ 0.176956 \\ 0.044239 \end{pmatrix} = 0.994552 \cdot \begin{pmatrix} 0.602851 \\ 0.180220 \\ \mathbf{0.177926} \\ 0.044481 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.3451 & \mathbf{3.3882} & 13.5529 \\ 0.2989 & 1 & \mathbf{1.0129} & 4.0516 \\ \mathbf{0.2951} & \mathbf{0.9873} & 1 & \mathbf{4} \\ 0.0738 & 0.2468 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example A.293.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 9 \\ 1/6 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 5 \\ 1/9 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.604005 \\ 0.180490 \\ \mathbf{0.176976} \\ 0.038529 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.3465 & \mathbf{3.4129} & 15.6765 \\ 0.2988 & 1 & \mathbf{1.0199} & 4.6845 \\ \mathbf{0.2930} & \mathbf{0.9805} & 1 & \mathbf{4.5933} \\ 0.0638 & 0.2135 & \mathbf{0.2177} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.601890 \\ 0.179858 \\ 0.179858 \\ 0.038394 \end{pmatrix} = 0.996498 \cdot \begin{pmatrix} 0.604005 \\ 0.180490 \\ \mathbf{0.180490} \\ 0.038529 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.3465 & \mathbf{3.3465} & 15.6765 \\ 0.2988 & 1 & \mathbf{1} & 4.6845 \\ \mathbf{0.2988} & \mathbf{1} & 1 & \mathbf{4.6845} \\ 0.0638 & 0.2135 & \mathbf{0.2135} & 1 \end{pmatrix},$$

Example A.294.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 5 \\ 1/6 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/5 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.615046 \\ 0.156134 \\ \mathbf{0.149309} \\ 0.079511 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.9392 & \mathbf{4.1193} & 7.7354 \\ 0.2539 & 1 & \mathbf{1.0457} & 1.9637 \\ \mathbf{0.2428} & \mathbf{0.9563} & 1 & \mathbf{1.8779} \\ 0.1293 & 0.5092 & \mathbf{0.5325} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.612320 \\ 0.155442 \\ 0.153080 \\ 0.079158 \end{pmatrix} = 0.995568 \cdot \begin{pmatrix} 0.615046 \\ 0.156134 \\ \mathbf{0.153762} \\ 0.079511 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9392 & \mathbf{4} & 7.7354 \\ 0.2539 & 1 & \mathbf{1.0154} & 1.9637 \\ \mathbf{1/4} & \mathbf{0.9848} & 1 & \mathbf{1.9338} \\ 0.1293 & 0.5092 & \mathbf{0.5171} & 1 \end{pmatrix},$$

Example A.295.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 5 \\ 1/6 & 1 & 1 & 4 \\ 1/4 & 1 & 1 & 2 \\ 1/5 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.611344 \\ 0.168882 \\ \mathbf{0.145942} \\ 0.073832 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.6200 & \mathbf{4.1890} & 8.2802 \\ 0.2762 & 1 & \mathbf{1.1572} & 2.2874 \\ \mathbf{0.2387} & \mathbf{0.8642} & 1 & \mathbf{1.9767} \\ 0.1208 & 0.4372 & \mathbf{0.5059} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.610293 \\ 0.168591 \\ 0.147410 \\ 0.073705 \end{pmatrix} = 0.998281 \cdot \begin{pmatrix} 0.611344 \\ 0.168882 \\ \mathbf{0.147664} \\ 0.073832 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6200 & \mathbf{4.1401} & 8.2802 \\ 0.2762 & 1 & \mathbf{1.1437} & 2.2874 \\ \mathbf{0.2415} & \mathbf{0.8744} & 1 & \mathbf{2} \\ 0.1208 & 0.4372 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.296.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 6 \\ 1/6 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.626791 \\ 0.152357 \\ \mathbf{0.147117} \\ 0.073735 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.1140 & \mathbf{4.2605} & 8.5006 \\ 0.2431 & 1 & \mathbf{1.0356} & 2.0663 \\ \mathbf{0.2347} & \mathbf{0.9656} & 1 & \mathbf{1.9952} \\ 0.1176 & 0.4840 & \mathbf{0.5012} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.626570 \\ 0.152304 \\ 0.147418 \\ 0.073709 \end{pmatrix} = 0.999648 \cdot \begin{pmatrix} 0.626791 \\ 0.152357 \\ \mathbf{0.147470} \\ 0.073735 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.1140 & \mathbf{4.2503} & 8.5006 \\ 0.2431 & 1 & \mathbf{1.0331} & 2.0663 \\ \mathbf{0.2353} & \mathbf{0.9679} & 1 & \mathbf{2} \\ 0.1176 & 0.4840 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.297.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 7 \\ 1/6 & 1 & 1 & 4 \\ 1/4 & 1 & 1 & 3 \\ 1/7 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1317, \quad CR = 0.0496$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.629265 \\ 0.157105 \\ \mathbf{0.155800} \\ 0.057830 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.0054 & \mathbf{4.0389} & 10.8812 \\ 0.2497 & 1 & \mathbf{1.0084} & 2.7167 \\ \mathbf{0.2476} & \mathbf{0.9917} & 1 & \mathbf{2.6941} \\ 0.0919 & 0.3681 & \mathbf{0.3712} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.628445 \\ 0.156900 \\ 0.156900 \\ 0.057755 \end{pmatrix} = 0.998697 \cdot \begin{pmatrix} 0.629265 \\ 0.157105 \\ \mathbf{0.157105} \\ 0.057830 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0054 & \mathbf{4.0054} & 10.8812 \\ 0.2497 & 1 & \mathbf{1} & 2.7167 \\ \mathbf{0.2497} & \mathbf{1} & 1 & \mathbf{2.7167} \\ 0.0919 & 0.3681 & \mathbf{0.3681} & 1 \end{pmatrix},$$

Example A.298.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 7 \\ 1/6 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/7 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1832, \quad CR = 0.0691$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.626007 \\ 0.166522 \\ \mathbf{0.152904} \\ 0.054568 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 3.7593 & \mathbf{4.0941} & 11.4721 \\ 0.2660 & 1 & \mathbf{1.0891} & 3.0517 \\ \mathbf{0.2443} & \mathbf{0.9182} & 1 & \mathbf{2.8021} \\ 0.0872 & 0.3277 & \mathbf{0.3569} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.623762 \\ 0.165925 \\ 0.155941 \\ 0.054372 \end{pmatrix} = 0.996415 \cdot \begin{pmatrix} 0.626007 \\ 0.166522 \\ \mathbf{0.156502} \\ 0.054568 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 3.7593 & \mathbf{4} & 11.4721 \\ 0.2660 & 1 & \mathbf{1.0640} & 3.0517 \\ \mathbf{1/4} & \mathbf{0.9398} & 1 & \mathbf{2.8680} \\ 0.0872 & 0.3277 & \mathbf{0.3487} & 1 \end{pmatrix},$$

Example A.299.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 7 \\ 1/6 & 1 & 1 & 6 \\ 1/4 & 1 & 1 & 3 \\ 1/7 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.622703 \\ 0.174939 \\ \mathbf{0.150368} \\ 0.051990 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 3.5596 & \mathbf{4.1412} & 11.9774 \\ 0.2809 & 1 & \mathbf{1.1634} & 3.3649 \\ \mathbf{0.2415} & \mathbf{0.8595} & 1 & \mathbf{2.8923} \\ 0.0835 & 0.2972 & \mathbf{0.3458} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.619416 \\ 0.174015 \\ 0.154854 \\ 0.051715 \end{pmatrix} = 0.994721 \cdot \begin{pmatrix} 0.622703 \\ 0.174939 \\ \mathbf{0.155676} \\ 0.051990 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 3.5596 & \mathbf{4} & 11.9774 \\ 0.2809 & 1 & \mathbf{1.1237} & 3.3649 \\ \mathbf{1/4} & \mathbf{0.8899} & 1 & \mathbf{2.9943} \\ 0.0835 & 0.2972 & \mathbf{0.3340} & 1 \end{pmatrix},$$

Example A.300.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 7 \\ 1/6 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.641021 \\ 0.177121 \\ 0.095595 \\ \mathbf{0.086263} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.6191 & 6.7056 & \mathbf{7.4310} \\ 0.2763 & 1 & 1.8528 & \mathbf{2.0533} \\ 0.1491 & 0.5397 & 1 & \mathbf{1.1082} \\ \mathbf{0.1346} & \mathbf{0.4870} & \mathbf{0.9024} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.639551 \\ 0.176715 \\ 0.095376 \\ 0.088358 \end{pmatrix} = 0.997708 \cdot \begin{pmatrix} 0.641021 \\ 0.177121 \\ 0.095595 \\ \mathbf{0.088561} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6191 & 6.7056 & \mathbf{7.2382} \\ 0.2763 & 1 & 1.8528 & \mathbf{2} \\ 0.1491 & 0.5397 & 1 & \mathbf{1.0794} \\ \mathbf{0.1382} & \mathbf{1/2} & \mathbf{0.9264} & 1 \end{pmatrix},$$

Example A.301.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 8 \\ 1/6 & 1 & 1 & 4 \\ 1/4 & 1 & 1 & 3 \\ 1/8 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.637313 \\ 0.154217 \\ \mathbf{0.153848} \\ 0.054622 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.1326 & \mathbf{4.1425} & 11.6676 \\ 0.2420 & 1 & \mathbf{1.0024} & 2.8233 \\ \mathbf{0.2414} & \mathbf{0.9976} & 1 & \mathbf{2.8166} \\ 0.0857 & 0.3542 & \mathbf{0.3550} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.637078 \\ 0.154160 \\ 0.154160 \\ 0.054602 \end{pmatrix} = 0.999631 \cdot \begin{pmatrix} 0.637313 \\ 0.154217 \\ \mathbf{0.154217} \\ 0.054622 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.1326 & \mathbf{4.1326} & 11.6676 \\ 0.2420 & 1 & \mathbf{1} & 2.8233 \\ \mathbf{0.2420} & \mathbf{1} & 1 & \mathbf{2.8233} \\ 0.0857 & 0.3542 & \mathbf{0.3542} & 1 \end{pmatrix},$$

Example A.302.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 8 \\ 1/6 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.633932 \\ 0.163322 \\ \mathbf{0.151221} \\ 0.051525 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.8815 & \mathbf{4.1921} & 12.3035 \\ 0.2576 & 1 & \mathbf{1.0800} & 3.1698 \\ \mathbf{0.2385} & \mathbf{0.9259} & 1 & \mathbf{2.9349} \\ 0.0813 & 0.3155 & \mathbf{0.3407} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.631814 \\ 0.162777 \\ 0.154057 \\ 0.051352 \end{pmatrix} = 0.996659 \cdot \begin{pmatrix} 0.633932 \\ 0.163322 \\ \mathbf{0.154574} \\ 0.051525 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8815 & \mathbf{4.1012} & 12.3035 \\ 0.2576 & 1 & \mathbf{1.0566} & 3.1698 \\ \mathbf{0.2438} & \mathbf{0.9464} & 1 & \mathbf{3} \\ 0.0813 & 0.3155 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.303.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 9 \\ 1/6 & 1 & 1 & 6 \\ 1/4 & 1 & 1 & 4 \\ 1/9 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.634494 \\ 0.165136 \\ \mathbf{0.157016} \\ 0.043354 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.8422 & \mathbf{4.0410} & 14.6352 \\ 0.2603 & 1 & \mathbf{1.0517} & 3.8090 \\ \mathbf{0.2475} & \mathbf{0.9508} & 1 & \mathbf{3.6217} \\ 0.0683 & 0.2625 & \mathbf{0.2761} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.633476 \\ 0.164871 \\ 0.158369 \\ 0.043284 \end{pmatrix} = 0.998395 \cdot \begin{pmatrix} 0.634494 \\ 0.165136 \\ \mathbf{0.158624} \\ 0.043354 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8422 & \mathbf{4} & 14.6352 \\ 0.2603 & 1 & \mathbf{1.0411} & 3.8090 \\ \mathbf{1/4} & \mathbf{0.9606} & 1 & \mathbf{3.6588} \\ 0.0683 & 0.2625 & \mathbf{0.2733} & 1 \end{pmatrix},$$

Example A.304.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 9 \\ 1/6 & 1 & 1 & 7 \\ 1/4 & 1 & 1 & 4 \\ 1/9 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.631646 \\ 0.171952 \\ \mathbf{0.154786} \\ 0.041616 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.6734 & \mathbf{4.0808} & 15.1779 \\ 0.2722 & 1 & \mathbf{1.1109} & 4.1319 \\ \mathbf{0.2451} & \mathbf{0.9002} & 1 & \mathbf{3.7194} \\ 0.0659 & 0.2420 & \mathbf{0.2689} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.629678 \\ 0.171416 \\ 0.157419 \\ 0.041486 \end{pmatrix} = 0.996884 \cdot \begin{pmatrix} 0.631646 \\ 0.171952 \\ \mathbf{0.157911} \\ 0.041616 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6734 & \mathbf{4} & 15.1779 \\ 0.2722 & 1 & \mathbf{1.0889} & 4.1319 \\ \mathbf{1/4} & \mathbf{0.9183} & 1 & \mathbf{3.7945} \\ 0.0659 & 0.2420 & \mathbf{0.2635} & 1 \end{pmatrix},$$

Example A.305.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 9 \\ 1/6 & 1 & 1 & 8 \\ 1/4 & 1 & 1 & 4 \\ 1/9 & 1/8 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.628847 \\ 0.178240 \\ \mathbf{0.152769} \\ 0.040144 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.5281 & \mathbf{4.1163} & 15.6648 \\ 0.2834 & 1 & \mathbf{1.1667} & 4.4400 \\ \mathbf{0.2429} & \mathbf{0.8571} & 1 & \mathbf{3.8055} \\ 0.0638 & 0.2252 & \mathbf{0.2628} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.626066 \\ 0.177451 \\ 0.156516 \\ 0.039966 \end{pmatrix} = 0.995577 \cdot \begin{pmatrix} 0.628847 \\ 0.178240 \\ \mathbf{0.157212} \\ 0.040144 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5281 & \mathbf{4} & 15.6648 \\ 0.2834 & 1 & \mathbf{1.1338} & 4.4400 \\ \mathbf{1/4} & \mathbf{0.8820} & 1 & \mathbf{3.9162} \\ 0.0638 & 0.2252 & \mathbf{0.2554} & 1 \end{pmatrix},$$

Example A.306.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 5 & 7 \\ 1/6 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1417, \quad CR = 0.0534$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.656097 \\ 0.171963 \\ 0.087036 \\ \mathbf{0.084904} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.8153 & 7.5382 & \mathbf{7.7275} \\ 0.2621 & 1 & 1.9758 & \mathbf{2.0254} \\ 0.1327 & 0.5061 & 1 & \mathbf{1.0251} \\ \mathbf{0.1294} & \mathbf{0.4937} & \mathbf{0.9755} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.655390 \\ 0.171778 \\ 0.086942 \\ 0.085889 \end{pmatrix} = 0.998923 \cdot \begin{pmatrix} 0.656097 \\ 0.171963 \\ 0.087036 \\ \mathbf{0.085982} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8153 & 7.5382 & \mathbf{7.6307} \\ 0.2621 & 1 & 1.9758 & \mathbf{2} \\ 0.1327 & 0.5061 & 1 & \mathbf{1.0123} \\ \mathbf{0.1311} & \mathbf{1/2} & \mathbf{0.9879} & 1 \end{pmatrix},$$

Example A.307.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 5 & 8 \\ 1/6 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.664667 \\ 0.168730 \\ 0.085925 \\ \mathbf{0.080678} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.9392 & 7.7354 & \mathbf{8.2385} \\ 0.2539 & 1 & 1.9637 & \mathbf{2.0914} \\ 0.1293 & 0.5092 & 1 & \mathbf{1.0650} \\ \mathbf{0.1214} & \mathbf{0.4781} & \mathbf{0.9389} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.663071 \\ 0.168325 \\ 0.085719 \\ 0.082884 \end{pmatrix} = 0.997600 \cdot \begin{pmatrix} 0.664667 \\ 0.168730 \\ 0.085925 \\ \mathbf{0.083083} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9392 & 7.7354 & \mathbf{8} \\ 0.2539 & 1 & 1.9637 & \mathbf{2.0309} \\ 0.1293 & 0.5092 & 1 & \mathbf{1.0342} \\ \mathbf{1/8} & \mathbf{0.4924} & \mathbf{0.9669} & 1 \end{pmatrix},$$

Example A.308.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 5 & 8 \\ 1/6 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.659466 \\ 0.182175 \\ 0.079644 \\ \mathbf{0.078715} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.6200 & 8.2802 & \mathbf{8.3779} \\ 0.2762 & 1 & 2.2874 & \mathbf{2.3144} \\ 0.1208 & 0.4372 & 1 & \mathbf{1.0118} \\ \mathbf{0.1194} & \mathbf{0.4321} & \mathbf{0.9883} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.658854 \\ 0.182006 \\ 0.079570 \\ 0.079570 \end{pmatrix} = 0.999072 \cdot \begin{pmatrix} 0.659466 \\ 0.182175 \\ 0.079644 \\ \mathbf{0.079644} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6200 & 8.2802 & \mathbf{8.2802} \\ 0.2762 & 1 & 2.2874 & \mathbf{2.2874} \\ 0.1208 & 0.4372 & 1 & \mathbf{1} \\ \mathbf{0.1208} & \mathbf{0.4372} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.309.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 8 \\ 1/6 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.659736 \\ 0.197225 \\ \mathbf{0.094360} \\ 0.048679 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.3451 & \mathbf{6.9917} & 13.5529 \\ 0.2989 & 1 & \mathbf{2.0901} & 4.0516 \\ \mathbf{0.1430} & \mathbf{0.4784} & 1 & \mathbf{1.9384} \\ 0.0738 & 0.2468 & \mathbf{0.5159} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.657764 \\ 0.196636 \\ 0.097066 \\ 0.048533 \end{pmatrix} = 0.997012 \cdot \begin{pmatrix} 0.659736 \\ 0.197225 \\ \mathbf{0.097357} \\ 0.048679 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.3451 & \mathbf{6.7764} & 13.5529 \\ 0.2989 & 1 & \mathbf{2.0258} & 4.0516 \\ \mathbf{0.1476} & \mathbf{0.4936} & 1 & \mathbf{2} \\ 0.0738 & 0.2468 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.310.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 8 \\ 1/6 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.676557 \\ 0.164454 \\ 0.079589 \\ \mathbf{0.079399} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.1140 & 8.5006 & \mathbf{8.5210} \\ 0.2431 & 1 & 2.0663 & \mathbf{2.0712} \\ 0.1176 & 0.4840 & 1 & \mathbf{1.0024} \\ \mathbf{0.1174} & \mathbf{0.4828} & \mathbf{0.9976} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.676429 \\ 0.164423 \\ 0.079574 \\ 0.079574 \end{pmatrix} = 0.999810 \cdot \begin{pmatrix} 0.676557 \\ 0.164454 \\ 0.079589 \\ \mathbf{0.079589} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.1140 & 8.5006 & \mathbf{8.5006} \\ 0.2431 & 1 & 2.0663 & \mathbf{2.0663} \\ 0.1176 & 0.4840 & 1 & \mathbf{1} \\ \mathbf{0.1176} & \mathbf{0.4840} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.311.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 9 \\ 1/6 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.684103 \\ 0.161536 \\ 0.078531 \\ \mathbf{0.075830} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.2350 & 8.7113 & \mathbf{9.0216} \\ 0.2361 & 1 & 2.0570 & \mathbf{2.1302} \\ 0.1148 & 0.4862 & 1 & \mathbf{1.0356} \\ \mathbf{0.1108} & \mathbf{0.4694} & \mathbf{0.9656} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.683979 \\ 0.161507 \\ 0.078517 \\ 0.075998 \end{pmatrix} = 0.999818 \cdot \begin{pmatrix} 0.684103 \\ 0.161536 \\ 0.078531 \\ \mathbf{0.076011} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.2350 & 8.7113 & \mathbf{9} \\ 0.2361 & 1 & 2.0570 & \mathbf{2.1252} \\ 0.1148 & 0.4862 & 1 & \mathbf{1.0331} \\ \mathbf{1/9} & \mathbf{0.4706} & \mathbf{0.9679} & 1 \end{pmatrix},$$

Example A.312.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 9 \\ 1/6 & 1 & 5 & 3 \\ 1/6 & 1/5 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.671098 \\ 0.197855 \\ 0.066813 \\ 0.064235 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.3919 & 10.0444 & 10.4476 \\ 0.2948 & 1 & 2.9613 & 3.0802 \\ 0.0996 & 0.3377 & 1 & 1.0401 \\ 0.0957 & 0.3247 & 0.9614 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.669947 \\ 0.197515 \\ 0.066699 \\ 0.065838 \end{pmatrix} = 0.998286 \cdot \begin{pmatrix} 0.671098 \\ 0.197855 \\ 0.066813 \\ 0.065952 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.3919 & 10.0444 & 10.1756 \\ 0.2948 & 1 & 2.9613 & 3 \\ 0.0996 & 0.3377 & 1 & 1.0131 \\ 0.0983 & 1/3 & 0.9871 & 1 \end{pmatrix},$$

Example A.313.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 7 & 7 \\ 1/6 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 2 \\ 1/7 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.665328 \\ 0.189735 \\ \mathbf{0.091633} \\ 0.053303 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.5066 & \mathbf{7.2608} & 12.4820 \\ 0.2852 & 1 & \mathbf{2.0706} & 3.5596 \\ \mathbf{0.1377} & \mathbf{0.4830} & 1 & \mathbf{1.7191} \\ 0.0801 & 0.2809 & \mathbf{0.5817} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.663183 \\ 0.189124 \\ 0.094562 \\ 0.053131 \end{pmatrix} = 0.996776 \cdot \begin{pmatrix} 0.665328 \\ 0.189735 \\ \mathbf{0.094868} \\ 0.053303 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5066 & \mathbf{7.0132} & 12.4820 \\ 0.2852 & 1 & \mathbf{2} & 3.5596 \\ \mathbf{0.1426} & \mathbf{1/2} & 1 & \mathbf{1.7798} \\ 0.0801 & 0.2809 & \mathbf{0.5619} & 1 \end{pmatrix},$$

Example A.314.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 7 & 8 \\ 1/6 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.673198 \\ 0.186012 \\ 0.090593 \\ 0.050197 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.6191 & 7.4310 & 13.4112 \\ 0.2763 & 1 & 2.0533 & 3.7057 \\ 0.1346 & 0.4870 & 1 & 1.8048 \\ 0.0746 & 0.2699 & 0.5541 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.671577 \\ 0.185564 \\ 0.092782 \\ 0.050076 \end{pmatrix} = 0.997593 \cdot \begin{pmatrix} 0.673198 \\ 0.186012 \\ 0.093006 \\ 0.050197 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6191 & 7.2382 & 13.4112 \\ 0.2763 & 1 & 2 & 3.7057 \\ 0.1382 & 1/2 & 1 & 1.8528 \\ 0.0746 & 0.2699 & 0.5397 & 1 \end{pmatrix},$$

Example A.315.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 7 & 8 \\ 1/6 & 1 & 2 & 7 \\ 1/7 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2395, \quad CR = 0.0903$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.669441 \\ 0.193383 \\ \mathbf{0.089070} \\ 0.048107 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.4617 & \mathbf{7.5159} & 13.9157 \\ 0.2889 & 1 & \mathbf{2.1711} & 4.0199 \\ \mathbf{0.1331} & \mathbf{0.4606} & 1 & \mathbf{1.8515} \\ 0.0719 & 0.2488 & \mathbf{0.5401} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.665075 \\ 0.192122 \\ 0.095011 \\ 0.047793 \end{pmatrix} = 0.993478 \cdot \begin{pmatrix} 0.669441 \\ 0.193383 \\ \mathbf{0.095634} \\ 0.048107 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.4617 & \mathbf{7} & 13.9157 \\ 0.2889 & 1 & \mathbf{2.0221} & 4.0199 \\ \mathbf{1/7} & \mathbf{0.4945} & 1 & \mathbf{1.9880} \\ 0.0719 & 0.2488 & \mathbf{0.5030} & 1 \end{pmatrix},$$

Example A.316.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 7 & 9 \\ 1/6 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.679983 \\ 0.182729 \\ \mathbf{0.089644} \\ 0.047644 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.7213 & \mathbf{7.5854} & 14.2722 \\ 0.2687 & 1 & \mathbf{2.0384} & 3.8353 \\ \mathbf{0.1318} & \mathbf{0.4906} & 1 & \mathbf{1.8815} \\ 0.0701 & 0.2607 & \mathbf{0.5315} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.678815 \\ 0.182415 \\ 0.091208 \\ 0.047562 \end{pmatrix} = 0.998282 \cdot \begin{pmatrix} 0.679983 \\ 0.182729 \\ \mathbf{0.091365} \\ 0.047644 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.7213 & \mathbf{7.4425} & 14.2722 \\ 0.2687 & 1 & \mathbf{2} & 3.8353 \\ \mathbf{0.1344} & \mathbf{1/2} & 1 & \mathbf{1.9177} \\ 0.0701 & 0.2607 & \mathbf{0.5215} & 1 \end{pmatrix},$$

Example A.317.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 7 & 9 \\ 1/6 & 1 & 2 & 7 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2059, \quad CR = 0.0776$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.676217 \\ 0.189892 \\ \mathbf{0.088232} \\ 0.045659 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.5611 & \mathbf{7.6641} & 14.8102 \\ 0.2808 & 1 & \mathbf{2.1522} & 4.1589 \\ \mathbf{0.1305} & \mathbf{0.4646} & 1 & \mathbf{1.9324} \\ 0.0675 & 0.2404 & \mathbf{0.5175} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.674137 \\ 0.189308 \\ 0.091037 \\ 0.045518 \end{pmatrix} = 0.996924 \cdot \begin{pmatrix} 0.676217 \\ 0.189892 \\ \mathbf{0.091318} \\ 0.045659 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5611 & \mathbf{7.4051} & 14.8102 \\ 0.2808 & 1 & \mathbf{2.0795} & 4.1589 \\ \mathbf{0.1350} & \mathbf{0.4809} & 1 & \mathbf{2} \\ 0.0675 & 0.2404 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.318.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 7 & 9 \\ 1/6 & 1 & 2 & 8 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2463, \quad CR = 0.0929$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.672582 \\ 0.196483 \\ \mathbf{0.086956} \\ 0.043979 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.4231 & \mathbf{7.7348} & 15.2932 \\ 0.2921 & 1 & \mathbf{2.2596} & 4.4676 \\ \mathbf{0.1293} & \mathbf{0.4426} & 1 & \mathbf{1.9772} \\ 0.0654 & 0.2238 & \mathbf{0.5058} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.671908 \\ 0.196286 \\ 0.087870 \\ 0.043935 \end{pmatrix} = 0.998998 \cdot \begin{pmatrix} 0.672582 \\ 0.196483 \\ \mathbf{0.087958} \\ 0.043979 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.4231 & \mathbf{7.6466} & 15.2932 \\ 0.2921 & 1 & \mathbf{2.2338} & 4.4676 \\ \mathbf{0.1308} & \mathbf{0.4477} & 1 & \mathbf{2} \\ 0.0654 & 0.2238 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.319.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 8 & 9 \\ 1/6 & 1 & 2 & 6 \\ 1/8 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.688551 \\ 0.179205 \\ \mathbf{0.085196} \\ 0.047047 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.8422 & \mathbf{8.0819} & 14.6352 \\ 0.2603 & 1 & \mathbf{2.1034} & 3.8090 \\ \mathbf{0.1237} & \mathbf{0.4754} & 1 & \mathbf{1.8109} \\ 0.0683 & 0.2625 & \mathbf{0.5522} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.687951 \\ 0.179049 \\ 0.085994 \\ 0.047006 \end{pmatrix} = 0.999128 \cdot \begin{pmatrix} 0.688551 \\ 0.179205 \\ \mathbf{0.086069} \\ 0.047047 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8422 & \mathbf{8} & 14.6352 \\ 0.2603 & 1 & \mathbf{2.0821} & 3.8090 \\ \mathbf{1/8} & \mathbf{0.4803} & 1 & \mathbf{1.8294} \\ 0.0683 & 0.2625 & \mathbf{0.5466} & 1 \end{pmatrix},$$

Example A.320.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 8 & 9 \\ 1/6 & 1 & 2 & 7 \\ 1/8 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.684631 \\ 0.186376 \\ \mathbf{0.083885} \\ 0.045107 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.6734 & \mathbf{8.1615} & 15.1779 \\ 0.2722 & 1 & \mathbf{2.2218} & 4.1319 \\ \mathbf{0.1225} & \mathbf{0.4501} & 1 & \mathbf{1.8597} \\ 0.0659 & 0.2420 & \mathbf{0.5377} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.683474 \\ 0.186061 \\ 0.085434 \\ 0.045031 \end{pmatrix} = 0.998309 \cdot \begin{pmatrix} 0.684631 \\ 0.186376 \\ \mathbf{0.085579} \\ 0.045107 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6734 & \mathbf{8} & 15.1779 \\ 0.2722 & 1 & \mathbf{2.1778} & 4.1319 \\ \mathbf{1/8} & \mathbf{0.4592} & 1 & \mathbf{1.8972} \\ 0.0659 & 0.2420 & \mathbf{0.5271} & 1 \end{pmatrix},$$

Example A.321.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 8 & 9 \\ 1/6 & 1 & 2 & 8 \\ 1/8 & 1/2 & 1 & 2 \\ 1/9 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.680854 \\ 0.192981 \\ \mathbf{0.082702} \\ 0.043464 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.5281 & \mathbf{8.2327} & 15.6648 \\ 0.2834 & 1 & \mathbf{2.3335} & 4.4400 \\ \mathbf{0.1215} & \mathbf{0.4285} & 1 & \mathbf{1.9028} \\ 0.0638 & 0.2252 & \mathbf{0.5256} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.679220 \\ 0.192518 \\ 0.084903 \\ 0.043360 \end{pmatrix} = 0.997601 \cdot \begin{pmatrix} 0.680854 \\ 0.192981 \\ \mathbf{0.085107} \\ 0.043464 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5281 & \mathbf{8} & 15.6648 \\ 0.2834 & 1 & \mathbf{2.2675} & 4.4400 \\ \mathbf{1/8} & \mathbf{0.4410} & 1 & \mathbf{1.9581} \\ 0.0638 & 0.2252 & \mathbf{0.5107} & 1 \end{pmatrix},$$

Example A.322.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 4 \\ 1/7 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/4 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.615227 \\ 0.151849 \\ \mathbf{0.147174} \\ 0.085750 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.0516 & \mathbf{4.1803} & 7.1747 \\ 0.2468 & 1 & \mathbf{1.0318} & 1.7708 \\ \mathbf{0.2392} & \mathbf{0.9692} & 1 & \mathbf{1.7163} \\ 0.1394 & 0.5647 & \mathbf{0.5826} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.612364 \\ 0.151143 \\ 0.151143 \\ 0.085351 \end{pmatrix} = 0.995347 \cdot \begin{pmatrix} 0.615227 \\ 0.151849 \\ \mathbf{0.151849} \\ 0.085750 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0516 & \mathbf{4.0516} & 7.1747 \\ 0.2468 & 1 & \mathbf{1} & 1.7708 \\ \mathbf{0.2468} & \mathbf{1} & 1 & \mathbf{1.7708} \\ 0.1394 & 0.5647 & \mathbf{0.5647} & 1 \end{pmatrix},$$

Example A.323.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 5 \\ 1/7 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/5 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.629718 \\ 0.147441 \\ 0.144946 \\ 0.077895 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.2710 & 4.3445 & 8.0842 \\ 0.2341 & 1 & 1.0172 & 1.8928 \\ 0.2302 & 0.9831 & 1 & 1.8608 \\ 0.1237 & 0.5283 & 0.5374 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.628151 \\ 0.147074 \\ 0.147074 \\ 0.077701 \end{pmatrix} = 0.997511 \cdot \begin{pmatrix} 0.629718 \\ 0.147441 \\ 0.147441 \\ 0.077895 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.2710 & 4.2710 & 8.0842 \\ 0.2341 & 1 & 1 & 1.8928 \\ 0.2341 & 1 & 1 & 1.8928 \\ 0.1237 & 0.5283 & 0.5283 & 1 \end{pmatrix},$$

Example A.324.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 5 \\ 1/7 & 1 & 1 & 4 \\ 1/4 & 1 & 1 & 2 \\ 1/5 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.626771 \\ 0.159541 \\ \mathbf{0.141345} \\ 0.072344 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.9286 & \mathbf{4.4343} & 8.6638 \\ 0.2545 & 1 & \mathbf{1.1287} & 2.2053 \\ \mathbf{0.2255} & \mathbf{0.8859} & 1 & \mathbf{1.9538} \\ 0.1154 & 0.4535 & \mathbf{0.5118} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.624682 \\ 0.159009 \\ 0.144206 \\ 0.072103 \end{pmatrix} = 0.996668 \cdot \begin{pmatrix} 0.626771 \\ 0.159541 \\ \mathbf{0.144688} \\ 0.072344 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9286 & \mathbf{4.3319} & 8.6638 \\ 0.2545 & 1 & \mathbf{1.1027} & 2.2053 \\ \mathbf{0.2308} & \mathbf{0.9069} & 1 & \mathbf{2} \\ 0.1154 & 0.4535 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.325.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 6 \\ 1/7 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.641153 \\ 0.143772 \\ 0.142940 \\ 0.072135 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.4595 & 4.4855 & 8.8882 \\ 0.2242 & 1 & 1.0058 & 1.9931 \\ 0.2229 & 0.9942 & 1 & 1.9815 \\ 0.1125 & 0.5017 & 0.5047 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.640620 \\ 0.143652 \\ 0.143652 \\ 0.072076 \end{pmatrix} = 0.999169 \cdot \begin{pmatrix} 0.641153 \\ 0.143772 \\ 0.143772 \\ 0.072135 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.4595 & 4.4595 & 8.8882 \\ 0.2242 & 1 & 1 & 1.9931 \\ 0.2242 & 1 & 1 & 1.9931 \\ 0.1125 & 0.5017 & 0.5017 & 1 \end{pmatrix},$$

Example A.326.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 7 \\ 1/7 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/7 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.641114 \\ 0.157236 \\ \mathbf{0.148185} \\ 0.053465 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.0774 & \mathbf{4.3264} & 11.9912 \\ 0.2453 & 1 & \mathbf{1.0611} & 2.9409 \\ \mathbf{0.2311} & \mathbf{0.9424} & 1 & \mathbf{2.7716} \\ 0.0834 & 0.3400 & \mathbf{0.3608} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.635363 \\ 0.155825 \\ 0.155825 \\ 0.052986 \end{pmatrix} = 0.991031 \cdot \begin{pmatrix} 0.641114 \\ 0.157236 \\ \mathbf{0.157236} \\ 0.053465 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0774 & \mathbf{4.0774} & 11.9912 \\ 0.2453 & 1 & \mathbf{1} & 2.9409 \\ \mathbf{0.2453} & \mathbf{1} & 1 & \mathbf{2.9409} \\ 0.0834 & 0.3400 & \mathbf{0.3400} & 1 \end{pmatrix},$$

Example A.327.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 8 \\ 1/7 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.648802 \\ 0.154126 \\ \mathbf{0.146643} \\ 0.050429 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.2096 & \mathbf{4.4244} & 12.8657 \\ 0.2376 & 1 & \mathbf{1.0510} & 3.0563 \\ \mathbf{0.2260} & \mathbf{0.9515} & 1 & \mathbf{2.9079} \\ 0.0777 & 0.3272 & \mathbf{0.3439} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.645803 \\ 0.153414 \\ 0.150587 \\ 0.050196 \end{pmatrix} = 0.995378 \cdot \begin{pmatrix} 0.648802 \\ 0.154126 \\ \mathbf{0.151287} \\ 0.050429 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.2096 & \mathbf{4.2886} & 12.8657 \\ 0.2376 & 1 & \mathbf{1.0188} & 3.0563 \\ \mathbf{0.2332} & \mathbf{0.9816} & 1 & \mathbf{3} \\ 0.0777 & 0.3272 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.328.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 8 \\ 1/7 & 1 & 1 & 6 \\ 1/4 & 1 & 1 & 4 \\ 1/8 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.642787 \\ 0.158651 \\ \mathbf{0.153767} \\ 0.044795 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.0516 & \mathbf{4.1803} & 14.3494 \\ 0.2468 & 1 & \mathbf{1.0318} & 3.5417 \\ \mathbf{0.2392} & \mathbf{0.9692} & 1 & \mathbf{3.4326} \\ 0.0697 & 0.2824 & \mathbf{0.2913} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.639662 \\ 0.157880 \\ 0.157880 \\ 0.044578 \end{pmatrix} = 0.995139 \cdot \begin{pmatrix} 0.642787 \\ 0.158651 \\ \mathbf{0.158651} \\ 0.044795 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0516 & \mathbf{4.0516} & 14.3494 \\ 0.2468 & 1 & \mathbf{1} & 3.5417 \\ \mathbf{0.2468} & \mathbf{1} & 1 & \mathbf{3.5417} \\ 0.0697 & 0.2824 & \mathbf{0.2824} & 1 \end{pmatrix},$$

Example A.329.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 8 \\ 1/7 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.664096 \\ 0.163911 \\ 0.092561 \\ \mathbf{0.079432} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.0516 & 7.1747 & \mathbf{8.3605} \\ 0.2468 & 1 & 1.7708 & \mathbf{2.0635} \\ 0.1394 & 0.5647 & 1 & \mathbf{1.1653} \\ \mathbf{0.1196} & \mathbf{0.4846} & \mathbf{0.8582} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.662425 \\ 0.163498 \\ 0.092328 \\ 0.081749 \end{pmatrix} = 0.997483 \cdot \begin{pmatrix} 0.664096 \\ 0.163911 \\ 0.092561 \\ \mathbf{0.081955} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0516 & 7.1747 & \mathbf{8.1031} \\ 0.2468 & 1 & 1.7708 & \mathbf{2} \\ 0.1394 & 0.5647 & 1 & \mathbf{1.1294} \\ \mathbf{0.1234} & \mathbf{1/2} & \mathbf{0.8854} & 1 \end{pmatrix},$$

Example A.330.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 9 \\ 1/7 & 1 & 1 & 6 \\ 1/4 & 1 & 1 & 4 \\ 1/9 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.649412 \\ 0.155883 \\ \mathbf{0.152230} \\ 0.042474 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.1660 & \mathbf{4.2660} & 15.2896 \\ 0.2400 & 1 & \mathbf{1.0240} & 3.6701 \\ \mathbf{0.2344} & \mathbf{0.9766} & 1 & \mathbf{3.5841} \\ 0.0654 & 0.2725 & \mathbf{0.2790} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.647048 \\ 0.155316 \\ 0.155316 \\ 0.042319 \end{pmatrix} = 0.996360 \cdot \begin{pmatrix} 0.649412 \\ 0.155883 \\ \mathbf{0.155883} \\ 0.042474 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.1660 & \mathbf{4.1660} & 15.2896 \\ 0.2400 & 1 & \mathbf{1} & 3.6701 \\ \mathbf{0.2400} & \mathbf{1} & 1 & \mathbf{3.6701} \\ 0.0654 & 0.2725 & \mathbf{0.2725} & 1 \end{pmatrix},$$

Example A.331.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 9 \\ 1/7 & 1 & 1 & 7 \\ 1/4 & 1 & 1 & 4 \\ 1/9 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2506, \quad CR = 0.0945$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.646978 \\ 0.162358 \\ \mathbf{0.149886} \\ 0.040778 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.9849 & \mathbf{4.3165} & 15.8659 \\ 0.2509 & 1 & \mathbf{1.0832} & 3.9815 \\ \mathbf{0.2317} & \mathbf{0.9232} & 1 & \mathbf{3.6757} \\ 0.0630 & 0.2512 & \mathbf{0.2721} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.639396 \\ 0.160455 \\ 0.159849 \\ 0.040300 \end{pmatrix} = 0.988280 \cdot \begin{pmatrix} 0.646978 \\ 0.162358 \\ \mathbf{0.161745} \\ 0.040778 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9849 & \mathbf{4} & 15.8659 \\ 0.2509 & 1 & \mathbf{1.0038} & 3.9815 \\ \mathbf{1/4} & \mathbf{0.9962} & 1 & \mathbf{3.9665} \\ 0.0630 & 0.2512 & \mathbf{0.2521} & 1 \end{pmatrix},$$

Example A.332.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 9 \\ 1/7 & 1 & 1 & 7 \\ 1/4 & 1 & 1 & 5 \\ 1/9 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2574, \quad CR = 0.0971$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.643823 \\ 0.159739 \\ \mathbf{0.157783} \\ 0.038654 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.0305 & \mathbf{4.0804} & 16.6560 \\ 0.2481 & 1 & \mathbf{1.0124} & 4.1325 \\ \mathbf{0.2451} & \mathbf{0.9878} & 1 & \mathbf{4.0819} \\ 0.0600 & 0.2420 & \mathbf{0.2450} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.642566 \\ 0.159428 \\ 0.159428 \\ 0.038579 \end{pmatrix} = 0.998048 \cdot \begin{pmatrix} 0.643823 \\ 0.159739 \\ \mathbf{0.159739} \\ 0.038654 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0305 & \mathbf{4.0305} & 16.6560 \\ 0.2481 & 1 & \mathbf{1} & 4.1325 \\ \mathbf{0.2481} & \mathbf{1} & 1 & \mathbf{4.1325} \\ 0.0600 & 0.2420 & \mathbf{0.2420} & 1 \end{pmatrix},$$

Example A.333.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 6 \\ 1/7 & 1 & 1 & 4 \\ 1/5 & 1 & 1 & 2 \\ 1/6 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2095, \quad CR = 0.0790$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.653934 \\ 0.151318 \\ \mathbf{0.128919} \\ 0.065829 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.3216 & \mathbf{5.0725} & 9.9338 \\ 0.2314 & 1 & \mathbf{1.1737} & 2.2987 \\ \mathbf{0.1971} & \mathbf{0.8520} & 1 & \mathbf{1.9584} \\ 0.1007 & 0.4350 & \mathbf{0.5106} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.652715 \\ 0.151036 \\ 0.130543 \\ 0.065706 \end{pmatrix} = 0.998135 \cdot \begin{pmatrix} 0.653934 \\ 0.151318 \\ \mathbf{0.130787} \\ 0.065829 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.3216 & \mathbf{5} & 9.9338 \\ 0.2314 & 1 & \mathbf{1.1570} & 2.2987 \\ \mathbf{1/5} & \mathbf{0.8643} & 1 & \mathbf{1.9868} \\ 0.1007 & 0.4350 & \mathbf{0.5033} & 1 \end{pmatrix},$$

Example A.334.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 7 \\ 1/7 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/7 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1027, \quad CR = 0.0387$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.667185 \\ 0.136683 \\ \mathbf{0.129810} \\ 0.066322 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.8813 & \mathbf{5.1397} & 10.0598 \\ 0.2049 & 1 & \mathbf{1.0529} & 2.0609 \\ \mathbf{0.1946} & \mathbf{0.9497} & 1 & \mathbf{1.9573} \\ 0.0994 & 0.4852 & \mathbf{0.5109} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.665300 \\ 0.136297 \\ 0.132269 \\ 0.066135 \end{pmatrix} = 0.997174 \cdot \begin{pmatrix} 0.667185 \\ 0.136683 \\ \mathbf{0.132644} \\ 0.066322 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8813 & \mathbf{5.0299} & 10.0598 \\ 0.2049 & 1 & \mathbf{1.0304} & 2.0609 \\ \mathbf{0.1988} & \mathbf{0.9704} & 1 & \mathbf{2} \\ 0.0994 & 0.4852 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.335.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 8 \\ 1/7 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.678922 \\ 0.158961 \\ 0.083982 \\ \mathbf{0.078136} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.2710 & 8.0842 & \mathbf{8.6890} \\ 0.2341 & 1 & 1.8928 & \mathbf{2.0344} \\ 0.1237 & 0.5283 & 1 & \mathbf{1.0748} \\ \mathbf{0.1151} & \mathbf{0.4915} & \mathbf{0.9304} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.678010 \\ 0.158748 \\ 0.083869 \\ 0.079374 \end{pmatrix} = 0.998657 \cdot \begin{pmatrix} 0.678922 \\ 0.158961 \\ 0.083982 \\ \mathbf{0.079481} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.2710 & 8.0842 & \mathbf{8.5420} \\ 0.2341 & 1 & 1.8928 & \mathbf{2} \\ 0.1237 & 0.5283 & 1 & \mathbf{1.0566} \\ \mathbf{0.1171} & \mathbf{1/2} & \mathbf{0.9464} & 1 \end{pmatrix},$$

Example A.336.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 8 \\ 1/7 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.674434 \\ 0.171673 \\ 0.077845 \\ \mathbf{0.076047} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.9286 & 8.6638 & \mathbf{8.8687} \\ 0.2545 & 1 & 2.2053 & \mathbf{2.2575} \\ 0.1154 & 0.4535 & 1 & \mathbf{1.0237} \\ \mathbf{0.1128} & \mathbf{0.4430} & \mathbf{0.9769} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.673224 \\ 0.171365 \\ 0.077706 \\ 0.077706 \end{pmatrix} = 0.998205 \cdot \begin{pmatrix} 0.674434 \\ 0.171673 \\ 0.077845 \\ \mathbf{0.077845} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9286 & 8.6638 & \mathbf{8.6638} \\ 0.2545 & 1 & 2.2053 & \mathbf{2.2053} \\ 0.1154 & 0.4535 & 1 & \mathbf{1} \\ \mathbf{0.1154} & \mathbf{0.4535} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.337.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 9 \\ 1/7 & 1 & 1 & 5 \\ 1/5 & 1 & 1 & 3 \\ 1/9 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1596, \quad CR = 0.0602$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.671926 \\ 0.147205 \\ \mathbf{0.133807} \\ 0.047063 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.5646 & \mathbf{5.0216} & 14.2771 \\ 0.2191 & 1 & \mathbf{1.1001} & 3.1278 \\ \mathbf{0.1991} & \mathbf{0.9090} & 1 & \mathbf{2.8431} \\ 0.0700 & 0.3197 & \mathbf{0.3517} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.671537 \\ 0.147119 \\ 0.134307 \\ 0.047036 \end{pmatrix} = 0.999422 \cdot \begin{pmatrix} 0.671926 \\ 0.147205 \\ \mathbf{0.134385} \\ 0.047063 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5646 & \mathbf{5} & 14.2771 \\ 0.2191 & 1 & \mathbf{1.0954} & 3.1278 \\ \mathbf{1/5} & \mathbf{0.9129} & 1 & \mathbf{2.8554} \\ 0.0700 & 0.3197 & \mathbf{0.3502} & 1 \end{pmatrix},$$

Example A.338.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 9 \\ 1/7 & 1 & 1 & 6 \\ 1/5 & 1 & 1 & 3 \\ 1/9 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2095, \quad CR = 0.0790$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.668605 \\ 0.154713 \\ \mathbf{0.131811} \\ 0.044871 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.3216 & \mathbf{5.0725} & 14.9007 \\ 0.2314 & 1 & \mathbf{1.1737} & 3.4480 \\ \mathbf{0.1971} & \mathbf{0.8520} & 1 & \mathbf{2.9376} \\ 0.0671 & 0.2900 & \mathbf{0.3404} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.667331 \\ 0.154418 \\ 0.133466 \\ 0.044785 \end{pmatrix} = 0.998094 \cdot \begin{pmatrix} 0.668605 \\ 0.154713 \\ \mathbf{0.133721} \\ 0.044871 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.3216 & \mathbf{5} & 14.9007 \\ 0.2314 & 1 & \mathbf{1.1570} & 3.4480 \\ \mathbf{1/5} & \mathbf{0.8643} & 1 & \mathbf{2.9801} \\ 0.0671 & 0.2900 & \mathbf{0.3356} & 1 \end{pmatrix},$$

Example A.339.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 9 \\ 1/7 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1786, \quad CR = 0.0673$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.686075 \\ 0.156202 \\ 0.083044 \\ \mathbf{0.074680} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.3922 & 8.2616 & \mathbf{9.1869} \\ 0.2277 & 1 & 1.8810 & \mathbf{2.0916} \\ 0.1210 & 0.5316 & 1 & \mathbf{1.1120} \\ \mathbf{0.1089} & \mathbf{0.4781} & \mathbf{0.8993} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.685012 \\ 0.155960 \\ 0.082915 \\ 0.076112 \end{pmatrix} = 0.998451 \cdot \begin{pmatrix} 0.686075 \\ 0.156202 \\ 0.083044 \\ \mathbf{0.076231} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.3922 & 8.2616 & \mathbf{9} \\ 0.2277 & 1 & 1.8810 & \mathbf{2.0491} \\ 0.1210 & 0.5316 & 1 & \mathbf{1.0894} \\ \mathbf{1/9} & \mathbf{0.4880} & \mathbf{0.9180} & 1 \end{pmatrix},$$

Example A.340.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 9 \\ 1/7 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2614, \quad CR = 0.0986$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.681330 \\ 0.168915 \\ 0.077029 \\ \mathbf{0.072726} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.0336 & 8.8451 & \mathbf{9.3684} \\ 0.2479 & 1 & 2.1929 & \mathbf{2.3226} \\ 0.1131 & 0.4560 & 1 & \mathbf{1.0592} \\ \mathbf{0.1067} & \mathbf{0.4305} & \mathbf{0.9441} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.679307 \\ 0.168414 \\ 0.076800 \\ 0.075479 \end{pmatrix} = 0.997032 \cdot \begin{pmatrix} 0.681330 \\ 0.168915 \\ 0.077029 \\ \mathbf{0.075703} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0336 & 8.8451 & \mathbf{9} \\ 0.2479 & 1 & 2.1929 & \mathbf{2.2313} \\ 0.1131 & 0.4560 & 1 & \mathbf{1.0175} \\ \mathbf{1/9} & \mathbf{0.4482} & \mathbf{0.9828} & 1 \end{pmatrix},$$

Example A.341.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 6 & 8 \\ 1/7 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.690503 \\ 0.154838 \\ 0.077688 \\ \mathbf{0.076971} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.4595 & 8.8882 & \mathbf{8.9709} \\ 0.2242 & 1 & 1.9931 & \mathbf{2.0116} \\ 0.1125 & 0.5017 & 1 & \mathbf{1.0093} \\ \mathbf{0.1115} & \mathbf{0.4971} & \mathbf{0.9908} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.690194 \\ 0.154769 \\ 0.077653 \\ 0.077384 \end{pmatrix} = 0.999552 \cdot \begin{pmatrix} 0.690503 \\ 0.154838 \\ 0.077688 \\ \mathbf{0.077419} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.4595 & 8.8882 & \mathbf{8.9190} \\ 0.2242 & 1 & 1.9931 & \mathbf{2} \\ 0.1125 & 0.5017 & 1 & \mathbf{1.0035} \\ \mathbf{0.1121} & \mathbf{1/2} & \mathbf{0.9965} & 1 \end{pmatrix},$$

Example A.342.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 6 & 9 \\ 1/7 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.697662 \\ 0.152130 \\ 0.076725 \\ \mathbf{0.073483} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.5859 & 9.0931 & \mathbf{9.4943} \\ 0.2181 & 1 & 1.9828 & \mathbf{2.0703} \\ 0.1100 & 0.5043 & 1 & \mathbf{1.0441} \\ \mathbf{0.1053} & \mathbf{0.4830} & \mathbf{0.9577} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.695865 \\ 0.151739 \\ 0.076527 \\ 0.075869 \end{pmatrix} = 0.997424 \cdot \begin{pmatrix} 0.697662 \\ 0.152130 \\ 0.076725 \\ \mathbf{0.076065} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5859 & 9.0931 & \mathbf{9.1719} \\ 0.2181 & 1 & 1.9828 & \mathbf{2} \\ 0.1100 & 0.5043 & 1 & \mathbf{1.0087} \\ \mathbf{0.1090} & \mathbf{1/2} & \mathbf{0.9914} & 1 \end{pmatrix},$$

Example A.343.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 7 & 9 \\ 1/7 & 1 & 2 & 7 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2526, \quad CR = 0.0952$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.691450 \\ 0.178723 \\ \mathbf{0.085252} \\ 0.044575 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.8688 & \mathbf{8.1106} & 15.5119 \\ 0.2585 & 1 & \mathbf{2.0964} & 4.0094 \\ \mathbf{0.1233} & \mathbf{0.4770} & 1 & \mathbf{1.9125} \\ 0.0645 & 0.2494 & \mathbf{0.5229} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.688765 \\ 0.178028 \\ 0.088805 \\ 0.044402 \end{pmatrix} = 0.996117 \cdot \begin{pmatrix} 0.691450 \\ 0.178723 \\ \mathbf{0.089151} \\ 0.044575 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8688 & \mathbf{7.7559} & 15.5119 \\ 0.2585 & 1 & \mathbf{2.0047} & 4.0094 \\ \mathbf{0.1289} & \mathbf{0.4988} & 1 & \mathbf{2} \\ 0.0645 & 0.2494 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.344.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 8 & 8 \\ 1/7 & 1 & 2 & 6 \\ 1/8 & 1/2 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.696322 \\ 0.171865 \\ \mathbf{0.083287} \\ 0.048526 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.0516 & \mathbf{8.3605} & 14.3494 \\ 0.2468 & 1 & \mathbf{2.0635} & 3.5417 \\ \mathbf{0.1196} & \mathbf{0.4846} & 1 & \mathbf{1.7163} \\ 0.0697 & 0.2824 & \mathbf{0.5826} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.694485 \\ 0.171411 \\ 0.085706 \\ 0.048398 \end{pmatrix} = 0.997361 \cdot \begin{pmatrix} 0.696322 \\ 0.171865 \\ \mathbf{0.085932} \\ 0.048526 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0516 & \mathbf{8.1031} & 14.3494 \\ 0.2468 & 1 & \mathbf{2} & 3.5417 \\ \mathbf{0.1234} & \mathbf{1/2} & 1 & \mathbf{1.7708} \\ 0.0697 & 0.2824 & \mathbf{0.5647} & 1 \end{pmatrix},$$

Example A.345.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 8 & 9 \\ 1/7 & 1 & 2 & 6 \\ 1/8 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.702915 \\ 0.168726 \\ \mathbf{0.082386} \\ 0.045973 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.1660 & \mathbf{8.5320} & 15.2896 \\ 0.2400 & 1 & \mathbf{2.0480} & 3.6701 \\ \mathbf{0.1172} & \mathbf{0.4883} & 1 & \mathbf{1.7920} \\ 0.0654 & 0.2725 & \mathbf{0.5580} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.701528 \\ 0.168393 \\ 0.084197 \\ 0.045883 \end{pmatrix} = 0.998027 \cdot \begin{pmatrix} 0.702915 \\ 0.168726 \\ \mathbf{0.084363} \\ 0.045973 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.1660 & \mathbf{8.3320} & 15.2896 \\ 0.2400 & 1 & \mathbf{2} & 3.6701 \\ \mathbf{0.1200} & \mathbf{1/2} & 1 & \mathbf{1.8350} \\ 0.0654 & 0.2725 & \mathbf{0.5449} & 1 \end{pmatrix},$$

Example A.346.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 8 & 9 \\ 1/7 & 1 & 2 & 7 \\ 1/8 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2506, \quad CR = 0.0945$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.699393 \\ 0.175511 \\ \mathbf{0.081014} \\ 0.044082 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.9849 & \mathbf{8.6330} & 15.8659 \\ 0.2509 & 1 & \mathbf{2.1664} & 3.9815 \\ \mathbf{0.1158} & \mathbf{0.4616} & 1 & \mathbf{1.8378} \\ 0.0630 & 0.2512 & \mathbf{0.5441} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.694938 \\ 0.174394 \\ 0.086867 \\ 0.043801 \end{pmatrix} = 0.993631 \cdot \begin{pmatrix} 0.699393 \\ 0.175511 \\ \mathbf{0.087424} \\ 0.044082 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9849 & \mathbf{8} & 15.8659 \\ 0.2509 & 1 & \mathbf{2.0076} & 3.9815 \\ \mathbf{1/8} & \mathbf{0.4981} & 1 & \mathbf{1.9832} \\ 0.0630 & 0.2512 & \mathbf{0.5042} & 1 \end{pmatrix},$$

Example A.347.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 9 & 9 \\ 1/7 & 1 & 2 & 6 \\ 1/9 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.710037 \\ 0.165735 \\ \mathbf{0.078758} \\ 0.045470 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.2842 & \mathbf{9.0154} & 15.6154 \\ 0.2334 & 1 & \mathbf{2.1044} & 3.6449 \\ \mathbf{0.1109} & \mathbf{0.4752} & 1 & \mathbf{1.7321} \\ 0.0640 & 0.2744 & \mathbf{0.5773} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.709941 \\ 0.165713 \\ 0.078882 \\ 0.045464 \end{pmatrix} = 0.999865 \cdot \begin{pmatrix} 0.710037 \\ 0.165735 \\ \mathbf{0.078893} \\ 0.045470 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.2842 & \mathbf{9} & 15.6154 \\ 0.2334 & 1 & \mathbf{2.1008} & 3.6449 \\ \mathbf{1/9} & \mathbf{0.4760} & 1 & \mathbf{1.7350} \\ 0.0640 & 0.2744 & \mathbf{0.5764} & 1 \end{pmatrix},$$

Example A.348.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 9 & 9 \\ 1/7 & 1 & 2 & 7 \\ 1/9 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2526, \quad CR = 0.0952$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.706376 \\ 0.172533 \\ \mathbf{0.077473} \\ 0.043618 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 4.0941 & \mathbf{9.1177} & 16.1947 \\ 0.2443 & 1 & \mathbf{2.2270} & 3.9556 \\ \mathbf{0.1097} & \mathbf{0.4490} & 1 & \mathbf{1.7762} \\ 0.0617 & 0.2528 & \mathbf{0.5630} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.705661 \\ 0.172359 \\ 0.078407 \\ 0.043574 \end{pmatrix} = 0.998988 \cdot \begin{pmatrix} 0.706376 \\ 0.172533 \\ \mathbf{0.078486} \\ 0.043618 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 4.0941 & \mathbf{9} & 16.1947 \\ 0.2443 & 1 & \mathbf{2.1983} & 3.9556 \\ \mathbf{1/9} & \mathbf{0.4549} & 1 & \mathbf{1.7994} \\ 0.0617 & 0.2528 & \mathbf{0.5557} & 1 \end{pmatrix},$$

Example A.349.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 3 & 9 \\ 1/8 & 1 & 2 & 2 \\ 1/3 & 1/2 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.659227 \\ 0.145600 \\ 0.130151 \\ \mathbf{0.065023} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.5277 & 5.0651 & \mathbf{10.1384} \\ 0.2209 & 1 & 1.1187 & \mathbf{2.2392} \\ 0.1974 & 0.8939 & 1 & \mathbf{2.0016} \\ \mathbf{0.0986} & \mathbf{0.4466} & \mathbf{0.4996} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.659192 \\ 0.145592 \\ 0.130144 \\ 0.065072 \end{pmatrix} = 0.999947 \cdot \begin{pmatrix} 0.659227 \\ 0.145600 \\ 0.130151 \\ \mathbf{0.065075} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5277 & 5.0651 & \mathbf{10.1302} \\ 0.2209 & 1 & 1.1187 & \mathbf{2.2374} \\ 0.1974 & 0.8939 & 1 & \mathbf{2} \\ \mathbf{0.0987} & \mathbf{0.4469} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.350.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 4 & 8 \\ 1/8 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.661750 \\ 0.146324 \\ \mathbf{0.142514} \\ 0.049412 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.5225 & \mathbf{4.6434} & 13.3925 \\ 0.2211 & 1 & \mathbf{1.0267} & 2.9613 \\ \mathbf{0.2154} & \mathbf{0.9740} & 1 & \mathbf{2.8842} \\ 0.0747 & 0.3377 & \mathbf{0.3467} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.659238 \\ 0.145769 \\ 0.145769 \\ 0.049224 \end{pmatrix} = 0.996205 \cdot \begin{pmatrix} 0.661750 \\ 0.146324 \\ \mathbf{0.146324} \\ 0.049412 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5225 & \mathbf{4.5225} & 13.3925 \\ 0.2211 & 1 & \mathbf{1} & 2.9613 \\ \mathbf{0.2211} & \mathbf{1} & 1 & \mathbf{2.9613} \\ 0.0747 & 0.3377 & \mathbf{0.3377} & 1 \end{pmatrix},$$

Example A.351.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 4 & 9 \\ 1/8 & 1 & 1 & 6 \\ 1/4 & 1 & 1 & 4 \\ 1/9 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.662405 \\ 0.148030 \\ \mathbf{0.147910} \\ 0.041655 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.4748 & \mathbf{4.4784} & 15.9022 \\ 0.2235 & 1 & \mathbf{1.0008} & 3.5537 \\ \mathbf{0.2233} & \mathbf{0.9992} & 1 & \mathbf{3.5508} \\ 0.0629 & 0.2814 & \mathbf{0.2816} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.662326 \\ 0.148012 \\ 0.148012 \\ 0.041650 \end{pmatrix} = 0.999880 \cdot \begin{pmatrix} 0.662405 \\ 0.148030 \\ \mathbf{0.148030} \\ 0.041655 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.4748 & \mathbf{4.4748} & 15.9022 \\ 0.2235 & 1 & \mathbf{1} & 3.5537 \\ \mathbf{0.2235} & \mathbf{1} & 1 & \mathbf{3.5537} \\ 0.0629 & 0.2814 & \mathbf{0.2814} & 1 \end{pmatrix},$$

Example A.352.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 5 \\ 1/8 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/5 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.658310 \\ 0.136273 \\ \mathbf{0.130127} \\ 0.075290 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.8308 & \mathbf{5.0590} & 8.7436 \\ 0.2070 & 1 & \mathbf{1.0472} & 1.8100 \\ \mathbf{0.1977} & \mathbf{0.9549} & 1 & \mathbf{1.7283} \\ 0.1144 & 0.5525 & \mathbf{0.5786} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.657301 \\ 0.136065 \\ 0.131460 \\ 0.075175 \end{pmatrix} = 0.998467 \cdot \begin{pmatrix} 0.658310 \\ 0.136273 \\ \mathbf{0.131662} \\ 0.075290 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8308 & \mathbf{5} & 8.7436 \\ 0.2070 & 1 & \mathbf{1.0350} & 1.8100 \\ \mathbf{1/5} & \mathbf{0.9662} & 1 & \mathbf{1.7487} \\ 0.1144 & 0.5525 & \mathbf{0.5718} & 1 \end{pmatrix},$$

Example A.353.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 6 \\ 1/8 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.669616 \\ 0.132765 \\ \mathbf{0.128143} \\ 0.069476 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.0436 & \mathbf{5.2255} & 9.6381 \\ 0.1983 & 1 & \mathbf{1.0361} & 1.9109 \\ \mathbf{0.1914} & \mathbf{0.9652} & 1 & \mathbf{1.8444} \\ 0.1038 & 0.5233 & \mathbf{0.5422} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.666535 \\ 0.132154 \\ 0.132154 \\ 0.069156 \end{pmatrix} = 0.995399 \cdot \begin{pmatrix} 0.669616 \\ 0.132765 \\ \mathbf{0.132765} \\ 0.069476 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.0436 & \mathbf{5.0436} & 9.6381 \\ 0.1983 & 1 & \mathbf{1} & 1.9109 \\ \mathbf{0.1983} & \mathbf{1} & 1 & \mathbf{1.9109} \\ 0.1038 & 0.5233 & \mathbf{0.5233} & 1 \end{pmatrix},$$

Example A.354.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 6 \\ 1/8 & 1 & 1 & 4 \\ 1/5 & 1 & 1 & 2 \\ 1/6 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.666494 \\ 0.143789 \\ \mathbf{0.125146} \\ 0.064572 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.6352 & \mathbf{5.3257} & 10.3218 \\ 0.2157 & 1 & \mathbf{1.1490} & 2.2268 \\ \mathbf{0.1878} & \mathbf{0.8703} & 1 & \mathbf{1.9381} \\ 0.0969 & 0.4491 & \mathbf{0.5160} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.663840 \\ 0.143216 \\ 0.128629 \\ 0.064315 \end{pmatrix} = 0.996019 \cdot \begin{pmatrix} 0.666494 \\ 0.143789 \\ \mathbf{0.129143} \\ 0.064572 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.6352 & \mathbf{5.1609} & 10.3218 \\ 0.2157 & 1 & \mathbf{1.1134} & 2.2268 \\ \mathbf{0.1938} & \mathbf{0.8981} & 1 & \mathbf{2} \\ 0.0969 & 0.4491 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.355.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 7 \\ 1/8 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/7 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1301, \quad CR = 0.0490$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.678875 \\ 0.129771 \\ \mathbf{0.126364} \\ 0.064990 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.2313 & \mathbf{5.3724} & 10.4459 \\ 0.1912 & 1 & \mathbf{1.0270} & 1.9968 \\ \mathbf{0.1861} & \mathbf{0.9737} & 1 & \mathbf{1.9444} \\ 0.0957 & 0.5008 & \mathbf{0.5143} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.676570 \\ 0.129331 \\ 0.129331 \\ 0.064769 \end{pmatrix} = 0.996604 \cdot \begin{pmatrix} 0.678875 \\ 0.129771 \\ \mathbf{0.129771} \\ 0.064990 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.2313 & \mathbf{5.2313} & 10.4459 \\ 0.1912 & 1 & \mathbf{1} & 1.9968 \\ \mathbf{0.1912} & \mathbf{1} & 1 & \mathbf{1.9968} \\ 0.0957 & 0.5008 & \mathbf{0.5008} & 1 \end{pmatrix},$$

Example A.356.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 8 \\ 1/8 & 1 & 1 & 4 \\ 1/5 & 1 & 1 & 3 \\ 1/8 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1689, \quad CR = 0.0637$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.680270 \\ 0.134165 \\ \mathbf{0.134046} \\ 0.051519 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.0704 & \mathbf{5.0749} & 13.2043 \\ 0.1972 & 1 & \mathbf{1.0009} & 2.6042 \\ \mathbf{0.1970} & \mathbf{0.9991} & 1 & \mathbf{2.6019} \\ 0.0757 & 0.3840 & \mathbf{0.3843} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.680189 \\ 0.134149 \\ 0.134149 \\ 0.051513 \end{pmatrix} = 0.999880 \cdot \begin{pmatrix} 0.680270 \\ 0.134165 \\ \mathbf{0.134165} \\ 0.051519 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.0704 & \mathbf{5.0704} & 13.2043 \\ 0.1972 & 1 & \mathbf{1} & 2.6042 \\ \mathbf{0.1972} & \mathbf{1} & 1 & \mathbf{2.6042} \\ 0.0757 & 0.3840 & \mathbf{0.3840} & 1 \end{pmatrix},$$

Example A.357.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 8 \\ 1/8 & 1 & 1 & 5 \\ 1/5 & 1 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.677522 \\ 0.142411 \\ \mathbf{0.131406} \\ 0.048661 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.7575 & \mathbf{5.1560} & 13.9233 \\ 0.2102 & 1 & \mathbf{1.0838} & 2.9266 \\ \mathbf{0.1940} & \mathbf{0.9227} & 1 & \mathbf{2.7004} \\ 0.0718 & 0.3417 & \mathbf{0.3703} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.674757 \\ 0.141830 \\ 0.134951 \\ 0.048462 \end{pmatrix} = 0.995918 \cdot \begin{pmatrix} 0.677522 \\ 0.142411 \\ \mathbf{0.135504} \\ 0.048661 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.7575 & \mathbf{5} & 13.9233 \\ 0.2102 & 1 & \mathbf{1.0510} & 2.9266 \\ \mathbf{1/5} & \mathbf{0.9515} & 1 & \mathbf{2.7847} \\ 0.0718 & 0.3417 & \mathbf{0.3591} & 1 \end{pmatrix},$$

Example A.358.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 9 \\ 1/8 & 1 & 1 & 5 \\ 1/5 & 1 & 1 & 3 \\ 1/9 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1922, \quad CR = 0.0725$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.684055 \\ 0.139789 \\ \mathbf{0.130013} \\ 0.046144 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.8935 & \mathbf{5.2615} & 14.8245 \\ 0.2044 & 1 & \mathbf{1.0752} & 3.0294 \\ \mathbf{0.1901} & \mathbf{0.9301} & 1 & \mathbf{2.8176} \\ 0.0675 & 0.3301 & \mathbf{0.3549} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.679436 \\ 0.138845 \\ 0.135887 \\ 0.045832 \end{pmatrix} = 0.993247 \cdot \begin{pmatrix} 0.684055 \\ 0.139789 \\ \mathbf{0.136811} \\ 0.046144 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8935 & \mathbf{5} & 14.8245 \\ 0.2044 & 1 & \mathbf{1.0218} & 3.0294 \\ \mathbf{1/5} & \mathbf{0.9787} & 1 & \mathbf{2.9649} \\ 0.0675 & 0.3301 & \mathbf{0.3373} & 1 \end{pmatrix},$$

Example A.359.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 9 \\ 1/8 & 1 & 1 & 6 \\ 1/5 & 1 & 1 & 3 \\ 1/9 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.681155 \\ 0.146952 \\ \mathbf{0.127899} \\ 0.043995 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.6352 & \mathbf{5.3257} & 15.4827 \\ 0.2157 & 1 & \mathbf{1.1490} & 3.3402 \\ \mathbf{0.1878} & \mathbf{0.8703} & 1 & \mathbf{2.9071} \\ 0.0646 & 0.2994 & \mathbf{0.3440} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.678384 \\ 0.146354 \\ 0.131447 \\ 0.043816 \end{pmatrix} = 0.995932 \cdot \begin{pmatrix} 0.681155 \\ 0.146952 \\ \mathbf{0.131984} \\ 0.043995 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.6352 & \mathbf{5.1609} & 15.4827 \\ 0.2157 & 1 & \mathbf{1.1134} & 3.3402 \\ \mathbf{0.1938} & \mathbf{0.8981} & 1 & \mathbf{3} \\ 0.0646 & 0.2994 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example A.360.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 9 \\ 1/8 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2146, \quad CR = 0.0809$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.698059 \\ 0.148136 \\ 0.081335 \\ \mathbf{0.072470} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.7123 & 8.5825 & \mathbf{9.6323} \\ 0.2122 & 1 & 1.8213 & \mathbf{2.0441} \\ 0.1165 & 0.5491 & 1 & \mathbf{1.1223} \\ \mathbf{0.1038} & \mathbf{0.4892} & \mathbf{0.8910} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.696945 \\ 0.147900 \\ 0.081205 \\ 0.073950 \end{pmatrix} = 0.998405 \cdot \begin{pmatrix} 0.698059 \\ 0.148136 \\ 0.081335 \\ \mathbf{0.074068} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.7123 & 8.5825 & \mathbf{9.4246} \\ 0.2122 & 1 & 1.8213 & \mathbf{2} \\ 0.1165 & 0.5491 & 1 & \mathbf{1.0981} \\ \mathbf{0.1061} & \mathbf{1/2} & \mathbf{0.9107} & 1 \end{pmatrix},$$

Example A.361.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 6 & 8 \\ 1/8 & 1 & 1 & 3 \\ 1/6 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.699565 \\ 0.123890 \\ \mathbf{0.116315} \\ 0.060229 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.6467 & \mathbf{6.0144} & 11.6150 \\ 0.1771 & 1 & \mathbf{1.0651} & 2.0570 \\ \mathbf{0.1663} & \mathbf{0.9389} & 1 & \mathbf{1.9312} \\ 0.0861 & 0.4862 & \mathbf{0.5178} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.699370 \\ 0.123856 \\ 0.116562 \\ 0.060213 \end{pmatrix} = 0.999721 \cdot \begin{pmatrix} 0.699565 \\ 0.123890 \\ \mathbf{0.116594} \\ 0.060229 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.6467 & \mathbf{6} & 11.6150 \\ 0.1771 & 1 & \mathbf{1.0626} & 2.0570 \\ \mathbf{1/6} & \mathbf{0.9411} & 1 & \mathbf{1.9358} \\ 0.0861 & 0.4862 & \mathbf{0.5166} & 1 \end{pmatrix},$$

Example A.362.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 6 & 9 \\ 1/8 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.709382 \\ 0.144194 \\ 0.075057 \\ \mathbf{0.071366} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.9196 & 9.4512 & \mathbf{9.9400} \\ 0.2033 & 1 & 1.9211 & \mathbf{2.0205} \\ 0.1058 & 0.5205 & 1 & \mathbf{1.0517} \\ \mathbf{0.1006} & \mathbf{0.4949} & \mathbf{0.9508} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.708864 \\ 0.144089 \\ 0.075002 \\ 0.072044 \end{pmatrix} = 0.999270 \cdot \begin{pmatrix} 0.709382 \\ 0.144194 \\ 0.075057 \\ \mathbf{0.072097} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.9196 & 9.4512 & \mathbf{9.8393} \\ 0.2033 & 1 & 1.9211 & \mathbf{2} \\ 0.1058 & 0.5205 & 1 & \mathbf{1.0411} \\ \mathbf{0.1016} & \mathbf{1/2} & \mathbf{0.9606} & 1 \end{pmatrix},$$

Example A.363.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 6 & 9 \\ 1/8 & 1 & 4 & 2 \\ 1/6 & 1/4 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.705113 \\ 0.155734 \\ 0.069605 \\ \mathbf{0.069548} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.5277 & 10.1302 & \mathbf{10.1384} \\ 0.2209 & 1 & 2.2374 & \mathbf{2.2392} \\ 0.0987 & 0.4469 & 1 & \mathbf{1.0008} \\ \mathbf{0.0986} & \mathbf{0.4466} & \mathbf{0.9992} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.705073 \\ 0.155725 \\ 0.069601 \\ 0.069601 \end{pmatrix} = 0.999944 \cdot \begin{pmatrix} 0.705113 \\ 0.155734 \\ 0.069605 \\ \mathbf{0.069605} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5277 & 10.1302 & \mathbf{10.1302} \\ 0.2209 & 1 & 2.2374 & \mathbf{2.2374} \\ 0.0987 & 0.4469 & 1 & \mathbf{1} \\ \mathbf{0.0987} & \mathbf{0.4469} & \mathbf{1} & 1 \end{pmatrix},$$

Example A.364.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 8 & 9 \\ 1/8 & 1 & 2 & 6 \\ 1/8 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.715306 \\ 0.159852 \\ \mathbf{0.079861} \\ 0.044981 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.4748 & \mathbf{8.9569} & 15.9022 \\ 0.2235 & 1 & \mathbf{2.0016} & 3.5537 \\ \mathbf{0.1116} & \mathbf{0.4996} & 1 & \mathbf{1.7754} \\ 0.0629 & 0.2814 & \mathbf{0.5632} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.715259 \\ 0.159841 \\ 0.079921 \\ 0.044979 \end{pmatrix} = 0.999935 \cdot \begin{pmatrix} 0.715306 \\ 0.159852 \\ \mathbf{0.079926} \\ 0.044981 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.4748 & \mathbf{8.9496} & 15.9022 \\ 0.2235 & 1 & \mathbf{2} & 3.5537 \\ \mathbf{0.1117} & \mathbf{1/2} & 1 & \mathbf{1.7769} \\ 0.0629 & 0.2814 & \mathbf{0.5628} & 1 \end{pmatrix},$$

Example A.365.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 9 & 9 \\ 1/8 & 1 & 2 & 6 \\ 1/9 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.722052 \\ 0.157094 \\ \mathbf{0.076327} \\ 0.044527 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.5963 & \mathbf{9.4599} & 16.2162 \\ 0.2176 & 1 & \mathbf{2.0582} & 3.5281 \\ \mathbf{0.1057} & \mathbf{0.4859} & 1 & \mathbf{1.7142} \\ 0.0617 & 0.2834 & \mathbf{0.5834} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.720453 \\ 0.156746 \\ 0.078373 \\ 0.044428 \end{pmatrix} = 0.997785 \cdot \begin{pmatrix} 0.722052 \\ 0.157094 \\ \mathbf{0.078547} \\ 0.044527 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5963 & \mathbf{9.1926} & 16.2162 \\ 0.2176 & 1 & \mathbf{2} & 3.5281 \\ \mathbf{0.1088} & \mathbf{1/2} & 1 & \mathbf{1.7640} \\ 0.0617 & 0.2834 & \mathbf{0.5669} & 1 \end{pmatrix},$$

Example A.366.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 5 \\ 1/9 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/5 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.669105 \\ 0.130154 \\ \mathbf{0.126736} \\ 0.074006 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.1409 & \mathbf{5.2795} & 9.0413 \\ 0.1945 & 1 & \mathbf{1.0270} & 1.7587 \\ \mathbf{0.1894} & \mathbf{0.9737} & 1 & \mathbf{1.7125} \\ 0.1106 & 0.5686 & \mathbf{0.5839} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.666826 \\ 0.129710 \\ 0.129710 \\ 0.073753 \end{pmatrix} = 0.996594 \cdot \begin{pmatrix} 0.669105 \\ 0.130154 \\ \mathbf{0.130154} \\ 0.074006 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.1409 & \mathbf{5.1409} & 9.0413 \\ 0.1945 & 1 & \mathbf{1} & 1.7587 \\ \mathbf{0.1945} & \mathbf{1} & 1 & \mathbf{1.7587} \\ 0.1106 & 0.5686 & \mathbf{0.5686} & 1 \end{pmatrix},$$

Example A.367.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 6 \\ 1/9 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.680178 \\ 0.126728 \\ \mathbf{0.124881} \\ 0.068213 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.3672 & \mathbf{5.4466} & 9.9714 \\ 0.1863 & 1 & \mathbf{1.0148} & 1.8578 \\ \mathbf{0.1836} & \mathbf{0.9854} & 1 & \mathbf{1.8308} \\ 0.1003 & 0.5383 & \mathbf{0.5462} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.678924 \\ 0.126494 \\ 0.126494 \\ 0.068087 \end{pmatrix} = 0.998156 \cdot \begin{pmatrix} 0.680178 \\ 0.126728 \\ \mathbf{0.126728} \\ 0.068213 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.3672 & \mathbf{5.3672} & 9.9714 \\ 0.1863 & 1 & \mathbf{1} & 1.8578 \\ \mathbf{0.1863} & \mathbf{1} & 1 & \mathbf{1.8578} \\ 0.1003 & 0.5383 & \mathbf{0.5383} & 1 \end{pmatrix},$$

Example A.368.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 7 \\ 1/9 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/7 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1583, \quad CR = 0.0597$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.689212 \\ 0.123818 \\ \mathbf{0.123220} \\ 0.063751 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.5663 & \mathbf{5.5933} & 10.8111 \\ 0.1797 & 1 & \mathbf{1.0049} & 1.9422 \\ \mathbf{0.1788} & \mathbf{0.9952} & 1 & \mathbf{1.9328} \\ 0.0925 & 0.5149 & \mathbf{0.5174} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.688800 \\ 0.123744 \\ 0.123744 \\ 0.063712 \end{pmatrix} = 0.999402 \cdot \begin{pmatrix} 0.689212 \\ 0.123818 \\ \mathbf{0.123818} \\ 0.063751 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.5663 & \mathbf{5.5663} & 10.8111 \\ 0.1797 & 1 & \mathbf{1} & 1.9422 \\ \mathbf{0.1797} & \mathbf{1} & 1 & \mathbf{1.9422} \\ 0.0925 & 0.5149 & \mathbf{0.5149} & 1 \end{pmatrix},$$

Example A.369.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 8 \\ 1/9 & 1 & 1 & 5 \\ 1/5 & 1 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2612, \quad CR = 0.0985$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.688410 \\ 0.135934 \\ \mathbf{0.127864} \\ 0.047792 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.0643 & \mathbf{5.3839} & 14.4044 \\ 0.1975 & 1 & \mathbf{1.0631} & 2.8443 \\ \mathbf{0.1857} & \mathbf{0.9406} & 1 & \mathbf{2.6754} \\ 0.0694 & 0.3516 & \mathbf{0.3738} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.682899 \\ 0.134846 \\ 0.134846 \\ 0.047409 \end{pmatrix} = 0.991994 \cdot \begin{pmatrix} 0.688410 \\ 0.135934 \\ \mathbf{0.135934} \\ 0.047792 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.0643 & \mathbf{5.0643} & 14.4044 \\ 0.1975 & 1 & \mathbf{1} & 2.8443 \\ \mathbf{0.1975} & \mathbf{1} & 1 & \mathbf{2.8443} \\ 0.0694 & 0.3516 & \mathbf{0.3516} & 1 \end{pmatrix},$$

Example A.370.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 9 \\ 1/9 & 1 & 1 & 5 \\ 1/5 & 1 & 1 & 3 \\ 1/9 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.694771 \\ 0.133381 \\ \mathbf{0.126562} \\ 0.045286 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.2089 & \mathbf{5.4896} & 15.3417 \\ 0.1920 & 1 & \mathbf{1.0539} & 2.9453 \\ \mathbf{0.1822} & \mathbf{0.9489} & 1 & \mathbf{2.7947} \\ 0.0652 & 0.3395 & \mathbf{0.3578} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.690065 \\ 0.132478 \\ 0.132478 \\ 0.044980 \end{pmatrix} = 0.993226 \cdot \begin{pmatrix} 0.694771 \\ 0.133381 \\ \mathbf{0.133381} \\ 0.045286 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.2089 & \mathbf{5.2089} & 15.3417 \\ 0.1920 & 1 & \mathbf{1} & 2.9453 \\ \mathbf{0.1920} & \mathbf{1} & 1 & \mathbf{2.9453} \\ 0.0652 & 0.3395 & \mathbf{0.3395} & 1 \end{pmatrix},$$

Example A.371.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 9 \\ 1/9 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.708610 \\ 0.141173 \\ 0.079750 \\ \mathbf{0.070467} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.0194 & 8.8854 & \mathbf{10.0559} \\ 0.1992 & 1 & 1.7702 & \mathbf{2.0034} \\ 0.1125 & 0.5649 & 1 & \mathbf{1.1317} \\ \mathbf{0.0994} & \mathbf{0.4992} & \mathbf{0.8836} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.708525 \\ 0.141156 \\ 0.079740 \\ 0.070578 \end{pmatrix} = 0.999881 \cdot \begin{pmatrix} 0.708610 \\ 0.141173 \\ 0.079750 \\ \mathbf{0.070587} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.0194 & 8.8854 & \mathbf{10.0389} \\ 0.1992 & 1 & 1.7702 & \mathbf{2} \\ 0.1125 & 0.5649 & 1 & \mathbf{1.1298} \\ \mathbf{0.0996} & \mathbf{1/2} & \mathbf{0.8851} & 1 \end{pmatrix},$$

Example A.372.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 6 & 7 \\ 1/9 & 1 & 1 & 3 \\ 1/6 & 1 & 1 & 2 \\ 1/7 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1571, \quad CR = 0.0593$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.701615 \\ 0.120695 \\ \mathbf{0.114988} \\ 0.062701 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.8131 & \mathbf{6.1016} & 11.1898 \\ 0.1720 & 1 & \mathbf{1.0496} & 1.9249 \\ \mathbf{0.1639} & \mathbf{0.9527} & 1 & \mathbf{1.8339} \\ 0.0894 & 0.5195 & \mathbf{0.5453} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.700252 \\ 0.120460 \\ 0.116709 \\ 0.062579 \end{pmatrix} = 0.998056 \cdot \begin{pmatrix} 0.701615 \\ 0.120695 \\ \mathbf{0.116936} \\ 0.062701 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.8131 & \mathbf{6} & 11.1898 \\ 0.1720 & 1 & \mathbf{1.0321} & 1.9249 \\ \mathbf{1/6} & \mathbf{0.9689} & 1 & \mathbf{1.8650} \\ 0.0894 & 0.5195 & \mathbf{0.5362} & 1 \end{pmatrix},$$

Example A.373.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 6 & 7 \\ 1/9 & 1 & 1 & 4 \\ 1/6 & 1 & 1 & 2 \\ 1/7 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.698439 \\ 0.130810 \\ \mathbf{0.112438} \\ 0.058313 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.3393 & \mathbf{6.2118} & 11.9774 \\ 0.1873 & 1 & \mathbf{1.1634} & 2.2432 \\ \mathbf{0.1610} & \mathbf{0.8595} & 1 & \mathbf{1.9282} \\ 0.0835 & 0.4458 & \mathbf{0.5186} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.695678 \\ 0.130293 \\ 0.115946 \\ 0.058083 \end{pmatrix} = 0.996047 \cdot \begin{pmatrix} 0.698439 \\ 0.130810 \\ \mathbf{0.116406} \\ 0.058313 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.3393 & \mathbf{6} & 11.9774 \\ 0.1873 & 1 & \mathbf{1.1237} & 2.2432 \\ \mathbf{1/6} & \mathbf{0.8899} & 1 & \mathbf{1.9962} \\ 0.0835 & 0.4458 & \mathbf{0.5009} & 1 \end{pmatrix},$$

Example A.374.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 6 & 8 \\ 1/9 & 1 & 1 & 3 \\ 1/6 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1263, \quad CR = 0.0476$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.709253 \\ 0.118209 \\ \mathbf{0.113434} \\ 0.059104 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 6 & \mathbf{6.2526} & 12 \\ 1/6 & 1 & \mathbf{1.0421} & 2 \\ \mathbf{0.1599} & \mathbf{0.9596} & 1 & \mathbf{1.9192} \\ 1/12 & 1/2 & \mathbf{0.5210} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.705882 \\ 0.117647 \\ 0.117647 \\ 0.058824 \end{pmatrix} = 0.995248 \cdot \begin{pmatrix} 0.709253 \\ 0.118209 \\ \mathbf{0.118209} \\ 0.059104 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 6 & \mathbf{6} & 12 \\ 1/6 & 1 & \mathbf{1} & 2 \\ \mathbf{1/6} & \mathbf{1} & 1 & \mathbf{2} \\ 1/12 & 1/2 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.375.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 6 & 9 \\ 1/9 & 1 & 1 & 3 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.715844 \\ 0.116003 \\ \mathbf{0.112013} \\ 0.056141 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 6.1709 & \mathbf{6.3907} & 12.7509 \\ 0.1621 & 1 & \mathbf{1.0356} & 2.0663 \\ \mathbf{0.1565} & \mathbf{0.9656} & 1 & \mathbf{1.9952} \\ 0.0784 & 0.4840 & \mathbf{0.5012} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.715652 \\ 0.115972 \\ 0.112251 \\ 0.056126 \end{pmatrix} = 0.999732 \cdot \begin{pmatrix} 0.715844 \\ 0.116003 \\ \mathbf{0.112281} \\ 0.056141 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 6.1709 & \mathbf{6.3755} & 12.7509 \\ 0.1621 & 1 & \mathbf{1.0331} & 2.0663 \\ \mathbf{0.1569} & \mathbf{0.9679} & 1 & \mathbf{2} \\ 0.0784 & 0.4840 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example A.376.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 2 & 3 \\ 1 & 1 & 3 & 2 \\ 1/2 & 1/3 & 1 & 1/2 \\ 1/3 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.358116 \\ 0.345798 \\ 0.122773 \\ 0.173313 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0356 & 2.9169 & 2.0663 \\ 0.9656 & 1 & 2.8166 & 1.9952 \\ 0.3428 & 0.3550 & 1 & 0.7084 \\ 0.4840 & 0.5012 & 1.4117 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.357819 \\ 0.346340 \\ 0.122671 \\ 0.173170 \end{pmatrix} = 0.999172 \cdot \begin{pmatrix} 0.358116 \\ 0.346627 \\ 0.122773 \\ 0.173313 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0331 & 2.9169 & 2.0663 \\ 0.9679 & 1 & 2.8233 & 2 \\ 0.3428 & 0.3542 & 1 & 0.7084 \\ 0.4840 & 1/2 & 1.4117 & 1 \end{pmatrix},$$

Example A.377.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 3 \\ 1 & 1 & 4 & 2 \\ 1/3 & 1/4 & 1 & 1/3 \\ 1/3 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.375899 \\ \mathbf{0.352916} \\ 0.088441 \\ 0.182744 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0651} & 4.2503 & 2.0570 \\ \mathbf{0.9389} & 1 & \mathbf{3.9904} & \mathbf{1.9312} \\ 0.2353 & \mathbf{0.2506} & 1 & 0.4840 \\ 0.4862 & \mathbf{0.5178} & 2.0663 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.375582 \\ 0.353463 \\ 0.088366 \\ 0.182589 \end{pmatrix} = 0.999155 \cdot \begin{pmatrix} 0.375899 \\ \mathbf{0.353762} \\ 0.088441 \\ 0.182744 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0626} & 4.2503 & 2.0570 \\ \mathbf{0.9411} & 1 & \mathbf{4} & \mathbf{1.9358} \\ 0.2353 & \mathbf{1/4} & 1 & 0.4840 \\ 0.4862 & \mathbf{0.5166} & 2.0663 & 1 \end{pmatrix},$$

Example A.378.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 3 \\ 1 & 1 & 5 & 2 \\ 1/3 & 1/5 & 1 & 1/4 \\ 1/3 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.369702 \\ 0.360296 \\ 0.076941 \\ 0.193062 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0261 & 4.8050 & 1.9149 \\ 0.9746 & 1 & 4.6828 & 1.8662 \\ 0.2081 & 0.2135 & 1 & 0.3985 \\ 0.5222 & 0.5358 & 2.5092 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.366257 \\ 0.366257 \\ 0.076224 \\ 0.191263 \end{pmatrix} = 0.990682 \cdot \begin{pmatrix} 0.369702 \\ 0.369702 \\ 0.076941 \\ 0.193062 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.8050 & 1.9149 \\ 1 & 1 & 4.8050 & 1.9149 \\ 0.2081 & 0.2081 & 1 & 0.3985 \\ 0.5222 & 0.5222 & 2.5092 & 1 \end{pmatrix},$$

Example A.379.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 3 \\ 1 & 1 & 5 & 2 \\ 1/3 & 1/5 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.368074 \\ 0.353868 \\ 0.072665 \\ 0.205393 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0401 & 5.0653 & 1.7920 \\ 0.9614 & 1 & 4.8698 & 1.7229 \\ 0.1974 & 0.2053 & 1 & 0.3538 \\ 0.5580 & 0.5804 & 2.8266 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.364625 \\ 0.359922 \\ 0.071984 \\ 0.203468 \end{pmatrix} = 0.990630 \cdot \begin{pmatrix} 0.368074 \\ 0.363326 \\ 0.072665 \\ 0.205393 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0131 & 5.0653 & 1.7920 \\ 0.9871 & 1 & 5 & 1.7689 \\ 0.1974 & 1/5 & 1 & 0.3538 \\ 0.5580 & 0.5653 & 2.8266 & 1 \end{pmatrix},$$

Example A.380.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 4 \\ 1 & 1 & 5 & 2 \\ 1/3 & 1/5 & 1 & 1/4 \\ 1/4 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.397044 \\ 0.349006 \\ 0.075982 \\ 0.177968 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1376 & 5.2255 & 2.2310 \\ 0.8790 & 1 & 4.5933 & 1.9611 \\ 0.1914 & 0.2177 & 1 & 0.4269 \\ 0.4482 & 0.5099 & 2.3422 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.394312 \\ 0.353486 \\ 0.075459 \\ 0.176743 \end{pmatrix} = 0.993118 \cdot \begin{pmatrix} 0.397044 \\ 0.355936 \\ 0.075982 \\ 0.177968 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1155 & 5.2255 & 2.2310 \\ 0.8965 & 1 & 4.6845 & 2 \\ 0.1914 & 0.2135 & 1 & 0.4269 \\ 0.4482 & 1/2 & 2.3422 & 1 \end{pmatrix},$$

Example A.381.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 5 \\ 1 & 1 & 4 & 3 \\ 1/3 & 1/4 & 1 & 1/2 \\ 1/5 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.409562 \\ \mathbf{0.371311} \\ 0.093487 \\ 0.125641 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.1030} & 4.3809 & 3.2598 \\ \mathbf{0.9066} & 1 & \mathbf{3.9718} & \mathbf{2.9553} \\ 0.2283 & \mathbf{0.2518} & 1 & 0.7441 \\ 0.3068 & \mathbf{0.3384} & 1.3439 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.408484 \\ 0.372964 \\ 0.093241 \\ 0.125310 \end{pmatrix} = 0.997370 \cdot \begin{pmatrix} 0.409562 \\ \mathbf{0.373948} \\ 0.093487 \\ 0.125641 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0952} & 4.3809 & 3.2598 \\ \mathbf{0.9130} & 1 & \mathbf{4} & \mathbf{2.9763} \\ 0.2283 & \mathbf{1/4} & 1 & 0.7441 \\ 0.3068 & \mathbf{0.3360} & 1.3439 & 1 \end{pmatrix},$$

Example A.382.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 5 \\ 1 & 1 & 5 & 3 \\ 1/3 & 1/5 & 1 & 1/3 \\ 1/5 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.405047 \\ 0.377329 \\ 0.079532 \\ 0.138092 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0735 & 5.0929 & 2.9332 \\ 0.9316 & 1 & 4.7444 & 2.7324 \\ 0.1964 & 0.2108 & 1 & 0.5759 \\ 0.3409 & 0.3660 & 1.7363 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.396976 \\ 0.389737 \\ 0.077947 \\ 0.135340 \end{pmatrix} = 0.980073 \cdot \begin{pmatrix} 0.405047 \\ 0.397661 \\ 0.079532 \\ 0.138092 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0186 & 5.0929 & 2.9332 \\ 0.9818 & 1 & 5 & 2.8797 \\ 0.1964 & 1/5 & 1 & 0.5759 \\ 0.3409 & 0.3473 & 1.7363 & 1 \end{pmatrix},$$

Example A.383.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/4 \\ 1/3 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.381537 \\ 0.368414 \\ 0.065401 \\ 0.184648 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0356 & 5.8338 & 2.0663 \\ 0.9656 & 1 & 5.6331 & 1.9952 \\ 0.1714 & 0.1775 & 1 & 0.3542 \\ 0.4840 & 0.5012 & 2.8233 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.381200 \\ 0.368971 \\ 0.065343 \\ 0.184485 \end{pmatrix} = 0.999118 \cdot \begin{pmatrix} 0.381537 \\ 0.369297 \\ 0.065401 \\ 0.184648 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0331 & 5.8338 & 2.0663 \\ 0.9679 & 1 & 5.6467 & 2 \\ 0.1714 & 0.1771 & 1 & 0.3542 \\ 0.4840 & 1/2 & 2.8233 & 1 \end{pmatrix},$$

Example A.384.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.379938 \\ 0.362530 \\ 0.061761 \\ 0.195770 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0480 & 6.1517 & 1.9407 \\ 0.9542 & 1 & 5.8699 & 1.8518 \\ 0.1626 & 0.1704 & 1 & 0.3155 \\ 0.5153 & 0.5400 & 3.1698 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.376909 \\ 0.367612 \\ 0.061269 \\ 0.194209 \end{pmatrix} = 0.992028 \cdot \begin{pmatrix} 0.379938 \\ 0.370567 \\ 0.061761 \\ 0.195770 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0253 & 6.1517 & 1.9407 \\ 0.9753 & 1 & 6 & 1.8929 \\ 0.1626 & 1/6 & 1 & 0.3155 \\ 0.5153 & 0.5283 & 3.1698 & 1 \end{pmatrix},$$

Example A.385.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 7 & 2 \\ 1/4 & 1/7 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1512, \quad CR = 0.0570$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.376198 \\ \mathbf{0.372443} \\ 0.058943 \\ 0.192416 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0101} & 6.3824 & 1.9551 \\ \mathbf{0.9900} & 1 & \mathbf{6.3187} & \mathbf{1.9356} \\ 0.1567 & \mathbf{0.1583} & 1 & 0.3063 \\ 0.5115 & \mathbf{0.5166} & 3.2645 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.374791 \\ 0.374791 \\ 0.058722 \\ 0.191696 \end{pmatrix} = 0.996259 \cdot \begin{pmatrix} 0.376198 \\ \mathbf{0.376198} \\ 0.058943 \\ 0.192416 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 6.3824 & 1.9551 \\ \mathbf{1} & 1 & \mathbf{6.3824} & \mathbf{1.9551} \\ 0.1567 & \mathbf{0.1567} & 1 & 0.3063 \\ 0.5115 & \mathbf{0.5115} & 3.2645 & 1 \end{pmatrix},$$

Example A.386.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 7 & 2 \\ 1/4 & 1/7 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.374815 \\ \mathbf{0.366876} \\ 0.056248 \\ 0.202061 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0216} & 6.6636 & 1.8550 \\ \mathbf{0.9788} & 1 & \mathbf{6.5224} & \mathbf{1.8157} \\ 0.1501 & \mathbf{0.1533} & 1 & 0.2784 \\ 0.5391 & \mathbf{0.5508} & 3.5923 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.371862 \\ 0.371862 \\ 0.055805 \\ 0.200470 \end{pmatrix} = 0.992123 \cdot \begin{pmatrix} 0.374815 \\ \mathbf{0.374815} \\ 0.056248 \\ 0.202061 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 6.6636 & 1.8550 \\ \mathbf{1} & 1 & \mathbf{6.6636} & \mathbf{1.8550} \\ 0.1501 & \mathbf{0.1501} & 1 & 0.2784 \\ 0.5391 & \mathbf{0.5391} & 3.5923 & 1 \end{pmatrix},$$

Example A.387.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 7 & 2 \\ 1/4 & 1/7 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.373327 \\ \mathbf{0.361833} \\ 0.054020 \\ 0.210819 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0318} & 6.9109 & 1.7708 \\ \mathbf{0.9692} & 1 & \mathbf{6.6981} & \mathbf{1.7163} \\ 0.1447 & \mathbf{0.1493} & 1 & 0.2562 \\ 0.5647 & \mathbf{0.5826} & 3.9026 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.369085 \\ 0.369085 \\ 0.053406 \\ 0.208423 \end{pmatrix} = 0.988637 \cdot \begin{pmatrix} 0.373327 \\ \mathbf{0.373327} \\ 0.054020 \\ 0.210819 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 6.9109 & 1.7708 \\ \mathbf{1} & 1 & \mathbf{6.9109} & \mathbf{1.7708} \\ 0.1447 & \mathbf{0.1447} & 1 & 0.2562 \\ 0.5647 & \mathbf{0.5647} & 3.9026 & 1 \end{pmatrix},$$

Example A.388.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 4 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/5 \\ 1/4 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.407662 \\ 0.351177 \\ 0.060879 \\ 0.180282 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1608 & 6.6962 & 2.2612 \\ 0.8614 & 1 & 5.7684 & 1.9479 \\ 0.1493 & 0.1734 & 1 & 0.3377 \\ 0.4422 & 0.5134 & 2.9613 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.403871 \\ 0.357211 \\ 0.060313 \\ 0.178605 \end{pmatrix} = 0.990700 \cdot \begin{pmatrix} 0.407662 \\ 0.360564 \\ 0.060879 \\ 0.180282 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1306 & 6.6962 & 2.2612 \\ 0.8845 & 1 & 5.9226 & 2 \\ 0.1493 & 0.1688 & 1 & 0.3377 \\ 0.4422 & 1/2 & 2.9613 & 1 \end{pmatrix},$$

Example A.389.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 4 \\ 1 & 1 & 6 & 3 \\ 1/4 & 1/6 & 1 & 1/3 \\ 1/4 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.396198 \\ 0.395250 \\ 0.068222 \\ 0.140330 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0024 & 5.8075 & 2.8233 \\ 0.9976 & 1 & 5.7936 & 2.8166 \\ 0.1722 & 0.1726 & 1 & 0.4862 \\ 0.3542 & 0.3550 & 2.0570 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.395823 \\ 0.395823 \\ 0.068157 \\ 0.140197 \end{pmatrix} = 0.999054 \cdot \begin{pmatrix} 0.396198 \\ 0.396198 \\ 0.068222 \\ 0.140330 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.8075 & 2.8233 \\ 1 & 1 & 5.8075 & 2.8233 \\ 0.1722 & 0.1722 & 1 & 0.4862 \\ 0.3542 & 0.3542 & 2.0570 & 1 \end{pmatrix},$$

Example A.390.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 5 \\ 1 & 1 & 6 & 3 \\ 1/4 & 1/6 & 1 & 1/3 \\ 1/5 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.416127 \\ 0.385295 \\ 0.067299 \\ 0.131279 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0800 & 6.1832 & 3.1698 \\ 0.9259 & 1 & 5.7251 & 2.9349 \\ 0.1617 & 0.1747 & 1 & 0.5126 \\ 0.3155 & 0.3407 & 1.9507 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.412603 \\ 0.390501 \\ 0.066729 \\ 0.130167 \end{pmatrix} = 0.991531 \cdot \begin{pmatrix} 0.416127 \\ 0.393836 \\ 0.067299 \\ 0.131279 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0566 & 6.1832 & 3.1698 \\ 0.9464 & 1 & 5.8520 & 3 \\ 0.1617 & 0.1709 & 1 & 0.5126 \\ 0.3155 & 1/3 & 1.9507 & 1 \end{pmatrix},$$

Example A.391.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 5 \\ 1 & 1 & 7 & 3 \\ 1/4 & 1/7 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.411846 \\ 0.388140 \\ 0.059974 \\ 0.140041 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0611 & 6.8671 & 2.9409 \\ 0.9424 & 1 & 6.4718 & 2.7716 \\ 0.1456 & 0.1545 & 1 & 0.4283 \\ 0.3400 & 0.3608 & 2.3350 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.402309 \\ 0.402309 \\ 0.058585 \\ 0.136798 \end{pmatrix} = 0.976843 \cdot \begin{pmatrix} 0.411846 \\ 0.411846 \\ 0.059974 \\ 0.140041 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 6.8671 & 2.9409 \\ 1 & 1 & 6.8671 & 2.9409 \\ 0.1456 & 0.1456 & 1 & 0.4283 \\ 0.3400 & 0.3400 & 2.3350 & 1 \end{pmatrix},$$

Example A.392.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 5 \\ 1 & 1 & 8 & 3 \\ 1/4 & 1/8 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.407667 \\ 0.397054 \\ 0.057615 \\ 0.137665 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0267 & 7.0757 & 2.9613 \\ 0.9740 & 1 & 6.8915 & 2.8842 \\ 0.1413 & 0.1451 & 1 & 0.4185 \\ 0.3377 & 0.3467 & 2.3894 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.403386 \\ 0.403386 \\ 0.057010 \\ 0.136219 \end{pmatrix} = 0.989498 \cdot \begin{pmatrix} 0.407667 \\ 0.407667 \\ 0.057615 \\ 0.137665 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.0757 & 2.9613 \\ 1 & 1 & 7.0757 & 2.9613 \\ 0.1413 & 0.1413 & 1 & 0.4185 \\ 0.3377 & 0.3377 & 2.3894 & 1 \end{pmatrix},$$

Example A.393.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 6 \\ 1 & 1 & 6 & 4 \\ 1/4 & 1/6 & 1 & 1/2 \\ 1/6 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.420345 \\ 0.405887 \\ 0.072053 \\ 0.101715 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0356 & 5.8338 & 4.1326 \\ 0.9656 & 1 & 5.6331 & 3.9904 \\ 0.1714 & 0.1775 & 1 & 0.7084 \\ 0.2420 & 0.2506 & 1.4117 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.419936 \\ 0.406464 \\ 0.071983 \\ 0.101616 \end{pmatrix} = 0.999028 \cdot \begin{pmatrix} 0.420345 \\ 0.406860 \\ 0.072053 \\ 0.101715 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0331 & 5.8338 & 4.1326 \\ 0.9679 & 1 & 5.6467 & 4 \\ 0.1714 & 0.1771 & 1 & 0.7084 \\ 0.2420 & 1/4 & 1.4117 & 1 \end{pmatrix},$$

Example A.394.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 7 \\ 1 & 1 & 7 & 4 \\ 1/4 & 1/7 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2395, \quad CR = 0.0903$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.431442 \\ 0.399407 \\ 0.061941 \\ 0.107211 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0802 & 6.9654 & 4.0242 \\ 0.9257 & 1 & 6.4482 & 3.7254 \\ 0.1436 & 0.1551 & 1 & 0.5777 \\ 0.2485 & 0.2684 & 1.7309 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.419104 \\ 0.416581 \\ 0.060169 \\ 0.104145 \end{pmatrix} = 0.971404 \cdot \begin{pmatrix} 0.431442 \\ 0.428844 \\ 0.061941 \\ 0.107211 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0061 & 6.9654 & 4.0242 \\ 0.9940 & 1 & 6.9235 & 4 \\ 0.1436 & 0.1444 & 1 & 0.5777 \\ 0.2485 & 1/4 & 1.7309 & 1 \end{pmatrix},$$

Example A.395.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 7 & 2 \\ 1/5 & 1/7 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1027, \quad CR = 0.0387$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.388439 \\ 0.368907 \\ 0.054173 \\ 0.188480 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0529 & 7.1703 & 2.0609 \\ 0.9497 & 1 & 6.8097 & 1.9573 \\ 0.1395 & 0.1468 & 1 & 0.2874 \\ 0.4852 & 0.5109 & 3.4792 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.385336 \\ 0.373949 \\ 0.053741 \\ 0.186975 \end{pmatrix} = 0.992011 \cdot \begin{pmatrix} 0.388439 \\ 0.376961 \\ 0.054173 \\ 0.188480 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0304 & 7.1703 & 2.0609 \\ 0.9704 & 1 & 6.9584 & 2 \\ 0.1395 & 0.1437 & 1 & 0.2874 \\ 0.4852 & 1/2 & 3.4792 & 1 \end{pmatrix},$$

Example A.396.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.383430 \\ 0.372328 \\ 0.049568 \\ 0.194673 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0298 & 7.7354 & 1.9696 \\ 0.9710 & 1 & 7.5114 & 1.9126 \\ 0.1293 & 0.1331 & 1 & 0.2546 \\ 0.5077 & 0.5229 & 3.9274 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.379220 \\ 0.379220 \\ 0.049024 \\ 0.192536 \end{pmatrix} = 0.989020 \cdot \begin{pmatrix} 0.383430 \\ 0.383430 \\ 0.049568 \\ 0.194673 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.7354 & 1.9696 \\ 1 & 1 & 7.7354 & 1.9696 \\ 0.1293 & 0.1293 & 1 & 0.2546 \\ 0.5077 & 0.5077 & 3.9274 & 1 \end{pmatrix},$$

Example A.397.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.381982 \\ \mathbf{0.367638} \\ 0.047612 \\ 0.202768 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0390} & 8.0228 & 1.8838 \\ \mathbf{0.9624} & 1 & \mathbf{7.7216} & \mathbf{1.8131} \\ 0.1246 & \mathbf{0.1295} & 1 & 0.2348 \\ 0.5308 & \mathbf{0.5515} & 4.2588 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.376985 \\ 0.375911 \\ 0.046989 \\ 0.200115 \end{pmatrix} = 0.986917 \cdot \begin{pmatrix} 0.381982 \\ \mathbf{0.380895} \\ 0.047612 \\ 0.202768 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0029} & 8.0228 & 1.8838 \\ \mathbf{0.9972} & 1 & \mathbf{8} & \mathbf{1.8785} \\ 0.1246 & \mathbf{1/8} & 1 & 0.2348 \\ 0.5308 & \mathbf{0.5323} & 4.2588 & 1 \end{pmatrix},$$

Example A.398.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/8 \\ 1/3 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.380495 \\ 0.363332 \\ 0.045952 \\ 0.210221 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0472 & 8.2802 & 1.8100 \\ 0.9549 & 1 & 7.9067 & 1.7283 \\ 0.1208 & 0.1265 & 1 & 0.2186 \\ 0.5525 & 0.5786 & 4.5748 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.378871 \\ 0.366050 \\ 0.045756 \\ 0.209323 \end{pmatrix} = 0.995731 \cdot \begin{pmatrix} 0.380495 \\ 0.367619 \\ 0.045952 \\ 0.210221 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0350 & 8.2802 & 1.8100 \\ 0.9662 & 1 & 8 & 1.7487 \\ 0.1208 & 1/8 & 1 & 0.2186 \\ 0.5525 & 0.5718 & 4.5748 & 1 \end{pmatrix},$$

Example A.399.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 9 & 2 \\ 1/5 & 1/9 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1433, \quad CR = 0.0540$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.380189 \\ 0.379996 \\ 0.047804 \\ 0.192011 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0005 & 7.9531 & 1.9800 \\ 0.9995 & 1 & 7.9491 & 1.9790 \\ 0.1257 & 0.1258 & 1 & 0.2490 \\ 0.5050 & 0.5053 & 4.0167 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.380116 \\ 0.380116 \\ 0.047794 \\ 0.191974 \end{pmatrix} = 0.999808 \cdot \begin{pmatrix} 0.380189 \\ 0.380189 \\ 0.047804 \\ 0.192011 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.9531 & 1.9800 \\ 1 & 1 & 7.9531 & 1.9800 \\ 0.1257 & 0.1257 & 1 & 0.2490 \\ 0.5050 & 0.5050 & 4.0167 & 1 \end{pmatrix},$$

Example A.400.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 9 & 2 \\ 1/5 & 1/9 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1786, \quad CR = 0.0673$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.378992 \\ 0.375127 \\ 0.045945 \\ 0.199935 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0103 & 8.2488 & 1.8956 \\ 0.9898 & 1 & 8.1646 & 1.8762 \\ 0.1212 & 0.1225 & 1 & 0.2298 \\ 0.5275 & 0.5330 & 4.3516 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.377533 \\ 0.377533 \\ 0.045768 \\ 0.199166 \end{pmatrix} = 0.996149 \cdot \begin{pmatrix} 0.378992 \\ 0.378992 \\ 0.045945 \\ 0.199935 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.2488 & 1.8956 \\ 1 & 1 & 8.2488 & 1.8956 \\ 0.1212 & 0.1212 & 1 & 0.2298 \\ 0.5275 & 0.5275 & 4.3516 & 1 \end{pmatrix},$$

Example A.401.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 9 & 2 \\ 1/5 & 1/9 & 1 & 1/8 \\ 1/3 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2146, \quad CR = 0.0809$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.377724 \\ \mathbf{0.370663} \\ 0.044371 \\ 0.207242 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0190} & 8.5129 & 1.8226 \\ \mathbf{0.9813} & 1 & \mathbf{8.3538} & \mathbf{1.7886} \\ 0.1175 & \mathbf{0.1197} & 1 & 0.2141 \\ 0.5487 & \mathbf{0.5591} & 4.6707 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.375076 \\ 0.375076 \\ 0.044060 \\ 0.205789 \end{pmatrix} = 0.992989 \cdot \begin{pmatrix} 0.377724 \\ \mathbf{0.377724} \\ 0.044371 \\ 0.207242 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 8.5129 & 1.8226 \\ \mathbf{1} & 1 & \mathbf{8.5129} & \mathbf{1.8226} \\ 0.1175 & \mathbf{0.1175} & 1 & 0.2141 \\ 0.5487 & \mathbf{0.5487} & 4.6707 & 1 \end{pmatrix},$$

Example A.402.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 9 & 2 \\ 1/5 & 1/9 & 1 & 1/9 \\ 1/3 & 1/2 & 9 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.376424 \\ 0.366538 \\ 0.043003 \\ 0.214035 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0270 & 8.7534 & 1.7587 \\ 0.9737 & 1 & 8.5235 & 1.7125 \\ 0.1142 & 0.1173 & 1 & 0.2009 \\ 0.5686 & 0.5839 & 4.9772 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.372739 \\ 0.372739 \\ 0.042582 \\ 0.211940 \end{pmatrix} = 0.990211 \cdot \begin{pmatrix} 0.376424 \\ 0.376424 \\ 0.043003 \\ 0.214035 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.7534 & 1.7587 \\ 1 & 1 & 8.7534 & 1.7587 \\ 0.1142 & 0.1142 & 1 & 0.2009 \\ 0.5686 & 0.5686 & 4.9772 & 1 \end{pmatrix},$$

Example A.403.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 7 & 2 \\ 1/5 & 1/7 & 1 & 1/6 \\ 1/4 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.414707 \\ 0.352584 \\ 0.050855 \\ 0.181854 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1762 & 8.1547 & 2.2804 \\ 0.8502 & 1 & 6.9332 & 1.9388 \\ 0.1226 & 0.1442 & 1 & 0.2796 \\ 0.4385 & 0.5158 & 3.5760 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.413302 \\ 0.354777 \\ 0.050682 \\ 0.181238 \end{pmatrix} = 0.996612 \cdot \begin{pmatrix} 0.414707 \\ 0.355983 \\ 0.050855 \\ 0.181854 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1650 & 8.1547 & 2.2804 \\ 0.8584 & 1 & 7 & 1.9575 \\ 0.1226 & 1/7 & 1 & 0.2796 \\ 0.4385 & 0.5109 & 3.5760 & 1 \end{pmatrix},$$

Example A.404.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 7 & 3 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/4 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0649, \quad CR = 0.0245$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.404498 \\ 0.400674 \\ 0.059761 \\ 0.135067 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0095 & 6.7686 & 2.9948 \\ 0.9905 & 1 & 6.7046 & 2.9665 \\ 0.1477 & 0.1492 & 1 & 0.4425 \\ 0.3339 & 0.3371 & 2.2601 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.402957 \\ 0.402957 \\ 0.059533 \\ 0.134552 \end{pmatrix} = 0.996190 \cdot \begin{pmatrix} 0.404498 \\ 0.404498 \\ 0.059761 \\ 0.135067 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 6.7686 & 2.9948 \\ 1 & 1 & 6.7686 & 2.9948 \\ 0.1477 & 0.1477 & 1 & 0.4425 \\ 0.3339 & 0.3339 & 2.2601 & 1 \end{pmatrix},$$

Example A.405.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.410379 \\ 0.355747 \\ 0.046993 \\ 0.186882 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1536 & 8.7329 & 2.1959 \\ 0.8669 & 1 & 7.5703 & 1.9036 \\ 0.1145 & 0.1321 & 1 & 0.2515 \\ 0.4554 & 0.5253 & 3.9768 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.403116 \\ 0.367148 \\ 0.046161 \\ 0.183574 \end{pmatrix} = 0.982303 \cdot \begin{pmatrix} 0.410379 \\ 0.373763 \\ 0.046993 \\ 0.186882 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0980 & 8.7329 & 2.1959 \\ 0.9108 & 1 & 7.9537 & 2 \\ 0.1145 & 0.1257 & 1 & 0.2515 \\ 0.4554 & 1/2 & 3.9768 & 1 \end{pmatrix},$$

Example A.406.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 8 & 3 \\ 1/5 & 1/8 & 1 & 1/5 \\ 1/4 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1689, \quad CR = 0.0637$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.398428 \\ \mathbf{0.398073} \\ 0.050505 \\ 0.152994 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0009} & 7.8889 & 2.6042 \\ \mathbf{0.9991} & 1 & \mathbf{7.8819} & \mathbf{2.6019} \\ 0.1268 & \mathbf{0.1269} & 1 & 0.3301 \\ 0.3840 & \mathbf{0.3843} & 3.0293 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.398287 \\ 0.398287 \\ 0.050487 \\ 0.152940 \end{pmatrix} = 0.999645 \cdot \begin{pmatrix} 0.398428 \\ \mathbf{0.398428} \\ 0.050505 \\ 0.152994 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 7.8889 & 2.6042 \\ \mathbf{1} & 1 & \mathbf{7.8889} & \mathbf{2.6042} \\ 0.1268 & \mathbf{0.1268} & 1 & 0.3301 \\ 0.3840 & \mathbf{0.3840} & 3.0293 & 1 \end{pmatrix},$$

Example A.407.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 9 & 2 \\ 1/5 & 1/9 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2614, \quad CR = 0.0986$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.407069 \\ 0.363174 \\ 0.045410 \\ 0.184347 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1209 & 8.9642 & 2.2082 \\ 0.8922 & 1 & 7.9976 & 1.9701 \\ 0.1116 & 0.1250 & 1 & 0.2463 \\ 0.4529 & 0.5076 & 4.0596 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.404834 \\ 0.366670 \\ 0.045161 \\ 0.183335 \end{pmatrix} = 0.994511 \cdot \begin{pmatrix} 0.407069 \\ 0.368693 \\ 0.045410 \\ 0.184347 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1041 & 8.9642 & 2.2082 \\ 0.9057 & 1 & 8.1191 & 2 \\ 0.1116 & 0.1232 & 1 & 0.2463 \\ 0.4529 & 1/2 & 4.0596 & 1 \end{pmatrix},$$

Example A.408.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 8 & 3 \\ 1/5 & 1/8 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.419753 \\ \mathbf{0.393122} \\ 0.052663 \\ 0.134462 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0677} & 7.9706 & 3.1217 \\ \mathbf{0.9366} & 1 & \mathbf{7.4649} & \mathbf{2.9237} \\ 0.1255 & \mathbf{0.1340} & 1 & 0.3917 \\ 0.3203 & \mathbf{0.3420} & 2.5533 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.415489 \\ 0.399287 \\ 0.052128 \\ 0.133096 \end{pmatrix} = 0.989841 \cdot \begin{pmatrix} 0.419753 \\ \mathbf{0.403385} \\ 0.052663 \\ 0.134462 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0406} & 7.9706 & 3.1217 \\ \mathbf{0.9610} & 1 & \mathbf{7.6598} & \mathbf{3} \\ 0.1255 & \mathbf{0.1306} & 1 & 0.3917 \\ 0.3203 & \mathbf{1/3} & 2.5533 & 1 \end{pmatrix},$$

Example A.409.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 8 & 3 \\ 1/5 & 1/8 & 1 & 1/5 \\ 1/5 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.419577 \\ \mathbf{0.387152} \\ 0.049904 \\ 0.143367 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0838} & 8.4078 & 2.9266 \\ \mathbf{0.9227} & 1 & \mathbf{7.7580} & \mathbf{2.7004} \\ 0.1189 & \mathbf{0.1289} & 1 & 0.3481 \\ 0.3417 & \mathbf{0.3703} & 2.8729 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.414571 \\ 0.394465 \\ 0.049308 \\ 0.141656 \end{pmatrix} = 0.988068 \cdot \begin{pmatrix} 0.419577 \\ \mathbf{0.399229} \\ 0.049904 \\ 0.143367 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0510} & 8.4078 & 2.9266 \\ \mathbf{0.9515} & 1 & \mathbf{8} & \mathbf{2.7847} \\ 0.1189 & \mathbf{1/8} & 1 & 0.3481 \\ 0.3417 & \mathbf{0.3591} & 2.8729 & 1 \end{pmatrix},$$

Example A.410.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 9 & 3 \\ 1/5 & 1/9 & 1 & 1/5 \\ 1/5 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.415948 \\ \mathbf{0.394680} \\ 0.048147 \\ 0.141225 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0539} & 8.6391 & 2.9453 \\ \mathbf{0.9489} & 1 & \mathbf{8.1973} & \mathbf{2.7947} \\ 0.1158 & \mathbf{0.1220} & 1 & 0.3409 \\ 0.3395 & \mathbf{0.3578} & 2.9332 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.407286 \\ 0.407286 \\ 0.047145 \\ 0.138284 \end{pmatrix} = 0.979176 \cdot \begin{pmatrix} 0.415948 \\ \mathbf{0.415948} \\ 0.048147 \\ 0.141225 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 8.6391 & 2.9453 \\ \mathbf{1} & 1 & \mathbf{8.6391} & \mathbf{2.9453} \\ 0.1158 & \mathbf{0.1158} & 1 & 0.3409 \\ 0.3395 & \mathbf{0.3395} & 2.9332 & 1 \end{pmatrix},$$

Example A.411.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 7 & 3 \\ 1/5 & 1/7 & 1 & 1/4 \\ 1/6 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.441468 \\ 0.375336 \\ 0.054136 \\ 0.129060 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1762 & 8.1547 & 3.4207 \\ 0.8502 & 1 & 6.9332 & 2.9082 \\ 0.1226 & 0.1442 & 1 & 0.4195 \\ 0.2923 & 0.3439 & 2.3840 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.439876 \\ 0.377588 \\ 0.053941 \\ 0.128594 \end{pmatrix} = 0.996394 \cdot \begin{pmatrix} 0.441468 \\ 0.378955 \\ 0.054136 \\ 0.129060 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1650 & 8.1547 & 3.4207 \\ 0.8584 & 1 & 7 & 2.9363 \\ 0.1226 & 1/7 & 1 & 0.4195 \\ 0.2923 & 0.3406 & 2.3840 & 1 \end{pmatrix},$$

Example A.412.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.424777 \\ 0.412478 \\ 0.054913 \\ 0.107833 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0298 & 7.7354 & 3.9392 \\ 0.9710 & 1 & 7.5114 & 3.8252 \\ 0.1293 & 0.1331 & 1 & 0.5092 \\ 0.2539 & 0.2614 & 1.9637 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.419616 \\ 0.419616 \\ 0.054246 \\ 0.106522 \end{pmatrix} = 0.987850 \cdot \begin{pmatrix} 0.424777 \\ 0.424777 \\ 0.054913 \\ 0.107833 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.7354 & 3.9392 \\ 1 & 1 & 7.7354 & 3.9392 \\ 0.1293 & 0.1293 & 1 & 0.5092 \\ 0.2539 & 0.2539 & 1.9637 & 1 \end{pmatrix},$$

Example A.413.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/4 \\ 1/6 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.425187 \\ \mathbf{0.406007} \\ 0.051350 \\ 0.117456 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0472} & 8.2802 & 3.6200 \\ \mathbf{0.9549} & 1 & \mathbf{7.9067} & \mathbf{3.4567} \\ 0.1208 & \mathbf{0.1265} & 1 & 0.4372 \\ 0.2762 & \mathbf{0.2893} & 2.2874 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.423159 \\ 0.408840 \\ 0.051105 \\ 0.116896 \end{pmatrix} = 0.995232 \cdot \begin{pmatrix} 0.425187 \\ \mathbf{0.410798} \\ 0.051350 \\ 0.117456 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0350} & 8.2802 & 3.6200 \\ \mathbf{0.9662} & 1 & \mathbf{8} & \mathbf{3.4975} \\ 0.1208 & \mathbf{1/8} & 1 & 0.4372 \\ 0.2762 & \mathbf{0.2859} & 2.2874 & 1 \end{pmatrix},$$

Example A.414.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 9 & 4 \\ 1/5 & 1/9 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1433, \quad CR = 0.0540$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.420565 \\ \mathbf{0.420353} \\ 0.052880 \\ 0.106202 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0005} & 7.9531 & 3.9601 \\ \mathbf{0.9995} & 1 & \mathbf{7.9491} & \mathbf{3.9581} \\ 0.1257 & \mathbf{0.1258} & 1 & 0.4979 \\ 0.2525 & \mathbf{0.2526} & 2.0083 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.420476 \\ 0.420476 \\ 0.052869 \\ 0.106179 \end{pmatrix} = 0.999787 \cdot \begin{pmatrix} 0.420565 \\ \mathbf{0.420565} \\ 0.052880 \\ 0.106202 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 7.9531 & 3.9601 \\ \mathbf{1} & 1 & \mathbf{7.9531} & \mathbf{3.9601} \\ 0.1257 & \mathbf{0.1257} & 1 & 0.4979 \\ 0.2525 & \mathbf{0.2525} & 2.0083 & 1 \end{pmatrix},$$

Example A.415.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 9 & 4 \\ 1/5 & 1/9 & 1 & 1/4 \\ 1/6 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2146, \quad CR = 0.0809$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.421389 \\ 0.413512 \\ 0.049500 \\ 0.115599 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0190 & 8.5129 & 3.6453 \\ 0.9813 & 1 & 8.3538 & 3.5771 \\ 0.1175 & 0.1197 & 1 & 0.4282 \\ 0.2743 & 0.2796 & 2.3353 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.418096 \\ 0.418096 \\ 0.049113 \\ 0.114696 \end{pmatrix} = 0.992184 \cdot \begin{pmatrix} 0.421389 \\ 0.421389 \\ 0.049500 \\ 0.115599 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.5129 & 3.6453 \\ 1 & 1 & 8.5129 & 3.6453 \\ 0.1175 & 0.1175 & 1 & 0.4282 \\ 0.2743 & 0.2743 & 2.3353 & 1 \end{pmatrix},$$

Example A.416.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1793, \quad CR = 0.0676$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.443409 \\ 0.395527 \\ 0.056616 \\ 0.104448 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1211 & 7.8318 & 4.2453 \\ 0.8920 & 1 & 6.9861 & 3.7868 \\ 0.1277 & 0.1431 & 1 & 0.5421 \\ 0.2356 & 0.2641 & 1.8448 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.443060 \\ 0.396002 \\ 0.056572 \\ 0.104366 \end{pmatrix} = 0.999215 \cdot \begin{pmatrix} 0.443409 \\ 0.396313 \\ 0.056616 \\ 0.104448 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1188 & 7.8318 & 4.2453 \\ 0.8938 & 1 & 7 & 3.7944 \\ 0.1277 & 1/7 & 1 & 0.5421 \\ 0.2356 & 0.2635 & 1.8448 & 1 \end{pmatrix},$$

Example A.417.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 7 & 5 \\ 1/5 & 1/7 & 1 & 1/2 \\ 1/7 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0899, \quad CR = 0.0339$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.432065 \\ 0.419610 \\ 0.061428 \\ 0.086897 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0297 & 7.0337 & 4.9721 \\ 0.9712 & 1 & 6.8309 & 4.8288 \\ 0.1422 & 0.1464 & 1 & 0.7069 \\ 0.2011 & 0.2071 & 1.4146 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427623 \\ 0.425576 \\ 0.060797 \\ 0.086004 \end{pmatrix} = 0.989720 \cdot \begin{pmatrix} 0.432065 \\ 0.429997 \\ 0.061428 \\ 0.086897 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0048 & 7.0337 & 4.9721 \\ 0.9952 & 1 & 7 & 4.9483 \\ 0.1422 & 1/7 & 1 & 0.7069 \\ 0.2011 & 0.2021 & 1.4146 & 1 \end{pmatrix},$$

Example A.418.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.438878 \\ 0.404076 \\ 0.054289 \\ 0.102758 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0861 & 8.0842 & 4.2710 \\ 0.9207 & 1 & 7.4431 & 3.9323 \\ 0.1237 & 0.1344 & 1 & 0.5283 \\ 0.2341 & 0.2543 & 1.8928 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.435846 \\ 0.408192 \\ 0.053913 \\ 0.102048 \end{pmatrix} = 0.993092 \cdot \begin{pmatrix} 0.438878 \\ 0.411032 \\ 0.054289 \\ 0.102758 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0677 & 8.0842 & 4.2710 \\ 0.9366 & 1 & 7.5712 & 4 \\ 0.1237 & 0.1321 & 1 & 0.5283 \\ 0.2341 & 1/4 & 1.8928 & 1 \end{pmatrix},$$

Example A.419.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/4 \\ 1/7 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.440137 \\ \mathbf{0.397026} \\ 0.050802 \\ 0.112034 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.1086} & 8.6638 & 3.9286 \\ \mathbf{0.9020} & 1 & \mathbf{7.8152} & \mathbf{3.5438} \\ 0.1154 & \mathbf{0.1280} & 1 & 0.4535 \\ 0.2545 & \mathbf{0.2822} & 2.2053 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.436043 \\ 0.402636 \\ 0.050329 \\ 0.110992 \end{pmatrix} = 0.990697 \cdot \begin{pmatrix} 0.440137 \\ \mathbf{0.406417} \\ 0.050802 \\ 0.112034 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0830} & 8.6638 & 3.9286 \\ \mathbf{0.9234} & 1 & \mathbf{8} & \mathbf{3.6276} \\ 0.1154 & \mathbf{1/8} & 1 & 0.4535 \\ 0.2545 & \mathbf{0.2757} & 2.2053 & 1 \end{pmatrix},$$

Example A.420.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 9 & 4 \\ 1/5 & 1/9 & 1 & 1/4 \\ 1/7 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2594, \quad CR = 0.0978$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.436173 \\ 0.404518 \\ 0.049014 \\ 0.110295 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0783 & 8.8990 & 3.9546 \\ 0.9274 & 1 & 8.2531 & 3.6676 \\ 0.1124 & 0.1212 & 1 & 0.4444 \\ 0.2529 & 0.2727 & 2.2503 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.422789 \\ 0.422789 \\ 0.047510 \\ 0.106911 \end{pmatrix} = 0.969316 \cdot \begin{pmatrix} 0.436173 \\ 0.436173 \\ 0.049014 \\ 0.110295 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.8990 & 3.9546 \\ 1 & 1 & 8.8990 & 3.9546 \\ 0.1124 & 0.1124 & 1 & 0.4444 \\ 0.2529 & 0.2529 & 2.2503 & 1 \end{pmatrix},$$

Example A.421.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/8 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.456187 \\ 0.387850 \\ 0.055941 \\ 0.100022 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1762 & 8.1547 & 4.5609 \\ 0.8502 & 1 & 6.9332 & 3.8776 \\ 0.1226 & 0.1442 & 1 & 0.5593 \\ 0.2193 & 0.2579 & 1.7880 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.454487 \\ 0.390130 \\ 0.055733 \\ 0.099649 \end{pmatrix} = 0.996274 \cdot \begin{pmatrix} 0.456187 \\ 0.391589 \\ 0.055941 \\ 0.100022 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1650 & 8.1547 & 4.5609 \\ 0.8584 & 1 & 7 & 3.9150 \\ 0.1226 & 1/7 & 1 & 0.5593 \\ 0.2193 & 0.2554 & 1.7880 & 1 \end{pmatrix},$$

Example A.422.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 7 & 5 \\ 1/5 & 1/7 & 1 & 1/2 \\ 1/8 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1159, \quad CR = 0.0437$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.443586 \\ 0.412418 \\ 0.060741 \\ 0.083255 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0756 & 7.3029 & 5.3280 \\ 0.9297 & 1 & 6.7898 & 4.9537 \\ 0.1369 & 0.1473 & 1 & 0.7296 \\ 0.1877 & 0.2019 & 1.3707 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.441881 \\ 0.414676 \\ 0.060507 \\ 0.082935 \end{pmatrix} = 0.996157 \cdot \begin{pmatrix} 0.443586 \\ 0.416276 \\ 0.060741 \\ 0.083255 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0656 & 7.3029 & 5.3280 \\ 0.9384 & 1 & 6.8533 & 5 \\ 0.1369 & 0.1459 & 1 & 0.7296 \\ 0.1877 & 1/5 & 1.3707 & 1 \end{pmatrix},$$

Example A.423.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 8 & 5 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/8 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2144, \quad CR = 0.0808$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.441225 \\ 0.413230 \\ 0.053109 \\ 0.092436 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0677 & 8.3080 & 4.7733 \\ 0.9366 & 1 & 7.7808 & 4.4704 \\ 0.1204 & 0.1285 & 1 & 0.5745 \\ 0.2095 & 0.2237 & 1.7405 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.436149 \\ 0.419981 \\ 0.052498 \\ 0.091373 \end{pmatrix} = 0.988495 \cdot \begin{pmatrix} 0.441225 \\ 0.424869 \\ 0.053109 \\ 0.092436 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0385 & 8.3080 & 4.7733 \\ 0.9629 & 1 & 8 & 4.5963 \\ 0.1204 & 1/8 & 1 & 0.5745 \\ 0.2095 & 0.2176 & 1.7405 & 1 \end{pmatrix},$$

Example A.424.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/9 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2553, \quad CR = 0.0963$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.467772 \\ 0.380765 \\ 0.055296 \\ 0.096167 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2285 & 8.4595 & 4.8642 \\ 0.8140 & 1 & 6.8860 & 3.9594 \\ 0.1182 & 0.1452 & 1 & 0.5750 \\ 0.2056 & 0.2526 & 1.7391 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.465954 \\ 0.383172 \\ 0.055081 \\ 0.095793 \end{pmatrix} = 0.996113 \cdot \begin{pmatrix} 0.467772 \\ 0.384667 \\ 0.055296 \\ 0.096167 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2160 & 8.4595 & 4.8642 \\ 0.8223 & 1 & 6.9565 & 4 \\ 0.1182 & 0.1437 & 1 & 0.5750 \\ 0.2056 & 1/4 & 1.7391 & 1 \end{pmatrix},$$

Example A.425.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 8 & 5 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2489, \quad CR = 0.0939$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.452517 \\ 0.405842 \\ 0.052606 \\ 0.089035 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1150 & 8.6020 & 5.0825 \\ 0.8969 & 1 & 7.7147 & 4.5582 \\ 0.1163 & 0.1296 & 1 & 0.5908 \\ 0.1968 & 0.2194 & 1.6925 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.445827 \\ 0.414626 \\ 0.051828 \\ 0.087719 \end{pmatrix} = 0.985215 \cdot \begin{pmatrix} 0.452517 \\ 0.420848 \\ 0.052606 \\ 0.089035 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0753 & 8.6020 & 5.0825 \\ 0.9300 & 1 & 8 & 4.7268 \\ 0.1163 & 1/8 & 1 & 0.5908 \\ 0.1968 & 0.2116 & 1.6925 & 1 \end{pmatrix},$$

Example A.426.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 9 & 5 \\ 1/5 & 1/9 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2483, \quad CR = 0.0936$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.448190 \\ 0.413439 \\ 0.050731 \\ 0.087640 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0841 & 8.8346 & 5.1140 \\ 0.9225 & 1 & 8.1496 & 4.7175 \\ 0.1132 & 0.1227 & 1 & 0.5789 \\ 0.1955 & 0.2120 & 1.7275 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.437361 \\ 0.427611 \\ 0.049505 \\ 0.085522 \end{pmatrix} = 0.975838 \cdot \begin{pmatrix} 0.448190 \\ 0.438199 \\ 0.050731 \\ 0.087640 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0228 & 8.8346 & 5.1140 \\ 0.9777 & 1 & 8.6377 & 5 \\ 0.1132 & 0.1158 & 1 & 0.5789 \\ 0.1955 & 1/5 & 1.7275 & 1 \end{pmatrix},$$

Example A.427.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 8 & 2 \\ 1/6 & 1/8 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.393291 \\ 0.369244 \\ 0.046266 \\ 0.191199 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0651 & 8.5006 & 2.0570 \\ 0.9389 & 1 & 7.9809 & 1.9312 \\ 0.1176 & 0.1253 & 1 & 0.2420 \\ 0.4862 & 0.5178 & 4.1326 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.392943 \\ 0.369802 \\ 0.046225 \\ 0.191030 \end{pmatrix} = 0.999116 \cdot \begin{pmatrix} 0.393291 \\ 0.370129 \\ 0.046266 \\ 0.191199 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0626 & 8.5006 & 2.0570 \\ 0.9411 & 1 & 8 & 1.9358 \\ 0.1176 & 1/8 & 1 & 0.2420 \\ 0.4862 & 0.5166 & 4.1326 & 1 \end{pmatrix},$$

Example A.428.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.390040 \\ 0.376624 \\ 0.044572 \\ 0.188763 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0356 & 8.7507 & 2.0663 \\ 0.9656 & 1 & 8.4497 & 1.9952 \\ 0.1143 & 0.1183 & 1 & 0.2361 \\ 0.4840 & 0.5012 & 4.2350 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.389688 \\ 0.377186 \\ 0.044532 \\ 0.188593 \end{pmatrix} = 0.999098 \cdot \begin{pmatrix} 0.390040 \\ 0.377527 \\ 0.044572 \\ 0.188763 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0331 & 8.7507 & 2.0663 \\ 0.9679 & 1 & 8.4700 & 2 \\ 0.1143 & 0.1181 & 1 & 0.2361 \\ 0.4840 & 1/2 & 4.2350 & 1 \end{pmatrix},$$

Example A.429.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.388641 \\ 0.372218 \\ 0.042811 \\ 0.196330 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0441 & 9.0780 & 1.9795 \\ 0.9577 & 1 & 8.6944 & 1.8959 \\ 0.1102 & 0.1150 & 1 & 0.2181 \\ 0.5052 & 0.5275 & 4.5859 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.383622 \\ 0.380325 \\ 0.042258 \\ 0.193794 \end{pmatrix} = 0.987087 \cdot \begin{pmatrix} 0.388641 \\ 0.385300 \\ 0.042811 \\ 0.196330 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0087 & 9.0780 & 1.9795 \\ 0.9914 & 1 & 9 & 1.9625 \\ 0.1102 & 1/9 & 1 & 0.2181 \\ 0.5052 & 0.5095 & 4.5859 & 1 \end{pmatrix},$$

Example A.430.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/8 \\ 1/3 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.387203 \\ \mathbf{0.368163} \\ 0.041326 \\ 0.203308 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0517} & 9.3695 & 1.9045 \\ \mathbf{0.9508} & 1 & \mathbf{8.9088} & \mathbf{1.8109} \\ 0.1067 & \mathbf{0.1122} & 1 & 0.2033 \\ 0.5251 & \mathbf{0.5522} & 4.9196 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.385749 \\ 0.370536 \\ 0.041171 \\ 0.202545 \end{pmatrix} = 0.996244 \cdot \begin{pmatrix} 0.387203 \\ \mathbf{0.371933} \\ 0.041326 \\ 0.203308 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0411} & 9.3695 & 1.9045 \\ \mathbf{0.9606} & 1 & \mathbf{9} & \mathbf{1.8294} \\ 0.1067 & \mathbf{1/9} & 1 & 0.2033 \\ 0.5251 & \mathbf{0.5466} & 4.9196 & 1 \end{pmatrix},$$

Example A.431.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.416485 \\ \mathbf{0.360692} \\ 0.042168 \\ 0.180655 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.1547} & 9.8768 & 2.3054 \\ \mathbf{0.8660} & 1 & \mathbf{8.5537} & \mathbf{1.9966} \\ 0.1012 & \mathbf{0.1169} & 1 & 0.2334 \\ 0.4338 & \mathbf{0.5009} & 4.2842 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.416228 \\ 0.361087 \\ 0.042142 \\ 0.180543 \end{pmatrix} = 0.999383 \cdot \begin{pmatrix} 0.416485 \\ \mathbf{0.361310} \\ 0.042168 \\ 0.180655 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.1527} & 9.8768 & 2.3054 \\ \mathbf{0.8675} & 1 & \mathbf{8.5683} & \mathbf{2} \\ 0.1012 & \mathbf{0.1167} & 1 & 0.2334 \\ 0.4338 & \mathbf{1/2} & 4.2842 & 1 \end{pmatrix},$$

Example A.432.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/8 \\ 1/4 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.415705 \\ 0.356300 \\ 0.040740 \\ 0.187254 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1667 & 10.2038 & 2.2200 \\ 0.8571 & 1 & 8.7457 & 1.9028 \\ 0.0980 & 0.1143 & 1 & 0.2176 \\ 0.4504 & 0.5256 & 4.5963 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.411442 \\ 0.362902 \\ 0.040322 \\ 0.185334 \end{pmatrix} = 0.989745 \cdot \begin{pmatrix} 0.415705 \\ 0.366662 \\ 0.040740 \\ 0.187254 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1338 & 10.2038 & 2.2200 \\ 0.8820 & 1 & 9 & 1.9581 \\ 0.0980 & 1/9 & 1 & 0.2176 \\ 0.4504 & 0.5107 & 4.5963 & 1 \end{pmatrix},$$

Example A.433.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/5 \\ 1/4 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.404855 \\ \mathbf{0.401999} \\ 0.045342 \\ 0.147804 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0071} & 8.9290 & 2.7391 \\ \mathbf{0.9929} & 1 & \mathbf{8.8660} & \mathbf{2.7198} \\ 0.1120 & \mathbf{0.1128} & 1 & 0.3068 \\ 0.3651 & \mathbf{0.3677} & 3.2598 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.403702 \\ 0.403702 \\ 0.045213 \\ 0.147383 \end{pmatrix} = 0.997153 \cdot \begin{pmatrix} 0.404855 \\ \mathbf{0.404855} \\ 0.045342 \\ 0.147804 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 8.9290 & 2.7391 \\ \mathbf{1} & 1 & \mathbf{8.9290} & \mathbf{2.7391} \\ 0.1120 & \mathbf{0.1120} & 1 & 0.3068 \\ 0.3651 & \mathbf{0.3651} & 3.2598 & 1 \end{pmatrix},$$

Example A.434.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 5 \\ 1 & 1 & 8 & 3 \\ 1/6 & 1/8 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.429645 \\ 0.389518 \\ 0.049036 \\ 0.131802 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1030 & 8.7619 & 3.2598 \\ 0.9066 & 1 & 7.9436 & 2.9553 \\ 0.1141 & 0.1259 & 1 & 0.3720 \\ 0.3068 & 0.3384 & 2.6879 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.428459 \\ 0.391202 \\ 0.048900 \\ 0.131438 \end{pmatrix} = 0.997241 \cdot \begin{pmatrix} 0.429645 \\ 0.392285 \\ 0.049036 \\ 0.131802 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0952 & 8.7619 & 3.2598 \\ 0.9130 & 1 & 8 & 2.9763 \\ 0.1141 & 1/8 & 1 & 0.3720 \\ 0.3068 & 0.3360 & 2.6879 & 1 \end{pmatrix},$$

Example A.435.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 5 \\ 1 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/5 \\ 1/5 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1758, \quad CR = 0.0663$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.425528 \\ \mathbf{0.391422} \\ 0.044736 \\ 0.138313 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0871} & 9.5119 & 3.0765 \\ \mathbf{0.9199} & 1 & \mathbf{8.7495} & \mathbf{2.8300} \\ 0.1051 & \mathbf{0.1143} & 1 & 0.3234 \\ 0.3250 & \mathbf{0.3534} & 3.0917 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.420813 \\ 0.398166 \\ 0.044241 \\ 0.136781 \end{pmatrix} = 0.988920 \cdot \begin{pmatrix} 0.425528 \\ \mathbf{0.402627} \\ 0.044736 \\ 0.138313 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0569} & 9.5119 & 3.0765 \\ \mathbf{0.9462} & 1 & \mathbf{9} & \mathbf{2.9110} \\ 0.1051 & \mathbf{1/9} & 1 & 0.3234 \\ 0.3250 & \mathbf{0.3435} & 3.0917 & 1 \end{pmatrix},$$

Example A.436.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.434864 \\ 0.408275 \\ 0.051157 \\ 0.105705 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0651 & 8.5006 & 4.1140 \\ 0.9389 & 1 & 7.9809 & 3.8624 \\ 0.1176 & 0.1253 & 1 & 0.4840 \\ 0.2431 & 0.2589 & 2.0663 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.434438 \\ 0.408854 \\ 0.051107 \\ 0.105601 \end{pmatrix} = 0.999022 \cdot \begin{pmatrix} 0.434864 \\ 0.409254 \\ 0.051157 \\ 0.105705 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0626 & 8.5006 & 4.1140 \\ 0.9411 & 1 & 8 & 3.8717 \\ 0.1176 & 1/8 & 1 & 0.4840 \\ 0.2431 & 0.2583 & 2.0663 & 1 \end{pmatrix},$$

Example A.437.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/5 \\ 1/6 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.443298 \\ 0.381874 \\ 0.044134 \\ 0.130694 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1608 & 10.0444 & 3.3919 \\ 0.8614 & 1 & 8.6526 & 2.9219 \\ 0.0996 & 0.1156 & 1 & 0.3377 \\ 0.2948 & 0.3422 & 2.9613 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.438818 \\ 0.388120 \\ 0.043688 \\ 0.129373 \end{pmatrix} = 0.989896 \cdot \begin{pmatrix} 0.443298 \\ 0.392082 \\ 0.044134 \\ 0.130694 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1306 & 10.0444 & 3.3919 \\ 0.8845 & 1 & 8.8839 & 3 \\ 0.0996 & 0.1126 & 1 & 0.3377 \\ 0.2948 & 1/3 & 2.9613 & 1 \end{pmatrix},$$

Example A.438.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.430689 \\ 0.415875 \\ 0.049218 \\ 0.104218 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0356 & 8.7507 & 4.1326 \\ 0.9656 & 1 & 8.4497 & 3.9904 \\ 0.1143 & 0.1183 & 1 & 0.4723 \\ 0.2420 & 0.2506 & 2.1175 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.430260 \\ 0.416457 \\ 0.049169 \\ 0.104114 \end{pmatrix} = 0.999004 \cdot \begin{pmatrix} 0.430689 \\ 0.416872 \\ 0.049218 \\ 0.104218 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0331 & 8.7507 & 4.1326 \\ 0.9679 & 1 & 8.4700 & 4 \\ 0.1143 & 0.1181 & 1 & 0.4723 \\ 0.2420 & 1/4 & 2.1175 & 1 \end{pmatrix},$$

Example A.439.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/6 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.431018 \\ 0.409823 \\ 0.046002 \\ 0.113157 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0517 & 9.3695 & 3.8090 \\ 0.9508 & 1 & 8.9088 & 3.6217 \\ 0.1067 & 0.1122 & 1 & 0.4065 \\ 0.2625 & 0.2761 & 2.4598 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.429217 \\ 0.412289 \\ 0.045810 \\ 0.112684 \end{pmatrix} = 0.995821 \cdot \begin{pmatrix} 0.431018 \\ 0.414019 \\ 0.046002 \\ 0.113157 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0411 & 9.3695 & 3.8090 \\ 0.9606 & 1 & 9 & 3.6588 \\ 0.1067 & 1/9 & 1 & 0.4065 \\ 0.2625 & 0.2733 & 2.4598 & 1 \end{pmatrix},$$

Example A.440.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 7 \\ 1 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.448729 \\ 0.400162 \\ 0.050486 \\ 0.100623 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1214 & 8.8882 & 4.4595 \\ 0.8918 & 1 & 7.9262 & 3.9769 \\ 0.1125 & 0.1262 & 1 & 0.5017 \\ 0.2242 & 0.2515 & 1.9931 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.447687 \\ 0.401556 \\ 0.050369 \\ 0.100389 \end{pmatrix} = 0.997677 \cdot \begin{pmatrix} 0.448729 \\ 0.402491 \\ 0.050486 \\ 0.100623 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1149 & 8.8882 & 4.4595 \\ 0.8970 & 1 & 7.9723 & 4 \\ 0.1125 & 0.1254 & 1 & 0.5017 \\ 0.2242 & 1/4 & 1.9931 & 1 \end{pmatrix},$$

Example A.441.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 7 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/7 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.445588 \\ \mathbf{0.401104} \\ 0.045467 \\ 0.107842 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.1109} & 9.8002 & 4.1319 \\ \mathbf{0.9002} & 1 & \mathbf{8.8219} & \mathbf{3.7194} \\ 0.1020 & \mathbf{0.1134} & 1 & 0.4216 \\ 0.2420 & \mathbf{0.2689} & 2.3719 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.442008 \\ 0.405915 \\ 0.045102 \\ 0.106975 \end{pmatrix} = 0.991966 \cdot \begin{pmatrix} 0.445588 \\ \mathbf{0.409203} \\ 0.045467 \\ 0.107842 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0889} & 9.8002 & 4.1319 \\ \mathbf{0.9183} & 1 & \mathbf{9} & \mathbf{3.7945} \\ 0.1020 & \mathbf{1/9} & 1 & 0.4216 \\ 0.2420 & \mathbf{0.2635} & 2.3719 & 1 \end{pmatrix},$$

Example A.442.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 7 \\ 1 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/7 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1351, \quad CR = 0.0509$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.434602 \\ 0.424539 \\ 0.048021 \\ 0.092838 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0237 & 9.0503 & 4.6813 \\ 0.9768 & 1 & 8.8407 & 4.5729 \\ 0.1105 & 0.1131 & 1 & 0.5173 \\ 0.2136 & 0.2187 & 1.9333 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.431304 \\ 0.428907 \\ 0.047656 \\ 0.092133 \end{pmatrix} = 0.992410 \cdot \begin{pmatrix} 0.434602 \\ 0.432187 \\ 0.048021 \\ 0.092838 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0056 & 9.0503 & 4.6813 \\ 0.9944 & 1 & 9 & 4.6553 \\ 0.1105 & 1/9 & 1 & 0.5173 \\ 0.2136 & 0.2148 & 1.9333 & 1 \end{pmatrix},$$

Example A.443.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/8 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.458647 \\ \mathbf{0.393106} \\ 0.044949 \\ 0.103299 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.1667} & 10.2038 & 4.4400 \\ \mathbf{0.8571} & 1 & \mathbf{8.7457} & \mathbf{3.8055} \\ 0.0980 & \mathbf{0.1143} & 1 & 0.4351 \\ 0.2252 & \mathbf{0.2628} & 2.2982 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.453463 \\ 0.399965 \\ 0.044441 \\ 0.102131 \end{pmatrix} = 0.988697 \cdot \begin{pmatrix} 0.458647 \\ \mathbf{0.404538} \\ 0.044949 \\ 0.103299 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.1338} & 10.2038 & 4.4400 \\ \mathbf{0.8820} & 1 & \mathbf{9} & \mathbf{3.9162} \\ 0.0980 & \mathbf{1/9} & 1 & 0.4351 \\ 0.2252 & \mathbf{0.2554} & 2.2982 & 1 \end{pmatrix},$$

Example A.444.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/8 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.446676 \\ \mathbf{0.416798} \\ 0.047520 \\ 0.089007 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & \mathbf{1.0717} & 9.3998 & 5.0185 \\ \mathbf{0.9331} & 1 & \mathbf{8.7710} & \mathbf{4.6828} \\ 0.1064 & \mathbf{0.1140} & 1 & 0.5339 \\ 0.1993 & \mathbf{0.2135} & 1.8730 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.441868 \\ 0.423075 \\ 0.047008 \\ 0.088049 \end{pmatrix} = 0.989236 \cdot \begin{pmatrix} 0.446676 \\ \mathbf{0.427678} \\ 0.047520 \\ 0.089007 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0444} & 9.3998 & 5.0185 \\ \mathbf{0.9575} & 1 & \mathbf{9} & \mathbf{4.8050} \\ 0.1064 & \mathbf{1/9} & 1 & 0.5339 \\ 0.1993 & \mathbf{0.2081} & 1.8730 & 1 \end{pmatrix},$$

Example A.445.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 8 & 6 \\ 1/6 & 1/8 & 1 & 1/2 \\ 1/9 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.450745 \\ 0.423186 \\ 0.053025 \\ 0.073043 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0651 & 8.5006 & 6.1709 \\ 0.9389 & 1 & 7.9809 & 5.7936 \\ 0.1176 & 0.1253 & 1 & 0.7259 \\ 0.1621 & 0.1726 & 1.3775 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.450289 \\ 0.423771 \\ 0.052971 \\ 0.072969 \end{pmatrix} = 0.998987 \cdot \begin{pmatrix} 0.450745 \\ 0.424200 \\ 0.053025 \\ 0.073043 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0626 & 8.5006 & 6.1709 \\ 0.9411 & 1 & 8 & 5.8075 \\ 0.1176 & 1/8 & 1 & 0.7259 \\ 0.1621 & 0.1722 & 1.3775 & 1 \end{pmatrix},$$

Example A.446.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.457664 \\ 0.409621 \\ 0.047035 \\ 0.085680 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1173 & 9.7303 & 5.3416 \\ 0.8950 & 1 & 8.7088 & 4.7808 \\ 0.1028 & 0.1148 & 1 & 0.5490 \\ 0.1872 & 0.2092 & 1.8216 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.451481 \\ 0.417597 \\ 0.046400 \\ 0.084522 \end{pmatrix} = 0.986490 \cdot \begin{pmatrix} 0.457664 \\ 0.423316 \\ 0.047035 \\ 0.085680 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0811 & 9.7303 & 5.3416 \\ 0.9250 & 1 & 9 & 4.9407 \\ 0.1028 & 1/9 & 1 & 0.5490 \\ 0.1872 & 0.2024 & 1.8216 & 1 \end{pmatrix},$$

Example A.447.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 9 & 6 \\ 1/6 & 1/9 & 1 & 1/2 \\ 1/9 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.446189 \\ 0.430842 \\ 0.050989 \\ 0.071979 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0356 & 8.7507 & 6.1989 \\ 0.9656 & 1 & 8.4497 & 5.9857 \\ 0.1143 & 0.1183 & 1 & 0.7084 \\ 0.1613 & 0.1671 & 1.4117 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.445729 \\ 0.431430 \\ 0.050936 \\ 0.071905 \end{pmatrix} = 0.998968 \cdot \begin{pmatrix} 0.446189 \\ 0.431875 \\ 0.050989 \\ 0.071979 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0331 & 8.7507 & 6.1989 \\ 0.9679 & 1 & 8.4700 & 6 \\ 0.1143 & 0.1181 & 1 & 0.7084 \\ 0.1613 & 1/6 & 1.4117 & 1 \end{pmatrix},$$

Example A.448.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 4 \\ 1 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/4 \\ 1/4 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.414620 \\ 0.403144 \\ 0.045224 \\ 0.137012 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0285 & 9.1682 & 3.0262 \\ 0.9723 & 1 & 8.9144 & 2.9424 \\ 0.1091 & 0.1122 & 1 & 0.3301 \\ 0.3305 & 0.3399 & 3.0296 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.413022 \\ 0.405446 \\ 0.045050 \\ 0.136483 \end{pmatrix} = 0.996145 \cdot \begin{pmatrix} 0.414620 \\ 0.407015 \\ 0.045224 \\ 0.137012 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0187 & 9.1682 & 3.0262 \\ 0.9817 & 1 & 9 & 2.9707 \\ 0.1091 & 1/9 & 1 & 0.3301 \\ 0.3305 & 0.3366 & 3.0296 & 1 \end{pmatrix},$$

Example A.449.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 5 \\ 1 & 1 & 9 & 4 \\ 1/7 & 1/9 & 1 & 1/3 \\ 1/5 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0490, \quad CR = 0.0185$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.423969 \\ 0.420396 \\ 0.047055 \\ 0.108580 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0085 & 9.0100 & 3.9047 \\ 0.9916 & 1 & 8.9341 & 3.8718 \\ 0.1110 & 0.1119 & 1 & 0.4334 \\ 0.2561 & 0.2583 & 2.3075 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.422659 \\ 0.422187 \\ 0.046910 \\ 0.108244 \end{pmatrix} = 0.996909 \cdot \begin{pmatrix} 0.423969 \\ 0.423497 \\ 0.047055 \\ 0.108580 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0011 & 9.0100 & 3.9047 \\ 0.9989 & 1 & 9 & 3.9003 \\ 0.1110 & 1/9 & 1 & 0.4334 \\ 0.2561 & 0.2564 & 2.3075 & 1 \end{pmatrix},$$

Example A.450.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 8 \\ 1 & 1 & 9 & 6 \\ 1/7 & 1/9 & 1 & 1/2 \\ 1/8 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.445113 \\ 0.432793 \\ 0.048550 \\ 0.073544 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.0285 & 9.1682 & 6.0523 \\ 0.9723 & 1 & 8.9144 & 5.8848 \\ 0.1091 & 0.1122 & 1 & 0.6601 \\ 0.1652 & 0.1699 & 1.5148 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.443271 \\ 0.435140 \\ 0.048349 \\ 0.073240 \end{pmatrix} = 0.995862 \cdot \begin{pmatrix} 0.445113 \\ 0.436948 \\ 0.048550 \\ 0.073544 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0187 & 9.1682 & 6.0523 \\ 0.9817 & 1 & 9 & 5.9413 \\ 0.1091 & 1/9 & 1 & 0.6601 \\ 0.1652 & 0.1683 & 1.5148 & 1 \end{pmatrix},$$

Example A.451.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 6 \\ 1 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1/2 \\ 1/6 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.483965 \\ 0.341598 \\ \mathbf{0.056797} \\ 0.117640 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4168 & \mathbf{8.5210} & 4.1140 \\ 0.7058 & 1 & \mathbf{6.0144} & 2.9038 \\ \mathbf{0.1174} & \mathbf{0.1663} & 1 & \mathbf{0.4828} \\ 0.2431 & 0.3444 & \mathbf{2.0712} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.483899 \\ 0.341551 \\ 0.056925 \\ 0.117624 \end{pmatrix} = 0.999864 \cdot \begin{pmatrix} 0.483965 \\ 0.341598 \\ \mathbf{0.056933} \\ 0.117640 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4168 & \mathbf{8.5006} & 4.1140 \\ 0.7058 & 1 & \mathbf{6} & 2.9038 \\ \mathbf{0.1176} & \mathbf{1/6} & 1 & \mathbf{0.4840} \\ 0.2431 & 0.3444 & \mathbf{2.0663} & 1 \end{pmatrix},$$

Example A.452.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 7 \\ 1 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.497323 \\ 0.335720 \\ \mathbf{0.055437} \\ 0.111519 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4814 & \mathbf{8.9709} & 4.4595 \\ 0.6751 & 1 & \mathbf{6.0559} & 3.0104 \\ \mathbf{0.1115} & \mathbf{0.1651} & 1 & \mathbf{0.4971} \\ 0.2242 & 0.3322 & \mathbf{2.0116} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.497163 \\ 0.335612 \\ 0.055742 \\ 0.111483 \end{pmatrix} = 0.999678 \cdot \begin{pmatrix} 0.497323 \\ 0.335720 \\ \mathbf{0.055760} \\ 0.111519 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4814 & \mathbf{8.9190} & 4.4595 \\ 0.6751 & 1 & \mathbf{6.0208} & 3.0104 \\ \mathbf{0.1121} & \mathbf{0.1661} & 1 & \mathbf{1/2} \\ 0.2242 & 0.3322 & \mathbf{2} & 1 \end{pmatrix},$$

Example A.453.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 3 \\ 1 & 1 & 3 & 2 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/3 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.461075 \\ 0.316140 \\ 0.074380 \\ 0.148405 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4585 & 6.1989 & 3.1069 \\ 0.6857 & 1 & 4.2503 & 2.1302 \\ 0.1613 & 0.2353 & 1 & 0.5012 \\ 0.3219 & 0.4694 & 1.9952 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.460911 \\ 0.316027 \\ 0.074354 \\ 0.148708 \end{pmatrix} = 0.999644 \cdot \begin{pmatrix} 0.461075 \\ 0.316140 \\ 0.074380 \\ 0.148761 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4585 & 6.1989 & 3.0994 \\ 0.6857 & 1 & 4.2503 & 2.1252 \\ 0.1613 & 0.2353 & 1 & 1/2 \\ 0.3226 & 0.4706 & 2 & 1 \end{pmatrix},$$

Example A.454.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 6 \\ 1 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/6 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.491223 \\ 0.338336 \\ \mathbf{0.054450} \\ 0.115992 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4519 & \mathbf{9.0216} & 4.2350 \\ 0.6888 & 1 & \mathbf{6.2137} & 2.9169 \\ \mathbf{0.1108} & \mathbf{0.1609} & 1 & \mathbf{0.4694} \\ 0.2361 & 0.3428 & \mathbf{2.1302} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.491159 \\ 0.338292 \\ 0.054573 \\ 0.115976 \end{pmatrix} = 0.999870 \cdot \begin{pmatrix} 0.491223 \\ 0.338336 \\ \mathbf{0.054580} \\ 0.115992 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4519 & \mathbf{9} & 4.2350 \\ 0.6888 & 1 & \mathbf{6.1989} & 2.9169 \\ \mathbf{1/9} & \mathbf{0.1613} & 1 & \mathbf{0.4706} \\ 0.2361 & 0.3428 & \mathbf{2.1252} & 1 \end{pmatrix},$$

Example A.455.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 7 \\ 1 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.504228 \\ 0.332712 \\ \mathbf{0.053109} \\ 0.109951 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.5155 & \mathbf{9.4943} & 4.5859 \\ 0.6598 & 1 & \mathbf{6.2647} & 3.0260 \\ \mathbf{0.1053} & \mathbf{0.1596} & 1 & \mathbf{0.4830} \\ 0.2181 & 0.3305 & \mathbf{2.0703} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.503289 \\ 0.332092 \\ 0.054873 \\ 0.109746 \end{pmatrix} = 0.998137 \cdot \begin{pmatrix} 0.504228 \\ 0.332712 \\ \mathbf{0.054975} \\ 0.109951 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5155 & \mathbf{9.1719} & 4.5859 \\ 0.6598 & 1 & \mathbf{6.0520} & 3.0260 \\ \mathbf{0.1090} & \mathbf{0.1652} & 1 & \mathbf{1/2} \\ 0.2181 & 0.3305 & \mathbf{2} & 1 \end{pmatrix},$$

Example A.456.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 8 \\ 1 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/8 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.515807 \\ 0.327454 \\ \mathbf{0.051892} \\ 0.104847 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.5752 & \mathbf{9.9400} & 4.9196 \\ 0.6348 & 1 & \mathbf{6.3103} & 3.1232 \\ \mathbf{0.1006} & \mathbf{0.1585} & 1 & \mathbf{0.4949} \\ 0.2033 & 0.3202 & \mathbf{2.0205} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.515533 \\ 0.327280 \\ 0.052395 \\ 0.104791 \end{pmatrix} = 0.999469 \cdot \begin{pmatrix} 0.515807 \\ 0.327454 \\ \mathbf{0.052423} \\ 0.104847 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5752 & \mathbf{9.8393} & 4.9196 \\ 0.6348 & 1 & \mathbf{6.2463} & 3.1232 \\ \mathbf{0.1016} & \mathbf{0.1601} & 1 & \mathbf{1/2} \\ 0.2033 & 0.3202 & \mathbf{2} & 1 \end{pmatrix},$$

Example A.457.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 2 & 1 \\ 1/2 & 1 & 5 & 1 \\ 1/2 & 1/5 & 1 & 1/3 \\ 1 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.328452 \\ 0.290505 \\ 0.098100 \\ 0.282942 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1306 & 3.3481 & 1.1608 \\ 0.8845 & 1 & 2.9613 & 1.0267 \\ 0.2987 & 0.3377 & 1 & 0.3467 \\ 0.8614 & 0.9740 & 2.8842 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.325987 \\ 0.288325 \\ 0.097364 \\ 0.288325 \end{pmatrix} = 0.992494 \cdot \begin{pmatrix} 0.328452 \\ 0.290505 \\ 0.098100 \\ 0.290505 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1306 & 3.3481 & 1.1306 \\ 0.8845 & 1 & 2.9613 & 1 \\ 0.2987 & 0.3377 & 1 & 0.3377 \\ 0.8845 & 1 & 2.9613 & 1 \end{pmatrix},$$

Example A.458.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 1 \\ 1/2 & 1 & 8 & 1 \\ 1/3 & 1/8 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.337058 \\ 0.302161 \\ 0.064503 \\ \mathbf{0.296278} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1155 & 5.2255 & \mathbf{1.1376} \\ 0.8965 & 1 & 4.6845 & \mathbf{1.0199} \\ 0.1914 & 0.2135 & 1 & \mathbf{0.2177} \\ \mathbf{0.8790} & \mathbf{0.9805} & \mathbf{4.5933} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.335087 \\ 0.300394 \\ 0.064125 \\ 0.300394 \end{pmatrix} = 0.994152 \cdot \begin{pmatrix} 0.337058 \\ 0.302161 \\ 0.064503 \\ \mathbf{0.302161} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1155 & 5.2255 & \mathbf{1.1155} \\ 0.8965 & 1 & 4.6845 & \mathbf{1} \\ 0.1914 & 0.2135 & 1 & \mathbf{0.2135} \\ \mathbf{0.8965} & \mathbf{1} & \mathbf{4.6845} & 1 \end{pmatrix},$$

Example A.459.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 3 \\ 1/2 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/2 \\ 1/3 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.451852 \\ 0.320085 \\ 0.077805 \\ \mathbf{0.150257} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4117 & 5.8075 & \mathbf{3.0072} \\ 0.7084 & 1 & 4.1140 & \mathbf{2.1302} \\ 0.1722 & 0.2431 & 1 & \mathbf{0.5178} \\ \mathbf{0.3325} & \mathbf{0.4694} & \mathbf{1.9312} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.451690 \\ 0.319970 \\ 0.077777 \\ 0.150563 \end{pmatrix} = 0.999640 \cdot \begin{pmatrix} 0.451852 \\ 0.320085 \\ 0.077805 \\ \mathbf{0.150617} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4117 & 5.8075 & \mathbf{3} \\ 0.7084 & 1 & 4.1140 & \mathbf{2.1252} \\ 0.1722 & 0.2431 & 1 & \mathbf{0.5166} \\ \mathbf{1/3} & \mathbf{0.4706} & \mathbf{1.9358} & 1 \end{pmatrix},$$

Example A.460.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 3 \\ 1/2 & 1 & 7 & 2 \\ 1/4 & 1/7 & 1 & 1/2 \\ 1/3 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.447021 \\ 0.331100 \\ 0.074246 \\ \mathbf{0.147632} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3501 & 6.0208 & \mathbf{3.0279} \\ 0.7407 & 1 & 4.4595 & \mathbf{2.2427} \\ 0.1661 & 0.2242 & 1 & \mathbf{0.5029} \\ \mathbf{0.3303} & \mathbf{0.4459} & \mathbf{1.9884} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.446638 \\ 0.330816 \\ 0.074182 \\ 0.148364 \end{pmatrix} = 0.999142 \cdot \begin{pmatrix} 0.447021 \\ 0.331100 \\ 0.074246 \\ \mathbf{0.148492} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3501 & 6.0208 & \mathbf{3.0104} \\ 0.7407 & 1 & 4.4595 & \mathbf{2.2298} \\ 0.1661 & 0.2242 & 1 & \mathbf{1/2} \\ \mathbf{0.3322} & \mathbf{0.4485} & \mathbf{2} & 1 \end{pmatrix},$$

Example A.461.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 4 \\ 1/2 & 1 & 8 & 3 \\ 1/5 & 1/8 & 1 & 1/2 \\ 1/4 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1163, \quad CR = 0.0439$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.472959 \\ 0.348577 \\ 0.062881 \\ \mathbf{0.115583} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3568 & 7.5215 & \mathbf{4.0919} \\ 0.7370 & 1 & 5.5435 & \mathbf{3.0158} \\ 0.1330 & 0.1804 & 1 & \mathbf{0.5440} \\ \mathbf{0.2444} & \mathbf{0.3316} & \mathbf{1.8381} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.472672 \\ 0.348365 \\ 0.062842 \\ 0.116122 \end{pmatrix} = 0.999391 \cdot \begin{pmatrix} 0.472959 \\ 0.348577 \\ 0.062881 \\ \mathbf{0.116192} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3568 & 7.5215 & \mathbf{4.0705} \\ 0.7370 & 1 & 5.5435 & \mathbf{3} \\ 0.1330 & 0.1804 & 1 & \mathbf{0.5412} \\ \mathbf{0.2457} & \mathbf{1/3} & \mathbf{1.8478} & 1 \end{pmatrix},$$

Example A.462.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 4 \\ 1/2 & 1 & 9 & 3 \\ 1/5 & 1/9 & 1 & 1/2 \\ 1/4 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.468689 \\ 0.356941 \\ 0.060590 \\ \mathbf{0.113780} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3131 & 7.7354 & \mathbf{4.1193} \\ 0.7616 & 1 & 5.8911 & \mathbf{3.1371} \\ 0.1293 & 0.1697 & 1 & \mathbf{0.5325} \\ \mathbf{0.2428} & \mathbf{0.3188} & \mathbf{1.8779} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.467105 \\ 0.355734 \\ 0.060385 \\ 0.116776 \end{pmatrix} = 0.996619 \cdot \begin{pmatrix} 0.468689 \\ 0.356941 \\ 0.060590 \\ \mathbf{0.117172} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3131 & 7.7354 & \mathbf{4} \\ 0.7616 & 1 & 5.8911 & \mathbf{3.0463} \\ 0.1293 & 0.1697 & 1 & \mathbf{0.5171} \\ \mathbf{1/4} & \mathbf{0.3283} & \mathbf{1.9338} & 1 \end{pmatrix},$$

Example A.463.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 2 & 2 \\ 1/6 & 1/2 & 1 & 1/5 \\ 1/2 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.441083 \\ 0.256015 \\ 0.076465 \\ 0.226437 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7229 & 5.7684 & 1.9479 \\ 0.5804 & 1 & 3.3481 & 1.1306 \\ 0.1734 & 0.2987 & 1 & 0.3377 \\ 0.5134 & 0.8845 & 2.9613 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.447596 \\ 0.253032 \\ 0.075574 \\ 0.223798 \end{pmatrix} = 0.988347 \cdot \begin{pmatrix} 0.452873 \\ 0.256015 \\ 0.076465 \\ 0.226437 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7689 & 5.9226 & 2 \\ 0.5653 & 1 & 3.3481 & 1.1306 \\ 0.1688 & 0.2987 & 1 & 0.3377 \\ 1/2 & 0.8845 & 2.9613 & 1 \end{pmatrix},$$

Example A.464.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 4 & 3 \\ 1/6 & 1/4 & 1 & 1/2 \\ 1/2 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.450646 \\ 0.319231 \\ \mathbf{0.074928} \\ 0.155194 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{6.0144} & 2.9038 \\ 0.7084 & 1 & \mathbf{4.2605} & 2.0570 \\ \mathbf{0.1663} & \mathbf{0.2347} & 1 & \mathbf{0.4828} \\ 0.3444 & 0.4862 & \mathbf{2.0712} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.450566 \\ 0.319174 \\ 0.075094 \\ 0.155166 \end{pmatrix} = 0.999820 \cdot \begin{pmatrix} 0.450646 \\ 0.319231 \\ \mathbf{0.075108} \\ 0.155194 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{6} & 2.9038 \\ 0.7084 & 1 & \mathbf{4.2503} & 2.0570 \\ \mathbf{1/6} & \mathbf{0.2353} & 1 & \mathbf{0.4840} \\ 0.3444 & 0.4862 & \mathbf{2.0663} & 1 \end{pmatrix},$$

Example A.465.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 5 & 4 \\ 1/6 & 1/5 & 1 & 1/2 \\ 1/2 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.439490 \\ 0.352986 \\ \mathbf{0.067550} \\ 0.139974 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2451 & \mathbf{6.5061} & 3.1398 \\ 0.8032 & 1 & \mathbf{5.2255} & 2.5218 \\ \mathbf{0.1537} & \mathbf{0.1914} & 1 & \mathbf{0.4826} \\ 0.3185 & 0.3965 & \mathbf{2.0721} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.438422 \\ 0.352128 \\ 0.069817 \\ 0.139633 \end{pmatrix} = 0.997569 \cdot \begin{pmatrix} 0.439490 \\ 0.352986 \\ \mathbf{0.069987} \\ 0.139974 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2451 & \mathbf{6.2796} & 3.1398 \\ 0.8032 & 1 & \mathbf{5.0436} & 2.5218 \\ \mathbf{0.1592} & \mathbf{0.1983} & 1 & \mathbf{1/2} \\ 0.3185 & 0.3965 & \mathbf{2} & 1 \end{pmatrix},$$

Example A.466.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 6 & 5 \\ 1/6 & 1/6 & 1 & 1/2 \\ 1/2 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.429790 \\ 0.380135 \\ \mathbf{0.061706} \\ 0.128368 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1306 & \mathbf{6.9651} & 3.3481 \\ 0.8845 & 1 & \mathbf{6.1604} & 2.9613 \\ \mathbf{0.1436} & \mathbf{0.1623} & 1 & \mathbf{0.4807} \\ 0.2987 & 0.3377 & \mathbf{2.0803} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.429083 \\ 0.379509 \\ 0.063252 \\ 0.128156 \end{pmatrix} = 0.998353 \cdot \begin{pmatrix} 0.429790 \\ 0.380135 \\ \mathbf{0.063356} \\ 0.128368 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1306 & \mathbf{6.7837} & 3.3481 \\ 0.8845 & 1 & \mathbf{6} & 2.9613 \\ \mathbf{0.1474} & \mathbf{1/6} & 1 & \mathbf{0.4936} \\ 0.2987 & 0.3377 & \mathbf{2.0261} & 1 \end{pmatrix},$$

Example A.467.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 3 \\ 1/2 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/3 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.463883 \\ 0.328608 \\ 0.053251 \\ 0.154258 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4117 & 8.7113 & 3.0072 \\ 0.7084 & 1 & 6.1709 & 2.1302 \\ 0.1148 & 0.1621 & 1 & 0.3452 \\ 0.3325 & 0.4694 & 2.8968 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.463712 \\ 0.328486 \\ 0.053231 \\ 0.154571 \end{pmatrix} = 0.999630 \cdot \begin{pmatrix} 0.463883 \\ 0.328608 \\ 0.053251 \\ 0.154628 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4117 & 8.7113 & 3 \\ 0.7084 & 1 & 6.1709 & 2.1252 \\ 0.1148 & 0.1621 & 1 & 0.3444 \\ 1/3 & 0.4706 & 2.9038 & 1 \end{pmatrix},$$

Example A.468.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 4 \\ 1/2 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/2 \\ 1/4 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.480405 \\ 0.350323 \\ 0.056514 \\ \mathbf{0.112758} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3713 & 8.5006 & \mathbf{4.2605} \\ 0.7292 & 1 & 6.1989 & \mathbf{3.1069} \\ 0.1176 & 0.1613 & 1 & \mathbf{0.5012} \\ \mathbf{0.2347} & \mathbf{0.3219} & \mathbf{1.9952} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.480275 \\ 0.350229 \\ 0.056499 \\ 0.112998 \end{pmatrix} = 0.999730 \cdot \begin{pmatrix} 0.480405 \\ 0.350323 \\ 0.056514 \\ \mathbf{0.113028} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3713 & 8.5006 & \mathbf{4.2503} \\ 0.7292 & 1 & 6.1989 & \mathbf{3.0994} \\ 0.1176 & 0.1613 & 1 & \mathbf{1/2} \\ \mathbf{0.2353} & \mathbf{0.3226} & \mathbf{2} & 1 \end{pmatrix},$$

Example A.469.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 5 \\ 1/2 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 1/2 \\ 1/5 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.510431 \\ 0.296266 \\ 0.088487 \\ 0.104815 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7229 & 5.7684 & 4.8698 \\ 0.5804 & 1 & 3.3481 & 2.8266 \\ 0.1734 & 0.2987 & 1 & 0.8442 \\ 0.2053 & 0.3538 & 1.1845 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.517021 \\ 0.292278 \\ 0.087296 \\ 0.103404 \end{pmatrix} = 0.986540 \cdot \begin{pmatrix} 0.524075 \\ 0.296266 \\ 0.088487 \\ 0.104815 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7689 & 5.9226 & 5 \\ 0.5653 & 1 & 3.3481 & 2.8266 \\ 0.1688 & 0.2987 & 1 & 0.8442 \\ 1/5 & 0.3538 & 1.1845 & 1 \end{pmatrix},$$

Example A.470.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 2 \\ 1/2 & 1 & 5 & 4 \\ 1/7 & 1/5 & 1 & 1/2 \\ 1/2 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.449205 \\ 0.347722 \\ \mathbf{0.064163} \\ 0.138910 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2919 & \mathbf{7.0010} & 3.2338 \\ 0.7741 & 1 & \mathbf{5.4194} & 2.5032 \\ \mathbf{0.1428} & \mathbf{0.1845} & 1 & \mathbf{0.4619} \\ 0.3092 & 0.3995 & \mathbf{2.1650} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.449201 \\ 0.347719 \\ 0.064172 \\ 0.138909 \end{pmatrix} = 0.999991 \cdot \begin{pmatrix} 0.449205 \\ 0.347722 \\ \mathbf{0.064172} \\ 0.138910 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2919 & \mathbf{7} & 3.2338 \\ 0.7741 & 1 & \mathbf{5.4186} & 2.5032 \\ \mathbf{1/7} & \mathbf{0.1846} & 1 & \mathbf{0.4620} \\ 0.3092 & 0.3995 & \mathbf{2.1647} & 1 \end{pmatrix},$$

Example A.471.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 2 \\ 1/2 & 1 & 5 & 5 \\ 1/7 & 1/5 & 1 & 1/2 \\ 1/2 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.442095 \\ 0.365864 \\ \mathbf{0.062314} \\ 0.129728 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2084 & \mathbf{7.0946} & 3.4079 \\ 0.8276 & 1 & \mathbf{5.8713} & 2.8202 \\ \mathbf{0.1410} & \mathbf{0.1703} & 1 & \mathbf{0.4803} \\ 0.2934 & 0.3546 & \mathbf{2.0818} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.441723 \\ 0.365556 \\ 0.063103 \\ 0.129618 \end{pmatrix} = 0.999159 \cdot \begin{pmatrix} 0.442095 \\ 0.365864 \\ \mathbf{0.063156} \\ 0.129728 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2084 & \mathbf{7} & 3.4079 \\ 0.8276 & 1 & \mathbf{5.7930} & 2.8202 \\ \mathbf{1/7} & \mathbf{0.1726} & 1 & \mathbf{0.4868} \\ 0.2934 & 0.3546 & \mathbf{2.0541} & 1 \end{pmatrix},$$

Example A.472.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 2 \\ 1/2 & 1 & 6 & 5 \\ 1/7 & 1/6 & 1 & 1/2 \\ 1/2 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.438846 \\ 0.374926 \\ \mathbf{0.058601} \\ 0.127628 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1705 & \mathbf{7.4887} & 3.4385 \\ 0.8543 & 1 & \mathbf{6.3979} & 2.9377 \\ \mathbf{0.1335} & \mathbf{0.1563} & 1 & \mathbf{0.4592} \\ 0.2908 & 0.3404 & \mathbf{2.1779} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.437147 \\ 0.373474 \\ 0.062246 \\ 0.127134 \end{pmatrix} = 0.996129 \cdot \begin{pmatrix} 0.438846 \\ 0.374926 \\ \mathbf{0.062488} \\ 0.127628 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1705 & \mathbf{7.0229} & 3.4385 \\ 0.8543 & 1 & \mathbf{6} & 2.9377 \\ \mathbf{0.1424} & \mathbf{1/6} & 1 & \mathbf{0.4896} \\ 0.2908 & 0.3404 & \mathbf{2.0424} & 1 \end{pmatrix},$$

Example A.473.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 3 \\ 1/2 & 1 & 8 & 2 \\ 1/7 & 1/8 & 1 & 1/3 \\ 1/3 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.477536 \\ 0.315605 \\ 0.052086 \\ \mathbf{0.154773} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.5131 & 9.1682 & \mathbf{3.0854} \\ 0.6609 & 1 & 6.0593 & \mathbf{2.0391} \\ 0.1091 & 0.1650 & 1 & \mathbf{0.3365} \\ \mathbf{0.3241} & \mathbf{0.4904} & \mathbf{2.9715} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.476828 \\ 0.315136 \\ 0.052009 \\ 0.156027 \end{pmatrix} = 0.998516 \cdot \begin{pmatrix} 0.477536 \\ 0.315605 \\ 0.052086 \\ \mathbf{0.156259} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5131 & 9.1682 & \mathbf{3.0561} \\ 0.6609 & 1 & 6.0593 & \mathbf{2.0198} \\ 0.1091 & 0.1650 & 1 & \mathbf{1/3} \\ \mathbf{0.3272} & \mathbf{0.4951} & \mathbf{3} & 1 \end{pmatrix},$$

Example A.474.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/7 & 1/6 & 1 & 1/4 \\ 1/6 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1317, \quad CR = 0.0496$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.544441 \\ 0.269597 \\ 0.050035 \\ 0.135927 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0195 & 10.8812 & 4.0054 \\ 0.4952 & 1 & 5.3882 & 1.9834 \\ 0.0919 & 0.1856 & 1 & 0.3681 \\ 0.2497 & 0.5042 & 2.7167 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543214 \\ 0.271242 \\ 0.049922 \\ 0.135621 \end{pmatrix} = 0.997747 \cdot \begin{pmatrix} 0.544441 \\ 0.271855 \\ 0.050035 \\ 0.135927 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0027 & 10.8812 & 4.0054 \\ 0.4993 & 1 & 5.4333 & 2 \\ 0.0919 & 0.1840 & 1 & 0.3681 \\ 0.2497 & 1/2 & 2.7167 & 1 \end{pmatrix},$$

Example A.475.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/7 & 1/6 & 1 & 1/5 \\ 1/6 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1832, \quad CR = 0.0691$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.542983 \\ 0.265250 \\ 0.047331 \\ 0.144437 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0471 & 11.4721 & 3.7593 \\ 0.4885 & 1 & 5.6042 & 1.8364 \\ 0.0872 & 0.1784 & 1 & 0.3277 \\ 0.2660 & 0.5445 & 3.0517 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539614 \\ 0.269807 \\ 0.047037 \\ 0.143541 \end{pmatrix} = 0.993797 \cdot \begin{pmatrix} 0.542983 \\ 0.271491 \\ 0.047331 \\ 0.144437 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 11.4721 & 3.7593 \\ 1/2 & 1 & 5.7360 & 1.8797 \\ 0.0872 & 0.1743 & 1 & 0.3277 \\ 0.2660 & 0.5320 & 3.0517 & 1 \end{pmatrix},$$

Example A.476.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/7 & 1/6 & 1 & 1/6 \\ 1/6 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.541308 \\ 0.261426 \\ 0.045194 \\ 0.152072 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0706 & 11.9774 & 3.5596 \\ 0.4830 & 1 & 5.7845 & 1.7191 \\ 0.0835 & 0.1729 & 1 & 0.2972 \\ 0.2809 & 0.5817 & 3.3649 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.536358 \\ 0.268179 \\ 0.044781 \\ 0.150681 \end{pmatrix} = 0.990857 \cdot \begin{pmatrix} 0.541308 \\ 0.270654 \\ 0.045194 \\ 0.152072 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 11.9774 & 3.5596 \\ 1/2 & 1 & 5.9887 & 1.7798 \\ 0.0835 & 0.1670 & 1 & 0.2972 \\ 0.2809 & 0.5619 & 3.3649 & 1 \end{pmatrix},$$

Example A.477.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/7 & 1/7 & 1 & 1/5 \\ 1/7 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.554218 \\ 0.266217 \\ 0.044658 \\ 0.134907 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.0818 & 12.4103 & 4.1081 \\ 0.4803 & 1 & 5.9612 & 1.9733 \\ 0.0806 & 0.1678 & 1 & 0.3310 \\ 0.2434 & 0.5068 & 3.0209 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552231 \\ 0.268847 \\ 0.044498 \\ 0.134424 \end{pmatrix} = 0.996415 \cdot \begin{pmatrix} 0.554218 \\ 0.269815 \\ 0.044658 \\ 0.134907 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2.0541 & 12.4103 & 4.1081 \\ 0.4868 & 1 & 6.0418 & 2 \\ 0.0806 & 0.1655 & 1 & 0.3310 \\ 0.2434 & 1/2 & 3.0209 & 1 \end{pmatrix},$$

Example A.478.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 2 \\ 1/2 & 1 & 6 & 3 \\ 1/8 & 1/6 & 1 & 1/3 \\ 1/2 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.454649 \\ 0.331542 \\ \mathbf{0.053356} \\ 0.160453 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3713 & \mathbf{8.5210} & 2.8335 \\ 0.7292 & 1 & \mathbf{6.2137} & 2.0663 \\ \mathbf{0.1174} & \mathbf{0.1609} & 1 & \mathbf{0.3325} \\ 0.3529 & 0.4840 & \mathbf{3.0072} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.454591 \\ 0.331499 \\ 0.053477 \\ 0.160432 \end{pmatrix} = 0.999872 \cdot \begin{pmatrix} 0.454649 \\ 0.331542 \\ \mathbf{0.053484} \\ 0.160453 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3713 & \mathbf{8.5006} & 2.8335 \\ 0.7292 & 1 & \mathbf{6.1989} & 2.0663 \\ \mathbf{0.1176} & \mathbf{0.1613} & 1 & \mathbf{1/3} \\ 0.3529 & 0.4840 & \mathbf{3} & 1 \end{pmatrix},$$

Example A.479.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 2 \\ 1/2 & 1 & 7 & 5 \\ 1/8 & 1/7 & 1 & 1/2 \\ 1/2 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.443640 \\ 0.377967 \\ \mathbf{0.053275} \\ 0.125117 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1738 & \mathbf{8.3273} & 3.5458 \\ 0.8520 & 1 & \mathbf{7.0946} & 3.0209 \\ \mathbf{0.1201} & \mathbf{0.1410} & 1 & \mathbf{0.4258} \\ 0.2820 & 0.3310 & \mathbf{2.3485} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.443321 \\ 0.377695 \\ 0.053956 \\ 0.125027 \end{pmatrix} = 0.999281 \cdot \begin{pmatrix} 0.443640 \\ 0.377967 \\ \mathbf{0.053995} \\ 0.125117 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1738 & \mathbf{8.2163} & 3.5458 \\ 0.8520 & 1 & \mathbf{7} & 3.0209 \\ \mathbf{0.1217} & \mathbf{1/7} & 1 & \mathbf{0.4316} \\ 0.2820 & 0.3310 & \mathbf{2.3172} & 1 \end{pmatrix},$$

Example A.480.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/8 & 1/3 & 1 & 1/3 \\ 1/4 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.521712 \\ 0.277844 \\ 0.065370 \\ 0.135074 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8777 & 7.9809 & 3.8624 \\ 0.5326 & 1 & 4.2503 & 2.0570 \\ 0.1253 & 0.2353 & 1 & 0.4840 \\ 0.2589 & 0.4862 & 2.0663 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.522309 \\ 0.277497 \\ 0.065289 \\ 0.134905 \end{pmatrix} = 0.998751 \cdot \begin{pmatrix} 0.522962 \\ 0.277844 \\ 0.065370 \\ 0.135074 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8822 & 8 & 3.8717 \\ 0.5313 & 1 & 4.2503 & 2.0570 \\ 1/8 & 0.2353 & 1 & 0.4840 \\ 0.2583 & 0.4862 & 2.0663 & 1 \end{pmatrix},$$

Example A.481.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 5 \\ 1/2 & 1 & 5 & 2 \\ 1/8 & 1/5 & 1 & 1/3 \\ 1/5 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0332, \quad CR = 0.0125$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.542689 \\ 0.268294 \\ 0.054804 \\ 0.134213 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0227 & 9.9023 & 4.0435 \\ 0.4944 & 1 & 4.8955 & 1.9990 \\ 0.1010 & 0.2043 & 1 & 0.4083 \\ 0.2473 & 0.5002 & 2.4490 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.542616 \\ 0.268391 \\ 0.054797 \\ 0.134196 \end{pmatrix} = 0.999867 \cdot \begin{pmatrix} 0.542689 \\ 0.268427 \\ 0.054804 \\ 0.134213 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0217 & 9.9023 & 4.0435 \\ 0.4946 & 1 & 4.8979 & 2 \\ 0.1010 & 0.2042 & 1 & 0.4083 \\ 0.2473 & 1/2 & 2.4490 & 1 \end{pmatrix},$$

Example A.482.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 3 & 5 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/6 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.541541 \\ 0.298664 \\ 0.068173 \\ 0.091621 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8132 & 7.9436 & 5.9107 \\ 0.5515 & 1 & 4.3809 & 3.2598 \\ 0.1259 & 0.2283 & 1 & 0.7441 \\ 0.1692 & 0.3068 & 1.3439 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543298 \\ 0.297520 \\ 0.067912 \\ 0.091270 \end{pmatrix} = 0.996168 \cdot \begin{pmatrix} 0.545388 \\ 0.298664 \\ 0.068173 \\ 0.091621 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8261 & 8 & 5.9527 \\ 0.5476 & 1 & 4.3809 & 3.2598 \\ 1/8 & 0.2283 & 1 & 0.7441 \\ 0.1680 & 0.3068 & 1.3439 & 1 \end{pmatrix},$$

Example A.483.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1/4 \\ 1/6 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.552337 \\ 0.266669 \\ 0.047339 \\ 0.133654 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0712 & 11.6676 & 4.1326 \\ 0.4828 & 1 & 5.6331 & 1.9952 \\ 0.0857 & 0.1775 & 1 & 0.3542 \\ 0.2420 & 0.5012 & 2.8233 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551984 \\ 0.267138 \\ 0.047309 \\ 0.133569 \end{pmatrix} = 0.999361 \cdot \begin{pmatrix} 0.552337 \\ 0.267309 \\ 0.047339 \\ 0.133654 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0663 & 11.6676 & 4.1326 \\ 0.4840 & 1 & 5.6467 & 2 \\ 0.0857 & 0.1771 & 1 & 0.3542 \\ 0.2420 & 1/2 & 2.8233 & 1 \end{pmatrix},$$

Example A.484.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1/5 \\ 1/6 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.550660 \\ 0.262715 \\ 0.044756 \\ 0.141869 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0960 & 12.3035 & 3.8815 \\ 0.4771 & 1 & 5.8699 & 1.8518 \\ 0.0813 & 0.1704 & 1 & 0.3155 \\ 0.2576 & 0.5400 & 3.1698 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547472 \\ 0.266984 \\ 0.044497 \\ 0.141047 \end{pmatrix} = 0.994210 \cdot \begin{pmatrix} 0.550660 \\ 0.268539 \\ 0.044756 \\ 0.141869 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0506 & 12.3035 & 3.8815 \\ 0.4877 & 1 & 6 & 1.8929 \\ 0.0813 & 1/6 & 1 & 0.3155 \\ 0.2576 & 0.5283 & 3.1698 & 1 \end{pmatrix},$$

Example A.485.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 7 & 2 \\ 1/8 & 1/7 & 1 & 1/5 \\ 1/6 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1512, \quad CR = 0.0570$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.546721 \\ 0.270632 \\ 0.042830 \\ 0.139817 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.0202 & 12.7648 & 3.9103 \\ 0.4950 & 1 & 6.3187 & 1.9356 \\ 0.0783 & 0.1583 & 1 & 0.3063 \\ 0.2557 & 0.5166 & 3.2645 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.545233 \\ 0.272617 \\ 0.042714 \\ 0.139437 \end{pmatrix} = 0.997279 \cdot \begin{pmatrix} 0.546721 \\ 0.273360 \\ 0.042830 \\ 0.139817 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2 & 12.7648 & 3.9103 \\ 1/2 & 1 & 6.3824 & 1.9551 \\ 0.0783 & 0.1567 & 1 & 0.3063 \\ 0.2557 & 0.5115 & 3.2645 & 1 \end{pmatrix},$$

Example A.486.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 7 & 2 \\ 1/8 & 1/7 & 1 & 1/6 \\ 1/6 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.545259 \\ 0.266855 \\ 0.040913 \\ 0.146973 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0433 & 13.3271 & 3.7099 \\ 0.4894 & 1 & 6.5224 & 1.8157 \\ 0.0750 & 0.1533 & 1 & 0.2784 \\ 0.2695 & 0.5508 & 3.5923 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.542128 \\ 0.271064 \\ 0.040678 \\ 0.146130 \end{pmatrix} = 0.994258 \cdot \begin{pmatrix} 0.545259 \\ 0.272629 \\ 0.040913 \\ 0.146973 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 13.3271 & 3.7099 \\ 1/2 & 1 & 6.6636 & 1.8550 \\ 0.0750 & 0.1501 & 1 & 0.2784 \\ 0.2695 & 0.5391 & 3.5923 & 1 \end{pmatrix},$$

Example A.487.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 7 & 2 \\ 1/8 & 1/7 & 1 & 1/7 \\ 1/6 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.543683 \\ 0.263472 \\ 0.039335 \\ 0.153510 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0635 & 13.8218 & 3.5417 \\ 0.4846 & 1 & 6.6981 & 1.7163 \\ 0.0723 & 0.1493 & 1 & 0.2562 \\ 0.2824 & 0.5826 & 3.9026 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539171 \\ 0.269585 \\ 0.039009 \\ 0.152236 \end{pmatrix} = 0.991700 \cdot \begin{pmatrix} 0.543683 \\ 0.271842 \\ 0.039335 \\ 0.153510 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 13.8218 & 3.5417 \\ 1/2 & 1 & 6.9109 & 1.7708 \\ 0.0723 & 0.1447 & 1 & 0.2562 \\ 0.2824 & 0.5647 & 3.9026 & 1 \end{pmatrix},$$

Example A.488.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/8 & 1/7 & 1 & 1/5 \\ 1/7 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1897, \quad CR = 0.0715$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.561755 \\ 0.263600 \\ 0.042129 \\ 0.132517 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1311 & 13.3342 & 4.2391 \\ 0.4692 & 1 & 6.2570 & 1.9892 \\ 0.0750 & 0.1598 & 1 & 0.3179 \\ 0.2359 & 0.5027 & 3.1455 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.560950 \\ 0.264654 \\ 0.042068 \\ 0.132327 \end{pmatrix} = 0.998567 \cdot \begin{pmatrix} 0.561755 \\ 0.265034 \\ 0.042129 \\ 0.132517 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1196 & 13.3342 & 4.2391 \\ 0.4718 & 1 & 6.2910 & 2 \\ 0.0750 & 0.1590 & 1 & 0.3179 \\ 0.2359 & 1/2 & 3.1455 & 1 \end{pmatrix},$$

Example A.489.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/8 & 1/7 & 1 & 1/6 \\ 1/7 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2395, \quad CR = 0.0903$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.560804 \\ 0.259582 \\ 0.040256 \\ 0.139357 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1604 & 13.9308 & 4.0242 \\ 0.4629 & 1 & 6.4482 & 1.8627 \\ 0.0718 & 0.1551 & 1 & 0.2889 \\ 0.2485 & 0.5369 & 3.4617 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.550277 \\ 0.273482 \\ 0.039501 \\ 0.136741 \end{pmatrix} = 0.981227 \cdot \begin{pmatrix} 0.560804 \\ 0.278714 \\ 0.040256 \\ 0.139357 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0121 & 13.9308 & 4.0242 \\ 0.4970 & 1 & 6.9235 & 2 \\ 0.0718 & 0.1444 & 1 & 0.2889 \\ 0.2485 & 1/2 & 3.4617 & 1 \end{pmatrix},$$

Example A.490.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 7 \\ 1/2 & 1 & 8 & 2 \\ 1/8 & 1/8 & 1 & 1/6 \\ 1/7 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.557120 \\ 0.266547 \\ 0.038825 \\ 0.137507 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0901 & 14.3494 & 4.0516 \\ 0.4784 & 1 & 6.8653 & 1.9384 \\ 0.0697 & 0.1457 & 1 & 0.2824 \\ 0.2468 & 0.5159 & 3.5417 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552443 \\ 0.272705 \\ 0.038499 \\ 0.136353 \end{pmatrix} = 0.991604 \cdot \begin{pmatrix} 0.557120 \\ 0.275014 \\ 0.038825 \\ 0.137507 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0258 & 14.3494 & 4.0516 \\ 0.4936 & 1 & 7.0834 & 2 \\ 0.0697 & 0.1412 & 1 & 0.2824 \\ 0.2468 & 1/2 & 3.5417 & 1 \end{pmatrix},$$

Example A.491.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 8 \\ 1/2 & 1 & 6 & 3 \\ 1/8 & 1/6 & 1 & 1/3 \\ 1/8 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.567538 \\ 0.283091 \\ 0.048862 \\ 0.100509 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0048 & 11.6150 & 5.6467 \\ 0.4988 & 1 & 5.7936 & 2.8166 \\ 0.0861 & 0.1726 & 1 & 0.4862 \\ 0.1771 & 0.3550 & 2.0570 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567153 \\ 0.283577 \\ 0.048829 \\ 0.100441 \end{pmatrix} = 0.999322 \cdot \begin{pmatrix} 0.567538 \\ 0.283769 \\ 0.048862 \\ 0.100509 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 11.6150 & 5.6467 \\ 1/2 & 1 & 5.8075 & 2.8233 \\ 0.0861 & 0.1722 & 1 & 0.4862 \\ 0.1771 & 0.3542 & 2.0570 & 1 \end{pmatrix},$$

Example A.492.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 3 & 2 \\ 1/9 & 1/3 & 1 & 1/7 \\ 1/2 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.455559 \\ 0.263013 \\ 0.053259 \\ 0.228169 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7321 & 8.5537 & 1.9966 \\ 0.5773 & 1 & 4.9384 & 1.1527 \\ 0.1169 & 0.2025 & 1 & 0.2334 \\ 0.5009 & 0.8675 & 4.2842 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.455983 \\ 0.262808 \\ 0.053217 \\ 0.227992 \end{pmatrix} = 0.999221 \cdot \begin{pmatrix} 0.456339 \\ 0.263013 \\ 0.053259 \\ 0.228169 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7350 & 8.5683 & 2 \\ 0.5764 & 1 & 4.9384 & 1.1527 \\ 0.1167 & 0.2025 & 1 & 0.2334 \\ 1/2 & 0.8675 & 4.2842 & 1 \end{pmatrix},$$

Example A.493.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 3 & 2 \\ 1/9 & 1/3 & 1 & 1/8 \\ 1/2 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.449790 \\ 0.262391 \\ 0.051430 \\ 0.236388 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7142 & 8.7457 & 1.9028 \\ 0.5834 & 1 & 5.1019 & 1.1100 \\ 0.1143 & 0.1960 & 1 & 0.2176 \\ 0.5256 & 0.9009 & 4.5963 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.456894 \\ 0.259003 \\ 0.050766 \\ 0.233336 \end{pmatrix} = 0.987088 \cdot \begin{pmatrix} 0.462871 \\ 0.262391 \\ 0.051430 \\ 0.236388 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7640 & 9 & 1.9581 \\ 0.5669 & 1 & 5.1019 & 1.1100 \\ 1/9 & 0.1960 & 1 & 0.2176 \\ 0.5107 & 0.9009 & 4.5963 & 1 \end{pmatrix},$$

Example A.494.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 6 & 3 \\ 1/9 & 1/6 & 1 & 1/3 \\ 1/2 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.462190 \\ 0.327408 \\ \mathbf{0.051232} \\ 0.159170 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{9.0216} & 2.9038 \\ 0.7084 & 1 & \mathbf{6.3907} & 2.0570 \\ \mathbf{0.1108} & \mathbf{0.1565} & 1 & \mathbf{0.3219} \\ 0.3444 & 0.4862 & \mathbf{3.1069} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.462133 \\ 0.327368 \\ 0.051348 \\ 0.159150 \end{pmatrix} = 0.999877 \cdot \begin{pmatrix} 0.462190 \\ 0.327408 \\ \mathbf{0.051354} \\ 0.159170 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4117 & \mathbf{9} & 2.9038 \\ 0.7084 & 1 & \mathbf{6.3755} & 2.0570 \\ \mathbf{1/9} & \mathbf{0.1569} & 1 & \mathbf{0.3226} \\ 0.3444 & 0.4862 & \mathbf{3.0994} & 1 \end{pmatrix},$$

Example A.495.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 7 & 4 \\ 1/9 & 1/7 & 1 & 1/3 \\ 1/2 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.451052 \\ 0.357639 \\ \mathbf{0.047148} \\ 0.144161 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2612 & \mathbf{9.5666} & 3.1288 \\ 0.7929 & 1 & \mathbf{7.5854} & 2.4808 \\ \mathbf{0.1045} & \mathbf{0.1318} & 1 & \mathbf{0.3271} \\ 0.3196 & 0.4031 & \mathbf{3.0576} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.450644 \\ 0.357315 \\ 0.048010 \\ 0.144030 \end{pmatrix} = 0.999096 \cdot \begin{pmatrix} 0.451052 \\ 0.357639 \\ \mathbf{0.048054} \\ 0.144161 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2612 & \mathbf{9.3865} & 3.1288 \\ 0.7929 & 1 & \mathbf{7.4425} & 2.4808 \\ \mathbf{0.1065} & \mathbf{0.1344} & 1 & \mathbf{1/3} \\ 0.3196 & 0.4031 & \mathbf{3} & 1 \end{pmatrix},$$

Example A.496.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 8 & 4 \\ 1/9 & 1/8 & 1 & 1/3 \\ 1/2 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.448211 \\ 0.364426 \\ \mathbf{0.045092} \\ 0.142271 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2299 & \mathbf{9.9400} & 3.1504 \\ 0.8131 & 1 & \mathbf{8.0819} & 2.5615 \\ \mathbf{0.1006} & \mathbf{0.1237} & 1 & \mathbf{0.3169} \\ 0.3174 & 0.3904 & \mathbf{3.1552} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.448004 \\ 0.364258 \\ 0.045532 \\ 0.142205 \end{pmatrix} = 0.999538 \cdot \begin{pmatrix} 0.448211 \\ 0.364426 \\ \mathbf{0.045553} \\ 0.142271 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2299 & \mathbf{9.8393} & 3.1504 \\ 0.8131 & 1 & \mathbf{8} & 2.5615 \\ \mathbf{0.1016} & \mathbf{1/8} & 1 & \mathbf{0.3202} \\ 0.3174 & 0.3904 & \mathbf{3.1232} & 1 \end{pmatrix},$$

Example A.497.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 8 & 5 \\ 1/9 & 1/8 & 1 & 1/3 \\ 1/2 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2267, \quad CR = 0.0855$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.441193 \\ 0.382384 \\ \mathbf{0.043715} \\ 0.132709 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 1.1538 & \mathbf{10.0926} & 3.3245 \\ 0.8667 & 1 & \mathbf{8.7473} & 2.8814 \\ \mathbf{0.0991} & \mathbf{0.1143} & 1 & \mathbf{0.3294} \\ 0.3008 & 0.3471 & \mathbf{3.0358} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.440963 \\ 0.382185 \\ 0.044213 \\ 0.132639 \end{pmatrix} = 0.999479 \cdot \begin{pmatrix} 0.441193 \\ 0.382384 \\ \mathbf{0.044236} \\ 0.132709 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 1.1538 & \mathbf{9.9736} & 3.3245 \\ 0.8667 & 1 & \mathbf{8.6441} & 2.8814 \\ \mathbf{0.1003} & \mathbf{0.1157} & 1 & \mathbf{1/3} \\ 0.3008 & 0.3471 & \mathbf{3} & 1 \end{pmatrix},$$

Example A.498.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 9 & 5 \\ 1/9 & 1/9 & 1 & 1/3 \\ 1/2 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.438816 \\ 0.388119 \\ 0.042002 \\ 0.131063 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1306 & 10.4476 & 3.3481 \\ 0.8845 & 1 & 9.2406 & 2.9613 \\ 0.0957 & 0.1082 & 1 & 0.3205 \\ 0.2987 & 0.3377 & 3.1204 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.438324 \\ 0.387683 \\ 0.043076 \\ 0.130916 \end{pmatrix} = 0.998879 \cdot \begin{pmatrix} 0.438816 \\ 0.388119 \\ 0.043124 \\ 0.131063 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1306 & 10.1756 & 3.3481 \\ 0.8845 & 1 & 9 & 2.9613 \\ 0.0983 & 1/9 & 1 & 0.3290 \\ 0.2987 & 0.3377 & 3.0392 & 1 \end{pmatrix},$$

Example A.499.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 3 & 2 \\ 1/9 & 1/3 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.504029 \\ 0.253804 \\ 0.056850 \\ 0.185317 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9859 & 8.8660 & 2.7198 \\ 0.5036 & 1 & 4.4645 & 1.3696 \\ 0.1128 & 0.2240 & 1 & 0.3068 \\ 0.3677 & 0.7302 & 3.2598 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.505798 \\ 0.252899 \\ 0.056647 \\ 0.184656 \end{pmatrix} = 0.996433 \cdot \begin{pmatrix} 0.507609 \\ 0.253804 \\ 0.056850 \\ 0.185317 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.9290 & 2.7391 \\ 1/2 & 1 & 4.4645 & 1.3696 \\ 0.1120 & 0.2240 & 1 & 0.3068 \\ 0.3651 & 0.7302 & 3.2598 & 1 \end{pmatrix},$$

Example A.500.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/5 \\ 1/3 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.490620 \\ 0.284767 \\ 0.056702 \\ 0.167911 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7229 & 8.6526 & 2.9219 \\ 0.5804 & 1 & 5.0222 & 1.6959 \\ 0.1156 & 0.1991 & 1 & 0.3377 \\ 0.3422 & 0.5896 & 2.9613 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.497213 \\ 0.281081 \\ 0.055968 \\ 0.165738 \end{pmatrix} = 0.987055 \cdot \begin{pmatrix} 0.503734 \\ 0.284767 \\ 0.056702 \\ 0.167911 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7689 & 8.8839 & 3 \\ 0.5653 & 1 & 5.0222 & 1.6959 \\ 0.1126 & 0.1991 & 1 & 0.3377 \\ 1/3 & 0.5896 & 2.9613 & 1 \end{pmatrix},$$

Example A.501.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 6 & 5 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/3 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.484385 \\ 0.353677 \\ \mathbf{0.053441} \\ 0.108497 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3696 & \mathbf{9.0639} & 4.4645 \\ 0.7302 & 1 & \mathbf{6.6181} & 3.2598 \\ \mathbf{0.1103} & \mathbf{0.1511} & 1 & \mathbf{0.4926} \\ 0.2240 & 0.3068 & \mathbf{2.0302} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.484201 \\ 0.353543 \\ 0.053800 \\ 0.108456 \end{pmatrix} = 0.999621 \cdot \begin{pmatrix} 0.484385 \\ 0.353677 \\ \mathbf{0.053821} \\ 0.108497 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3696 & \mathbf{9} & 4.4645 \\ 0.7302 & 1 & \mathbf{6.5714} & 3.2598 \\ \mathbf{1/9} & \mathbf{0.1522} & 1 & \mathbf{0.4961} \\ 0.2240 & 0.3068 & \mathbf{2.0159} & 1 \end{pmatrix},$$

Example A.502.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 7 & 5 \\ 1/9 & 1/7 & 1 & 1/2 \\ 1/3 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1239, \quad CR = 0.0467$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.480532 \\ 0.361786 \\ \mathbf{0.050751} \\ 0.106930 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.3282 & \mathbf{9.4684} & 4.4939 \\ 0.7529 & 1 & \mathbf{7.1286} & 3.3834 \\ \mathbf{0.1056} & \mathbf{0.1403} & 1 & \mathbf{0.4746} \\ 0.2225 & 0.2956 & \mathbf{2.1069} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.480085 \\ 0.361449 \\ 0.051636 \\ 0.106831 \end{pmatrix} = 0.999069 \cdot \begin{pmatrix} 0.480532 \\ 0.361786 \\ \mathbf{0.051684} \\ 0.106930 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3282 & \mathbf{9.2976} & 4.4939 \\ 0.7529 & 1 & \mathbf{7} & 3.3834 \\ \mathbf{0.1076} & \mathbf{1/7} & 1 & \mathbf{0.4833} \\ 0.2225 & 0.2956 & \mathbf{2.0689} & 1 \end{pmatrix},$$

Example A.503.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 7 & 6 \\ 1/9 & 1/7 & 1 & 1/2 \\ 1/3 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.473821 \\ 0.375692 \\ \mathbf{0.049528} \\ 0.100958 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2612 & \mathbf{9.5666} & 4.6932 \\ 0.7929 & 1 & \mathbf{7.5854} & 3.7213 \\ \mathbf{0.1045} & \mathbf{0.1318} & 1 & \mathbf{0.4906} \\ 0.2131 & 0.2687 & \mathbf{2.0384} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.473371 \\ 0.375335 \\ 0.050431 \\ 0.100863 \end{pmatrix} = 0.999050 \cdot \begin{pmatrix} 0.473821 \\ 0.375692 \\ \mathbf{0.050479} \\ 0.100958 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2612 & \mathbf{9.3865} & 4.6932 \\ 0.7929 & 1 & \mathbf{7.4425} & 3.7213 \\ \mathbf{0.1065} & \mathbf{0.1344} & 1 & \mathbf{1/2} \\ 0.2131 & 0.2687 & \mathbf{2} & 1 \end{pmatrix},$$

Example A.504.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 8 & 6 \\ 1/9 & 1/8 & 1 & 1/2 \\ 1/3 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.470525 \\ 0.382569 \\ \mathbf{0.047336} \\ 0.099569 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.2299 & \mathbf{9.9400} & 4.7256 \\ 0.8131 & 1 & \mathbf{8.0819} & 3.8422 \\ \mathbf{0.1006} & \mathbf{0.1237} & 1 & \mathbf{0.4754} \\ 0.2116 & 0.2603 & \mathbf{2.1034} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.470297 \\ 0.382384 \\ 0.047798 \\ 0.099521 \end{pmatrix} = 0.999516 \cdot \begin{pmatrix} 0.470525 \\ 0.382569 \\ \mathbf{0.047821} \\ 0.099569 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2299 & \mathbf{9.8393} & 4.7256 \\ 0.8131 & 1 & \mathbf{8} & 3.8422 \\ \mathbf{0.1016} & \mathbf{1/8} & 1 & \mathbf{0.4803} \\ 0.2116 & 0.2603 & \mathbf{2.0821} & 1 \end{pmatrix},$$

Example A.505.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 8 & 7 \\ 1/9 & 1/8 & 1 & 1/2 \\ 1/3 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.464495 \\ 0.394553 \\ \mathbf{0.046244} \\ 0.094708 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1773 & \mathbf{10.0444} & 4.9045 \\ 0.8494 & 1 & \mathbf{8.5320} & 4.1660 \\ \mathbf{0.0996} & \mathbf{0.1172} & 1 & \mathbf{0.4883} \\ 0.2039 & 0.2400 & \mathbf{2.0480} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.463980 \\ 0.394116 \\ 0.047301 \\ 0.094603 \end{pmatrix} = 0.998891 \cdot \begin{pmatrix} 0.464495 \\ 0.394553 \\ \mathbf{0.047354} \\ 0.094708 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1773 & \mathbf{9.8090} & 4.9045 \\ 0.8494 & 1 & \mathbf{8.3320} & 4.1660 \\ \mathbf{0.1019} & \mathbf{0.1200} & 1 & \mathbf{1/2} \\ 0.2039 & 0.2400 & \mathbf{2} & 1 \end{pmatrix},$$

Example A.506.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 8 & 8 \\ 1/9 & 1/8 & 1 & 1/2 \\ 1/3 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.458816 \\ 0.405345 \\ \mathbf{0.045255} \\ 0.090584 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1319 & \mathbf{10.1384} & 5.0651 \\ 0.8835 & 1 & \mathbf{8.9569} & 4.4748 \\ \mathbf{0.0986} & \mathbf{0.1116} & 1 & \mathbf{0.4996} \\ 0.1974 & 0.2235 & \mathbf{2.0016} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.458800 \\ 0.405330 \\ 0.045290 \\ 0.090580 \end{pmatrix} = 0.999963 \cdot \begin{pmatrix} 0.458816 \\ 0.405345 \\ \mathbf{0.045292} \\ 0.090584 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1319 & \mathbf{10.1302} & 5.0651 \\ 0.8835 & 1 & \mathbf{8.9496} & 4.4748 \\ \mathbf{0.0987} & \mathbf{0.1117} & 1 & \mathbf{1/2} \\ 0.1974 & 0.2235 & \mathbf{2} & 1 \end{pmatrix},$$

Example A.507.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 9 & 7 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/3 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.461629 \\ 0.400473 \\ 0.044421 \\ 0.093477 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.1527 & 10.3921 & 4.9384 \\ 0.8675 & 1 & 9.0154 & 4.2842 \\ 0.0962 & 0.1109 & 1 & 0.4752 \\ 0.2025 & 0.2334 & 2.1044 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.461594 \\ 0.400443 \\ 0.044494 \\ 0.093470 \end{pmatrix} = 0.999924 \cdot \begin{pmatrix} 0.461629 \\ 0.400473 \\ 0.044497 \\ 0.093477 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1527 & 10.3744 & 4.9384 \\ 0.8675 & 1 & 9 & 4.2842 \\ 0.0964 & 1/9 & 1 & 0.4760 \\ 0.2025 & 0.2334 & 2.1008 & 1 \end{pmatrix},$$

Example A.508.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 9 & 8 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/3 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.456176 \\ 0.410968 \\ \mathbf{0.043443} \\ 0.089413 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 1.1100 & \mathbf{10.5005} & 5.1019 \\ 0.9009 & 1 & \mathbf{9.4599} & 4.5963 \\ \mathbf{0.0952} & \mathbf{0.1057} & 1 & \mathbf{0.4859} \\ 0.1960 & 0.2176 & \mathbf{2.0582} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.455600 \\ 0.410450 \\ 0.044650 \\ 0.089300 \end{pmatrix} = 0.998738 \cdot \begin{pmatrix} 0.456176 \\ 0.410968 \\ \mathbf{0.044706} \\ 0.089413 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 1.1100 & \mathbf{10.2038} & 5.1019 \\ 0.9009 & 1 & \mathbf{9.1926} & 4.5963 \\ \mathbf{0.0980} & \mathbf{0.1088} & 1 & \mathbf{1/2} \\ 0.1960 & 0.2176 & \mathbf{2} & 1 \end{pmatrix},$$

Example A.509.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/4 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.530010 \\ 0.274445 \\ 0.062725 \\ 0.132820 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9312 & 8.4497 & 3.9904 \\ 0.5178 & 1 & 4.3754 & 2.0663 \\ 0.1183 & 0.2286 & 1 & 0.4723 \\ 0.2506 & 0.4840 & 2.1175 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.530606 \\ 0.274097 \\ 0.062646 \\ 0.132652 \end{pmatrix} = 0.998731 \cdot \begin{pmatrix} 0.531280 \\ 0.274445 \\ 0.062725 \\ 0.132820 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9358 & 8.4700 & 4 \\ 0.5166 & 1 & 4.3754 & 2.0663 \\ 0.1181 & 0.2286 & 1 & 0.4723 \\ 1/4 & 0.4840 & 2.1175 & 1 \end{pmatrix},$$

Example A.510.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/4 \\ 1/4 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.522406 \\ 0.274712 \\ 0.058639 \\ 0.144242 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9017 & 8.9088 & 3.6217 \\ 0.5259 & 1 & 4.6848 & 1.9045 \\ 0.1122 & 0.2135 & 1 & 0.4065 \\ 0.2761 & 0.5251 & 2.4598 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.524947 \\ 0.273250 \\ 0.058327 \\ 0.143475 \end{pmatrix} = 0.994679 \cdot \begin{pmatrix} 0.527755 \\ 0.274712 \\ 0.058639 \\ 0.144242 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9211 & 9 & 3.6588 \\ 0.5205 & 1 & 4.6848 & 1.9045 \\ 1/9 & 0.2135 & 1 & 0.4065 \\ 0.2733 & 0.5251 & 2.4598 & 1 \end{pmatrix},$$

Example A.511.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 1/4 \\ 1/4 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.510079 \\ 0.297561 \\ 0.058324 \\ 0.134036 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7142 & 8.7457 & 3.8055 \\ 0.5834 & 1 & 5.1019 & 2.2200 \\ 0.1143 & 0.1960 & 1 & 0.4351 \\ 0.2628 & 0.4504 & 2.2982 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.517240 \\ 0.293212 \\ 0.057471 \\ 0.132077 \end{pmatrix} = 0.985383 \cdot \begin{pmatrix} 0.524912 \\ 0.297561 \\ 0.058324 \\ 0.134036 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7640 & 9 & 3.9162 \\ 0.5669 & 1 & 5.1019 & 2.2200 \\ 1/9 & 0.1960 & 1 & 0.4351 \\ 0.2554 & 0.4504 & 2.2982 & 1 \end{pmatrix},$$

Example A.512.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/5 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.536652 \\ 0.287561 \\ 0.061185 \\ 0.114601 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8662 & 8.7710 & 4.6828 \\ 0.5358 & 1 & 4.6999 & 2.5092 \\ 0.1140 & 0.2128 & 1 & 0.5339 \\ 0.2135 & 0.3985 & 1.8730 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543054 \\ 0.283588 \\ 0.060339 \\ 0.113018 \end{pmatrix} = 0.986184 \cdot \begin{pmatrix} 0.550662 \\ 0.287561 \\ 0.061185 \\ 0.114601 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9149 & 9 & 4.8050 \\ 0.5222 & 1 & 4.6999 & 2.5092 \\ 1/9 & 0.2128 & 1 & 0.5339 \\ 0.2081 & 0.3985 & 1.8730 & 1 \end{pmatrix},$$

Example A.513.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/5 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.525945 \\ 0.305270 \\ 0.060784 \\ 0.108001 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7229 & 8.6526 & 4.8698 \\ 0.5804 & 1 & 5.0222 & 2.8266 \\ 0.1156 & 0.1991 & 1 & 0.5628 \\ 0.2053 & 0.3538 & 1.7768 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.532517 \\ 0.301038 \\ 0.059942 \\ 0.106503 \end{pmatrix} = 0.986136 \cdot \begin{pmatrix} 0.540003 \\ 0.305270 \\ 0.060784 \\ 0.108001 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7689 & 8.8839 & 5 \\ 0.5653 & 1 & 5.0222 & 2.8266 \\ 0.1126 & 0.1991 & 1 & 0.5628 \\ 1/5 & 0.3538 & 1.7768 & 1 \end{pmatrix},$$

Example A.514.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/4 \\ 1/5 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0539, \quad CR = 0.0203$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.542698 \\ 0.271084 \\ 0.046017 \\ 0.140200 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.0020 & 11.7933 & 3.8709 \\ 0.4995 & 1 & 5.8909 & 1.9336 \\ 0.0848 & 0.1698 & 1 & 0.3282 \\ 0.2583 & 0.5172 & 3.0467 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.542555 \\ 0.271277 \\ 0.046005 \\ 0.140163 \end{pmatrix} = 0.999735 \cdot \begin{pmatrix} 0.542698 \\ 0.271349 \\ 0.046017 \\ 0.140200 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2 & 11.7933 & 3.8709 \\ 1/2 & 1 & 5.8967 & 1.9354 \\ 0.0848 & 0.1696 & 1 & 0.3282 \\ 0.2583 & 0.5167 & 3.0467 & 1 \end{pmatrix},$$

Example A.515.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/5 \\ 1/6 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1239, \quad CR = 0.0467$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.553492 \\ 0.268071 \\ 0.040760 \\ 0.137677 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0647 & 13.5792 & 4.0202 \\ 0.4843 & 1 & 6.5768 & 1.9471 \\ 0.0736 & 0.1521 & 1 & 0.2961 \\ 0.2487 & 0.5136 & 3.3777 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.549491 \\ 0.273363 \\ 0.040466 \\ 0.136681 \end{pmatrix} = 0.992770 \cdot \begin{pmatrix} 0.553492 \\ 0.275353 \\ 0.040760 \\ 0.137677 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0101 & 13.5792 & 4.0202 \\ 0.4975 & 1 & 6.7554 & 2 \\ 0.0736 & 0.1480 & 1 & 0.2961 \\ 0.2487 & 1/2 & 3.3777 & 1 \end{pmatrix},$$

Example A.516.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/6 \\ 1/6 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.551881 \\ 0.264585 \\ 0.038922 \\ 0.144611 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0858 & 14.1790 & 3.8163 \\ 0.4794 & 1 & 6.7978 & 1.8296 \\ 0.0705 & 0.1471 & 1 & 0.2692 \\ 0.2620 & 0.5466 & 3.7154 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547571 \\ 0.270329 \\ 0.038618 \\ 0.143482 \end{pmatrix} = 0.992190 \cdot \begin{pmatrix} 0.551881 \\ 0.272457 \\ 0.038922 \\ 0.144611 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0256 & 14.1790 & 3.8163 \\ 0.4937 & 1 & 7 & 1.8841 \\ 0.0705 & 1/7 & 1 & 0.2692 \\ 0.2620 & 0.5308 & 3.7154 & 1 \end{pmatrix},$$

Example A.517.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/7 \\ 1/6 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.550187 \\ 0.261452 \\ 0.037414 \\ 0.150947 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1044 & 14.7053 & 3.6449 \\ 0.4752 & 1 & 6.9880 & 1.7321 \\ 0.0680 & 0.1431 & 1 & 0.2479 \\ 0.2744 & 0.5773 & 4.0345 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.549941 \\ 0.261782 \\ 0.037397 \\ 0.150879 \end{pmatrix} = 0.999553 \cdot \begin{pmatrix} 0.550187 \\ 0.261899 \\ 0.037414 \\ 0.150947 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1008 & 14.7053 & 3.6449 \\ 0.4760 & 1 & 7 & 1.7350 \\ 0.0680 & 1/7 & 1 & 0.2479 \\ 0.2744 & 0.5764 & 4.0345 & 1 \end{pmatrix},$$

Example A.518.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 8 & 2 \\ 1/9 & 1/8 & 1 & 1/6 \\ 1/6 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.548389 \\ 0.271415 \\ 0.037470 \\ 0.142726 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0205 & 14.6352 & 3.8422 \\ 0.4949 & 1 & 7.2434 & 1.9017 \\ 0.0683 & 0.1381 & 1 & 0.2625 \\ 0.2603 & 0.5259 & 3.8090 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.546869 \\ 0.273434 \\ 0.037367 \\ 0.142330 \end{pmatrix} = 0.997228 \cdot \begin{pmatrix} 0.548389 \\ 0.274194 \\ 0.037470 \\ 0.142726 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 14.6352 & 3.8422 \\ 1/2 & 1 & 7.3176 & 1.9211 \\ 0.0683 & 0.1367 & 1 & 0.2625 \\ 0.2603 & 0.5205 & 3.8090 & 1 \end{pmatrix},$$

Example A.519.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 8 & 2 \\ 1/9 & 1/8 & 1 & 1/7 \\ 1/6 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.546981 \\ 0.268077 \\ 0.036038 \\ 0.148904 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0404 & 15.1779 & 3.6734 \\ 0.4901 & 1 & 7.4388 & 1.8003 \\ 0.0659 & 0.1344 & 1 & 0.2420 \\ 0.2722 & 0.5555 & 4.1319 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.544036 \\ 0.272018 \\ 0.035844 \\ 0.148102 \end{pmatrix} = 0.994616 \cdot \begin{pmatrix} 0.546981 \\ 0.273490 \\ 0.036038 \\ 0.148904 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 15.1779 & 3.6734 \\ 1/2 & 1 & 7.5890 & 1.8367 \\ 0.0659 & 0.1318 & 1 & 0.2420 \\ 0.2722 & 0.5445 & 4.1319 & 1 \end{pmatrix},$$

Example A.520.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 8 & 2 \\ 1/9 & 1/8 & 1 & 1/8 \\ 1/6 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.545510 \\ 0.265047 \\ 0.034824 \\ 0.154619 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0582 & 15.6648 & 3.5281 \\ 0.4859 & 1 & 7.6110 & 1.7142 \\ 0.0638 & 0.1314 & 1 & 0.2252 \\ 0.2834 & 0.5834 & 4.4400 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.541337 \\ 0.270669 \\ 0.034558 \\ 0.153436 \end{pmatrix} = 0.992351 \cdot \begin{pmatrix} 0.545510 \\ 0.272755 \\ 0.034824 \\ 0.154619 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 15.6648 & 3.5281 \\ 1/2 & 1 & 7.8324 & 1.7640 \\ 0.0638 & 0.1277 & 1 & 0.2252 \\ 0.2834 & 0.5669 & 4.4400 & 1 \end{pmatrix},$$

Example A.521.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 9 & 2 \\ 1/9 & 1/9 & 1 & 1/8 \\ 1/6 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.542552 \\ 0.271056 \\ 0.033720 \\ 0.152672 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0016 & 16.0901 & 3.5537 \\ 0.4996 & 1 & 8.0385 & 1.7754 \\ 0.0622 & 0.1244 & 1 & 0.2209 \\ 0.2814 & 0.5632 & 4.5277 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.542433 \\ 0.271217 \\ 0.033712 \\ 0.152638 \end{pmatrix} = 0.999780 \cdot \begin{pmatrix} 0.542552 \\ 0.271276 \\ 0.033720 \\ 0.152672 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 16.0901 & 3.5537 \\ 1/2 & 1 & 8.0450 & 1.7769 \\ 0.0622 & 0.1243 & 1 & 0.2209 \\ 0.2814 & 0.5628 & 4.5277 & 1 \end{pmatrix},$$

Example A.522.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1239, \quad CR = 0.0467$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.561690 \\ 0.288475 \\ 0.064430 \\ 0.085405 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9471 & 8.7179 & 6.5768 \\ 0.5136 & 1 & 4.4774 & 3.3777 \\ 0.1147 & 0.2233 & 1 & 0.7544 \\ 0.1521 & 0.2961 & 1.3256 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568278 \\ 0.284139 \\ 0.063461 \\ 0.084122 \end{pmatrix} = 0.984970 \cdot \begin{pmatrix} 0.576949 \\ 0.288475 \\ 0.064430 \\ 0.085405 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.9547 & 6.7554 \\ 1/2 & 1 & 4.4774 & 3.3777 \\ 0.1117 & 0.2233 & 1 & 0.7544 \\ 0.1480 & 0.2961 & 1.3256 & 1 \end{pmatrix},$$

Example A.523.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.552625 \\ 0.302041 \\ 0.064038 \\ 0.081295 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.8296 & 8.6296 & 6.7978 \\ 0.5466 & 1 & 4.7166 & 3.7154 \\ 0.1159 & 0.2120 & 1 & 0.7877 \\ 0.1471 & 0.2692 & 1.2695 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.559862 \\ 0.297156 \\ 0.063002 \\ 0.079980 \end{pmatrix} = 0.983825 \cdot \begin{pmatrix} 0.569066 \\ 0.302041 \\ 0.064038 \\ 0.081295 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8841 & 8.8864 & 7 \\ 0.5308 & 1 & 4.7166 & 3.7154 \\ 0.1125 & 0.2120 & 1 & 0.7877 \\ 1/7 & 0.2692 & 1.2695 & 1 \end{pmatrix},$$

Example A.524.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 7 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.544262 \\ 0.314224 \\ 0.063629 \\ 0.077885 \end{pmatrix}$$

$$\begin{bmatrix} w_i^{EM} \\ w_j^{EM} \end{bmatrix} = \begin{pmatrix} 1 & 1.7321 & 8.5537 & 6.9880 \\ 0.5773 & 1 & 4.9384 & 4.0345 \\ 0.1169 & 0.2025 & 1 & 0.8170 \\ 0.1431 & 0.2479 & 1.2240 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.544686 \\ 0.313932 \\ 0.063570 \\ 0.077812 \end{pmatrix} = 0.999070 \cdot \begin{pmatrix} 0.545193 \\ 0.314224 \\ 0.063629 \\ 0.077885 \end{pmatrix},$$

$$\begin{bmatrix} w'_i \\ w'_j \end{bmatrix} = \begin{pmatrix} 1 & 1.7350 & 8.5683 & 7 \\ 0.5764 & 1 & 4.9384 & 4.0345 \\ 0.1167 & 0.2025 & 1 & 0.8170 \\ 1/7 & 0.2479 & 1.2240 & 1 \end{pmatrix},$$

Example A.525.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/6 \\ 1/7 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2059, \quad CR = 0.0776$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.567229 \\ 0.257483 \\ 0.038256 \\ 0.137031 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2030 & 14.8270 & 4.1394 \\ 0.4539 & 1 & 6.7305 & 1.8790 \\ 0.0674 & 0.1486 & 1 & 0.2792 \\ 0.2416 & 0.5322 & 3.5819 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.561439 \\ 0.265062 \\ 0.037866 \\ 0.135633 \end{pmatrix} = 0.989793 \cdot \begin{pmatrix} 0.567229 \\ 0.267795 \\ 0.038256 \\ 0.137031 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1181 & 14.8270 & 4.1394 \\ 0.4721 & 1 & 7 & 1.9543 \\ 0.0674 & 1/7 & 1 & 0.2792 \\ 0.2416 & 0.5117 & 3.5819 & 1 \end{pmatrix},$$

Example A.526.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/7 \\ 1/7 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2526, \quad CR = 0.0952$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.565987 \\ 0.254146 \\ 0.036781 \\ 0.143085 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.2270 & 15.3879 & 3.9556 \\ 0.4490 & 1 & 6.9096 & 1.7762 \\ 0.0650 & 0.1447 & 1 & 0.2571 \\ 0.2528 & 0.5630 & 3.8902 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.564112 \\ 0.256617 \\ 0.036660 \\ 0.142611 \end{pmatrix} = 0.996688 \cdot \begin{pmatrix} 0.565987 \\ 0.257470 \\ 0.036781 \\ 0.143085 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2.1983 & 15.3879 & 3.9556 \\ 0.4549 & 1 & 7 & 1.7994 \\ 0.0650 & 1/7 & 1 & 0.2571 \\ 0.2528 & 0.5557 & 3.8902 & 1 \end{pmatrix},$$

Example A.527.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 8 & 2 \\ 1/9 & 1/8 & 1 & 1/6 \\ 1/7 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.563613 \\ 0.264236 \\ 0.036862 \\ 0.135288 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1330 & 15.2896 & 4.1660 \\ 0.4688 & 1 & 7.1681 & 1.9531 \\ 0.0654 & 0.1395 & 1 & 0.2725 \\ 0.2400 & 0.5120 & 3.6701 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.560062 \\ 0.268872 \\ 0.036630 \\ 0.134436 \end{pmatrix} = 0.993699 \cdot \begin{pmatrix} 0.563613 \\ 0.270577 \\ 0.036862 \\ 0.135288 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0830 & 15.2896 & 4.1660 \\ 0.4801 & 1 & 7.3402 & 2 \\ 0.0654 & 0.1362 & 1 & 0.2725 \\ 0.2400 & 1/2 & 3.6701 & 1 \end{pmatrix},$$

Example A.528.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 8 & 2 \\ 1/9 & 1/8 & 1 & 1/7 \\ 1/7 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2506, \quad CR = 0.0945$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.562646 \\ 0.260697 \\ 0.035463 \\ 0.141195 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1582 & 15.8659 & 3.9849 \\ 0.4633 & 1 & 7.3513 & 1.8464 \\ 0.0630 & 0.1360 & 1 & 0.2512 \\ 0.2509 & 0.5416 & 3.9815 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551275 \\ 0.275638 \\ 0.034746 \\ 0.138342 \end{pmatrix} = 0.979791 \cdot \begin{pmatrix} 0.562646 \\ 0.281323 \\ 0.035463 \\ 0.141195 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 15.8659 & 3.9849 \\ 1/2 & 1 & 7.9329 & 1.9924 \\ 0.0630 & 0.1261 & 1 & 0.2512 \\ 0.2509 & 0.5019 & 3.9815 & 1 \end{pmatrix},$$

Example A.529.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 9 & 2 \\ 1/9 & 1/9 & 1 & 1/7 \\ 1/7 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2526, \quad CR = 0.0952$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.559337 \\ 0.266809 \\ 0.034349 \\ 0.139505 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0964 & 16.2839 & 4.0094 \\ 0.4770 & 1 & 7.7676 & 1.9125 \\ 0.0614 & 0.1287 & 1 & 0.2462 \\ 0.2494 & 0.5229 & 4.0614 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552595 \\ 0.275647 \\ 0.033935 \\ 0.137823 \end{pmatrix} = 0.987946 \cdot \begin{pmatrix} 0.559337 \\ 0.279010 \\ 0.034349 \\ 0.139505 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0047 & 16.2839 & 4.0094 \\ 0.4988 & 1 & 8.1228 & 2 \\ 0.0614 & 0.1231 & 1 & 0.2462 \\ 0.2494 & 1/2 & 4.0614 & 1 \end{pmatrix},$$

Example A.530.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/8 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.563011 \\ 0.296064 \\ 0.063197 \\ 0.077727 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 1.9017 & 8.9088 & 7.2434 \\ 0.5259 & 1 & 4.6848 & 3.8090 \\ 0.1122 & 0.2135 & 1 & 0.8131 \\ 0.1381 & 0.2625 & 1.2299 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.565516 \\ 0.294367 \\ 0.062835 \\ 0.077281 \end{pmatrix} = 0.994268 \cdot \begin{pmatrix} 0.568776 \\ 0.296064 \\ 0.063197 \\ 0.077727 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 1.9211 & 9 & 7.3176 \\ 0.5205 & 1 & 4.6848 & 3.8090 \\ 1/9 & 0.2135 & 1 & 0.8131 \\ 0.1367 & 0.2625 & 1.2299 & 1 \end{pmatrix},$$

Example A.531.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 7 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/8 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.554558 \\ 0.308030 \\ 0.062862 \\ 0.074550 \end{pmatrix}$$

$$\begin{bmatrix} w_i^{EM} \\ w_j^{EM} \end{bmatrix} = \begin{pmatrix} 1 & 1.8003 & 8.8219 & 7.4388 \\ 0.5555 & 1 & 4.9001 & 4.1319 \\ 0.1134 & 0.2041 & 1 & 0.8432 \\ 0.1344 & 0.2420 & 1.1859 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.559491 \\ 0.304619 \\ 0.062166 \\ 0.073724 \end{pmatrix} = 0.988926 \cdot \begin{pmatrix} 0.565756 \\ 0.308030 \\ 0.062862 \\ 0.074550 \end{pmatrix},$$

$$\begin{bmatrix} w'_i \\ w'_j \end{bmatrix} = \begin{pmatrix} 1 & 1.8367 & 9 & 7.5890 \\ 0.5445 & 1 & 4.9001 & 4.1319 \\ 1/9 & 0.2041 & 1 & 0.8432 \\ 0.1318 & 0.2420 & 1.1859 & 1 \end{pmatrix},$$

Example A.532.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 8 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/8 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.546719 \\ 0.318936 \\ 0.062513 \\ 0.071832 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7142 & 8.7457 & 7.6110 \\ 0.5834 & 1 & 5.1019 & 4.4400 \\ 0.1143 & 0.1960 & 1 & 0.8703 \\ 0.1314 & 0.2252 & 1.1491 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553813 \\ 0.313944 \\ 0.061535 \\ 0.070708 \end{pmatrix} = 0.984350 \cdot \begin{pmatrix} 0.562618 \\ 0.318936 \\ 0.062513 \\ 0.071832 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7640 & 9 & 7.8324 \\ 0.5669 & 1 & 5.1019 & 4.4400 \\ 1/9 & 0.1960 & 1 & 0.8703 \\ 0.1277 & 0.2252 & 1.1491 & 1 \end{pmatrix},$$

Example A.533.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 7 & 3 \\ 1/9 & 1/7 & 1 & 1/4 \\ 1/8 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1397, \quad CR = 0.0527$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.568919 \\ 0.283985 \\ 0.041466 \\ 0.105630 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.0033 & 13.7200 & 5.3860 \\ 0.4992 & 1 & 6.8486 & 2.6885 \\ 0.0729 & 0.1460 & 1 & 0.3926 \\ 0.1857 & 0.3720 & 2.5474 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568649 \\ 0.284324 \\ 0.041447 \\ 0.105580 \end{pmatrix} = 0.999526 \cdot \begin{pmatrix} 0.568919 \\ 0.284459 \\ 0.041466 \\ 0.105630 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2 & 13.7200 & 5.3860 \\ 1/2 & 1 & 6.8600 & 2.6930 \\ 0.0729 & 0.1458 & 1 & 0.3926 \\ 0.1857 & 0.3713 & 2.5474 & 1 \end{pmatrix},$$

Example A.534.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 8 & 2 \\ 1/9 & 1/8 & 1 & 1/6 \\ 1/8 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.577053 \\ 0.257703 \\ 0.036288 \\ 0.128956 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.2392 & 15.9022 & 4.4748 \\ 0.4466 & 1 & 7.1017 & 1.9984 \\ 0.0629 & 0.1408 & 1 & 0.2814 \\ 0.2235 & 0.5004 & 3.5537 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.576933 \\ 0.257858 \\ 0.036280 \\ 0.128929 \end{pmatrix} = 0.999791 \cdot \begin{pmatrix} 0.577053 \\ 0.257912 \\ 0.036288 \\ 0.128956 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2374 & 15.9022 & 4.4748 \\ 0.4469 & 1 & 7.1074 & 2 \\ 0.0629 & 0.1407 & 1 & 0.2814 \\ 0.2235 & 1/2 & 3.5537 & 1 \end{pmatrix},$$

Example A.535.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 6 & 3 \\ 1/9 & 1/6 & 1 & 1/3 \\ 1/9 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.584828 \\ 0.274535 \\ 0.045866 \\ 0.094771 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1302 & 12.7509 & 6.1709 \\ 0.4694 & 1 & 5.9857 & 2.8968 \\ 0.0784 & 0.1671 & 1 & 0.4840 \\ 0.1621 & 0.3452 & 2.0663 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.584443 \\ 0.275012 \\ 0.045835 \\ 0.094709 \end{pmatrix} = 0.999342 \cdot \begin{pmatrix} 0.584828 \\ 0.275193 \\ 0.045866 \\ 0.094771 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1252 & 12.7509 & 6.1709 \\ 0.4706 & 1 & 6 & 2.9038 \\ 0.0784 & 1/6 & 1 & 0.4840 \\ 0.1621 & 0.3444 & 2.0663 & 1 \end{pmatrix},$$

Example A.536.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 7 & 3 \\ 1/9 & 1/7 & 1 & 1/4 \\ 1/9 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.579831 \\ 0.277985 \\ 0.040894 \\ 0.101290 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0858 & 14.1790 & 5.7245 \\ 0.4794 & 1 & 6.7978 & 2.7445 \\ 0.0705 & 0.1471 & 1 & 0.4037 \\ 0.1747 & 0.3644 & 2.4769 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575075 \\ 0.283907 \\ 0.040558 \\ 0.100459 \end{pmatrix} = 0.991798 \cdot \begin{pmatrix} 0.579831 \\ 0.286255 \\ 0.040894 \\ 0.101290 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0256 & 14.1790 & 5.7245 \\ 0.4937 & 1 & 7 & 2.8261 \\ 0.0705 & 1/7 & 1 & 0.4037 \\ 0.1747 & 0.3538 & 2.4769 & 1 \end{pmatrix},$$

Example A.537.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 8 & 3 \\ 1/9 & 1/8 & 1 & 1/4 \\ 1/9 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.575782 \\ 0.284973 \\ 0.039342 \\ 0.099904 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0205 & 14.6352 & 5.7634 \\ 0.4949 & 1 & 7.2434 & 2.8525 \\ 0.0683 & 0.1381 & 1 & 0.3938 \\ 0.1735 & 0.3506 & 2.5394 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.574106 \\ 0.287053 \\ 0.039228 \\ 0.099613 \end{pmatrix} = 0.997090 \cdot \begin{pmatrix} 0.575782 \\ 0.287891 \\ 0.039342 \\ 0.099904 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 14.6352 & 5.7634 \\ 1/2 & 1 & 7.3176 & 2.8817 \\ 0.0683 & 0.1367 & 1 & 0.3938 \\ 0.1735 & 0.3470 & 2.5394 & 1 \end{pmatrix},$$

Example A.538.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 8 & 3 \\ 1/9 & 1/8 & 1 & 1/5 \\ 1/9 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2267, \quad CR = 0.0855$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.575367 \\ 0.280734 \\ 0.037295 \\ 0.106604 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0495 & 15.4274 & 5.3972 \\ 0.4879 & 1 & 7.5273 & 2.6334 \\ 0.0648 & 0.1328 & 1 & 0.3498 \\ 0.1853 & 0.3797 & 2.8584 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571396 \\ 0.285698 \\ 0.037038 \\ 0.105868 \end{pmatrix} = 0.993099 \cdot \begin{pmatrix} 0.575367 \\ 0.287683 \\ 0.037295 \\ 0.106604 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 15.4274 & 5.3972 \\ 1/2 & 1 & 7.7137 & 2.6986 \\ 0.0648 & 0.1296 & 1 & 0.3498 \\ 0.1853 & 0.3706 & 2.8584 & 1 \end{pmatrix},$$

Example A.539.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 1 \\ 1/3 & 1 & 2 & 1 \\ 1/4 & 1/2 & 1 & 1/3 \\ 1 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.412083 \\ 0.200334 \\ \mathbf{0.096722} \\ 0.290861 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{4.2605} & 1.4168 \\ 0.4862 & 1 & \mathbf{2.0712} & 0.6888 \\ \mathbf{0.2347} & \mathbf{0.4828} & 1 & \mathbf{0.3325} \\ 0.7058 & 1.4519 & \mathbf{3.0072} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.411987 \\ 0.200288 \\ 0.096931 \\ 0.290794 \end{pmatrix} = 0.999768 \cdot \begin{pmatrix} 0.412083 \\ 0.200334 \\ \mathbf{0.096954} \\ 0.290861 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{4.2503} & 1.4168 \\ 0.4862 & 1 & \mathbf{2.0663} & 0.6888 \\ \mathbf{0.2353} & \mathbf{0.4840} & 1 & \mathbf{1/3} \\ 0.7058 & 1.4519 & \mathbf{3} & 1 \end{pmatrix},$$

Example A.540.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/4 & 1 & 1 & 1/3 \\ 1/2 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.470932 \\ 0.167200 \\ 0.118015 \\ 0.243853 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8166 & 3.9904 & 1.9312 \\ 0.3550 & 1 & 1.4168 & 0.6857 \\ 0.2506 & 0.7058 & 1 & 0.4840 \\ 0.5178 & 1.4585 & 2.0663 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.471528 \\ 0.167012 \\ 0.117882 \\ 0.243578 \end{pmatrix} = 0.998873 \cdot \begin{pmatrix} 0.472060 \\ 0.167200 \\ 0.118015 \\ 0.243853 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8233 & 4 & 1.9358 \\ 0.3542 & 1 & 1.4168 & 0.6857 \\ 1/4 & 0.7058 & 1 & 0.4840 \\ 0.5166 & 1.4585 & 2.0663 & 1 \end{pmatrix},$$

Example A.541.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/5 & 1 & 1 & 1/4 \\ 1/2 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.478142 \\ 0.163542 \\ 0.102107 \\ 0.256209 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9237 & 4.6828 & 1.8662 \\ 0.3420 & 1 & 1.6017 & 0.6383 \\ 0.2135 & 0.6243 & 1 & 0.3985 \\ 0.5358 & 1.5666 & 2.5092 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.484576 \\ 0.161525 \\ 0.100848 \\ 0.253051 \end{pmatrix} = 0.987671 \cdot \begin{pmatrix} 0.490625 \\ 0.163542 \\ 0.102107 \\ 0.256209 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 4.8050 & 1.9149 \\ 1/3 & 1 & 1.6017 & 0.6383 \\ 0.2081 & 0.6243 & 1 & 0.3985 \\ 0.5222 & 1.5666 & 2.5092 & 1 \end{pmatrix},$$

Example A.542.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/5 & 1 & 1 & 1/5 \\ 1/2 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.468936 \\ 0.162588 \\ 0.096294 \\ 0.272182 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8842 & 4.8698 & 1.7229 \\ 0.3467 & 1 & 1.6884 & 0.5973 \\ 0.2053 & 0.5923 & 1 & 0.3538 \\ 0.5804 & 1.6741 & 2.8266 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.475511 \\ 0.160575 \\ 0.095102 \\ 0.268812 \end{pmatrix} = 0.987620 \cdot \begin{pmatrix} 0.481471 \\ 0.162588 \\ 0.096294 \\ 0.272182 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9613 & 5 & 1.7689 \\ 0.3377 & 1 & 1.6884 & 0.5973 \\ 1/5 & 0.5923 & 1 & 0.3538 \\ 0.5653 & 1.6741 & 2.8266 & 1 \end{pmatrix},$$

Example A.543.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 4 \\ 1/3 & 1 & 1 & 2 \\ 1/5 & 1 & 1 & 1/2 \\ 1/4 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.548394 \\ 0.187570 \\ 0.117109 \\ 0.146927 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9237 & 4.6828 & 3.7324 \\ 0.3420 & 1 & 1.6017 & 1.2766 \\ 0.2135 & 0.6243 & 1 & 0.7971 \\ 0.2679 & 0.7833 & 1.2546 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.554768 \\ 0.184923 \\ 0.115456 \\ 0.144853 \end{pmatrix} = 0.985886 \cdot \begin{pmatrix} 0.562711 \\ 0.187570 \\ 0.117109 \\ 0.146927 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 4.8050 & 3.8299 \\ 1/3 & 1 & 1.6017 & 1.2766 \\ 0.2081 & 0.6243 & 1 & 0.7971 \\ 0.2611 & 0.7833 & 1.2546 & 1 \end{pmatrix},$$

Example A.544.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 5 \\ 1/3 & 1 & 9 & 3 \\ 1/5 & 1/9 & 1 & 1/2 \\ 1/5 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2507, \quad CR = 0.0946$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.530906 \\ 0.309814 \\ 0.058720 \\ \mathbf{0.100559} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7136 & 9.0413 & \mathbf{5.2795} \\ 0.5836 & 1 & 5.2761 & \mathbf{3.0809} \\ 0.1106 & 0.1895 & 1 & \mathbf{0.5839} \\ \mathbf{0.1894} & \mathbf{0.3246} & \mathbf{1.7125} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.529470 \\ 0.308976 \\ 0.058561 \\ 0.102992 \end{pmatrix} = 0.997295 \cdot \begin{pmatrix} 0.530906 \\ 0.309814 \\ 0.058720 \\ \mathbf{0.103271} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7136 & 9.0413 & \mathbf{5.1409} \\ 0.5836 & 1 & 5.2761 & \mathbf{3} \\ 0.1106 & 0.1895 & 1 & \mathbf{0.5686} \\ \mathbf{0.1945} & \mathbf{1/3} & \mathbf{1.7587} & 1 \end{pmatrix},$$

Example A.545.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 1 \\ 1/3 & 1 & 3 & 1 \\ 1/6 & 1/3 & 1 & 1/4 \\ 1 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.429083 \\ 0.207659 \\ \mathbf{0.069054} \\ 0.294204 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0663 & \mathbf{6.2137} & 1.4585 \\ 0.4840 & 1 & \mathbf{3.0072} & 0.7058 \\ \mathbf{0.1609} & \mathbf{0.3325} & 1 & \mathbf{0.2347} \\ 0.6857 & 1.4168 & \mathbf{4.2605} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.429012 \\ 0.207624 \\ 0.069208 \\ 0.294156 \end{pmatrix} = 0.999835 \cdot \begin{pmatrix} 0.429083 \\ 0.207659 \\ \mathbf{0.069220} \\ 0.294204 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0663 & \mathbf{6.1989} & 1.4585 \\ 0.4840 & 1 & \mathbf{3} & 0.7058 \\ \mathbf{0.1613} & \mathbf{1/3} & 1 & \mathbf{0.2353} \\ 0.6857 & 1.4168 & \mathbf{4.2503} & 1 \end{pmatrix},$$

Example A.546.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 5 \\ 1/3 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/2 \\ 1/5 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.542642 \\ 0.303309 \\ 0.054420 \\ \mathbf{0.099629} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.7891 & 9.9714 & \mathbf{5.4466} \\ 0.5589 & 1 & 5.5735 & \mathbf{3.0444} \\ 0.1003 & 0.1794 & 1 & \mathbf{0.5462} \\ \mathbf{0.1836} & \mathbf{0.3285} & \mathbf{1.8308} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.541844 \\ 0.302862 \\ 0.054340 \\ 0.100954 \end{pmatrix} = 0.998528 \cdot \begin{pmatrix} 0.542642 \\ 0.303309 \\ 0.054420 \\ \mathbf{0.101103} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7891 & 9.9714 & \mathbf{5.3672} \\ 0.5589 & 1 & 5.5735 & \mathbf{3} \\ 0.1003 & 0.1794 & 1 & \mathbf{0.5383} \\ \mathbf{0.1863} & \mathbf{1/3} & \mathbf{1.8578} & 1 \end{pmatrix},$$

Example A.547.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 5 \\ 1/3 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/2 \\ 1/5 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1583, \quad CR = 0.0597$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.552414 \\ 0.297726 \\ 0.051097 \\ \mathbf{0.098763} \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 1.8554 & 10.8111 & \mathbf{5.5933} \\ 0.5390 & 1 & 5.8267 & \mathbf{3.0146} \\ 0.0925 & 0.1716 & 1 & \mathbf{0.5174} \\ \mathbf{0.1788} & \mathbf{0.3317} & \mathbf{1.9328} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552149 \\ 0.297584 \\ 0.051073 \\ 0.099195 \end{pmatrix} = 0.999521 \cdot \begin{pmatrix} 0.552414 \\ 0.297726 \\ 0.051097 \\ \mathbf{0.099242} \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 1.8554 & 10.8111 & \mathbf{5.5663} \\ 0.5390 & 1 & 5.8267 & \mathbf{3} \\ 0.0925 & 0.1716 & 1 & \mathbf{0.5149} \\ \mathbf{0.1797} & \mathbf{1/3} & \mathbf{1.9422} & 1 \end{pmatrix},$$

Example A.548.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 6 \\ 1/3 & 1 & 8 & 3 \\ 1/7 & 1/8 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1317, \quad CR = 0.0496$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.569382 \\ 0.284309 \\ 0.052327 \\ \mathbf{0.093982} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0027 & 10.8812 & \mathbf{6.0584} \\ 0.4993 & 1 & 5.4333 & \mathbf{3.0251} \\ 0.0919 & 0.1840 & 1 & \mathbf{0.5568} \\ \mathbf{0.1651} & \mathbf{0.3306} & \mathbf{1.7961} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568934 \\ 0.284085 \\ 0.052286 \\ 0.094695 \end{pmatrix} = 0.999213 \cdot \begin{pmatrix} 0.569382 \\ 0.284309 \\ 0.052327 \\ \mathbf{0.094770} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0027 & 10.8812 & \mathbf{6.0081} \\ 0.4993 & 1 & 5.4333 & \mathbf{3} \\ 0.0919 & 0.1840 & 1 & \mathbf{0.5521} \\ \mathbf{0.1664} & \mathbf{1/3} & \mathbf{1.8111} & 1 \end{pmatrix},$$

Example A.549.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 6 \\ 1/3 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1571, \quad CR = 0.0593$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.565185 \\ 0.291677 \\ 0.050509 \\ \mathbf{0.092629} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 1.9377 & 11.1898 & \mathbf{6.1016} \\ 0.5161 & 1 & 5.7747 & \mathbf{3.1489} \\ 0.0894 & 0.1732 & 1 & \mathbf{0.5453} \\ \mathbf{0.1639} & \mathbf{0.3176} & \mathbf{1.8339} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.564300 \\ 0.291220 \\ 0.050430 \\ 0.094050 \end{pmatrix} = 0.998434 \cdot \begin{pmatrix} 0.565185 \\ 0.291677 \\ 0.050509 \\ \mathbf{0.094198} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9377 & 11.1898 & \mathbf{6} \\ 0.5161 & 1 & 5.7747 & \mathbf{3.0964} \\ 0.0894 & 0.1732 & 1 & \mathbf{0.5362} \\ \mathbf{1/6} & \mathbf{0.3230} & \mathbf{1.8650} & 1 \end{pmatrix},$$

Example A.550.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 1 \\ 1/3 & 1 & 4 & 1 \\ 1/8 & 1/4 & 1 & 1/6 \\ 1 & 1 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.433024 \\ 0.210515 \\ \mathbf{0.050819} \\ 0.305642 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{8.5210} & 1.4168 \\ 0.4862 & 1 & \mathbf{4.1425} & 0.6888 \\ \mathbf{0.1174} & \mathbf{0.2414} & 1 & \mathbf{0.1663} \\ 0.7058 & 1.4519 & \mathbf{6.0144} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.432972 \\ 0.210489 \\ 0.050934 \\ 0.305605 \end{pmatrix} = 0.999878 \cdot \begin{pmatrix} 0.433024 \\ 0.210515 \\ \mathbf{0.050940} \\ 0.305642 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{8.5006} & 1.4168 \\ 0.4862 & 1 & \mathbf{4.1326} & 0.6888 \\ \mathbf{0.1176} & \mathbf{0.2420} & 1 & \mathbf{1/6} \\ 0.7058 & 1.4519 & \mathbf{6} & 1 \end{pmatrix},$$

Example A.551.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 3 \\ 1/3 & 1 & 4 & 3 \\ 1/8 & 1/4 & 1 & 1/2 \\ 1/3 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.543837 \\ 0.264387 \\ \mathbf{0.063823} \\ 0.127952 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{8.5210} & 4.2503 \\ 0.4862 & 1 & \mathbf{4.1425} & 2.0663 \\ \mathbf{0.1174} & \mathbf{0.2414} & 1 & \mathbf{0.4988} \\ 0.2353 & 0.4840 & \mathbf{2.0048} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543754 \\ 0.264346 \\ 0.063966 \\ 0.127933 \end{pmatrix} = 0.999847 \cdot \begin{pmatrix} 0.543837 \\ 0.264387 \\ \mathbf{0.063976} \\ 0.127952 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & \mathbf{8.5006} & 4.2503 \\ 0.4862 & 1 & \mathbf{4.1326} & 2.0663 \\ \mathbf{0.1176} & \mathbf{0.2420} & 1 & \mathbf{1/2} \\ 0.2353 & 0.4840 & \mathbf{2} & 1 \end{pmatrix},$$

Example A.552.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 6 \\ 1/3 & 1 & 8 & 3 \\ 1/8 & 1/8 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.577834 \\ 0.279648 \\ 0.049525 \\ \mathbf{0.092993} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0663 & 11.6676 & \mathbf{6.2137} \\ 0.4840 & 1 & 5.6467 & \mathbf{3.0072} \\ 0.0857 & 0.1771 & 1 & \mathbf{0.5326} \\ \mathbf{0.1609} & \mathbf{0.3325} & \mathbf{1.8777} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.577705 \\ 0.279586 \\ 0.049514 \\ 0.093195 \end{pmatrix} = 0.999777 \cdot \begin{pmatrix} 0.577834 \\ 0.279648 \\ 0.049525 \\ \mathbf{0.093216} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0663 & 11.6676 & \mathbf{6.1989} \\ 0.4840 & 1 & 5.6467 & \mathbf{3} \\ 0.0857 & 0.1771 & 1 & \mathbf{0.5313} \\ \mathbf{0.1613} & \mathbf{1/3} & \mathbf{1.8822} & 1 \end{pmatrix},$$

Example A.553.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 6 \\ 1/3 & 1 & 9 & 3 \\ 1/8 & 1/9 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1263, \quad CR = 0.0476$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.573635 \\ 0.286818 \\ 0.047803 \\ \mathbf{0.091744} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2 & 12 & \mathbf{6.2526} \\ 1/2 & 1 & 6 & \mathbf{3.1263} \\ 1/12 & 1/6 & 1 & \mathbf{0.5210} \\ \mathbf{0.1599} & \mathbf{0.3199} & \mathbf{1.9192} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571429 \\ 0.285714 \\ 0.047619 \\ 0.095238 \end{pmatrix} = 0.996153 \cdot \begin{pmatrix} 0.573635 \\ 0.286818 \\ 0.047803 \\ \mathbf{0.095606} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 12 & \mathbf{6} \\ 1/2 & 1 & 6 & \mathbf{3} \\ 1/12 & 1/6 & 1 & \mathbf{1/2} \\ \mathbf{1/6} & \mathbf{1/3} & \mathbf{2} & 1 \end{pmatrix},$$

Example A.554.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 1 \\ 1/3 & 1 & 4 & 1 \\ 1/9 & 1/4 & 1 & 1/6 \\ 1 & 1 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.440167 \\ 0.207872 \\ \mathbf{0.048791} \\ 0.303171 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1175 & \mathbf{9.0216} & 1.4519 \\ 0.4723 & 1 & \mathbf{4.2605} & 0.6857 \\ \mathbf{0.1108} & \mathbf{0.2347} & 1 & \mathbf{0.1609} \\ 0.6888 & 1.4585 & \mathbf{6.2137} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.440116 \\ 0.207847 \\ 0.048902 \\ 0.303135 \end{pmatrix} = 0.999883 \cdot \begin{pmatrix} 0.440167 \\ 0.207872 \\ \mathbf{0.048907} \\ 0.303171 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1175 & \mathbf{9} & 1.4519 \\ 0.4723 & 1 & \mathbf{4.2503} & 0.6857 \\ \mathbf{1/9} & \mathbf{0.2353} & 1 & \mathbf{0.1613} \\ 0.6888 & 1.4585 & \mathbf{6.1989} & 1 \end{pmatrix},$$

Example A.555.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 3 \\ 1/3 & 1 & 4 & 3 \\ 1/9 & 1/4 & 1 & 1/2 \\ 1/3 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.551666 \\ 0.260528 \\ \mathbf{0.061150} \\ 0.126656 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.1175 & \mathbf{9.0216} & 4.3556 \\ 0.4723 & 1 & \mathbf{4.2605} & 2.0570 \\ \mathbf{0.1108} & \mathbf{0.2347} & 1 & \mathbf{0.4828} \\ 0.2296 & 0.4862 & \mathbf{2.0712} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551586 \\ 0.260490 \\ 0.061287 \\ 0.126637 \end{pmatrix} = 0.999853 \cdot \begin{pmatrix} 0.551666 \\ 0.260528 \\ \mathbf{0.061296} \\ 0.126656 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1175 & \mathbf{9} & 4.3556 \\ 0.4723 & 1 & \mathbf{4.2503} & 2.0570 \\ \mathbf{1/9} & \mathbf{0.2353} & 1 & \mathbf{0.4840} \\ 0.2296 & 0.4862 & \mathbf{2.0663} & 1 \end{pmatrix},$$

Example A.556.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 6 \\ 1/3 & 1 & 9 & 3 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.581040 \\ 0.282473 \\ 0.045568 \\ \mathbf{0.090919} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.0570 & 12.7509 & \mathbf{6.3907} \\ 0.4862 & 1 & 6.1989 & \mathbf{3.1069} \\ 0.0784 & 0.1613 & 1 & \mathbf{0.5012} \\ \mathbf{0.1565} & \mathbf{0.3219} & \mathbf{1.9952} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.580913 \\ 0.282411 \\ 0.045559 \\ 0.091117 \end{pmatrix} = 0.999782 \cdot \begin{pmatrix} 0.581040 \\ 0.282473 \\ 0.045568 \\ \mathbf{0.091137} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0570 & 12.7509 & \mathbf{6.3755} \\ 0.4862 & 1 & 6.1989 & \mathbf{3.0994} \\ 0.0784 & 0.1613 & 1 & \mathbf{1/2} \\ \mathbf{0.1569} & \mathbf{0.3226} & \mathbf{2} & 1 \end{pmatrix},$$

Example A.557.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 1 \\ 1/4 & 1 & 2 & 1 \\ 1/5 & 1/2 & 1 & 1/3 \\ 1 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.452399 \\ 0.179395 \\ \mathbf{0.086574} \\ 0.281632 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.5218 & \mathbf{5.2255} & 1.6063 \\ 0.3965 & 1 & \mathbf{2.0721} & 0.6370 \\ \mathbf{0.1914} & \mathbf{0.4826} & 1 & \mathbf{0.3074} \\ 0.6225 & 1.5699 & \mathbf{3.2531} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.450990 \\ 0.178836 \\ 0.089418 \\ 0.280755 \end{pmatrix} = 0.996887 \cdot \begin{pmatrix} 0.452399 \\ 0.179395 \\ \mathbf{0.089697} \\ 0.281632 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5218 & \mathbf{5.0436} & 1.6063 \\ 0.3965 & 1 & \mathbf{2} & 0.6370 \\ \mathbf{0.1983} & \mathbf{1/2} & 1 & \mathbf{0.3185} \\ 0.6225 & 1.5699 & \mathbf{3.1398} & 1 \end{pmatrix},$$

Example A.558.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 2 \\ 1/4 & 1 & 1 & 1 \\ 1/6 & 1 & 1 & 1/5 \\ 1/2 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.505834 \\ 0.146799 \\ 0.087690 \\ 0.259677 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.4458 & 5.7684 & 1.9479 \\ 0.2902 & 1 & 1.6741 & 0.5653 \\ 0.1734 & 0.5973 & 1 & 0.3377 \\ 0.5134 & 1.7689 & 2.9613 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.512426 \\ 0.144840 \\ 0.086520 \\ 0.256213 \end{pmatrix} = 0.986659 \cdot \begin{pmatrix} 0.519355 \\ 0.146799 \\ 0.087690 \\ 0.259677 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5379 & 5.9226 & 2 \\ 0.2827 & 1 & 1.6741 & 0.5653 \\ 0.1688 & 0.5973 & 1 & 0.3377 \\ 1/2 & 1.7689 & 2.9613 & 1 \end{pmatrix},$$

Example A.559.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 3 \\ 1/4 & 1 & 1 & 1 \\ 1/6 & 1 & 1 & 1/3 \\ 1/3 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.562353 \\ 0.140925 \\ 0.097064 \\ 0.199658 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.9904 & 5.7936 & 2.8166 \\ 0.2506 & 1 & 1.4519 & 0.7058 \\ 0.1726 & 0.6888 & 1 & 0.4862 \\ 0.3550 & 1.4168 & 2.0570 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.562942 \\ 0.140735 \\ 0.096933 \\ 0.199390 \end{pmatrix} = 0.998654 \cdot \begin{pmatrix} 0.563700 \\ 0.140925 \\ 0.097064 \\ 0.199658 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4 & 5.8075 & 2.8233 \\ 1/4 & 1 & 1.4519 & 0.7058 \\ 0.1722 & 0.6888 & 1 & 0.4862 \\ 0.3542 & 1.4168 & 2.0570 & 1 \end{pmatrix},$$

Example A.560.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 5 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1 & 1 & 1/2 \\ 1/5 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.605148 \\ 0.162132 \\ 0.103491 \\ 0.129229 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.7324 & 5.8473 & 4.6828 \\ 0.2679 & 1 & 1.5666 & 1.2546 \\ 0.1710 & 0.6383 & 1 & 0.8008 \\ 0.2135 & 0.7971 & 1.2487 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.611289 \\ 0.159611 \\ 0.101882 \\ 0.127219 \end{pmatrix} = 0.984448 \cdot \begin{pmatrix} 0.620946 \\ 0.162132 \\ 0.103491 \\ 0.129229 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8299 & 6 & 4.8050 \\ 0.2611 & 1 & 1.5666 & 1.2546 \\ 1/6 & 0.6383 & 1 & 0.8008 \\ 0.2081 & 0.7971 & 1.2487 & 1 \end{pmatrix},$$

Example A.561.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 1 \\ 1/4 & 1 & 3 & 1 \\ 1/7 & 1/3 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.458661 \\ 0.185748 \\ \mathbf{0.058977} \\ 0.296615 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4693 & \mathbf{7.7770} & 1.5463 \\ 0.4050 & 1 & \mathbf{3.1495} & 0.6262 \\ \mathbf{0.1286} & \mathbf{0.3175} & 1 & \mathbf{0.1988} \\ 0.6467 & 1.5969 & \mathbf{5.0294} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.458502 \\ 0.185684 \\ 0.059302 \\ 0.296512 \end{pmatrix} = 0.999654 \cdot \begin{pmatrix} 0.458661 \\ 0.185748 \\ \mathbf{0.059323} \\ 0.296615 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4693 & \mathbf{7.7316} & 1.5463 \\ 0.4050 & 1 & \mathbf{3.1311} & 0.6262 \\ \mathbf{0.1293} & \mathbf{0.3194} & 1 & \mathbf{1/5} \\ 0.6467 & 1.5969 & \mathbf{5} & 1 \end{pmatrix},$$

Example A.562.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 5 \\ 1/4 & 1 & 1 & 2 \\ 1/7 & 1 & 1 & 1/2 \\ 1/5 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.616762 \\ 0.159230 \\ 0.098007 \\ 0.126001 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.8734 & 6.2930 & 4.8949 \\ 0.2582 & 1 & 1.6247 & 1.2637 \\ 0.1589 & 0.6155 & 1 & 0.7778 \\ 0.2043 & 0.7913 & 1.2856 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.621771 \\ 0.157149 \\ 0.096726 \\ 0.124354 \end{pmatrix} = 0.986930 \cdot \begin{pmatrix} 0.630005 \\ 0.159230 \\ 0.098007 \\ 0.126001 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9566 & 6.4282 & 5 \\ 0.2527 & 1 & 1.6247 & 1.2637 \\ 0.1556 & 0.6155 & 1 & 0.7778 \\ 1/5 & 0.7913 & 1.2856 & 1 \end{pmatrix},$$

Example A.563.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 7 \\ 1/4 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/2 \\ 1/7 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.607679 \\ 0.259943 \\ 0.048685 \\ \mathbf{0.083694} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.3377 & 12.4820 & \mathbf{7.2608} \\ 0.4278 & 1 & 5.3393 & \mathbf{3.1059} \\ 0.0801 & 0.1873 & 1 & \mathbf{0.5817} \\ \mathbf{0.1377} & \mathbf{0.3220} & \mathbf{1.7191} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.605889 \\ 0.259177 \\ 0.048541 \\ 0.086392 \end{pmatrix} = 0.997055 \cdot \begin{pmatrix} 0.607679 \\ 0.259943 \\ 0.048685 \\ \mathbf{0.086648} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3377 & 12.4820 & \mathbf{7.0132} \\ 0.4278 & 1 & 5.3393 & \mathbf{3} \\ 0.0801 & 0.1873 & 1 & \mathbf{0.5619} \\ \mathbf{0.1426} & \mathbf{1/3} & \mathbf{1.7798} & 1 \end{pmatrix},$$

Example A.564.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 8 & 1 \\ 1/4 & 1 & 3 & 1 \\ 1/8 & 1/3 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.466511 \\ 0.183094 \\ \mathbf{0.056284} \\ 0.294112 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.5479 & \mathbf{8.2886} & 1.5862 \\ 0.3925 & 1 & \mathbf{3.2531} & 0.6225 \\ \mathbf{0.1206} & \mathbf{0.3074} & 1 & \mathbf{0.1914} \\ 0.6305 & 1.6063 & \mathbf{5.2255} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.465565 \\ 0.182723 \\ 0.058196 \\ 0.293516 \end{pmatrix} = 0.997974 \cdot \begin{pmatrix} 0.466511 \\ 0.183094 \\ \mathbf{0.058314} \\ 0.294112 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5479 & \mathbf{8} & 1.5862 \\ 0.3925 & 1 & \mathbf{3.1398} & 0.6225 \\ \mathbf{1/8} & \mathbf{0.3185} & 1 & \mathbf{0.1983} \\ 0.6305 & 1.6063 & \mathbf{5.0436} & 1 \end{pmatrix},$$

Example A.565.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 8 & 7 \\ 1/4 & 1 & 9 & 3 \\ 1/8 & 1/9 & 1 & 1/2 \\ 1/7 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.615914 \\ 0.255276 \\ 0.045925 \\ \mathbf{0.082884} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4127 & 13.4112 & \mathbf{7.4310} \\ 0.4145 & 1 & 5.5585 & \mathbf{3.0799} \\ 0.0746 & 0.1799 & 1 & \mathbf{0.5541} \\ \mathbf{0.1346} & \mathbf{0.3247} & \mathbf{1.8048} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.614557 \\ 0.254714 \\ 0.045824 \\ 0.084905 \end{pmatrix} = 0.997797 \cdot \begin{pmatrix} 0.615914 \\ 0.255276 \\ 0.045925 \\ \mathbf{0.085092} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4127 & 13.4112 & \mathbf{7.2382} \\ 0.4145 & 1 & 5.5585 & \mathbf{3} \\ 0.0746 & 0.1799 & 1 & \mathbf{0.5397} \\ \mathbf{0.1382} & \mathbf{1/3} & \mathbf{1.8528} & 1 \end{pmatrix},$$

Example A.566.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 9 & 1 \\ 1/4 & 1 & 4 & 1 \\ 1/9 & 1/4 & 1 & 1/6 \\ 1 & 1 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.466859 \\ 0.189794 \\ \mathbf{0.046968} \\ 0.296380 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4598 & \mathbf{9.9400} & 1.5752 \\ 0.4065 & 1 & \mathbf{4.0410} & 0.6404 \\ \mathbf{0.1006} & \mathbf{0.2475} & 1 & \mathbf{0.1585} \\ 0.6348 & 1.5616 & \mathbf{6.3103} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.466634 \\ 0.189703 \\ 0.047426 \\ 0.296237 \end{pmatrix} = 0.999519 \cdot \begin{pmatrix} 0.466859 \\ 0.189794 \\ \mathbf{0.047448} \\ 0.296380 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4598 & \mathbf{9.8393} & 1.5752 \\ 0.4065 & 1 & \mathbf{4} & 0.6404 \\ \mathbf{0.1016} & \mathbf{1/4} & 1 & \mathbf{0.1601} \\ 0.6348 & 1.5616 & \mathbf{6.2463} & 1 \end{pmatrix},$$

Example A.567.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 9 & 3 \\ 1/4 & 1 & 4 & 3 \\ 1/9 & 1/4 & 1 & 1/2 \\ 1/3 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.581818 \\ 0.236529 \\ \mathbf{0.058533} \\ 0.123120 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.4598 & \mathbf{9.9400} & 4.7256 \\ 0.4065 & 1 & \mathbf{4.0410} & 1.9211 \\ \mathbf{0.1006} & \mathbf{0.2475} & 1 & \mathbf{0.4754} \\ 0.2116 & 0.5205 & \mathbf{2.1034} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.581470 \\ 0.236387 \\ 0.059097 \\ 0.123046 \end{pmatrix} = 0.999401 \cdot \begin{pmatrix} 0.581818 \\ 0.236529 \\ \mathbf{0.059132} \\ 0.123120 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4598 & \mathbf{9.8393} & 4.7256 \\ 0.4065 & 1 & \mathbf{4} & 1.9211 \\ \mathbf{0.1016} & \mathbf{1/4} & 1 & \mathbf{0.4803} \\ 0.2116 & 0.5205 & \mathbf{2.0821} & 1 \end{pmatrix},$$

Example A.568.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 9 & 7 \\ 1/4 & 1 & 9 & 3 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/7 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.623057 \\ 0.251148 \\ 0.043655 \\ \mathbf{0.082139} \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.4808 & 14.2722 & \mathbf{7.5854} \\ 0.4031 & 1 & 5.7530 & \mathbf{3.0576} \\ 0.0701 & 0.1738 & 1 & \mathbf{0.5315} \\ \mathbf{0.1318} & \mathbf{0.3271} & \mathbf{1.8815} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.622076 \\ 0.250753 \\ 0.043587 \\ 0.083584 \end{pmatrix} = 0.998426 \cdot \begin{pmatrix} 0.623057 \\ 0.251148 \\ 0.043655 \\ \mathbf{0.083716} \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2.4808 & 14.2722 & \mathbf{7.4425} \\ 0.4031 & 1 & 5.7530 & \mathbf{3} \\ 0.0701 & 0.1738 & 1 & \mathbf{0.5215} \\ \mathbf{0.1344} & \mathbf{1/3} & \mathbf{1.9177} & 1 \end{pmatrix},$$

Example A.569.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 9 & 8 \\ 1/4 & 1 & 8 & 3 \\ 1/9 & 1/8 & 1 & 1/2 \\ 1/8 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1403, \quad CR = 0.0529$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.635892 \\ 0.240168 \\ 0.044680 \\ \mathbf{0.079261} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.6477 & 14.2323 & \mathbf{8.0228} \\ 0.3777 & 1 & 5.3753 & \mathbf{3.0301} \\ 0.0703 & 0.1860 & 1 & \mathbf{0.5637} \\ \mathbf{0.1246} & \mathbf{0.3300} & \mathbf{1.7740} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.635748 \\ 0.240114 \\ 0.044669 \\ 0.079469 \end{pmatrix} = 0.999775 \cdot \begin{pmatrix} 0.635892 \\ 0.240168 \\ 0.044680 \\ \mathbf{0.079486} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6477 & 14.2323 & \mathbf{8} \\ 0.3777 & 1 & 5.3753 & \mathbf{3.0215} \\ 0.0703 & 0.1860 & 1 & \mathbf{0.5621} \\ \mathbf{1/8} & \mathbf{0.3310} & \mathbf{1.7790} & 1 \end{pmatrix},$$

Example A.570.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 9 & 8 \\ 1/4 & 1 & 9 & 3 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/8 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.631928 \\ 0.246703 \\ 0.043179 \\ \mathbf{0.078190} \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{EM}}{w_j^{EM}} \end{bmatrix} = \begin{pmatrix} 1 & 2.5615 & 14.6352 & \mathbf{8.0819} \\ 0.3904 & 1 & 5.7135 & \mathbf{3.1552} \\ 0.0683 & 0.1750 & 1 & \mathbf{0.5522} \\ \mathbf{0.1237} & \mathbf{0.3169} & \mathbf{1.8109} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.631423 \\ 0.246505 \\ 0.043144 \\ 0.078928 \end{pmatrix} = 0.999200 \cdot \begin{pmatrix} 0.631928 \\ 0.246703 \\ 0.043179 \\ \mathbf{0.078991} \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2.5615 & 14.6352 & \mathbf{8} \\ 0.3904 & 1 & 5.7135 & \mathbf{3.1232} \\ 0.0683 & 0.1750 & 1 & \mathbf{0.5466} \\ \mathbf{1/8} & \mathbf{0.3202} & \mathbf{1.8294} & 1 \end{pmatrix},$$

Example A.571.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 7 \\ 1/5 & 1 & 1 & 1 \\ 1/3 & 1 & 1 & 1/2 \\ 1/7 & 1 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2095, \quad CR = 0.0790$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.613545 \\ 0.120956 \\ 0.123527 \\ 0.141972 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.0725 & 4.9669 & 4.3216 \\ 0.1971 & 1 & 0.9792 & 0.8520 \\ 0.2013 & 1.0213 & 1 & 0.8701 \\ 0.2314 & 1.1737 & 1.1493 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.612471 \\ 0.122494 \\ 0.123310 \\ 0.141724 \end{pmatrix} = 0.998250 \cdot \begin{pmatrix} 0.613545 \\ 0.122709 \\ 0.123527 \\ 0.141972 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5 & 4.9669 & 4.3216 \\ 1/5 & 1 & 0.9934 & 0.8643 \\ 0.2013 & 1.0067 & 1 & 0.8701 \\ 0.2314 & 1.1570 & 1.1493 & 1 \end{pmatrix},$$

Example A.572.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 1 \\ 1/3 & 1 & 1 & 1/2 \\ 1/8 & 1 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.626067 \\ 0.117555 \\ 0.121310 \\ 0.135067 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.3257 & 5.1609 & 4.6352 \\ 0.1878 & 1 & 0.9690 & 0.8703 \\ 0.1938 & 1.0319 & 1 & 0.8981 \\ 0.2157 & 1.1490 & 1.1134 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.623726 \\ 0.120856 \\ 0.120856 \\ 0.134562 \end{pmatrix} = 0.996259 \cdot \begin{pmatrix} 0.626067 \\ 0.121310 \\ 0.121310 \\ 0.135067 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.1609 & 5.1609 & 4.6352 \\ 0.1938 & 1 & 1 & 0.8981 \\ 0.1938 & 1 & 1 & 0.8981 \\ 0.2157 & 1.1134 & 1.1134 & 1 \end{pmatrix},$$

Example A.573.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 1 \\ 1/5 & 1 & 2 & 1 \\ 1/6 & 1/2 & 1 & 1/3 \\ 1 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.484184 \\ 0.163504 \\ \mathbf{0.078596} \\ 0.273715 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{6.1604} & 1.7689 \\ 0.3377 & 1 & \mathbf{2.0803} & 0.5973 \\ \mathbf{0.1623} & \mathbf{0.4807} & 1 & \mathbf{0.2871} \\ 0.5653 & 1.6741 & \mathbf{3.4825} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.483169 \\ 0.163161 \\ 0.080528 \\ 0.273142 \end{pmatrix} = 0.997903 \cdot \begin{pmatrix} 0.484184 \\ 0.163504 \\ \mathbf{0.080697} \\ 0.273715 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9613 & \mathbf{6} & 1.7689 \\ 0.3377 & 1 & \mathbf{2.0261} & 0.5973 \\ \mathbf{1/6} & \mathbf{0.4936} & 1 & \mathbf{0.2948} \\ 0.5653 & 1.6741 & \mathbf{3.3919} & 1 \end{pmatrix},$$

Example A.574.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 1 \\ 1/5 & 1 & 2 & 1 \\ 1/7 & 1/2 & 1 & 1/4 \\ 1 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.485707 \\ 0.160782 \\ \mathbf{0.068461} \\ 0.285050 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 3.0209 & \mathbf{7.0946} & 1.7039 \\ 0.3310 & 1 & \mathbf{2.3485} & 0.5640 \\ \mathbf{0.1410} & \mathbf{0.4258} & 1 & \mathbf{0.2402} \\ 0.5869 & 1.7729 & \mathbf{4.1637} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.485258 \\ 0.160634 \\ 0.069323 \\ 0.284786 \end{pmatrix} = 0.999076 \cdot \begin{pmatrix} 0.485707 \\ 0.160782 \\ \mathbf{0.069387} \\ 0.285050 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0209 & \mathbf{7} & 1.7039 \\ 0.3310 & 1 & \mathbf{2.3172} & 0.5640 \\ \mathbf{1/7} & \mathbf{0.4316} & 1 & \mathbf{0.2434} \\ 0.5869 & 1.7729 & \mathbf{4.1081} & 1 \end{pmatrix},$$

Example A.575.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 1 \\ 1/5 & 1 & 3 & 1 \\ 1/7 & 1/3 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2309, \quad CR = 0.0871$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.480266 \\ 0.172490 \\ \mathbf{0.056998} \\ 0.290245 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.7843 & \mathbf{8.4260} & 1.6547 \\ 0.3592 & 1 & \mathbf{3.0262} & 0.5943 \\ \mathbf{0.1187} & \mathbf{0.3304} & 1 & \mathbf{0.1964} \\ 0.6043 & 1.6827 & \mathbf{5.0922} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.480027 \\ 0.172404 \\ 0.057468 \\ 0.290101 \end{pmatrix} = 0.999502 \cdot \begin{pmatrix} 0.480266 \\ 0.172490 \\ \mathbf{0.057497} \\ 0.290245 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7843 & \mathbf{8.3530} & 1.6547 \\ 0.3592 & 1 & \mathbf{3} & 0.5943 \\ \mathbf{0.1197} & \mathbf{1/3} & 1 & \mathbf{0.1981} \\ 0.6043 & 1.6827 & \mathbf{5.0480} & 1 \end{pmatrix},$$

Example A.576.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 1 \\ 1/5 & 1 & 3 & 1 \\ 1/8 & 1/3 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.487576 \\ 0.170044 \\ \mathbf{0.054323} \\ 0.288057 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8674 & \mathbf{8.9755} & 1.6926 \\ 0.3488 & 1 & \mathbf{3.1302} & 0.5903 \\ \mathbf{0.1114} & \mathbf{0.3195} & 1 & \mathbf{0.1886} \\ 0.5908 & 1.6940 & \mathbf{5.3027} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.486429 \\ 0.169644 \\ 0.056548 \\ 0.287379 \end{pmatrix} = 0.997647 \cdot \begin{pmatrix} 0.487576 \\ 0.170044 \\ \mathbf{0.056681} \\ 0.288057 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8674 & \mathbf{8.6021} & 1.6926 \\ 0.3488 & 1 & \mathbf{3} & 0.5903 \\ \mathbf{0.1163} & \mathbf{1/3} & 1 & \mathbf{0.1968} \\ 0.5908 & 1.6940 & \mathbf{5.0820} & 1 \end{pmatrix},$$

Example A.577.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/8 & 1 & 1 & 1/4 \\ 1/3 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.591875 \\ 0.126394 \\ 0.079288 \\ 0.202442 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.6828 & 7.4649 & 2.9237 \\ 0.2135 & 1 & 1.5941 & 0.6243 \\ 0.1340 & 0.6273 & 1 & 0.3917 \\ 0.3420 & 1.6017 & 2.5533 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.598086 \\ 0.124471 \\ 0.078082 \\ 0.199362 \end{pmatrix} = 0.984784 \cdot \begin{pmatrix} 0.607327 \\ 0.126394 \\ 0.079288 \\ 0.202442 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8050 & 7.6598 & 3 \\ 0.2081 & 1 & 1.5941 & 0.6243 \\ 0.1306 & 0.6273 & 1 & 0.3917 \\ 1/3 & 1.6017 & 2.5533 & 1 \end{pmatrix},$$

Example A.578.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/8 & 1 & 1 & 1/5 \\ 1/3 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.582764 \\ 0.126314 \\ 0.075118 \\ 0.215804 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.6136 & 7.7580 & 2.7004 \\ 0.2168 & 1 & 1.6816 & 0.5853 \\ 0.1289 & 0.5947 & 1 & 0.3481 \\ 0.3703 & 1.7085 & 2.8729 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.590213 \\ 0.124059 \\ 0.073777 \\ 0.211951 \end{pmatrix} = 0.982147 \cdot \begin{pmatrix} 0.600942 \\ 0.126314 \\ 0.075118 \\ 0.215804 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.7575 & 8 & 2.7847 \\ 0.2102 & 1 & 1.6816 & 0.5853 \\ 1/8 & 0.5947 & 1 & 0.3481 \\ 0.3591 & 1.7085 & 2.8729 & 1 \end{pmatrix},$$

Example A.579.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 6 \\ 1/5 & 1 & 1 & 2 \\ 1/8 & 1 & 1 & 1/2 \\ 1/6 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.658533 \\ 0.140629 \\ 0.088218 \\ 0.112621 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.6828 & 7.4649 & 5.8473 \\ 0.2135 & 1 & 1.5941 & 1.2487 \\ 0.1340 & 0.6273 & 1 & 0.7833 \\ 0.1710 & 0.8008 & 1.2766 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.664304 \\ 0.138252 \\ 0.086727 \\ 0.110717 \end{pmatrix} = 0.983099 \cdot \begin{pmatrix} 0.675725 \\ 0.140629 \\ 0.088218 \\ 0.112621 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8050 & 7.6598 & 6 \\ 0.2081 & 1 & 1.5941 & 1.2487 \\ 0.1306 & 0.6273 & 1 & 0.7833 \\ 1/6 & 0.8008 & 1.2766 & 1 \end{pmatrix},$$

Example A.580.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 7 \\ 1/5 & 1 & 1 & 2 \\ 1/8 & 1 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.670113 \\ 0.136900 \\ 0.086502 \\ 0.106485 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.8949 & 7.7468 & 6.2930 \\ 0.2043 & 1 & 1.5826 & 1.2856 \\ 0.1291 & 0.6319 & 1 & 0.8123 \\ 0.1589 & 0.7778 & 1.2310 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.674792 \\ 0.134958 \\ 0.085275 \\ 0.104974 \end{pmatrix} = 0.985816 \cdot \begin{pmatrix} 0.684502 \\ 0.136900 \\ 0.086502 \\ 0.106485 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5 & 7.9132 & 6.4282 \\ 1/5 & 1 & 1.5826 & 1.2856 \\ 0.1264 & 0.6319 & 1 & 0.8123 \\ 0.1556 & 0.7778 & 1.2310 & 1 \end{pmatrix},$$

Example A.581.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 8 \\ 1/5 & 1 & 9 & 3 \\ 1/8 & 1/9 & 1 & 1/2 \\ 1/8 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2637, \quad CR = 0.0994$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.648601 \\ 0.231457 \\ 0.044309 \\ \mathbf{0.075634} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8023 & 14.6382 & \mathbf{8.5755} \\ 0.3569 & 1 & 5.2237 & \mathbf{3.0602} \\ 0.0683 & 0.1914 & 1 & \mathbf{0.5858} \\ \mathbf{0.1166} & \mathbf{0.3268} & \mathbf{1.7070} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.647617 \\ 0.231106 \\ 0.044242 \\ 0.077035 \end{pmatrix} = 0.998484 \cdot \begin{pmatrix} 0.648601 \\ 0.231457 \\ 0.044309 \\ \mathbf{0.077152} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8023 & 14.6382 & \mathbf{8.4068} \\ 0.3569 & 1 & 5.2237 & \mathbf{3} \\ 0.0683 & 0.1914 & 1 & \mathbf{0.5743} \\ \mathbf{0.1190} & \mathbf{1/3} & \mathbf{1.7412} & 1 \end{pmatrix},$$

Example A.582.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 1 \\ 1/5 & 1 & 3 & 1 \\ 1/9 & 1/3 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.494139 \\ 0.167773 \\ \mathbf{0.052097} \\ 0.285991 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9453 & \mathbf{9.4850} & 1.7278 \\ 0.3395 & 1 & \mathbf{3.2204} & 0.5866 \\ \mathbf{0.1054} & \mathbf{0.3105} & 1 & \mathbf{0.1822} \\ 0.5788 & 1.7046 & \mathbf{5.4896} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.492756 \\ 0.167303 \\ 0.054751 \\ 0.285191 \end{pmatrix} = 0.997201 \cdot \begin{pmatrix} 0.494139 \\ 0.167773 \\ \mathbf{0.054904} \\ 0.285991 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9453 & \mathbf{9} & 1.7278 \\ 0.3395 & 1 & \mathbf{3.0557} & 0.5866 \\ \mathbf{1/9} & \mathbf{0.3273} & 1 & \mathbf{0.1920} \\ 0.5788 & 1.7046 & \mathbf{5.2089} & 1 \end{pmatrix},$$

Example A.583.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/5 \\ 1/3 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.591510 \\ 0.124677 \\ 0.072159 \\ 0.211654 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 4.7444 & 8.1973 & 2.7947 \\ 0.2108 & 1 & 1.7278 & 0.5891 \\ 0.1220 & 0.5788 & 1 & 0.3409 \\ 0.3578 & 1.6976 & 2.9332 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.604128 \\ 0.120826 \\ 0.069930 \\ 0.205117 \end{pmatrix} = 0.969111 \cdot \begin{pmatrix} 0.623384 \\ 0.124677 \\ 0.072159 \\ 0.211654 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5 & 8.6391 & 2.9453 \\ 1/5 & 1 & 1.7278 & 0.5891 \\ 0.1158 & 0.5788 & 1 & 0.3409 \\ 0.3395 & 1.6976 & 2.9332 & 1 \end{pmatrix},$$

Example A.584.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 8 \\ 1/5 & 1 & 9 & 3 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/8 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2267, \quad CR = 0.0855$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.655533 \\ 0.227506 \\ 0.042019 \\ \mathbf{0.074941} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.8814 & 15.6007 & \mathbf{8.7473} \\ 0.3471 & 1 & 5.4143 & \mathbf{3.0358} \\ 0.0641 & 0.1847 & 1 & \mathbf{0.5607} \\ \mathbf{0.1143} & \mathbf{0.3294} & \mathbf{1.7835} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.654947 \\ 0.227303 \\ 0.041982 \\ 0.075768 \end{pmatrix} = 0.999106 \cdot \begin{pmatrix} 0.655533 \\ 0.227506 \\ 0.042019 \\ \mathbf{0.075835} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8814 & 15.6007 & \mathbf{8.6441} \\ 0.3471 & 1 & 5.4143 & \mathbf{3} \\ 0.0641 & 0.1847 & 1 & \mathbf{0.5541} \\ \mathbf{0.1157} & \mathbf{1/3} & \mathbf{1.8048} & 1 \end{pmatrix},$$

Example A.585.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 9 \\ 1/5 & 1 & 9 & 3 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/9 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.662813 \\ 0.223825 \\ 0.041633 \\ \mathbf{0.071729} \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 2.9613 & 15.9204 & \mathbf{9.2406} \\ 0.3377 & 1 & 5.3761 & \mathbf{3.1204} \\ 0.0628 & 0.1860 & 1 & \mathbf{0.5804} \\ \mathbf{0.1082} & \mathbf{0.3205} & \mathbf{1.7229} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.661545 \\ 0.223397 \\ 0.041553 \\ 0.073505 \end{pmatrix} = 0.998086 \cdot \begin{pmatrix} 0.662813 \\ 0.223825 \\ 0.041633 \\ \mathbf{0.073646} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9613 & 15.9204 & \mathbf{9} \\ 0.3377 & 1 & 5.3761 & \mathbf{3.0392} \\ 0.0628 & 0.1860 & 1 & \mathbf{0.5653} \\ \mathbf{1/9} & \mathbf{0.3290} & \mathbf{1.7689} & 1 \end{pmatrix},$$

Example A.586.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 8 & 4 \\ 1/6 & 1 & 1 & 1 \\ 1/8 & 1 & 1 & 1/3 \\ 1/4 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.640317 \\ 0.113670 \\ 0.080232 \\ 0.165782 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.6331 & 7.9809 & 3.8624 \\ 0.1775 & 1 & 1.4168 & 0.6857 \\ 0.1253 & 0.7058 & 1 & 0.4840 \\ 0.2589 & 1.4585 & 2.0663 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.640869 \\ 0.113495 \\ 0.080109 \\ 0.165527 \end{pmatrix} = 0.998468 \cdot \begin{pmatrix} 0.641852 \\ 0.113670 \\ 0.080232 \\ 0.165782 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.6467 & 8 & 3.8717 \\ 0.1771 & 1 & 1.4168 & 0.6857 \\ 1/8 & 0.7058 & 1 & 0.4840 \\ 0.2583 & 1.4585 & 2.0663 & 1 \end{pmatrix},$$

Example A.587.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 3 \\ 1/6 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/5 \\ 1/3 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.605587 \\ 0.117166 \\ 0.069989 \\ 0.207258 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.1686 & 8.6526 & 2.9219 \\ 0.1935 & 1 & 1.6741 & 0.5653 \\ 0.1156 & 0.5973 & 1 & 0.3377 \\ 0.3422 & 1.7689 & 2.9613 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.611870 \\ 0.115299 \\ 0.068874 \\ 0.203957 \end{pmatrix} = 0.984070 \cdot \begin{pmatrix} 0.621775 \\ 0.117166 \\ 0.069989 \\ 0.207258 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.3068 & 8.8839 & 3 \\ 0.1884 & 1 & 1.6741 & 0.5653 \\ 0.1126 & 0.5973 & 1 & 0.3377 \\ 1/3 & 1.7689 & 2.9613 & 1 \end{pmatrix},$$

Example A.588.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 4 \\ 1/6 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/3 \\ 1/4 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.648698 \\ 0.111967 \\ 0.076771 \\ 0.162563 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.7936 & 8.4497 & 3.9904 \\ 0.1726 & 1 & 1.4585 & 0.6888 \\ 0.1183 & 0.6857 & 1 & 0.4723 \\ 0.2506 & 1.4519 & 2.1175 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.649243 \\ 0.111794 \\ 0.076652 \\ 0.162311 \end{pmatrix} = 0.998448 \cdot \begin{pmatrix} 0.650253 \\ 0.111967 \\ 0.076771 \\ 0.162563 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.8075 & 8.4700 & 4 \\ 0.1722 & 1 & 1.4585 & 0.6888 \\ 0.1181 & 0.6857 & 1 & 0.4723 \\ 1/4 & 1.4519 & 2.1175 & 1 \end{pmatrix},$$

Example A.589.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 4 \\ 1/6 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/4 \\ 1/4 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.639531 \\ 0.112101 \\ 0.071787 \\ 0.176582 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.7050 & 8.9088 & 3.6217 \\ 0.1753 & 1 & 1.5616 & 0.6348 \\ 0.1122 & 0.6404 & 1 & 0.4065 \\ 0.2761 & 1.5752 & 2.4598 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.641876 \\ 0.111372 \\ 0.071320 \\ 0.175433 \end{pmatrix} = 0.993494 \cdot \begin{pmatrix} 0.646079 \\ 0.112101 \\ 0.071787 \\ 0.176582 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.7634 & 9 & 3.6588 \\ 0.1735 & 1 & 1.5616 & 0.6348 \\ 1/9 & 0.6404 & 1 & 0.4065 \\ 0.2733 & 1.5752 & 2.4598 & 1 \end{pmatrix},$$

Example A.590.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 7 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.691959 \\ 0.126065 \\ 0.080184 \\ 0.101792 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.4889 & 8.6296 & 6.7978 \\ 0.1822 & 1 & 1.5722 & 1.2385 \\ 0.1159 & 0.6361 & 1 & 0.7877 \\ 0.1471 & 0.8075 & 1.2695 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.698172 \\ 0.123522 \\ 0.078567 \\ 0.099739 \end{pmatrix} = 0.979829 \cdot \begin{pmatrix} 0.712545 \\ 0.126065 \\ 0.080184 \\ 0.101792 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.6522 & 8.8864 & 7 \\ 0.1769 & 1 & 1.5722 & 1.2385 \\ 0.1125 & 0.6361 & 1 & 0.7877 \\ 1/7 & 0.8075 & 1.2695 & 1 \end{pmatrix},$$

Example A.591.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 8 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/8 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{EM} = \begin{pmatrix} 0.701463 \\ 0.122957 \\ 0.078738 \\ 0.096841 \end{pmatrix}$$

$$\left[\frac{w_i^{EM}}{w_j^{EM}} \right] = \begin{pmatrix} 1 & 5.7050 & 8.9088 & 7.2434 \\ 0.1753 & 1 & 1.5616 & 1.2697 \\ 0.1122 & 0.6404 & 1 & 0.8131 \\ 0.1381 & 0.7876 & 1.2299 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.703592 \\ 0.122080 \\ 0.078177 \\ 0.096151 \end{pmatrix} = 0.992868 \cdot \begin{pmatrix} 0.708646 \\ 0.122957 \\ 0.078738 \\ 0.096841 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.7634 & 9 & 7.3176 \\ 0.1735 & 1 & 1.5616 & 1.2697 \\ 1/9 & 0.6404 & 1 & 0.8131 \\ 0.1367 & 0.7876 & 1.2299 & 1 \end{pmatrix},$$

B Inefficient *AMAST* (spanning trees, arithmetic mean) weight vector

Example B.1.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 2 \\ 1 & 1 & 4 & 3 \\ 1/6 & 1/4 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.385684 \\ 0.382840 \\ 0.096144 \\ 0.135332 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0074 & 4.0115 & 2.8499 \\ 0.9926 & 1 & 3.9820 & 2.8289 \\ 0.2493 & 0.2511 & 1 & 0.7104 \\ 0.3509 & 0.3535 & 1.4076 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.385017 \\ 0.383908 \\ 0.095977 \\ 0.135098 \end{pmatrix} = 0.998269 \cdot \begin{pmatrix} 0.385684 \\ 0.384574 \\ 0.096144 \\ 0.135332 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0029 & 4.0115 & 2.8499 \\ 0.9971 & 1 & 4 & 2.8417 \\ 0.2493 & 1/4 & 1 & 0.7104 \\ 0.3509 & 0.3519 & 1.4076 & 1 \end{pmatrix},$$

Example B.2.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 3 \\ 1 & 1 & 4 & 5 \\ 1/7 & 1/4 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2057, \quad CR = 0.0776$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.409127 \\ 0.399967 \\ 0.104638 \\ 0.086267 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0229 & 3.9099 & 4.7426 \\ 0.9776 & 1 & 3.8224 & 4.6364 \\ 0.2558 & 0.2616 & 1 & 1.2130 \\ 0.2109 & 0.2157 & 0.8244 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.405414 \\ 0.405414 \\ 0.103689 \\ 0.085484 \end{pmatrix} = 0.990923 \cdot \begin{pmatrix} 0.409127 \\ 0.409127 \\ 0.104638 \\ 0.086267 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 3.9099 & 4.7426 \\ 1 & 1 & 3.9099 & 4.7426 \\ 0.2558 & 0.2558 & 1 & 1.2130 \\ 0.2109 & 0.2109 & 0.8244 & 1 \end{pmatrix},$$

Example B.3.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 2 \\ 1 & 1 & 5 & 3 \\ 1/8 & 1/5 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.397316 \\ 0.387624 \\ 0.083118 \\ 0.131942 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0250 & 4.7801 & 3.0113 \\ 0.9756 & 1 & 4.6635 & 2.9378 \\ 0.2092 & 0.2144 & 1 & 0.6300 \\ 0.3321 & 0.3404 & 1.5874 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.394084 \\ 0.392605 \\ 0.082442 \\ 0.130868 \end{pmatrix} = 0.991866 \cdot \begin{pmatrix} 0.397316 \\ 0.395825 \\ 0.083118 \\ 0.131942 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0038 & 4.7801 & 3.0113 \\ 0.9962 & 1 & 4.7622 & 3 \\ 0.2092 & 0.2100 & 1 & 0.6300 \\ 0.3321 & 1/3 & 1.5874 & 1 \end{pmatrix},$$

Example B.4.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 3 \\ 1 & 1 & 4 & 5 \\ 1/8 & 1/4 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.417350 \\ \mathbf{0.395325} \\ 0.101389 \\ 0.085936 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0557} & 4.1163 & 4.8565 \\ \mathbf{0.9472} & 1 & \mathbf{3.8991} & \mathbf{4.6003} \\ 0.2429 & \mathbf{0.2565} & 1 & 1.1798 \\ 0.2059 & \mathbf{0.2174} & 0.8476 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.413123 \\ 0.401450 \\ 0.100362 \\ 0.085065 \end{pmatrix} = 0.989872 \cdot \begin{pmatrix} 0.417350 \\ \mathbf{0.405557} \\ 0.101389 \\ 0.085936 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0291} & 4.1163 & 4.8565 \\ \mathbf{0.9717} & 1 & \mathbf{4} & \mathbf{4.7193} \\ 0.2429 & \mathbf{1/4} & 1 & 1.1798 \\ 0.2059 & \mathbf{0.2119} & 0.8476 & 1 \end{pmatrix},$$

Example B.5.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 3 \\ 1 & 1 & 5 & 5 \\ 1/8 & 1/5 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.410632 \\ \mathbf{0.409846} \\ 0.094553 \\ 0.084969 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0019} & 4.3429 & 4.8327 \\ \mathbf{0.9981} & 1 & \mathbf{4.3346} & \mathbf{4.8235} \\ 0.2303 & \mathbf{0.2307} & 1 & 1.1128 \\ 0.2069 & \mathbf{0.2073} & 0.8986 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.410310 \\ 0.410310 \\ 0.094478 \\ 0.084902 \end{pmatrix} = 0.999214 \cdot \begin{pmatrix} 0.410632 \\ \mathbf{0.410632} \\ 0.094553 \\ 0.084969 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 4.3429 & 4.8327 \\ \mathbf{1} & 1 & \mathbf{4.3429} & \mathbf{4.8327} \\ 0.2303 & \mathbf{0.2303} & 1 & 1.1128 \\ 0.2069 & \mathbf{0.2069} & 0.8986 & 1 \end{pmatrix},$$

Example B.6.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 4 \\ 1 & 1 & 5 & 6 \\ 1/8 & 1/5 & 1 & 2 \\ 1/4 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.424588 \\ \mathbf{0.415087} \\ 0.089049 \\ 0.071276 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0229} & 4.7680 & 5.9570 \\ \mathbf{0.9776} & 1 & \mathbf{4.6613} & \mathbf{5.8237} \\ 0.2097 & \mathbf{0.2145} & 1 & 1.2494 \\ 0.1679 & \mathbf{0.1717} & 0.8004 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.420592 \\ 0.420592 \\ 0.088211 \\ 0.070605 \end{pmatrix} = 0.990589 \cdot \begin{pmatrix} 0.424588 \\ \mathbf{0.424588} \\ 0.089049 \\ 0.071276 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 4.7680 & 5.9570 \\ \mathbf{1} & 1 & \mathbf{4.7680} & \mathbf{5.9570} \\ 0.2097 & \mathbf{0.2097} & 1 & 1.2494 \\ 0.1679 & \mathbf{0.1679} & 0.8004 & 1 \end{pmatrix},$$

Example B.7.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 2 \\ 1 & 1 & 5 & 3 \\ 1/9 & 1/5 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.404467 \\ \mathbf{0.383512} \\ 0.080739 \\ 0.131282 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0546} & 5.0095 & 3.0809 \\ \mathbf{0.9482} & 1 & \mathbf{4.7500} & \mathbf{2.9213} \\ 0.1996 & \mathbf{0.2105} & 1 & 0.6150 \\ 0.3246 & \mathbf{0.3423} & 1.6260 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.400330 \\ 0.389818 \\ 0.079914 \\ 0.129939 \end{pmatrix} = 0.989771 \cdot \begin{pmatrix} 0.404467 \\ \mathbf{0.393846} \\ 0.080739 \\ 0.131282 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0270} & 5.0095 & 3.0809 \\ \mathbf{0.9737} & 1 & \mathbf{4.8780} & \mathbf{3} \\ 0.1996 & \mathbf{0.2050} & 1 & 0.6150 \\ 0.3246 & \mathbf{1/3} & 1.6260 & 1 \end{pmatrix},$$

Example B.8.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 3 \\ 1 & 1 & 6 & 4 \\ 1/9 & 1/6 & 1 & 1 \\ 1/3 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.420599 \\ 0.406855 \\ 0.070549 \\ 0.101998 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0338 & 5.9618 & 4.1236 \\ 0.9673 & 1 & 5.7670 & 3.9889 \\ 0.1677 & 0.1734 & 1 & 0.6917 \\ 0.2425 & 0.2507 & 1.4458 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.420122 \\ 0.407527 \\ 0.070469 \\ 0.101882 \end{pmatrix} = 0.998866 \cdot \begin{pmatrix} 0.420599 \\ 0.407990 \\ 0.070549 \\ 0.101998 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0309 & 5.9618 & 4.1236 \\ 0.9700 & 1 & 5.7831 & 4 \\ 0.1677 & 0.1729 & 1 & 0.6917 \\ 0.2425 & 1/4 & 1.4458 & 1 \end{pmatrix},$$

Example B.9.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 4 \\ 1 & 1 & 5 & 6 \\ 1/9 & 1/5 & 1 & 2 \\ 1/4 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.431941 \\ 0.410594 \\ 0.086486 \\ 0.070979 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0520 & 4.9943 & 6.0855 \\ 0.9506 & 1 & 4.7475 & 5.7847 \\ 0.2002 & 0.2106 & 1 & 1.2185 \\ 0.1643 & 0.1729 & 0.8207 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.425440 \\ 0.419465 \\ 0.085184 \\ 0.069911 \end{pmatrix} = 0.984950 \cdot \begin{pmatrix} 0.431941 \\ 0.425875 \\ 0.086486 \\ 0.070979 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0142 & 4.9943 & 6.0855 \\ 0.9860 & 1 & 4.9242 & 6 \\ 0.2002 & 0.2031 & 1 & 1.2185 \\ 0.1643 & 1/6 & 0.8207 & 1 \end{pmatrix},$$

Example B.10.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 4 \\ 1 & 1 & 5 & 7 \\ 1/9 & 1/5 & 1 & 2 \\ 1/4 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1975, \quad CR = 0.0745$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.427051 \\ 0.420478 \\ 0.084957 \\ 0.067514 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0156 & 5.0267 & 6.3253 \\ 0.9846 & 1 & 4.9493 & 6.2280 \\ 0.1989 & 0.2020 & 1 & 1.2583 \\ 0.1581 & 0.1606 & 0.7947 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.425221 \\ 0.422962 \\ 0.084592 \\ 0.067225 \end{pmatrix} = 0.995714 \cdot \begin{pmatrix} 0.427051 \\ 0.424783 \\ 0.084957 \\ 0.067514 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0053 & 5.0267 & 6.3253 \\ 0.9947 & 1 & 5 & 6.2917 \\ 0.1989 & 1/5 & 1 & 1.2583 \\ 0.1581 & 0.1589 & 0.7947 & 1 \end{pmatrix},$$

Example B.11.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 6 \\ 1/2 & 1 & 2 & 5 \\ 1 & 1/2 & 1 & 4 \\ 1/6 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.380752 \\ 0.309459 \\ 0.247939 \\ \mathbf{0.061850} \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.2304 & 1.5357 & \mathbf{6.1560} \\ 0.8128 & 1 & 1.2481 & \mathbf{5.0034} \\ 0.6512 & 0.8012 & 1 & \mathbf{4.0087} \\ \mathbf{0.1624} & \mathbf{0.1999} & \mathbf{0.2495} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.380736 \\ 0.309446 \\ 0.247929 \\ 0.061889 \end{pmatrix} = 0.999959 \cdot \begin{pmatrix} 0.380752 \\ 0.309459 \\ 0.247939 \\ \mathbf{0.061892} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2304 & 1.5357 & \mathbf{6.1519} \\ 0.8128 & 1 & 1.2481 & \mathbf{5} \\ 0.6512 & 0.8012 & 1 & \mathbf{4.0060} \\ \mathbf{0.1626} & \mathbf{1/5} & \mathbf{0.2496} & 1 \end{pmatrix},$$

Example B.12.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 8 \\ 1/2 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.502260 \\ 0.256851 \\ 0.177486 \\ 0.063402 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9555 & 2.8299 & 7.9218 \\ 0.5114 & 1 & 1.4472 & 4.0512 \\ 0.3534 & 0.6910 & 1 & 2.7994 \\ 0.1262 & 0.2468 & 0.3572 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.504715 \\ 0.255585 \\ 0.176611 \\ 0.063089 \end{pmatrix} = 0.995069 \cdot \begin{pmatrix} 0.507216 \\ 0.256851 \\ 0.177486 \\ 0.063402 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9747 & 2.8578 & 8 \\ 0.5064 & 1 & 1.4472 & 4.0512 \\ 0.3499 & 0.6910 & 1 & 2.7994 \\ 1/8 & 0.2468 & 0.3572 & 1 \end{pmatrix},$$

Example B.13.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 9 \\ 1/2 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.504799 \\ 0.261793 \\ 0.174790 \\ 0.058618 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9282 & 2.8880 & 8.6117 \\ 0.5186 & 1 & 1.4978 & 4.4661 \\ 0.3463 & 0.6677 & 1 & 2.9818 \\ 0.1161 & 0.2239 & 0.3354 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.513931 \\ 0.256965 \\ 0.171566 \\ 0.057537 \end{pmatrix} = 0.981560 \cdot \begin{pmatrix} 0.523586 \\ 0.261793 \\ 0.174790 \\ 0.058618 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 2.9955 & 8.9322 \\ 1/2 & 1 & 1.4978 & 4.4661 \\ 0.3338 & 0.6677 & 1 & 2.9818 \\ 0.1120 & 0.2239 & 0.3354 & 1 \end{pmatrix},$$

Example B.14.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 9 \\ 1/2 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 2 \\ 1/9 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.499789 \\ 0.269245 \\ 0.174137 \\ 0.056829 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8563 & 2.8701 & 8.7946 \\ 0.5387 & 1 & 1.5462 & 4.7378 \\ 0.3484 & 0.6468 & 1 & 3.0642 \\ 0.1137 & 0.2111 & 0.3263 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.505560 \\ 0.266139 \\ 0.172128 \\ 0.056173 \end{pmatrix} = 0.988463 \cdot \begin{pmatrix} 0.511461 \\ 0.269245 \\ 0.174137 \\ 0.056829 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8996 & 2.9371 & 9 \\ 0.5264 & 1 & 1.5462 & 4.7378 \\ 0.3405 & 0.6468 & 1 & 3.0642 \\ 1/9 & 0.2111 & 0.3263 & 1 \end{pmatrix},$$

Example B.15.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 9 \\ 1/2 & 1 & 1 & 9 \\ 1/3 & 1 & 1 & 2 \\ 1/9 & 1/9 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.495247 \\ 0.275863 \\ 0.173545 \\ 0.055345 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7953 & 2.8537 & 8.9484 \\ 0.5570 & 1 & 1.5896 & 4.9844 \\ 0.3504 & 0.6291 & 1 & 3.1357 \\ 0.1118 & 0.2006 & 0.3189 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.496685 \\ 0.275077 \\ 0.173051 \\ 0.055187 \end{pmatrix} = 0.997152 \cdot \begin{pmatrix} 0.498103 \\ 0.275863 \\ 0.173545 \\ 0.055345 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8056 & 2.8702 & 9 \\ 0.5538 & 1 & 1.5896 & 4.9844 \\ 0.3484 & 0.6291 & 1 & 3.1357 \\ 1/9 & 0.2006 & 0.3189 & 1 \end{pmatrix},$$

Example B.16.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 6 \\ 1/2 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 2 \\ 1/6 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.515267 \\ 0.263562 \\ 0.129367 \\ 0.091804 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9550 & 3.9830 & 5.6127 \\ 0.5115 & 1 & 2.0373 & 2.8709 \\ 0.2511 & 0.4908 & 1 & 1.4092 \\ 0.1782 & 0.3483 & 0.7096 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.516332 \\ 0.262983 \\ 0.129083 \\ 0.091602 \end{pmatrix} = 0.997803 \cdot \begin{pmatrix} 0.517469 \\ 0.263562 \\ 0.129367 \\ 0.091804 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9634 & 4 & 5.6367 \\ 0.5093 & 1 & 2.0373 & 2.8709 \\ 1/4 & 0.4908 & 1 & 1.4092 \\ 0.1774 & 0.3483 & 0.7096 & 1 \end{pmatrix},$$

Example B.17.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 6 \\ 1/2 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 3 \\ 1/6 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.507109 \\ 0.263066 \\ 0.145265 \\ 0.084560 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9277 & 3.4909 & 5.9970 \\ 0.5188 & 1 & 1.8109 & 3.1110 \\ 0.2865 & 0.5522 & 1 & 1.7179 \\ 0.1667 & 0.3214 & 0.5821 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.507233 \\ 0.263000 \\ 0.145228 \\ 0.084539 \end{pmatrix} = 0.999748 \cdot \begin{pmatrix} 0.507360 \\ 0.263066 \\ 0.145265 \\ 0.084560 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9286 & 3.4927 & 6 \\ 0.5185 & 1 & 1.8109 & 3.1110 \\ 0.2863 & 0.5522 & 1 & 1.7179 \\ 1/6 & 0.3214 & 0.5821 & 1 \end{pmatrix},$$

Example B.18.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 7 \\ 1/2 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 3 \\ 1/7 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.517898 \\ 0.259639 \\ 0.142311 \\ 0.080152 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9947 & 3.6392 & 6.4615 \\ 0.5013 & 1 & 1.8245 & 3.2393 \\ 0.2748 & 0.5481 & 1 & 1.7755 \\ 0.1548 & 0.3087 & 0.5632 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.518563 \\ 0.259281 \\ 0.142115 \\ 0.080041 \end{pmatrix} = 0.998622 \cdot \begin{pmatrix} 0.519278 \\ 0.259639 \\ 0.142311 \\ 0.080152 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.6489 & 6.4787 \\ 1/2 & 1 & 1.8245 & 3.2393 \\ 0.2741 & 0.5481 & 1 & 1.7755 \\ 0.1544 & 0.3087 & 0.5632 & 1 \end{pmatrix},$$

Example B.19.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 6 \\ 1/2 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 2 \\ 1/6 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.523242 \\ 0.274510 \\ 0.112136 \\ 0.090112 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9061 & 4.6661 & 5.8066 \\ 0.5246 & 1 & 2.4480 & 3.0463 \\ 0.2143 & 0.4085 & 1 & 1.2444 \\ 0.1722 & 0.3283 & 0.8036 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.531410 \\ 0.269807 \\ 0.110215 \\ 0.088568 \end{pmatrix} = 0.982868 \cdot \begin{pmatrix} 0.540673 \\ 0.274510 \\ 0.112136 \\ 0.090112 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9696 & 4.8216 & 6 \\ 0.5077 & 1 & 2.4480 & 3.0463 \\ 0.2074 & 0.4085 & 1 & 1.2444 \\ 1/6 & 0.3283 & 0.8036 & 1 \end{pmatrix},$$

Example B.20.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 7 \\ 1/2 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 2 \\ 1/7 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.534042 \\ 0.270672 \\ 0.109841 \\ 0.085444 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9730 & 4.8619 & 6.2502 \\ 0.5068 & 1 & 2.4642 & 3.1678 \\ 0.2057 & 0.4058 & 1 & 1.2855 \\ 0.1600 & 0.3157 & 0.7779 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.537420 \\ 0.268710 \\ 0.109045 \\ 0.084825 \end{pmatrix} = 0.992750 \cdot \begin{pmatrix} 0.541345 \\ 0.270672 \\ 0.109841 \\ 0.085444 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 4.9284 & 6.3356 \\ 1/2 & 1 & 2.4642 & 3.1678 \\ 0.2029 & 0.4058 & 1 & 1.2855 \\ 0.1578 & 0.3157 & 0.7779 & 1 \end{pmatrix},$$

Example B.21.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 4 \\ 1/2 & 1 & 5 & 9 \\ 1/6 & 1/5 & 1 & 1 \\ 1/4 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.462145 \\ 0.385693 \\ \mathbf{0.075864} \\ 0.076297 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.1982 & \mathbf{6.0918} & 6.0572 \\ 0.8346 & 1 & \mathbf{5.0840} & 5.0551 \\ \mathbf{0.1642} & \mathbf{0.1967} & 1 & \mathbf{0.9943} \\ 0.1651 & 0.1978 & \mathbf{1.0057} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.461945 \\ 0.385526 \\ 0.076264 \\ 0.076264 \end{pmatrix} = 0.999567 \cdot \begin{pmatrix} 0.462145 \\ 0.385693 \\ \mathbf{0.076297} \\ 0.076297 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1982 & \mathbf{6.0572} & 6.0572 \\ 0.8346 & 1 & \mathbf{5.0551} & 5.0551 \\ \mathbf{0.1651} & \mathbf{0.1978} & 1 & \mathbf{1} \\ 0.1651 & 0.1978 & \mathbf{1} & 1 \end{pmatrix},$$

Example B.22.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/6 & 1/2 & 1 & 3 \\ 1/6 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.536135 \\ 0.262722 \\ 0.135366 \\ 0.065777 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0407 & 3.9606 & 8.1508 \\ 0.4900 & 1 & 1.9408 & 3.9941 \\ 0.2525 & 0.5152 & 1 & 2.0580 \\ 0.1227 & 0.2504 & 0.4859 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.535929 \\ 0.263006 \\ 0.135314 \\ 0.065751 \end{pmatrix} = 0.999615 \cdot \begin{pmatrix} 0.536135 \\ 0.263107 \\ 0.135366 \\ 0.065777 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0377 & 3.9606 & 8.1508 \\ 0.4907 & 1 & 1.9437 & 4 \\ 0.2525 & 0.5145 & 1 & 2.0580 \\ 0.1227 & 1/4 & 0.4859 & 1 \end{pmatrix},$$

Example B.23.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 6 \\ 1/2 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 2 \\ 1/6 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.528529 \\ 0.282240 \\ 0.100402 \\ 0.088829 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8726 & 5.2641 & 5.9499 \\ 0.5340 & 1 & 2.8111 & 3.1773 \\ 0.1900 & 0.3557 & 1 & 1.1303 \\ 0.1681 & 0.3147 & 0.8847 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.530616 \\ 0.280991 \\ 0.099957 \\ 0.088436 \end{pmatrix} = 0.995573 \cdot \begin{pmatrix} 0.532976 \\ 0.282240 \\ 0.100402 \\ 0.088829 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8884 & 5.3084 & 6 \\ 0.5296 & 1 & 2.8111 & 3.1773 \\ 0.1884 & 0.3557 & 1 & 1.1303 \\ 1/6 & 0.3147 & 0.8847 & 1 \end{pmatrix},$$

Example B.24.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1301, \quad CR = 0.0490$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.536577 \\ 0.267918 \\ 0.141234 \\ 0.054271 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0028 & 3.7992 & 9.8869 \\ 0.4993 & 1 & 1.8970 & 4.9366 \\ 0.2632 & 0.5272 & 1 & 2.6024 \\ 0.1011 & 0.2026 & 0.3843 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.536378 \\ 0.268189 \\ 0.141181 \\ 0.054251 \end{pmatrix} = 0.999629 \cdot \begin{pmatrix} 0.536577 \\ 0.268289 \\ 0.141234 \\ 0.054271 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.7992 & 9.8869 \\ 1/2 & 1 & 1.8996 & 4.9435 \\ 0.2632 & 0.5264 & 1 & 2.6024 \\ 0.1011 & 0.2023 & 0.3843 & 1 \end{pmatrix},$$

Example B.25.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 7 \\ 1/2 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 2 \\ 1/7 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.539297 \\ 0.278376 \\ 0.098169 \\ 0.084158 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9373 & 5.4936 & 6.4081 \\ 0.5162 & 1 & 2.8357 & 3.3078 \\ 0.1820 & 0.3526 & 1 & 1.1665 \\ 0.1561 & 0.3023 & 0.8573 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547200 \\ 0.273600 \\ 0.096485 \\ 0.082715 \end{pmatrix} = 0.982845 \cdot \begin{pmatrix} 0.556751 \\ 0.278376 \\ 0.098169 \\ 0.084158 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.6714 & 6.6155 \\ 1/2 & 1 & 2.8357 & 3.3078 \\ 0.1763 & 0.3526 & 1 & 1.1665 \\ 0.1512 & 0.3023 & 0.8573 & 1 \end{pmatrix},$$

Example B.26.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 8 \\ 1/2 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.548275 \\ 0.274998 \\ 0.096296 \\ 0.080432 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9937 & 5.6937 & 6.8167 \\ 0.5016 & 1 & 2.8558 & 3.4190 \\ 0.1756 & 0.3502 & 1 & 1.1972 \\ 0.1467 & 0.2925 & 0.8353 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.549051 \\ 0.274526 \\ 0.096130 \\ 0.080293 \end{pmatrix} = 0.998282 \cdot \begin{pmatrix} 0.549996 \\ 0.274998 \\ 0.096296 \\ 0.080432 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.7115 & 6.8381 \\ 1/2 & 1 & 2.8558 & 3.4190 \\ 0.1751 & 0.3502 & 1 & 1.1972 \\ 0.1462 & 0.2925 & 0.8353 & 1 \end{pmatrix},$$

Example B.27.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 3 \\ 1/5 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.531861 \\ 0.264054 \\ 0.133524 \\ 0.070561 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0142 & 3.9833 & 7.5377 \\ 0.4965 & 1 & 1.9776 & 3.7422 \\ 0.2511 & 0.5057 & 1 & 1.8923 \\ 0.1327 & 0.2672 & 0.5284 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.530865 \\ 0.265432 \\ 0.133274 \\ 0.070428 \end{pmatrix} = 0.998127 \cdot \begin{pmatrix} 0.531861 \\ 0.265930 \\ 0.133524 \\ 0.070561 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.9833 & 7.5377 \\ 1/2 & 1 & 1.9916 & 3.7688 \\ 0.2511 & 0.5021 & 1 & 1.8923 \\ 0.1327 & 0.2653 & 0.5284 & 1 \end{pmatrix},$$

Example B.28.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 4 \\ 1/5 & 1/4 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.525696 \\ 0.262014 \\ 0.145506 \\ 0.066784 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0064 & 3.6129 & 7.8716 \\ 0.4984 & 1 & 1.8007 & 3.9233 \\ 0.2768 & 0.5553 & 1 & 2.1788 \\ 0.1270 & 0.2549 & 0.4590 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.525258 \\ 0.262629 \\ 0.145385 \\ 0.066728 \end{pmatrix} = 0.999166 \cdot \begin{pmatrix} 0.525696 \\ 0.262848 \\ 0.145506 \\ 0.066784 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.6129 & 7.8716 \\ 1/2 & 1 & 1.8064 & 3.9358 \\ 0.2768 & 0.5536 & 1 & 2.1788 \\ 0.1270 & 0.2541 & 0.4590 & 1 \end{pmatrix},$$

Example B.29.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 3 \\ 1/6 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.546133 \\ 0.258923 \\ 0.129725 \\ 0.065219 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.1092 & 4.2099 & 8.3738 \\ 0.4741 & 1 & 1.9959 & 3.9700 \\ 0.2375 & 0.5010 & 1 & 1.9891 \\ 0.1194 & 0.2519 & 0.5028 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.545845 \\ 0.259313 \\ 0.129657 \\ 0.065185 \end{pmatrix} = 0.999474 \cdot \begin{pmatrix} 0.546133 \\ 0.259450 \\ 0.129725 \\ 0.065219 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1050 & 4.2099 & 8.3738 \\ 0.4751 & 1 & 2 & 3.9781 \\ 0.2375 & 1/2 & 1 & 1.9891 \\ 0.1194 & 0.2514 & 0.5028 & 1 \end{pmatrix},$$

Example B.30.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/7 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.546518 \\ 0.264095 \\ 0.135511 \\ 0.053876 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0694 & 4.0330 & 10.1439 \\ 0.4832 & 1 & 1.9489 & 4.9019 \\ 0.2480 & 0.5131 & 1 & 2.5152 \\ 0.0986 & 0.2040 & 0.3976 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543643 \\ 0.267965 \\ 0.134798 \\ 0.053593 \end{pmatrix} = 0.994740 \cdot \begin{pmatrix} 0.546518 \\ 0.269382 \\ 0.135511 \\ 0.053876 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0288 & 4.0330 & 10.1439 \\ 0.4929 & 1 & 1.9879 & 5 \\ 0.2480 & 0.5030 & 1 & 2.5152 \\ 0.0986 & 1/5 & 0.3976 & 1 \end{pmatrix},$$

Example B.31.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 5 \\ 1/8 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.546716 \\ 0.267744 \\ 0.139543 \\ 0.045998 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0419 & 3.9179 & 11.8856 \\ 0.4897 & 1 & 1.9187 & 5.8208 \\ 0.2552 & 0.5212 & 1 & 3.0337 \\ 0.0841 & 0.1718 & 0.3296 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543663 \\ 0.271832 \\ 0.138763 \\ 0.045741 \end{pmatrix} = 0.994417 \cdot \begin{pmatrix} 0.546716 \\ 0.273358 \\ 0.139543 \\ 0.045998 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.9179 & 11.8856 \\ 1/2 & 1 & 1.9590 & 5.9428 \\ 0.2552 & 0.5105 & 1 & 3.0337 \\ 0.0841 & 0.1683 & 0.3296 & 1 \end{pmatrix},$$

Example B.32.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 6 \\ 1/8 & 1/6 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.542092 \\ \mathbf{0.266245} \\ 0.147243 \\ 0.044421 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{2.0361} & 3.6816 & 12.2036 \\ \mathbf{0.4911} & 1 & \mathbf{1.8082} & \mathbf{5.9937} \\ 0.2716 & \mathbf{0.5530} & 1 & 3.3147 \\ 0.0819 & \mathbf{0.1668} & 0.3017 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.541941 \\ 0.266449 \\ 0.147202 \\ 0.044408 \end{pmatrix} = 0.999721 \cdot \begin{pmatrix} 0.542092 \\ \mathbf{0.266523} \\ 0.147243 \\ 0.044421 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{2.0339} & 3.6816 & 12.2036 \\ \mathbf{0.4917} & 1 & \mathbf{1.8101} & \mathbf{6} \\ 0.2716 & \mathbf{0.5525} & 1 & 3.3147 \\ 0.0819 & \mathbf{1/6} & 0.3017 & 1 \end{pmatrix},$$

Example B.33.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 9 \\ 1/2 & 1 & 8 & 6 \\ 1/7 & 1/8 & 1 & 1 \\ 1/9 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.529447 \\ 0.352722 \\ 0.059119 \\ \mathbf{0.058713} \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.5010 & 8.9556 & \mathbf{9.0176} \\ 0.6662 & 1 & 5.9663 & \mathbf{6.0076} \\ 0.1117 & 0.1676 & 1 & \mathbf{1.0069} \\ \mathbf{0.1109} & \mathbf{0.1665} & \mathbf{0.9931} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.529407 \\ 0.352696 \\ 0.059114 \\ 0.058783 \end{pmatrix} = 0.999926 \cdot \begin{pmatrix} 0.529447 \\ 0.352722 \\ 0.059119 \\ \mathbf{0.058787} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5010 & 8.9556 & \mathbf{9.0062} \\ 0.6662 & 1 & 5.9663 & \mathbf{6} \\ 0.1117 & 0.1676 & 1 & \mathbf{1.0056} \\ \mathbf{0.1110} & \mathbf{1/6} & \mathbf{0.9944} & 1 \end{pmatrix},$$

Example B.34.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 2 & 5 \\ 1/8 & 1/2 & 1 & 4 \\ 1/6 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.542674 \\ 0.265441 \\ 0.134476 \\ 0.057409 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0444 & 4.0355 & 9.4528 \\ 0.4891 & 1 & 1.9739 & 4.6237 \\ 0.2478 & 0.5066 & 1 & 2.3424 \\ 0.1058 & 0.2163 & 0.4269 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.540776 \\ 0.268010 \\ 0.134005 \\ 0.057208 \end{pmatrix} = 0.996503 \cdot \begin{pmatrix} 0.542674 \\ 0.268951 \\ 0.134476 \\ 0.057409 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0177 & 4.0355 & 9.4528 \\ 0.4956 & 1 & 2 & 4.6848 \\ 0.2478 & 1/2 & 1 & 2.3424 \\ 0.1058 & 0.2135 & 0.4269 & 1 \end{pmatrix},$$

Example B.35.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.550810 \\ 0.281434 \\ 0.069595 \\ 0.098160 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9572 & 7.9145 & 5.6113 \\ 0.5109 & 1 & 4.0439 & 2.8671 \\ 0.1264 & 0.2473 & 1 & 0.7090 \\ 0.1782 & 0.3488 & 1.4104 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553468 \\ 0.279769 \\ 0.069183 \\ 0.097579 \end{pmatrix} = 0.994083 \cdot \begin{pmatrix} 0.556762 \\ 0.281434 \\ 0.069595 \\ 0.098160 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9783 & 8 & 5.6720 \\ 0.5055 & 1 & 4.0439 & 2.8671 \\ 1/8 & 0.2473 & 1 & 0.7090 \\ 0.1763 & 0.3488 & 1.4104 & 1 \end{pmatrix},$$

Example B.36.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/8 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2035, \quad CR = 0.0767$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.554550 \\ 0.260918 \\ 0.130981 \\ 0.053551 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.1254 & 4.2338 & 10.3555 \\ 0.4705 & 1 & 1.9920 & 4.8723 \\ 0.2362 & 0.5020 & 1 & 2.4459 \\ 0.0966 & 0.2052 & 0.4088 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553971 \\ 0.261689 \\ 0.130844 \\ 0.053495 \end{pmatrix} = 0.998957 \cdot \begin{pmatrix} 0.554550 \\ 0.261962 \\ 0.130981 \\ 0.053551 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1169 & 4.2338 & 10.3555 \\ 0.4724 & 1 & 2 & 4.8918 \\ 0.2362 & 1/2 & 1 & 2.4459 \\ 0.0966 & 0.2044 & 0.4088 & 1 \end{pmatrix},$$

Example B.37.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1/8 & 1/2 & 1 & 5 \\ 1/8 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.554718 \\ 0.264557 \\ 0.134973 \\ 0.045752 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0968 & 4.1099 & 12.1244 \\ 0.4769 & 1 & 1.9601 & 5.7824 \\ 0.2433 & 0.5102 & 1 & 2.9501 \\ 0.0825 & 0.1729 & 0.3390 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551745 \\ 0.268499 \\ 0.134249 \\ 0.045507 \end{pmatrix} = 0.994641 \cdot \begin{pmatrix} 0.554718 \\ 0.269945 \\ 0.134973 \\ 0.045752 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0549 & 4.1099 & 12.1244 \\ 0.4866 & 1 & 2 & 5.9001 \\ 0.2433 & 1/2 & 1 & 2.9501 \\ 0.0825 & 0.1695 & 0.3390 & 1 \end{pmatrix},$$

Example B.38.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 9 \\ 1/2 & 1 & 2 & 7 \\ 1/8 & 1/2 & 1 & 6 \\ 1/9 & 1/7 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2463, \quad CR = 0.0929$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.554828 \\ 0.267270 \\ 0.137920 \\ 0.039982 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0759 & 4.0228 & 13.8769 \\ 0.4817 & 1 & 1.9379 & 6.6847 \\ 0.2486 & 0.5160 & 1 & 3.4495 \\ 0.0721 & 0.1496 & 0.2899 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.550113 \\ 0.273496 \\ 0.136748 \\ 0.039642 \end{pmatrix} = 0.991502 \cdot \begin{pmatrix} 0.554828 \\ 0.275840 \\ 0.137920 \\ 0.039982 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0114 & 4.0228 & 13.8769 \\ 0.4972 & 1 & 2 & 6.8991 \\ 0.2486 & 1/2 & 1 & 3.4495 \\ 0.0721 & 0.1449 & 0.2899 & 1 \end{pmatrix},$$

Example B.39.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 2 \\ 1/6 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.560692 \\ 0.275350 \\ 0.095033 \\ 0.068925 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0363 & 5.8999 & 8.1348 \\ 0.4911 & 1 & 2.8974 & 3.9949 \\ 0.1695 & 0.3451 & 1 & 1.3788 \\ 0.1229 & 0.2503 & 0.7253 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.560496 \\ 0.275603 \\ 0.095000 \\ 0.068901 \end{pmatrix} = 0.999652 \cdot \begin{pmatrix} 0.560692 \\ 0.275699 \\ 0.095033 \\ 0.068925 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0337 & 5.8999 & 8.1348 \\ 0.4917 & 1 & 2.9011 & 4 \\ 0.1695 & 0.3447 & 1 & 1.3788 \\ 0.1229 & 1/4 & 0.7253 & 1 \end{pmatrix},$$

Example B.40.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.552727 \\ 0.286313 \\ 0.064258 \\ 0.096702 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9305 & 8.6017 & 5.7158 \\ 0.5180 & 1 & 4.4557 & 2.9608 \\ 0.1163 & 0.2244 & 1 & 0.6645 \\ 0.1750 & 0.3377 & 1.5049 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.561454 \\ 0.280727 \\ 0.063004 \\ 0.094815 \end{pmatrix} = 0.980489 \cdot \begin{pmatrix} 0.572626 \\ 0.286313 \\ 0.064258 \\ 0.096702 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.9113 & 5.9216 \\ 1/2 & 1 & 4.4557 & 2.9608 \\ 0.1122 & 0.2244 & 1 & 0.6645 \\ 0.1689 & 0.3377 & 1.5049 & 1 \end{pmatrix},$$

Example B.41.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 8 & 2 \\ 1/9 & 1/8 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.547018 \\ 0.294223 \\ 0.062281 \\ 0.096477 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8592 & 8.7830 & 5.6699 \\ 0.5379 & 1 & 4.7241 & 3.0497 \\ 0.1139 & 0.2117 & 1 & 0.6456 \\ 0.1764 & 0.3279 & 1.5491 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553058 \\ 0.290301 \\ 0.061451 \\ 0.095191 \end{pmatrix} = 0.986668 \cdot \begin{pmatrix} 0.560531 \\ 0.294223 \\ 0.062281 \\ 0.096477 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9051 & 9 & 5.8100 \\ 0.5249 & 1 & 4.7241 & 3.0497 \\ 1/9 & 0.2117 & 1 & 0.6456 \\ 0.1721 & 0.3279 & 1.5491 & 1 \end{pmatrix},$$

Example B.42.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 9 & 2 \\ 1/9 & 1/9 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.541852 \\ 0.301223 \\ 0.060642 \\ 0.096282 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7988 & 8.9352 & 5.6278 \\ 0.5559 & 1 & 4.9672 & 3.1286 \\ 0.1119 & 0.2013 & 1 & 0.6298 \\ 0.1777 & 0.3196 & 1.5877 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543646 \\ 0.300044 \\ 0.060405 \\ 0.095905 \end{pmatrix} = 0.996086 \cdot \begin{pmatrix} 0.545782 \\ 0.301223 \\ 0.060642 \\ 0.096282 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8119 & 9 & 5.6686 \\ 0.5519 & 1 & 4.9672 & 3.1286 \\ 1/9 & 0.2013 & 1 & 0.6298 \\ 0.1764 & 0.3196 & 1.5877 & 1 \end{pmatrix},$$

Example B.43.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1372, \quad CR = 0.0517$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.563535 \\ 0.281932 \\ 0.062889 \\ 0.091644 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9988 & 8.9608 & 6.1492 \\ 0.5003 & 1 & 4.4830 & 3.0764 \\ 0.1116 & 0.2231 & 1 & 0.6862 \\ 0.1626 & 0.3251 & 1.4572 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.563679 \\ 0.281839 \\ 0.062868 \\ 0.091613 \end{pmatrix} = 0.999671 \cdot \begin{pmatrix} 0.563864 \\ 0.281932 \\ 0.062889 \\ 0.091644 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.9660 & 6.1528 \\ 1/2 & 1 & 4.4830 & 3.0764 \\ 0.1115 & 0.2231 & 1 & 0.6862 \\ 0.1625 & 0.3251 & 1.4572 & 1 \end{pmatrix},$$

Example B.44.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 7 & 3 \\ 1/9 & 1/7 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.566846 \\ 0.296398 \\ 0.073182 \\ 0.063575 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9125 & 7.7457 & 8.9162 \\ 0.5229 & 1 & 4.0501 & 4.6622 \\ 0.1291 & 0.2469 & 1 & 1.1511 \\ 0.1122 & 0.2145 & 0.8687 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.569141 \\ 0.294827 \\ 0.072794 \\ 0.063238 \end{pmatrix} = 0.994700 \cdot \begin{pmatrix} 0.572174 \\ 0.296398 \\ 0.073182 \\ 0.063575 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9304 & 7.8185 & 9 \\ 0.5180 & 1 & 4.0501 & 4.6622 \\ 0.1279 & 0.2469 & 1 & 1.1511 \\ 1/9 & 0.2145 & 0.8687 & 1 \end{pmatrix},$$

Example B.45.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 8 & 3 \\ 1/9 & 1/8 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.560919 \\ 0.304471 \\ 0.071056 \\ 0.063553 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8423 & 7.8940 & 8.8259 \\ 0.5428 & 1 & 4.2849 & 4.7908 \\ 0.1267 & 0.2334 & 1 & 1.1181 \\ 0.1133 & 0.2087 & 0.8944 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.565723 \\ 0.301140 \\ 0.070279 \\ 0.062858 \end{pmatrix} = 0.989059 \cdot \begin{pmatrix} 0.571981 \\ 0.304471 \\ 0.071056 \\ 0.063553 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8786 & 8.0497 & 9 \\ 0.5323 & 1 & 4.2849 & 4.7908 \\ 0.1242 & 0.2334 & 1 & 1.1181 \\ 1/9 & 0.2087 & 0.8944 & 1 \end{pmatrix},$$

Example B.46.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 6 \\ 1/3 & 1 & 1 & 6 \\ 1/2 & 1 & 1 & 4 \\ 1/6 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.474795 \\ 0.235762 \\ \mathbf{0.231458} \\ 0.057985 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0139 & \mathbf{2.0513} & 8.1882 \\ 0.4966 & 1 & \mathbf{1.0186} & 4.0659 \\ \mathbf{0.4875} & \mathbf{0.9817} & 1 & \mathbf{3.9917} \\ 0.1221 & 0.2459 & \mathbf{0.2505} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.474565 \\ 0.235648 \\ 0.231830 \\ 0.057957 \end{pmatrix} = 0.999517 \cdot \begin{pmatrix} 0.474795 \\ 0.235762 \\ \mathbf{0.231942} \\ 0.057985 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0139 & \mathbf{2.0470} & 8.1882 \\ 0.4966 & 1 & \mathbf{1.0165} & 4.0659 \\ \mathbf{0.4885} & \mathbf{0.9838} & 1 & \mathbf{4} \\ 0.1221 & 0.2459 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example B.47.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1027, \quad CR = 0.0387$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.477363 \\ 0.236801 \\ \mathbf{0.236682} \\ 0.049154 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0159 & \mathbf{2.0169} & 9.7117 \\ 0.4961 & 1 & \mathbf{1.0005} & 4.8176 \\ \mathbf{0.4958} & \mathbf{0.9995} & 1 & \mathbf{4.8152} \\ 0.1030 & 0.2076 & \mathbf{0.2077} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.477307 \\ 0.236773 \\ 0.236773 \\ 0.049148 \end{pmatrix} = 0.999881 \cdot \begin{pmatrix} 0.477363 \\ 0.236801 \\ \mathbf{0.236801} \\ 0.049154 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0159 & \mathbf{2.0159} & 9.7117 \\ 0.4961 & 1 & \mathbf{1} & 4.8176 \\ \mathbf{0.4961} & \mathbf{1} & 1 & \mathbf{4.8176} \\ 0.1030 & 0.2076 & \mathbf{0.2076} & 1 \end{pmatrix},$$

Example B.48.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1301, \quad CR = 0.0490$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.473553 \\ 0.243920 \\ \mathbf{0.234905} \\ 0.047622 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9414 & \mathbf{2.0159} & 9.9441 \\ 0.5151 & 1 & \mathbf{1.0384} & 5.1220 \\ \mathbf{0.4960} & \mathbf{0.9630} & 1 & \mathbf{4.9327} \\ 0.1006 & 0.1952 & \mathbf{0.2027} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.472669 \\ 0.243464 \\ 0.236334 \\ 0.047533 \end{pmatrix} = 0.998132 \cdot \begin{pmatrix} 0.473553 \\ 0.243920 \\ \mathbf{0.236777} \\ 0.047622 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9414 & \mathbf{2} & 9.9441 \\ 0.5151 & 1 & \mathbf{1.0302} & 5.1220 \\ \mathbf{1/2} & \mathbf{0.9707} & 1 & \mathbf{4.9720} \\ 0.1006 & 0.1952 & \mathbf{0.2011} & 1 \end{pmatrix},$$

Example B.49.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 9 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 6 \\ 1/9 & 1/9 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.484038 \\ 0.240382 \\ \mathbf{0.236086} \\ 0.039494 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0136 & \mathbf{2.0503} & 12.2560 \\ 0.4966 & 1 & \mathbf{1.0182} & 6.0865 \\ \mathbf{0.4877} & \mathbf{0.9821} & 1 & \mathbf{5.9778} \\ 0.0816 & 0.1643 & \mathbf{0.1673} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.483614 \\ 0.240171 \\ 0.236756 \\ 0.039459 \end{pmatrix} = 0.999124 \cdot \begin{pmatrix} 0.484038 \\ 0.240382 \\ \mathbf{0.236963} \\ 0.039494 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0136 & \mathbf{2.0427} & 12.2560 \\ 0.4966 & 1 & \mathbf{1.0144} & 6.0865 \\ \mathbf{0.4896} & \mathbf{0.9858} & 1 & \mathbf{6} \\ 0.0816 & 0.1643 & \mathbf{1/6} & 1 \end{pmatrix},$$

Example B.50.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 9 \\ 1/3 & 1 & 2 & 2 \\ 1/3 & 1/2 & 1 & 5 \\ 1/9 & 1/2 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.544146 \\ 0.206957 \\ 0.184948 \\ 0.063950 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.6293 & 2.9422 & 8.5089 \\ 0.3803 & 1 & 1.1190 & 3.2362 \\ 0.3399 & 0.8937 & 1 & 2.8921 \\ 0.1175 & 0.3090 & 0.3458 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548971 \\ 0.204766 \\ 0.182990 \\ 0.063273 \end{pmatrix} = 0.989416 \cdot \begin{pmatrix} 0.554843 \\ 0.206957 \\ 0.184948 \\ 0.063950 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6810 & 3 & 8.6762 \\ 0.3730 & 1 & 1.1190 & 3.2362 \\ 1/3 & 0.8937 & 1 & 2.8921 \\ 0.1153 & 0.3090 & 0.3458 & 1 \end{pmatrix},$$

Example B.51.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 9 \\ 1/3 & 1 & 4 & 5 \\ 1/3 & 1/4 & 1 & 2 \\ 1/9 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.529197 \\ 0.293272 \\ 0.119073 \\ \mathbf{0.058459} \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8045 & 4.4443 & \mathbf{9.0525} \\ 0.5542 & 1 & 2.4630 & \mathbf{5.0168} \\ 0.2250 & 0.4060 & 1 & \mathbf{2.0369} \\ \mathbf{0.1105} & \mathbf{0.1993} & \mathbf{0.4909} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.529093 \\ 0.293215 \\ 0.119049 \\ 0.058643 \end{pmatrix} = 0.999804 \cdot \begin{pmatrix} 0.529197 \\ 0.293272 \\ 0.119073 \\ \mathbf{0.058654} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8045 & 4.4443 & \mathbf{9.0223} \\ 0.5542 & 1 & 2.4630 & \mathbf{5} \\ 0.2250 & 0.4060 & 1 & \mathbf{2.0301} \\ \mathbf{0.1108} & \mathbf{1/5} & \mathbf{0.4926} & 1 \end{pmatrix},$$

Example B.52.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 8 \\ 1/3 & 1 & 2 & 2 \\ 1/4 & 1/2 & 1 & 3 \\ 1/8 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.575242 \\ 0.203169 \\ 0.148934 \\ 0.072655 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.8313 & 3.8624 & 7.9175 \\ 0.3532 & 1 & 1.3642 & 2.7964 \\ 0.2589 & 0.7331 & 1 & 2.0499 \\ 0.1263 & 0.3576 & 0.4878 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.577774 \\ 0.201958 \\ 0.148046 \\ 0.072222 \end{pmatrix} = 0.994038 \cdot \begin{pmatrix} 0.581239 \\ 0.203169 \\ 0.148934 \\ 0.072655 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8609 & 3.9027 & 8 \\ 0.3495 & 1 & 1.3642 & 2.7964 \\ 0.2562 & 0.7331 & 1 & 2.0499 \\ 1/8 & 0.3576 & 0.4878 & 1 \end{pmatrix},$$

Example B.53.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 9 \\ 1/3 & 1 & 2 & 2 \\ 1/4 & 1/2 & 1 & 3 \\ 1/9 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.583415 \\ 0.200523 \\ 0.146473 \\ 0.069590 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.9095 & 3.9831 & 8.3837 \\ 0.3437 & 1 & 1.3690 & 2.8815 \\ 0.2511 & 0.7305 & 1 & 2.1048 \\ 0.1193 & 0.3470 & 0.4751 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.584444 \\ 0.200028 \\ 0.146111 \\ 0.069418 \end{pmatrix} = 0.997531 \cdot \begin{pmatrix} 0.585890 \\ 0.200523 \\ 0.146473 \\ 0.069590 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9218 & 4 & 8.4192 \\ 0.3423 & 1 & 1.3690 & 2.8815 \\ 1/4 & 0.7305 & 1 & 2.1048 \\ 0.1188 & 0.3470 & 0.4751 & 1 \end{pmatrix},$$

Example B.54.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 9 \\ 1/3 & 1 & 2 & 2 \\ 1/4 & 1/2 & 1 & 4 \\ 1/9 & 1/2 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.575603 \\ 0.200467 \\ 0.158416 \\ 0.065515 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.8713 & 3.6335 & 8.7858 \\ 0.3483 & 1 & 1.2654 & 3.0599 \\ 0.2752 & 0.7902 & 1 & 2.4180 \\ 0.1138 & 0.3268 & 0.4136 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.581476 \\ 0.197692 \\ 0.156223 \\ 0.064608 \end{pmatrix} = 0.986161 \cdot \begin{pmatrix} 0.589636 \\ 0.200467 \\ 0.158416 \\ 0.065515 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9413 & 3.7221 & 9 \\ 0.3400 & 1 & 1.2654 & 3.0599 \\ 0.2687 & 0.7902 & 1 & 2.4180 \\ 1/9 & 0.3268 & 0.4136 & 1 \end{pmatrix},$$

Example B.55.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 9 \\ 1/3 & 1 & 2 & 9 \\ 1/4 & 1/2 & 1 & 3 \\ 1/9 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.547803 \\ 0.272668 \\ \mathbf{0.134633} \\ 0.044896 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0091 & \mathbf{4.0689} & 12.2017 \\ 0.4977 & 1 & \mathbf{2.0253} & 6.0734 \\ \mathbf{0.2458} & \mathbf{0.4938} & 1 & \mathbf{2.9988} \\ 0.0820 & 0.1647 & \mathbf{0.3335} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547774 \\ 0.272653 \\ 0.134680 \\ 0.044893 \end{pmatrix} = 0.999946 \cdot \begin{pmatrix} 0.547803 \\ 0.272668 \\ \mathbf{0.134687} \\ 0.044896 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0091 & \mathbf{4.0672} & 12.2017 \\ 0.4977 & 1 & \mathbf{2.0245} & 6.0734 \\ \mathbf{0.2459} & \mathbf{0.4940} & 1 & \mathbf{3} \\ 0.0820 & 0.1647 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example B.56.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 8 \\ 1/3 & 1 & 9 & 5 \\ 1/5 & 1/9 & 1 & 1 \\ 1/8 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2489, \quad CR = 0.0939$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.534817 \\ 0.330817 \\ 0.068227 \\ \mathbf{0.066138} \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.6167 & 7.8388 & \mathbf{8.0864} \\ 0.6186 & 1 & 4.8488 & \mathbf{5.0019} \\ 0.1276 & 0.2062 & 1 & \mathbf{1.0316} \\ \mathbf{0.1237} & \mathbf{0.1999} & \mathbf{0.9694} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.534804 \\ 0.330809 \\ 0.068225 \\ 0.066162 \end{pmatrix} = 0.999975 \cdot \begin{pmatrix} 0.534817 \\ 0.330817 \\ 0.068227 \\ \mathbf{0.066163} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6167 & 7.8388 & \mathbf{8.0833} \\ 0.6186 & 1 & 4.8488 & \mathbf{5} \\ 0.1276 & 0.2062 & 1 & \mathbf{1.0312} \\ \mathbf{0.1237} & \mathbf{1/5} & \mathbf{0.9698} & 1 \end{pmatrix},$$

Example B.57.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 9 \\ 1/3 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 3 \\ 1/9 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.590227 \\ 0.216815 \\ 0.124155 \\ 0.068803 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.7223 & 4.7539 & 8.5785 \\ 0.3673 & 1 & 1.7463 & 3.1513 \\ 0.2104 & 0.5726 & 1 & 1.8045 \\ 0.1166 & 0.3173 & 0.5542 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.601775 \\ 0.210705 \\ 0.120656 \\ 0.066864 \end{pmatrix} = 0.971818 \cdot \begin{pmatrix} 0.619226 \\ 0.216815 \\ 0.124155 \\ 0.068803 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8560 & 4.9875 & 9 \\ 0.3501 & 1 & 1.7463 & 3.1513 \\ 0.2005 & 0.5726 & 1 & 1.8045 \\ 1/9 & 0.3173 & 0.5542 & 1 \end{pmatrix},$$

Example B.58.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.604990 \\ 0.213611 \\ 0.104965 \\ 0.076435 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.8322 & 5.7638 & 7.9151 \\ 0.3531 & 1 & 2.0351 & 2.7947 \\ 0.1735 & 0.4914 & 1 & 1.3733 \\ 0.1263 & 0.3578 & 0.7282 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.607535 \\ 0.212235 \\ 0.104288 \\ 0.075942 \end{pmatrix} = 0.993555 \cdot \begin{pmatrix} 0.611476 \\ 0.213611 \\ 0.104965 \\ 0.076435 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8626 & 5.8256 & 8 \\ 0.3493 & 1 & 2.0351 & 2.7947 \\ 0.1717 & 0.4914 & 1 & 1.3733 \\ 1/8 & 0.3578 & 0.7282 & 1 \end{pmatrix},$$

Example B.59.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.613096 \\ 0.210647 \\ 0.103102 \\ 0.073154 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.9105 & 5.9465 & 8.3809 \\ 0.3436 & 1 & 2.0431 & 2.8795 \\ 0.1682 & 0.4895 & 1 & 1.4094 \\ 0.1193 & 0.3473 & 0.7095 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.615219 \\ 0.209492 \\ 0.102536 \\ 0.072753 \end{pmatrix} = 0.994514 \cdot \begin{pmatrix} 0.618613 \\ 0.210647 \\ 0.103102 \\ 0.073154 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9367 & 6 & 8.4563 \\ 0.3405 & 1 & 2.0431 & 2.8795 \\ 1/6 & 0.4895 & 1 & 1.4094 \\ 0.1183 & 0.3473 & 0.7095 & 1 \end{pmatrix},$$

Example B.60.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 3 \\ 1/9 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.604110 \\ 0.211611 \\ 0.116630 \\ 0.067650 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.8548 & 5.1797 & 8.9300 \\ 0.3503 & 1 & 1.8144 & 3.1280 \\ 0.1931 & 0.5512 & 1 & 1.7240 \\ 0.1120 & 0.3197 & 0.5800 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.605976 \\ 0.210614 \\ 0.116080 \\ 0.067331 \end{pmatrix} = 0.995287 \cdot \begin{pmatrix} 0.608846 \\ 0.211611 \\ 0.116630 \\ 0.067650 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8772 & 5.2203 & 9 \\ 0.3476 & 1 & 1.8144 & 3.1280 \\ 0.1916 & 0.5512 & 1 & 1.7240 \\ 1/9 & 0.3197 & 0.5800 & 1 \end{pmatrix},$$

Example B.61.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 8 & 5 \\ 1/6 & 1/8 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.562168 \\ 0.311612 \\ 0.063912 \\ \mathbf{0.062308} \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8041 & 8.7959 & \mathbf{9.0225} \\ 0.5543 & 1 & 4.8756 & \mathbf{5.0012} \\ 0.1137 & 0.2051 & 1 & \mathbf{1.0258} \\ \mathbf{0.1108} & \mathbf{0.2000} & \mathbf{0.9749} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.562160 \\ 0.311607 \\ 0.063912 \\ 0.062321 \end{pmatrix} = 0.999985 \cdot \begin{pmatrix} 0.562168 \\ 0.311612 \\ 0.063912 \\ \mathbf{0.062322} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8041 & 8.7959 & \mathbf{9.0203} \\ 0.5543 & 1 & 4.8756 & \mathbf{5} \\ 0.1137 & 0.2051 & 1 & \mathbf{1.0255} \\ \mathbf{0.1109} & \mathbf{1/5} & \mathbf{0.9751} & 1 \end{pmatrix},$$

Example B.62.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 8 \\ 1/3 & 1 & 5 & 2 \\ 1/7 & 1/5 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2323, \quad CR = 0.0876$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.598144 \\ 0.237254 \\ 0.088977 \\ 0.075625 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.5211 & 6.7224 & 7.9094 \\ 0.3966 & 1 & 2.6664 & 3.1373 \\ 0.1488 & 0.3750 & 1 & 1.1766 \\ 0.1264 & 0.3187 & 0.8499 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.600879 \\ 0.235639 \\ 0.088372 \\ 0.075110 \end{pmatrix} = 0.993195 \cdot \begin{pmatrix} 0.604996 \\ 0.237254 \\ 0.088977 \\ 0.075625 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5500 & 6.7994 & 8 \\ 0.3922 & 1 & 2.6664 & 3.1373 \\ 0.1471 & 0.3750 & 1 & 1.1766 \\ 1/8 & 0.3187 & 0.8499 & 1 \end{pmatrix},$$

Example B.63.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 9 \\ 1/3 & 1 & 4 & 2 \\ 1/7 & 1/4 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.614818 \\ 0.221550 \\ 0.091457 \\ 0.072175 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.7751 & 6.7224 & 8.5185 \\ 0.3604 & 1 & 2.4224 & 3.0696 \\ 0.1488 & 0.4128 & 1 & 1.2672 \\ 0.1174 & 0.3258 & 0.7892 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.624354 \\ 0.216065 \\ 0.089193 \\ 0.070388 \end{pmatrix} = 0.975244 \cdot \begin{pmatrix} 0.640202 \\ 0.221550 \\ 0.091457 \\ 0.072175 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8897 & 7 & 8.8702 \\ 0.3461 & 1 & 2.4224 & 3.0696 \\ 1/7 & 0.4128 & 1 & 1.2672 \\ 0.1127 & 0.3258 & 0.7892 & 1 \end{pmatrix},$$

Example B.64.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 9 \\ 1/3 & 1 & 5 & 2 \\ 1/7 & 1/5 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2300, \quad CR = 0.0867$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.606141 \\ 0.234148 \\ 0.087302 \\ 0.072410 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.5887 & 6.9430 & 8.3710 \\ 0.3863 & 1 & 2.6820 & 3.2337 \\ 0.1440 & 0.3728 & 1 & 1.2057 \\ 0.1195 & 0.3092 & 0.8294 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.608090 \\ 0.232989 \\ 0.086870 \\ 0.072051 \end{pmatrix} = 0.995052 \cdot \begin{pmatrix} 0.611113 \\ 0.234148 \\ 0.087302 \\ 0.072410 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6099 & 7 & 8.4397 \\ 0.3831 & 1 & 2.6820 & 3.2337 \\ 1/7 & 0.3728 & 1 & 1.2057 \\ 0.1185 & 0.3092 & 0.8294 & 1 \end{pmatrix},$$

Example B.65.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 9 \\ 1/3 & 1 & 4 & 2 \\ 1/8 & 1/4 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.624361 \\ 0.217327 \\ 0.087174 \\ 0.071138 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.8729 & 7.1623 & 8.7768 \\ 0.3481 & 1 & 2.4930 & 3.0550 \\ 0.1396 & 0.4011 & 1 & 1.2254 \\ 0.1139 & 0.3273 & 0.8160 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.630232 \\ 0.213930 \\ 0.085811 \\ 0.070026 \end{pmatrix} = 0.984371 \cdot \begin{pmatrix} 0.640239 \\ 0.217327 \\ 0.087174 \\ 0.071138 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9460 & 7.3444 & 9 \\ 0.3394 & 1 & 2.4930 & 3.0550 \\ 0.1362 & 0.4011 & 1 & 1.2254 \\ 1/9 & 0.3273 & 0.8160 & 1 \end{pmatrix},$$

Example B.66.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 9 \\ 1/3 & 1 & 5 & 2 \\ 1/8 & 1/5 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2267, \quad CR = 0.0855$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.615784 \\ 0.229651 \\ 0.083175 \\ 0.071390 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.6814 & 7.4034 & 8.6256 \\ 0.3729 & 1 & 2.7610 & 3.2169 \\ 0.1351 & 0.3622 & 1 & 1.1651 \\ 0.1159 & 0.3109 & 0.8583 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.625785 \\ 0.223673 \\ 0.081010 \\ 0.069532 \end{pmatrix} = 0.973971 \cdot \begin{pmatrix} 0.642509 \\ 0.229651 \\ 0.083175 \\ 0.071390 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7978 & 7.7247 & 9 \\ 0.3574 & 1 & 2.7610 & 3.2169 \\ 0.1295 & 0.3622 & 1 & 1.1651 \\ 1/9 & 0.3109 & 0.8583 & 1 \end{pmatrix},$$

Example B.67.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 9 \\ 1/3 & 1 & 2 & 4 \\ 1/9 & 1/2 & 1 & 3 \\ 1/9 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.631818 \\ 0.208420 \\ 0.107641 \\ 0.052121 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.0315 & 5.8697 & 12.1222 \\ 0.3299 & 1 & 1.9362 & 3.9988 \\ 0.1704 & 0.5165 & 1 & 2.0652 \\ 0.0825 & 0.2501 & 0.4842 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.631779 \\ 0.208469 \\ 0.107635 \\ 0.052117 \end{pmatrix} = 0.999938 \cdot \begin{pmatrix} 0.631818 \\ 0.208482 \\ 0.107641 \\ 0.052121 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0306 & 5.8697 & 12.1222 \\ 0.3300 & 1 & 1.9368 & 4 \\ 0.1704 & 0.5163 & 1 & 2.0652 \\ 0.0825 & 1/4 & 0.4842 & 1 \end{pmatrix},$$

Example B.68.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 9 \\ 1/3 & 1 & 5 & 2 \\ 1/9 & 1/5 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.623969 \\ 0.225714 \\ 0.079804 \\ 0.070513 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.7644 & 7.8188 & 8.8490 \\ 0.3617 & 1 & 2.8284 & 3.2010 \\ 0.1279 & 0.3536 & 1 & 1.1318 \\ 0.1130 & 0.3124 & 0.8836 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.627930 \\ 0.223337 \\ 0.078964 \\ 0.069770 \end{pmatrix} = 0.989467 \cdot \begin{pmatrix} 0.634614 \\ 0.225714 \\ 0.079804 \\ 0.070513 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8116 & 7.9522 & 9 \\ 0.3557 & 1 & 2.8284 & 3.2010 \\ 0.1258 & 0.3536 & 1 & 1.1318 \\ 1/9 & 0.3124 & 0.8836 & 1 \end{pmatrix},$$

Example B.69.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 5 \\ 1/4 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 4 \\ 1/5 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.478858 \\ 0.231909 \\ \mathbf{0.229045} \\ 0.060188 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0649 & \mathbf{2.0907} & 7.9561 \\ 0.4843 & 1 & \mathbf{1.0125} & 3.8531 \\ \mathbf{0.4783} & \mathbf{0.9877} & 1 & \mathbf{3.8055} \\ 0.1257 & 0.2595 & \mathbf{0.2628} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.477491 \\ 0.231246 \\ 0.231246 \\ 0.060016 \end{pmatrix} = 0.997145 \cdot \begin{pmatrix} 0.478858 \\ 0.231909 \\ \mathbf{0.231909} \\ 0.060188 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0649 & \mathbf{2.0649} & 7.9561 \\ 0.4843 & 1 & \mathbf{1} & 3.8531 \\ \mathbf{0.4843} & \mathbf{1} & 1 & \mathbf{3.8531} \\ 0.1257 & 0.2595 & \mathbf{0.2595} & 1 \end{pmatrix},$$

Example B.70.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 7 \\ 1/4 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/9 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2371, \quad CR = 0.0894$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.491707 \\ 0.232923 \\ \mathbf{0.229150} \\ 0.046220 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.1110 & \mathbf{2.1458} & 10.6385 \\ 0.4737 & 1 & \mathbf{1.0165} & 5.0395 \\ \mathbf{0.4660} & \mathbf{0.9838} & 1 & \mathbf{4.9578} \\ 0.0940 & 0.1984 & \mathbf{0.2017} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.490751 \\ 0.232470 \\ 0.230649 \\ 0.046130 \end{pmatrix} = 0.998055 \cdot \begin{pmatrix} 0.491707 \\ 0.232923 \\ \mathbf{0.231099} \\ 0.046220 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1110 & \mathbf{2.1277} & 10.6385 \\ 0.4737 & 1 & \mathbf{1.0079} & 5.0395 \\ \mathbf{0.4700} & \mathbf{0.9922} & 1 & \mathbf{5} \\ 0.0940 & 0.1984 & \mathbf{1/5} & 1 \end{pmatrix},$$

Example B.71.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 7 \\ 1/4 & 1 & 1 & 4 \\ 1/3 & 1 & 1 & 3 \\ 1/7 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.561346 \\ 0.189110 \\ \mathbf{0.186778} \\ 0.062765 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.9684 & \mathbf{3.0054} & 8.9436 \\ 0.3369 & 1 & \mathbf{1.0125} & 3.0130 \\ \mathbf{0.3327} & \mathbf{0.9877} & 1 & \mathbf{2.9758} \\ 0.1118 & 0.3319 & \mathbf{0.3360} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.561157 \\ 0.189046 \\ 0.187052 \\ 0.062744 \end{pmatrix} = 0.999663 \cdot \begin{pmatrix} 0.561346 \\ 0.189110 \\ \mathbf{0.187115} \\ 0.062765 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9684 & \mathbf{3} & 8.9436 \\ 0.3369 & 1 & \mathbf{1.0107} & 3.0130 \\ \mathbf{1/3} & \mathbf{0.9895} & 1 & \mathbf{2.9812} \\ 0.1118 & 0.3319 & \mathbf{0.3354} & 1 \end{pmatrix},$$

Example B.72.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 5 \\ 1/4 & 1 & 2 & 7 \\ 1/4 & 1/2 & 1 & 2 \\ 1/5 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.538445 \\ 0.262178 \\ \mathbf{0.131076} \\ 0.068301 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0537 & \mathbf{4.1079} & 7.8834 \\ 0.4869 & 1 & \mathbf{2.0002} & 3.8386 \\ \mathbf{0.2434} & \mathbf{0.5000} & 1 & \mathbf{1.9191} \\ 0.1268 & 0.2605 & \mathbf{0.5211} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.538438 \\ 0.262175 \\ 0.131087 \\ 0.068300 \end{pmatrix} = 0.999987 \cdot \begin{pmatrix} 0.538445 \\ 0.262178 \\ \mathbf{0.131089} \\ 0.068301 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0537 & \mathbf{4.1075} & 7.8834 \\ 0.4869 & 1 & \mathbf{2} & 3.8386 \\ \mathbf{0.2435} & \mathbf{1/2} & 1 & \mathbf{1.9193} \\ 0.1268 & 0.2605 & \mathbf{0.5210} & 1 \end{pmatrix},$$

Example B.73.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 2 & 6 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1301, \quad CR = 0.0490$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.588679 \\ 0.234721 \\ \mathbf{0.116871} \\ 0.059729 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.5080 & \mathbf{5.0370} & 9.8559 \\ 0.3987 & 1 & \mathbf{2.0084} & 3.9298 \\ \mathbf{0.1985} & \mathbf{0.4979} & 1 & \mathbf{1.9567} \\ 0.1015 & 0.2545 & \mathbf{0.5111} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.588391 \\ 0.234606 \\ 0.117303 \\ 0.059700 \end{pmatrix} = 0.999511 \cdot \begin{pmatrix} 0.588679 \\ 0.234721 \\ \mathbf{0.117361} \\ 0.059729 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5080 & \mathbf{5.0160} & 9.8559 \\ 0.3987 & 1 & \mathbf{2} & 3.9298 \\ \mathbf{0.1994} & \mathbf{1/2} & 1 & \mathbf{1.9649} \\ 0.1015 & 0.2545 & \mathbf{0.5089} & 1 \end{pmatrix},$$

Example B.74.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 7 & 4 \\ 1/6 & 1/7 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.598214 \\ 0.269101 \\ 0.066683 \\ \mathbf{0.066002} \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.2230 & 8.9710 & \mathbf{9.0636} \\ 0.4498 & 1 & 4.0355 & \mathbf{4.0772} \\ 0.1115 & 0.2478 & 1 & \mathbf{1.0103} \\ \mathbf{0.1103} & \mathbf{0.2453} & \mathbf{0.9898} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.597935 \\ 0.268976 \\ 0.066652 \\ 0.066437 \end{pmatrix} = 0.999534 \cdot \begin{pmatrix} 0.598214 \\ 0.269101 \\ 0.066683 \\ \mathbf{0.066468} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2230 & 8.9710 & \mathbf{9} \\ 0.4498 & 1 & 4.0355 & \mathbf{4.0486} \\ 0.1115 & 0.2478 & 1 & \mathbf{1.0032} \\ \mathbf{1/9} & \mathbf{0.2470} & \mathbf{0.9968} & 1 \end{pmatrix},$$

Example B.75.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 4 \\ 1/5 & 1 & 1 & 3 \\ 1/3 & 1 & 1 & 2 \\ 1/4 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.545124 \\ 0.181296 \\ \mathbf{0.180099} \\ 0.093481 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.0068 & \mathbf{3.0268} & 5.8314 \\ 0.3326 & 1 & \mathbf{1.0066} & 1.9394 \\ \mathbf{0.3304} & \mathbf{0.9934} & 1 & \mathbf{1.9266} \\ 0.1715 & 0.5156 & \mathbf{0.5191} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.544472 \\ 0.181079 \\ 0.181079 \\ 0.093369 \end{pmatrix} = 0.998805 \cdot \begin{pmatrix} 0.545124 \\ 0.181296 \\ \mathbf{0.181296} \\ 0.093481 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0068 & \mathbf{3.0068} & 5.8314 \\ 0.3326 & 1 & \mathbf{1} & 1.9394 \\ \mathbf{0.3326} & \mathbf{1} & 1 & \mathbf{1.9394} \\ 0.1715 & 0.5156 & \mathbf{0.5156} & 1 \end{pmatrix},$$

Example B.76.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 6 \\ 1/5 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/6 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1758, \quad CR = 0.0663$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.559090 \\ 0.192392 \\ \mathbf{0.185355} \\ 0.063163 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.9060 & \mathbf{3.0163} & 8.8515 \\ 0.3441 & 1 & \mathbf{1.0380} & 3.0459 \\ \mathbf{0.3315} & \mathbf{0.9634} & 1 & \mathbf{2.9345} \\ 0.1130 & 0.3283 & \mathbf{0.3408} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.558527 \\ 0.192198 \\ 0.186176 \\ 0.063100 \end{pmatrix} = 0.998993 \cdot \begin{pmatrix} 0.559090 \\ 0.192392 \\ \mathbf{0.186363} \\ 0.063163 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9060 & \mathbf{3} & 8.8515 \\ 0.3441 & 1 & \mathbf{1.0323} & 3.0459 \\ \mathbf{1/3} & \mathbf{0.9687} & 1 & \mathbf{2.9505} \\ 0.1130 & 0.3283 & \mathbf{0.3389} & 1 \end{pmatrix},$$

Example B.77.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.571248 \\ 0.190242 \\ \mathbf{0.189160} \\ 0.049349 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.0027 & \mathbf{3.0199} & 11.5756 \\ 0.3330 & 1 & \mathbf{1.0057} & 3.8550 \\ \mathbf{0.3311} & \mathbf{0.9943} & 1 & \mathbf{3.8331} \\ 0.0864 & 0.2594 & \mathbf{0.2609} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.570630 \\ 0.190037 \\ 0.190037 \\ 0.049296 \end{pmatrix} = 0.998919 \cdot \begin{pmatrix} 0.571248 \\ 0.190242 \\ \mathbf{0.190242} \\ 0.049349 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0027 & \mathbf{3.0027} & 11.5756 \\ 0.3330 & 1 & \mathbf{1} & 3.8550 \\ \mathbf{0.3330} & \mathbf{1} & 1 & \mathbf{3.8550} \\ 0.0864 & 0.2594 & \mathbf{0.2594} & 1 \end{pmatrix},$$

Example B.78.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.566233 \\ 0.197953 \\ \mathbf{0.188056} \\ 0.047759 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.8604 & \mathbf{3.0110} & 11.8561 \\ 0.3496 & 1 & \mathbf{1.0526} & 4.1448 \\ \mathbf{0.3321} & \mathbf{0.9500} & 1 & \mathbf{3.9376} \\ 0.0843 & 0.2413 & \mathbf{0.2540} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.565843 \\ 0.197817 \\ 0.188614 \\ 0.047726 \end{pmatrix} = 0.999312 \cdot \begin{pmatrix} 0.566233 \\ 0.197953 \\ \mathbf{0.188744} \\ 0.047759 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8604 & \mathbf{3} & 11.8561 \\ 0.3496 & 1 & \mathbf{1.0488} & 4.1448 \\ \mathbf{1/3} & \mathbf{0.9535} & 1 & \mathbf{3.9520} \\ 0.0843 & 0.2413 & \mathbf{0.2530} & 1 \end{pmatrix},$$

Example B.79.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 9 \\ 1/5 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.580280 \\ 0.186638 \\ \mathbf{0.186280} \\ 0.046802 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.1091 & \mathbf{3.1151} & 12.3985 \\ 0.3216 & 1 & \mathbf{1.0019} & 3.9878 \\ \mathbf{0.3210} & \mathbf{0.9981} & 1 & \mathbf{3.9801} \\ 0.0807 & 0.2508 & \mathbf{0.2512} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.580072 \\ 0.186571 \\ 0.186571 \\ 0.046786 \end{pmatrix} = 0.999642 \cdot \begin{pmatrix} 0.580280 \\ 0.186638 \\ \mathbf{0.186638} \\ 0.046802 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1091 & \mathbf{3.1091} & 12.3985 \\ 0.3216 & 1 & \mathbf{1} & 3.9878 \\ \mathbf{0.3216} & \mathbf{1} & 1 & \mathbf{3.9878} \\ 0.0807 & 0.2508 & \mathbf{0.2508} & 1 \end{pmatrix},$$

Example B.80.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 7 \\ 1/5 & 1 & 2 & 7 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.598472 \\ 0.229843 \\ \mathbf{0.114353} \\ 0.057332 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.6038 & \mathbf{5.2336} & 10.4387 \\ 0.3841 & 1 & \mathbf{2.0099} & 4.0090 \\ \mathbf{0.1911} & \mathbf{0.4975} & 1 & \mathbf{1.9946} \\ 0.0958 & 0.2494 & \mathbf{0.5014} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.598286 \\ 0.229772 \\ 0.114628 \\ 0.057314 \end{pmatrix} = 0.999689 \cdot \begin{pmatrix} 0.598472 \\ 0.229843 \\ \mathbf{0.114664} \\ 0.057332 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6038 & \mathbf{5.2194} & 10.4387 \\ 0.3841 & 1 & \mathbf{2.0045} & 4.0090 \\ \mathbf{0.1916} & \mathbf{0.4989} & 1 & \mathbf{2} \\ 0.0958 & 0.2494 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example B.81.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 6 \\ 1/6 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/6 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.570866 \\ 0.183693 \\ \mathbf{0.182690} \\ 0.062752 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.1077 & \mathbf{3.1248} & 9.0972 \\ 0.3218 & 1 & \mathbf{1.0055} & 2.9273 \\ \mathbf{0.3200} & \mathbf{0.9945} & 1 & \mathbf{2.9113} \\ 0.1099 & 0.3416 & \mathbf{0.3435} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.570294 \\ 0.183509 \\ 0.183509 \\ 0.062689 \end{pmatrix} = 0.998998 \cdot \begin{pmatrix} 0.570866 \\ 0.183693 \\ \mathbf{0.183693} \\ 0.062752 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1077 & \mathbf{3.1077} & 9.0972 \\ 0.3218 & 1 & \mathbf{1} & 2.9273 \\ \mathbf{0.3218} & \mathbf{1} & 1 & \mathbf{2.9273} \\ 0.1099 & 0.3416 & \mathbf{0.3416} & 1 \end{pmatrix},$$

Example B.82.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 8 \\ 1/6 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.578053 \\ 0.189090 \\ \mathbf{0.185374} \\ 0.047483 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.0570 & \mathbf{3.1183} & 12.1738 \\ 0.3271 & 1 & \mathbf{1.0200} & 3.9822 \\ \mathbf{0.3207} & \mathbf{0.9804} & 1 & \mathbf{3.9040} \\ 0.0821 & 0.2511 & \mathbf{0.2561} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575913 \\ 0.188390 \\ 0.188390 \\ 0.047307 \end{pmatrix} = 0.996298 \cdot \begin{pmatrix} 0.578053 \\ 0.189090 \\ \mathbf{0.189090} \\ 0.047483 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0570 & \mathbf{3.0570} & 12.1738 \\ 0.3271 & 1 & \mathbf{1} & 3.9822 \\ \mathbf{0.3271} & \mathbf{1} & 1 & \mathbf{3.9822} \\ 0.0821 & 0.2511 & \mathbf{0.2511} & 1 \end{pmatrix},$$

Example B.83.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 8 \\ 1/6 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.634965 \\ 0.209134 \\ \mathbf{0.103324} \\ 0.052577 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.0362 & \mathbf{6.1454} & 12.0769 \\ 0.3294 & 1 & \mathbf{2.0241} & 3.9777 \\ \mathbf{0.1627} & \mathbf{0.4941} & 1 & \mathbf{1.9652} \\ 0.0828 & 0.2514 & \mathbf{0.5089} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.634177 \\ 0.208875 \\ 0.104437 \\ 0.052511 \end{pmatrix} = 0.998759 \cdot \begin{pmatrix} 0.634965 \\ 0.209134 \\ \mathbf{0.104567} \\ 0.052577 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0362 & \mathbf{6.0723} & 12.0769 \\ 0.3294 & 1 & \mathbf{2} & 3.9777 \\ \mathbf{0.1647} & \mathbf{1/2} & 1 & \mathbf{1.9888} \\ 0.0828 & 0.2514 & \mathbf{0.5028} & 1 \end{pmatrix},$$

Example B.84.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 8 \\ 1/7 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.628261 \\ 0.161875 \\ \mathbf{0.156500} \\ 0.053365 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.8812 & \mathbf{4.0144} & 11.7730 \\ 0.2577 & 1 & \mathbf{1.0343} & 3.0334 \\ \mathbf{0.2491} & \mathbf{0.9668} & 1 & \mathbf{2.9327} \\ 0.0849 & 0.3297 & \mathbf{0.3410} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.627906 \\ 0.161783 \\ 0.156976 \\ 0.053334 \end{pmatrix} = 0.999435 \cdot \begin{pmatrix} 0.628261 \\ 0.161875 \\ \mathbf{0.157065} \\ 0.053365 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8812 & \mathbf{4} & 11.7730 \\ 0.2577 & 1 & \mathbf{1.0306} & 3.0334 \\ \mathbf{1/4} & \mathbf{0.9703} & 1 & \mathbf{2.9432} \\ 0.0849 & 0.3297 & \mathbf{0.3398} & 1 \end{pmatrix},$$

Example B.85.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 7 & 9 \\ 1/7 & 1 & 2 & 7 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2526, \quad CR = 0.0952$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.664884 \\ 0.192185 \\ \mathbf{0.094382} \\ 0.048549 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.4596 & \mathbf{7.0446} & 13.6952 \\ 0.2890 & 1 & \mathbf{2.0362} & 3.9586 \\ \mathbf{0.1420} & \mathbf{0.4911} & 1 & \mathbf{1.9441} \\ 0.0730 & 0.2526 & \mathbf{0.5144} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.664485 \\ 0.192069 \\ 0.094926 \\ 0.048520 \end{pmatrix} = 0.999399 \cdot \begin{pmatrix} 0.664884 \\ 0.192185 \\ \mathbf{0.094983} \\ 0.048549 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.4596 & \mathbf{7} & 13.6952 \\ 0.2890 & 1 & \mathbf{2.0233} & 3.9586 \\ \mathbf{1/7} & \mathbf{0.4942} & 1 & \mathbf{1.9565} \\ 0.0730 & 0.2526 & \mathbf{0.5111} & 1 \end{pmatrix},$$

Example B.86.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 4 & 8 \\ 1/8 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.635793 \\ 0.156495 \\ \mathbf{0.154681} \\ 0.053031 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.0627 & \mathbf{4.1103} & 11.9891 \\ 0.2461 & 1 & \mathbf{1.0117} & 2.9510 \\ \mathbf{0.2433} & \mathbf{0.9884} & 1 & \mathbf{2.9168} \\ 0.0834 & 0.3389 & \mathbf{0.3428} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.634642 \\ 0.156212 \\ 0.156212 \\ 0.052935 \end{pmatrix} = 0.998189 \cdot \begin{pmatrix} 0.635793 \\ 0.156495 \\ \mathbf{0.156495} \\ 0.053031 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0627 & \mathbf{4.0627} & 11.9891 \\ 0.2461 & 1 & \mathbf{1} & 2.9510 \\ \mathbf{0.2461} & \mathbf{1} & 1 & \mathbf{2.9510} \\ 0.0834 & 0.3389 & \mathbf{0.3389} & 1 \end{pmatrix},$$

Example B.87.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 3 \\ 1 & 1 & 4 & 2 \\ 1/3 & 1/4 & 1 & 1/3 \\ 1/3 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.370383 \\ 0.356888 \\ 0.089487 \\ 0.183241 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0378 & 4.1389 & 2.0213 \\ 0.9636 & 1 & 3.9881 & 1.9476 \\ 0.2416 & 0.2507 & 1 & 0.4884 \\ 0.4947 & 0.5134 & 2.0477 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.369991 \\ 0.357570 \\ 0.089392 \\ 0.183047 \end{pmatrix} = 0.998940 \cdot \begin{pmatrix} 0.370383 \\ 0.357949 \\ 0.089487 \\ 0.183241 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0347 & 4.1389 & 2.0213 \\ 0.9664 & 1 & 4 & 1.9534 \\ 0.2416 & 1/4 & 1 & 0.4884 \\ 0.4947 & 0.5119 & 2.0477 & 1 \end{pmatrix},$$

Example B.88.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 4 \\ 1 & 1 & 5 & 2 \\ 1/3 & 1/5 & 1 & 1/4 \\ 1/4 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.382031 \\ 0.359292 \\ 0.078159 \\ 0.180517 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0633 & 4.8878 & 2.1163 \\ 0.9405 & 1 & 4.5969 & 1.9903 \\ 0.2046 & 0.2175 & 1 & 0.4330 \\ 0.4725 & 0.5024 & 2.3096 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.381367 \\ 0.360407 \\ 0.078023 \\ 0.180203 \end{pmatrix} = 0.998261 \cdot \begin{pmatrix} 0.382031 \\ 0.361035 \\ 0.078159 \\ 0.180517 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0582 & 4.8878 & 2.1163 \\ 0.9450 & 1 & 4.6192 & 2 \\ 0.2046 & 0.2165 & 1 & 0.4330 \\ 0.4725 & 1/2 & 2.3096 & 1 \end{pmatrix},$$

Example B.89.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 5 \\ 1 & 1 & 4 & 3 \\ 1/3 & 1/4 & 1 & 1/2 \\ 1/5 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.400821 \\ 0.376904 \\ 0.094934 \\ 0.127341 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0635 & 4.2221 & 3.1476 \\ 0.9403 & 1 & 3.9702 & 2.9598 \\ 0.2368 & 0.2519 & 1 & 0.7455 \\ 0.3177 & 0.3379 & 1.3414 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.399689 \\ 0.378663 \\ 0.094666 \\ 0.126982 \end{pmatrix} = 0.997176 \cdot \begin{pmatrix} 0.400821 \\ 0.379736 \\ 0.094934 \\ 0.127341 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0555 & 4.2221 & 3.1476 \\ 0.9474 & 1 & 4 & 2.9820 \\ 0.2368 & 1/4 & 1 & 0.7455 \\ 0.3177 & 0.3353 & 1.3414 & 1 \end{pmatrix},$$

Example B.90.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 5 \\ 1 & 1 & 5 & 3 \\ 1/3 & 1/5 & 1 & 1/3 \\ 1/5 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.391881 \\ \mathbf{0.386301} \\ 0.081565 \\ 0.140253 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0144} & 4.8045 & 2.7941 \\ \mathbf{0.9858} & 1 & \mathbf{4.7361} & \mathbf{2.7543} \\ 0.2081 & \mathbf{0.2111} & 1 & 0.5816 \\ 0.3579 & \mathbf{0.3631} & 1.7195 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.389706 \\ 0.389706 \\ 0.081112 \\ 0.139475 \end{pmatrix} = 0.994451 \cdot \begin{pmatrix} 0.391881 \\ \mathbf{0.391881} \\ 0.081565 \\ 0.140253 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 4.8045 & 2.7941 \\ \mathbf{1} & 1 & \mathbf{4.8045} & \mathbf{2.7941} \\ 0.2081 & \mathbf{0.2081} & 1 & 0.5816 \\ 0.3579 & \mathbf{0.3579} & 1.7195 & 1 \end{pmatrix},$$

Example B.91.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.372729 \\ \mathbf{0.368313} \\ 0.063008 \\ 0.195951 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0120} & 5.9156 & 1.9022 \\ \mathbf{0.9882} & 1 & \mathbf{5.8455} & \mathbf{1.8796} \\ 0.1690 & \mathbf{0.1711} & 1 & 0.3215 \\ 0.5257 & \mathbf{0.5320} & 3.1100 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.371090 \\ 0.371090 \\ 0.062731 \\ 0.195089 \end{pmatrix} = 0.995604 \cdot \begin{pmatrix} 0.372729 \\ \mathbf{0.372729} \\ 0.063008 \\ 0.195951 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 5.9156 & 1.9022 \\ \mathbf{1} & 1 & \mathbf{5.9156} & \mathbf{1.9022} \\ 0.1690 & \mathbf{0.1690} & 1 & 0.3215 \\ 0.5257 & \mathbf{0.5257} & 3.1100 & 1 \end{pmatrix},$$

Example B.92.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 4 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/5 \\ 1/4 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.392871 \\ \mathbf{0.361403} \\ 0.062894 \\ 0.182832 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0871} & 6.2466 & 2.1488 \\ \mathbf{0.9199} & 1 & \mathbf{5.7462} & \mathbf{1.9767} \\ 0.1601 & \mathbf{0.1740} & 1 & 0.3440 \\ 0.4654 & \mathbf{0.5059} & 2.9070 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.391204 \\ 0.364113 \\ 0.062627 \\ 0.182056 \end{pmatrix} = 0.995757 \cdot \begin{pmatrix} 0.392871 \\ \mathbf{0.365664} \\ 0.062894 \\ 0.182832 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0744} & 6.2466 & 2.1488 \\ \mathbf{0.9307} & 1 & \mathbf{5.8140} & \mathbf{2} \\ 0.1601 & \mathbf{0.1720} & 1 & 0.3440 \\ 0.4654 & \mathbf{1/2} & 2.9070 & 1 \end{pmatrix},$$

Example B.93.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 5 \\ 1 & 1 & 6 & 3 \\ 1/4 & 1/6 & 1 & 1/3 \\ 1/5 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.405870 \\ \mathbf{0.392143} \\ 0.068676 \\ 0.133311 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0350} & 5.9099 & 3.0445 \\ \mathbf{0.9662} & 1 & \mathbf{5.7100} & \mathbf{2.9416} \\ 0.1692 & \mathbf{0.1751} & 1 & 0.5152 \\ 0.3285 & \mathbf{0.3400} & 1.9411 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.402733 \\ 0.396841 \\ 0.068146 \\ 0.132280 \end{pmatrix} = 0.992272 \cdot \begin{pmatrix} 0.405870 \\ \mathbf{0.399932} \\ 0.068676 \\ 0.133311 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0148} & 5.9099 & 3.0445 \\ \mathbf{0.9854} & 1 & \mathbf{5.8234} & \mathbf{3} \\ 0.1692 & \mathbf{0.1717} & 1 & 0.5152 \\ 0.3285 & \mathbf{1/3} & 1.9411 & 1 \end{pmatrix},$$

Example B.94.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 5 \\ 1 & 1 & 6 & 3 \\ 1/4 & 1/6 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.402519 \\ \mathbf{0.387778} \\ 0.064886 \\ 0.144816 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0380} & 6.2035 & 2.7795 \\ \mathbf{0.9634} & 1 & \mathbf{5.9763} & \mathbf{2.6777} \\ 0.1612 & \mathbf{0.1673} & 1 & 0.4481 \\ 0.3598 & \mathbf{0.3735} & 2.2319 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.401901 \\ 0.388719 \\ 0.064786 \\ 0.144594 \end{pmatrix} = 0.998464 \cdot \begin{pmatrix} 0.402519 \\ \mathbf{0.389317} \\ 0.064886 \\ 0.144816 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0339} & 6.2035 & 2.7795 \\ \mathbf{0.9672} & 1 & \mathbf{6} & \mathbf{2.6883} \\ 0.1612 & \mathbf{1/6} & 1 & 0.4481 \\ 0.3598 & \mathbf{0.3720} & 2.2319 & 1 \end{pmatrix},$$

Example B.95.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 5 \\ 1 & 1 & 7 & 3 \\ 1/4 & 1/7 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.398499 \\ \mathbf{0.397400} \\ 0.061715 \\ 0.142386 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0028} & 6.4571 & 2.7987 \\ \mathbf{0.9972} & 1 & \mathbf{6.4393} & \mathbf{2.7910} \\ 0.1549 & \mathbf{0.1553} & 1 & 0.4334 \\ 0.3573 & \mathbf{0.3583} & 2.3072 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.398061 \\ 0.398061 \\ 0.061647 \\ 0.142230 \end{pmatrix} = 0.998902 \cdot \begin{pmatrix} 0.398499 \\ \mathbf{0.398499} \\ 0.061715 \\ 0.142386 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 6.4571 & 2.7987 \\ \mathbf{1} & 1 & \mathbf{6.4571} & \mathbf{2.7987} \\ 0.1549 & \mathbf{0.1549} & 1 & 0.4334 \\ 0.3573 & \mathbf{0.3573} & 2.3072 & 1 \end{pmatrix},$$

Example B.96.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 6 \\ 1 & 1 & 6 & 4 \\ 1/4 & 1/6 & 1 & 1/2 \\ 1/6 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.413123 \\ \mathbf{0.410678} \\ 0.073039 \\ 0.103160 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0060} & 5.6562 & 4.0047 \\ \mathbf{0.9941} & 1 & \mathbf{5.6227} & \mathbf{3.9810} \\ 0.1768 & \mathbf{0.1779} & 1 & 0.7080 \\ 0.2497 & \mathbf{0.2512} & 1.4124 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.412313 \\ 0.411832 \\ 0.072896 \\ 0.102958 \end{pmatrix} = 0.998041 \cdot \begin{pmatrix} 0.413123 \\ \mathbf{0.412641} \\ 0.073039 \\ 0.103160 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0012} & 5.6562 & 4.0047 \\ \mathbf{0.9988} & 1 & \mathbf{5.6496} & \mathbf{4} \\ 0.1768 & \mathbf{0.1770} & 1 & 0.7080 \\ 0.2497 & \mathbf{1/4} & 1.4124 & 1 \end{pmatrix},$$

Example B.97.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 7 \\ 1 & 1 & 6 & 4 \\ 1/4 & 1/6 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.419764 \\ \mathbf{0.400611} \\ 0.067246 \\ 0.112379 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0478} & 6.2422 & 3.7353 \\ \mathbf{0.9544} & 1 & \mathbf{5.9574} & \mathbf{3.5648} \\ 0.1602 & \mathbf{0.1679} & 1 & 0.5984 \\ 0.2677 & \mathbf{0.2805} & 1.6712 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.418565 \\ 0.402323 \\ 0.067054 \\ 0.112058 \end{pmatrix} = 0.997145 \cdot \begin{pmatrix} 0.419764 \\ \mathbf{0.403475} \\ 0.067246 \\ 0.112379 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0404} & 6.2422 & 3.7353 \\ \mathbf{0.9612} & 1 & \mathbf{6} & \mathbf{3.5903} \\ 0.1602 & \mathbf{1/6} & 1 & 0.5984 \\ 0.2677 & \mathbf{0.2785} & 1.6712 & 1 \end{pmatrix},$$

Example B.98.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 7 \\ 1 & 1 & 7 & 4 \\ 1/4 & 1/7 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2395, \quad CR = 0.0903$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.415383 \\ \mathbf{0.410336} \\ 0.063935 \\ 0.110346 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0123} & 6.4969 & 3.7644 \\ \mathbf{0.9879} & 1 & \mathbf{6.4180} & \mathbf{3.7186} \\ 0.1539 & \mathbf{0.1558} & 1 & 0.5794 \\ 0.2656 & \mathbf{0.2689} & 1.7259 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.413297 \\ 0.413297 \\ 0.063614 \\ 0.109792 \end{pmatrix} = 0.994979 \cdot \begin{pmatrix} 0.415383 \\ \mathbf{0.415383} \\ 0.063935 \\ 0.110346 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 6.4969 & 3.7644 \\ \mathbf{1} & 1 & \mathbf{6.4969} & \mathbf{3.7644} \\ 0.1539 & \mathbf{0.1539} & 1 & 0.5794 \\ 0.2656 & \mathbf{0.2656} & 1.7259 & 1 \end{pmatrix},$$

Example B.99.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 7 & 2 \\ 1/5 & 1/7 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1027, \quad CR = 0.0387$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.382646 \\ \mathbf{0.373219} \\ 0.054988 \\ 0.189148 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0253} & 6.9587 & 2.0230 \\ \mathbf{0.9754} & 1 & \mathbf{6.7873} & \mathbf{1.9732} \\ 0.1437 & \mathbf{0.1473} & 1 & 0.2907 \\ 0.4943 & \mathbf{0.5068} & 3.4398 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.380713 \\ 0.376385 \\ 0.054710 \\ 0.188192 \end{pmatrix} = 0.994949 \cdot \begin{pmatrix} 0.382646 \\ \mathbf{0.378295} \\ 0.054988 \\ 0.189148 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0115} & 6.9587 & 2.0230 \\ \mathbf{0.9886} & 1 & \mathbf{6.8796} & \mathbf{2} \\ 0.1437 & \mathbf{0.1454} & 1 & 0.2907 \\ 0.4943 & \mathbf{1/2} & 3.4398 & 1 \end{pmatrix},$$

Example B.100.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/8 \\ 1/3 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.371742 \\ \mathbf{0.371502} \\ 0.047496 \\ 0.209261 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0006} & 7.8268 & 1.7765 \\ \mathbf{0.9994} & 1 & \mathbf{7.8218} & \mathbf{1.7753} \\ 0.1278 & \mathbf{0.1278} & 1 & 0.2270 \\ 0.5629 & \mathbf{0.5633} & 4.4059 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.371653 \\ 0.371653 \\ 0.047485 \\ 0.209210 \end{pmatrix} = 0.999760 \cdot \begin{pmatrix} 0.371742 \\ \mathbf{0.371742} \\ 0.047496 \\ 0.209261 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 7.8268 & 1.7765 \\ \mathbf{1} & 1 & \mathbf{7.8268} & \mathbf{1.7765} \\ 0.1278 & \mathbf{0.1278} & 1 & 0.2270 \\ 0.5629 & \mathbf{0.5629} & 4.4059 & 1 \end{pmatrix},$$

Example B.101.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/9 \\ 1/3 & 1/2 & 9 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2541, \quad CR = 0.0958$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.369687 \\ \mathbf{0.368760} \\ 0.046362 \\ 0.215191 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0025} & 7.9739 & 1.7180 \\ \mathbf{0.9975} & 1 & \mathbf{7.9539} & \mathbf{1.7136} \\ 0.1254 & \mathbf{0.1257} & 1 & 0.2154 \\ 0.5821 & \mathbf{0.5836} & 4.6415 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.369345 \\ 0.369345 \\ 0.046319 \\ 0.214991 \end{pmatrix} = 0.999073 \cdot \begin{pmatrix} 0.369687 \\ \mathbf{0.369687} \\ 0.046362 \\ 0.215191 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 7.9739 & 1.7180 \\ \mathbf{1} & 1 & \mathbf{7.9739} & \mathbf{1.7180} \\ 0.1254 & \mathbf{0.1254} & 1 & 0.2154 \\ 0.5821 & \mathbf{0.5821} & 4.6415 & 1 \end{pmatrix},$$

Example B.102.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 7 & 2 \\ 1/5 & 1/7 & 1 & 1/6 \\ 1/4 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.400168 \\ \mathbf{0.362739} \\ 0.052673 \\ 0.184419 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.1032} & 7.5971 & 2.1699 \\ \mathbf{0.9065} & 1 & \mathbf{6.8866} & \mathbf{1.9669} \\ 0.1316 & \mathbf{0.1452} & 1 & 0.2856 \\ 0.4609 & \mathbf{0.5084} & 3.5012 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.397791 \\ 0.366524 \\ 0.052361 \\ 0.183324 \end{pmatrix} = 0.994060 \cdot \begin{pmatrix} 0.400168 \\ \mathbf{0.368714} \\ 0.052673 \\ 0.184419 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0853} & 7.5971 & 2.1699 \\ \mathbf{0.9214} & 1 & \mathbf{7} & \mathbf{1.9993} \\ 0.1316 & \mathbf{1/7} & 1 & 0.2856 \\ 0.4609 & \mathbf{0.5002} & 3.5012 & 1 \end{pmatrix},$$

Example B.103.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.394242 \\ \mathbf{0.367540} \\ 0.048884 \\ 0.189334 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0727} & 8.0649 & 2.0823 \\ \mathbf{0.9323} & 1 & \mathbf{7.5186} & \mathbf{1.9412} \\ 0.1240 & \mathbf{0.1330} & 1 & 0.2582 \\ 0.4802 & \mathbf{0.5151} & 3.8731 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.389903 \\ 0.374501 \\ 0.048346 \\ 0.187250 \end{pmatrix} = 0.988993 \cdot \begin{pmatrix} 0.394242 \\ \mathbf{0.378669} \\ 0.048884 \\ 0.189334 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0411} & 8.0649 & 2.0823 \\ \mathbf{0.9605} & 1 & \mathbf{7.7463} & \mathbf{2} \\ 0.1240 & \mathbf{0.1291} & 1 & 0.2582 \\ 0.4802 & \mathbf{1/2} & 3.8731 & 1 \end{pmatrix},$$

Example B.104.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 7 & 3 \\ 1/5 & 1/7 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.412658 \\ \mathbf{0.392317} \\ 0.056350 \\ 0.138674 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0519} & 7.3231 & 2.9757 \\ \mathbf{0.9507} & 1 & \mathbf{6.9621} & \mathbf{2.8291} \\ 0.1366 & \mathbf{0.1436} & 1 & 0.4064 \\ 0.3361 & \mathbf{0.3535} & 2.4609 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.411779 \\ 0.393612 \\ 0.056230 \\ 0.138379 \end{pmatrix} = 0.997868 \cdot \begin{pmatrix} 0.412658 \\ \mathbf{0.394453} \\ 0.056350 \\ 0.138674 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0462} & 7.3231 & 2.9757 \\ \mathbf{0.9559} & 1 & \mathbf{7} & \mathbf{2.8445} \\ 0.1366 & \mathbf{1/7} & 1 & 0.4064 \\ 0.3361 & \mathbf{0.3516} & 2.4609 & 1 \end{pmatrix},$$

Example B.105.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 8 & 3 \\ 1/5 & 1/8 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.408696 \\ 0.400675 \\ 0.053931 \\ 0.136699 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0200 & 7.5782 & 2.9897 \\ 0.9804 & 1 & 7.4295 & 2.9311 \\ 0.1320 & 0.1346 & 1 & 0.3945 \\ 0.3345 & 0.3412 & 2.5347 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.405444 \\ 0.405444 \\ 0.053501 \\ 0.135611 \end{pmatrix} = 0.992043 \cdot \begin{pmatrix} 0.408696 \\ 0.408696 \\ 0.053931 \\ 0.136699 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.5782 & 2.9897 \\ 1 & 1 & 7.5782 & 2.9897 \\ 0.1320 & 0.1320 & 1 & 0.3945 \\ 0.3345 & 0.3345 & 2.5347 & 1 \end{pmatrix},$$

Example B.106.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 8 & 3 \\ 1/5 & 1/8 & 1 & 1/5 \\ 1/5 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.405885 \\ 0.396878 \\ 0.051601 \\ 0.145636 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0227 & 7.8658 & 2.7870 \\ 0.9778 & 1 & 7.6912 & 2.7251 \\ 0.1271 & 0.1300 & 1 & 0.3543 \\ 0.3588 & 0.3670 & 2.8223 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.402262 \\ 0.402262 \\ 0.051141 \\ 0.144336 \end{pmatrix} = 0.991073 \cdot \begin{pmatrix} 0.405885 \\ 0.405885 \\ 0.051601 \\ 0.145636 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.8658 & 2.7870 \\ 1 & 1 & 7.8658 & 2.7870 \\ 0.1271 & 0.1271 & 1 & 0.3543 \\ 0.3588 & 0.3588 & 2.8223 & 1 \end{pmatrix},$$

Example B.107.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 7 & 3 \\ 1/5 & 1/7 & 1 & 1/4 \\ 1/6 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.424656 \\ \mathbf{0.386557} \\ 0.056115 \\ 0.132672 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0986} & 7.5676 & 3.2008 \\ \mathbf{0.9103} & 1 & \mathbf{6.8886} & \mathbf{2.9136} \\ 0.1321 & \mathbf{0.1452} & 1 & 0.4230 \\ 0.3124 & \mathbf{0.3432} & 2.3643 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.422019 \\ 0.390367 \\ 0.055767 \\ 0.131848 \end{pmatrix} = 0.993789 \cdot \begin{pmatrix} 0.424656 \\ \mathbf{0.392806} \\ 0.056115 \\ 0.132672 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0811} & 7.5676 & 3.2008 \\ \mathbf{0.9250} & 1 & \mathbf{7} & \mathbf{2.9607} \\ 0.1321 & \mathbf{1/7} & 1 & 0.4230 \\ 0.3124 & \mathbf{0.3378} & 2.3643 & 1 \end{pmatrix},$$

Example B.108.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1793, \quad CR = 0.0676$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.429920 \\ 0.404701 \\ 0.058292 \\ 0.107087 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0623 & 7.3752 & 4.0147 \\ 0.9413 & 1 & 6.9426 & 3.7792 \\ 0.1356 & 0.1440 & 1 & 0.5443 \\ 0.2491 & 0.2646 & 1.8371 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.428486 \\ 0.406686 \\ 0.058098 \\ 0.106730 \end{pmatrix} = 0.996665 \cdot \begin{pmatrix} 0.429920 \\ 0.408047 \\ 0.058292 \\ 0.107087 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0536 & 7.3752 & 4.0147 \\ 0.9491 & 1 & 7 & 3.8104 \\ 0.1356 & 1/7 & 1 & 0.5443 \\ 0.2491 & 0.2624 & 1.8371 & 1 \end{pmatrix},$$

Example B.109.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 7 & 5 \\ 1/5 & 1/7 & 1 & 1/2 \\ 1/7 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0899, \quad CR = 0.0339$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.425744 \\ 0.423950 \\ 0.062266 \\ 0.088041 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0042 & 6.8375 & 4.8357 \\ 0.9958 & 1 & 6.8087 & 4.8154 \\ 0.1463 & 0.1469 & 1 & 0.7072 \\ 0.2068 & 0.2077 & 1.4140 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.424981 \\ 0.424981 \\ 0.062154 \\ 0.087884 \end{pmatrix} = 0.998209 \cdot \begin{pmatrix} 0.425744 \\ 0.425744 \\ 0.062266 \\ 0.088041 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 6.8375 & 4.8357 \\ 1 & 1 & 6.8375 & 4.8357 \\ 0.1463 & 0.1463 & 1 & 0.7072 \\ 0.2068 & 0.2068 & 1.4140 & 1 \end{pmatrix},$$

Example B.110.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.425629 \\ \mathbf{0.413137} \\ 0.055771 \\ 0.105463 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0302} & 7.6317 & 4.0358 \\ \mathbf{0.9706} & 1 & \mathbf{7.4077} & \mathbf{3.9174} \\ 0.1310 & \mathbf{0.1350} & 1 & 0.5288 \\ 0.2478 & \mathbf{0.2553} & 1.8910 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.421952 \\ 0.418207 \\ 0.055290 \\ 0.104552 \end{pmatrix} = 0.991361 \cdot \begin{pmatrix} 0.425629 \\ \mathbf{0.421852} \\ 0.055771 \\ 0.105463 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0090} & 7.6317 & 4.0358 \\ \mathbf{0.9911} & 1 & \mathbf{7.5639} & \mathbf{4} \\ 0.1310 & \mathbf{0.1322} & 1 & 0.5288 \\ 0.2478 & \mathbf{1/4} & 1.8910 & 1 \end{pmatrix},$$

Example B.111.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/4 \\ 1/7 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.422616 \\ 0.409150 \\ 0.052888 \\ 0.115346 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0329 & 7.9908 & 3.6639 \\ 0.9681 & 1 & 7.7362 & 3.5472 \\ 0.1251 & 0.1293 & 1 & 0.4585 \\ 0.2729 & 0.2819 & 2.1809 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.417001 \\ 0.417001 \\ 0.052185 \\ 0.113813 \end{pmatrix} = 0.986713 \cdot \begin{pmatrix} 0.422616 \\ 0.422616 \\ 0.052888 \\ 0.115346 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.9908 & 3.6639 \\ 1 & 1 & 7.9908 & 3.6639 \\ 0.1251 & 0.1251 & 1 & 0.4585 \\ 0.2729 & 0.2729 & 2.1809 & 1 \end{pmatrix},$$

Example B.112.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 9 & 4 \\ 1/5 & 1/9 & 1 & 1/4 \\ 1/7 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2594, \quad CR = 0.0978$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.419047 \\ 0.416410 \\ 0.050877 \\ 0.113666 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0063 & 8.2365 & 3.6867 \\ 0.9937 & 1 & 8.1847 & 3.6634 \\ 0.1214 & 0.1222 & 1 & 0.4476 \\ 0.2712 & 0.2730 & 2.2341 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.417945 \\ 0.417945 \\ 0.050743 \\ 0.113367 \end{pmatrix} = 0.997370 \cdot \begin{pmatrix} 0.419047 \\ 0.419047 \\ 0.050877 \\ 0.113666 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.2365 & 3.6867 \\ 1 & 1 & 8.2365 & 3.6867 \\ 0.1214 & 0.1214 & 1 & 0.4476 \\ 0.2712 & 0.2712 & 2.2341 & 1 \end{pmatrix},$$

Example B.113.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/8 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.438309 \\ 0.399953 \\ 0.058053 \\ 0.103684 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0959 & 7.5501 & 4.2273 \\ 0.9125 & 1 & 6.8894 & 3.8574 \\ 0.1324 & 0.1452 & 1 & 0.5599 \\ 0.2366 & 0.2592 & 1.7860 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.435513 \\ 0.403781 \\ 0.057683 \\ 0.103023 \end{pmatrix} = 0.993621 \cdot \begin{pmatrix} 0.438309 \\ 0.406373 \\ 0.058053 \\ 0.103684 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0786 & 7.5501 & 4.2273 \\ 0.9271 & 1 & 7 & 3.9193 \\ 0.1324 & 1/7 & 1 & 0.5599 \\ 0.2366 & 0.2551 & 1.7860 & 1 \end{pmatrix},$$

Example B.114.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 7 & 5 \\ 1/5 & 1/7 & 1 & 1/2 \\ 1/8 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1159, \quad CR = 0.0437$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.434486 \\ \mathbf{0.418708} \\ 0.061890 \\ 0.084916 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0377} & 7.0204 & 5.1166 \\ \mathbf{0.9637} & 1 & \mathbf{6.7654} & \mathbf{4.9308} \\ 0.1424 & \mathbf{0.1478} & 1 & 0.7288 \\ 0.1954 & \mathbf{0.2028} & 1.3721 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.431949 \\ 0.422103 \\ 0.061528 \\ 0.084421 \end{pmatrix} = 0.994160 \cdot \begin{pmatrix} 0.434486 \\ \mathbf{0.424582} \\ 0.061890 \\ 0.084916 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0233} & 7.0204 & 5.1166 \\ \mathbf{0.9772} & 1 & \mathbf{6.8603} & \mathbf{5} \\ 0.1424 & \mathbf{0.1458} & 1 & 0.7288 \\ 0.1954 & \mathbf{1/5} & 1.3721 & 1 \end{pmatrix},$$

Example B.115.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/8 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.434051 \\ 0.408284 \\ 0.055559 \\ 0.102107 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0631 & 7.8125 & 4.2510 \\ 0.9406 & 1 & 7.3487 & 3.9986 \\ 0.1280 & 0.1361 & 1 & 0.5441 \\ 0.2352 & 0.2501 & 1.8378 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.433989 \\ 0.408368 \\ 0.055551 \\ 0.102092 \end{pmatrix} = 0.999857 \cdot \begin{pmatrix} 0.434051 \\ 0.408427 \\ 0.055559 \\ 0.102107 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0627 & 7.8125 & 4.2510 \\ 0.9410 & 1 & 7.3513 & 4 \\ 0.1280 & 0.1360 & 1 & 0.5441 \\ 0.2352 & 1/4 & 1.8378 & 1 \end{pmatrix},$$

Example B.116.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 8 & 5 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/8 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2144, \quad CR = 0.0808$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.426916 \\ 0.423128 \\ 0.054878 \\ 0.095077 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0090 & 7.7794 & 4.4902 \\ 0.9911 & 1 & 7.7104 & 4.4504 \\ 0.1285 & 0.1297 & 1 & 0.5772 \\ 0.2227 & 0.2247 & 1.7325 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.425305 \\ 0.425305 \\ 0.054671 \\ 0.094718 \end{pmatrix} = 0.996226 \cdot \begin{pmatrix} 0.426916 \\ 0.426916 \\ 0.054878 \\ 0.095077 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.7794 & 4.4902 \\ 1 & 1 & 7.7794 & 4.4902 \\ 0.1285 & 0.1285 & 1 & 0.5772 \\ 0.2227 & 0.2227 & 1.7325 & 1 \end{pmatrix},$$

Example B.117.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/9 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2553, \quad CR = 0.0963$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.445417 \\ \mathbf{0.395838} \\ 0.057849 \\ 0.100896 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.1253} & 7.6996 & 4.4146 \\ \mathbf{0.8887} & 1 & \mathbf{6.8426} & \mathbf{3.9232} \\ 0.1299 & \mathbf{0.1461} & 1 & 0.5734 \\ 0.2265 & \mathbf{0.2549} & 1.7441 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.441994 \\ 0.400481 \\ 0.057405 \\ 0.100120 \end{pmatrix} = 0.992315 \cdot \begin{pmatrix} 0.445417 \\ \mathbf{0.403582} \\ 0.057849 \\ 0.100896 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.1037} & 7.6996 & 4.4146 \\ \mathbf{0.9061} & 1 & \mathbf{6.9764} & \mathbf{4} \\ 0.1299 & \mathbf{0.1433} & 1 & 0.5734 \\ 0.2265 & \mathbf{1/4} & 1.7441 & 1 \end{pmatrix},$$

Example B.118.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 8 & 5 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2489, \quad CR = 0.0939$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.434248 \\ 0.418586 \\ 0.054715 \\ 0.092452 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0374 & 7.9366 & 4.6970 \\ 0.9639 & 1 & 7.6503 & 4.5276 \\ 0.1260 & 0.1307 & 1 & 0.5918 \\ 0.2129 & 0.2209 & 1.6897 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427551 \\ 0.427551 \\ 0.053871 \\ 0.091026 \end{pmatrix} = 0.984579 \cdot \begin{pmatrix} 0.434248 \\ 0.434248 \\ 0.054715 \\ 0.092452 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.9366 & 4.6970 \\ 1 & 1 & 7.9366 & 4.6970 \\ 0.1260 & 0.1260 & 1 & 0.5918 \\ 0.2129 & 0.2129 & 1.6897 & 1 \end{pmatrix},$$

Example B.119.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 9 & 5 \\ 1/5 & 1/9 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2483, \quad CR = 0.0936$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.430399 \\ 0.425900 \\ 0.052632 \\ 0.091069 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0106 & 8.1775 & 4.7261 \\ 0.9895 & 1 & 8.0920 & 4.6767 \\ 0.1223 & 0.1236 & 1 & 0.5779 \\ 0.2116 & 0.2138 & 1.7303 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.428471 \\ 0.428471 \\ 0.052396 \\ 0.090661 \end{pmatrix} = 0.995521 \cdot \begin{pmatrix} 0.430399 \\ 0.430399 \\ 0.052632 \\ 0.091069 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.1775 & 4.7261 \\ 1 & 1 & 8.1775 & 4.7261 \\ 0.1223 & 0.1223 & 1 & 0.5779 \\ 0.2116 & 0.2116 & 1.7303 & 1 \end{pmatrix},$$

Example B.120.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 8 & 2 \\ 1/6 & 1/8 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.387498 \\ \mathbf{0.373693} \\ 0.047037 \\ 0.191772 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0369} & 8.2382 & 2.0206 \\ \mathbf{0.9644} & 1 & \mathbf{7.9447} & \mathbf{1.9486} \\ 0.1214 & \mathbf{0.1259} & 1 & 0.2453 \\ 0.4949 & \mathbf{0.5132} & 4.0771 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.386494 \\ 0.375316 \\ 0.046915 \\ 0.191275 \end{pmatrix} = 0.997407 \cdot \begin{pmatrix} 0.387498 \\ \mathbf{0.376292} \\ 0.047037 \\ 0.191772 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0298} & 8.2382 & 2.0206 \\ \mathbf{0.9711} & 1 & \mathbf{8} & \mathbf{1.9622} \\ 0.1214 & \mathbf{1/8} & 1 & 0.2453 \\ 0.4949 & \mathbf{0.5096} & 4.0771 & 1 \end{pmatrix},$$

Example B.121.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.381748 \\ 0.377749 \\ 0.043697 \\ 0.196806 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0106 & 8.7363 & 1.9397 \\ 0.9895 & 1 & 8.6447 & 1.9194 \\ 0.1145 & 0.1157 & 1 & 0.2220 \\ 0.5155 & 0.5210 & 4.5039 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.380228 \\ 0.380228 \\ 0.043523 \\ 0.196022 \end{pmatrix} = 0.996017 \cdot \begin{pmatrix} 0.381748 \\ 0.381748 \\ 0.043697 \\ 0.196806 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.7363 & 1.9397 \\ 1 & 1 & 8.7363 & 1.9397 \\ 0.1145 & 0.1145 & 1 & 0.2220 \\ 0.5155 & 0.5155 & 4.5039 & 1 \end{pmatrix},$$

Example B.122.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/8 \\ 1/3 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.379493 \\ 0.374844 \\ 0.042430 \\ 0.203233 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0124 & 8.9440 & 1.8673 \\ 0.9878 & 1 & 8.8344 & 1.8444 \\ 0.1118 & 0.1132 & 1 & 0.2088 \\ 0.5355 & 0.5422 & 4.7898 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.377737 \\ 0.377737 \\ 0.042234 \\ 0.202293 \end{pmatrix} = 0.995373 \cdot \begin{pmatrix} 0.379493 \\ 0.379493 \\ 0.042430 \\ 0.203233 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9440 & 1.8673 \\ 1 & 1 & 8.9440 & 1.8673 \\ 0.1118 & 0.1118 & 1 & 0.2088 \\ 0.5355 & 0.5355 & 4.7898 & 1 \end{pmatrix},$$

Example B.123.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/9 \\ 1/3 & 1/2 & 9 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.377402 \\ \mathbf{0.372180} \\ 0.041376 \\ 0.209041 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0140} & 9.1213 & 1.8054 \\ \mathbf{0.9862} & 1 & \mathbf{8.9951} & \mathbf{1.7804} \\ 0.1096 & \mathbf{0.1112} & 1 & 0.1979 \\ 0.5539 & \mathbf{0.5617} & 5.0523 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.377326 \\ 0.372307 \\ 0.041367 \\ 0.208999 \end{pmatrix} = 0.999798 \cdot \begin{pmatrix} 0.377402 \\ \mathbf{0.372383} \\ 0.041376 \\ 0.209041 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0135} & 9.1213 & 1.8054 \\ \mathbf{0.9867} & 1 & \mathbf{9} & \mathbf{1.7814} \\ 0.1096 & \mathbf{1/9} & 1 & 0.1979 \\ 0.5539 & \mathbf{0.5614} & 5.0523 & 1 \end{pmatrix},$$

Example B.124.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 8 & 3 \\ 1/6 & 1/8 & 1 & 1/4 \\ 1/4 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.404837 \\ \mathbf{0.402880} \\ 0.050429 \\ 0.141854 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0049} & 8.0278 & 2.8539 \\ \mathbf{0.9952} & 1 & \mathbf{7.9890} & \mathbf{2.8401} \\ 0.1246 & \mathbf{0.1252} & 1 & 0.3555 \\ 0.3504 & \mathbf{0.3521} & 2.8129 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.404612 \\ 0.403211 \\ 0.050401 \\ 0.141776 \end{pmatrix} = 0.999446 \cdot \begin{pmatrix} 0.404837 \\ \mathbf{0.403434} \\ 0.050429 \\ 0.141854 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0035} & 8.0278 & 2.8539 \\ \mathbf{0.9965} & 1 & \mathbf{8} & \mathbf{2.8440} \\ 0.1246 & \mathbf{1/8} & 1 & 0.3555 \\ 0.3504 & \mathbf{0.3516} & 2.8129 & 1 \end{pmatrix},$$

Example B.125.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/8 \\ 1/4 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.399939 \\ \mathbf{0.367868} \\ 0.042434 \\ 0.189759 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0872} & 9.4250 & 2.1076 \\ \mathbf{0.9198} & 1 & \mathbf{8.6692} & \mathbf{1.9386} \\ 0.1061 & \mathbf{0.1154} & 1 & 0.2236 \\ 0.4745 & \mathbf{0.5158} & 4.4719 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.395333 \\ 0.375148 \\ 0.041945 \\ 0.187574 \end{pmatrix} = 0.988483 \cdot \begin{pmatrix} 0.399939 \\ \mathbf{0.379519} \\ 0.042434 \\ 0.189759 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0538} & 9.4250 & 2.1076 \\ \mathbf{0.9489} & 1 & \mathbf{8.9438} & \mathbf{2} \\ 0.1061 & \mathbf{0.1118} & 1 & 0.2236 \\ 0.4745 & \mathbf{1/2} & 4.4719 & 1 \end{pmatrix},$$

Example B.126.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 5 \\ 1 & 1 & 8 & 3 \\ 1/6 & 1/8 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.420413 \\ 0.395802 \\ 0.050085 \\ 0.133699 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0622 & 8.3939 & 3.1445 \\ 0.9415 & 1 & 7.9026 & 2.9604 \\ 0.1191 & 0.1265 & 1 & 0.3746 \\ 0.3180 & 0.3378 & 2.6694 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.418372 \\ 0.398737 \\ 0.049842 \\ 0.133050 \end{pmatrix} = 0.995143 \cdot \begin{pmatrix} 0.420413 \\ 0.400683 \\ 0.050085 \\ 0.133699 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0492 & 8.3939 & 3.1445 \\ 0.9531 & 1 & 8 & 2.9969 \\ 0.1191 & 1/8 & 1 & 0.3746 \\ 0.3180 & 0.3337 & 2.6694 & 1 \end{pmatrix},$$

Example B.127.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 5 \\ 1 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/5 \\ 1/5 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1758, \quad CR = 0.0663$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.413811 \\ \mathbf{0.399651} \\ 0.046007 \\ 0.140532 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0354} & 8.9946 & 2.9446 \\ \mathbf{0.9658} & 1 & \mathbf{8.6868} & \mathbf{2.8439} \\ 0.1112 & \mathbf{0.1151} & 1 & 0.3274 \\ 0.3396 & \mathbf{0.3516} & 3.0546 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.408033 \\ 0.408033 \\ 0.045364 \\ 0.138569 \end{pmatrix} = 0.986038 \cdot \begin{pmatrix} 0.413811 \\ \mathbf{0.413811} \\ 0.046007 \\ 0.140532 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 8.9946 & 2.9446 \\ \mathbf{1} & 1 & \mathbf{8.9946} & \mathbf{2.9446} \\ 0.1112 & \mathbf{0.1112} & 1 & 0.3274 \\ 0.3396 & \mathbf{0.3396} & 3.0546 & 1 \end{pmatrix},$$

Example B.128.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 5 \\ 1 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/6 \\ 1/5 & 1/3 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.411200 \\ 0.396412 \\ 0.044394 \\ 0.147995 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0373 & 9.2626 & 2.7785 \\ 0.9640 & 1 & 8.9295 & 2.6785 \\ 0.1080 & 0.1120 & 1 & 0.3000 \\ 0.3599 & 0.3733 & 3.3337 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.409916 \\ 0.398296 \\ 0.044255 \\ 0.147533 \end{pmatrix} = 0.996879 \cdot \begin{pmatrix} 0.411200 \\ 0.399543 \\ 0.044394 \\ 0.147995 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0292 & 9.2626 & 2.7785 \\ 0.9717 & 1 & 9 & 2.6997 \\ 0.1080 & 1/9 & 1 & 0.3000 \\ 0.3599 & 0.3704 & 3.3337 & 1 \end{pmatrix},$$

Example B.129.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.427407 \\ \mathbf{0.413413} \\ 0.052042 \\ 0.107138 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0338} & 8.2127 & 3.9893 \\ \mathbf{0.9673} & 1 & \mathbf{7.9438} & \mathbf{3.8587} \\ 0.1218 & \mathbf{0.1259} & 1 & 0.4857 \\ 0.2507 & \mathbf{0.2592} & 2.0587 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.426160 \\ 0.415124 \\ 0.051890 \\ 0.106826 \end{pmatrix} = 0.997084 \cdot \begin{pmatrix} 0.427407 \\ \mathbf{0.416338} \\ 0.052042 \\ 0.107138 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0266} & 8.2127 & 3.9893 \\ \mathbf{0.9741} & 1 & \mathbf{8} & \mathbf{3.8860} \\ 0.1218 & \mathbf{1/8} & 1 & 0.4857 \\ 0.2507 & \mathbf{0.2573} & 2.0587 & 1 \end{pmatrix},$$

Example B.130.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/5 \\ 1/6 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.425869 \\ 0.393789 \\ 0.045849 \\ 0.134493 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0815 & 9.2884 & 3.1665 \\ 0.9247 & 1 & 8.5887 & 2.9280 \\ 0.1077 & 0.1164 & 1 & 0.3409 \\ 0.3158 & 0.3415 & 2.9334 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.421782 \\ 0.399607 \\ 0.045409 \\ 0.133202 \end{pmatrix} = 0.990403 \cdot \begin{pmatrix} 0.425869 \\ 0.403479 \\ 0.045849 \\ 0.134493 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0555 & 9.2884 & 3.1665 \\ 0.9474 & 1 & 8.8001 & 3 \\ 0.1077 & 0.1136 & 1 & 0.3409 \\ 0.3158 & 1/3 & 2.9334 & 1 \end{pmatrix},$$

Example B.131.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.423258 \\ 0.420962 \\ 0.050028 \\ 0.105752 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0055 & 8.4605 & 4.0024 \\ 0.9946 & 1 & 8.4146 & 3.9807 \\ 0.1182 & 0.1188 & 1 & 0.4731 \\ 0.2499 & 0.2512 & 2.1139 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.422395 \\ 0.422144 \\ 0.049926 \\ 0.105536 \end{pmatrix} = 0.997959 \cdot \begin{pmatrix} 0.423258 \\ 0.423007 \\ 0.050028 \\ 0.105752 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0006 & 8.4605 & 4.0024 \\ 0.9994 & 1 & 8.4554 & 4 \\ 0.1182 & 0.1183 & 1 & 0.4731 \\ 0.2499 & 1/4 & 2.1139 & 1 \end{pmatrix},$$

Example B.132.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/6 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.420471 \\ 0.417177 \\ 0.047237 \\ 0.115115 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0079 & 8.9013 & 3.6526 \\ 0.9922 & 1 & 8.8316 & 3.6240 \\ 0.1123 & 0.1132 & 1 & 0.4103 \\ 0.2738 & 0.2759 & 2.4370 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.419091 \\ 0.419091 \\ 0.047082 \\ 0.114737 \end{pmatrix} = 0.996716 \cdot \begin{pmatrix} 0.420471 \\ 0.420471 \\ 0.047237 \\ 0.115115 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9013 & 3.6526 \\ 1 & 1 & 8.9013 & 3.6526 \\ 0.1123 & 0.1123 & 1 & 0.4103 \\ 0.2738 & 0.2738 & 2.4370 & 1 \end{pmatrix},$$

Example B.133.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 7 \\ 1 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.437614 \\ \mathbf{0.407776} \\ 0.051729 \\ 0.102881 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0732} & 8.4597 & 4.2536 \\ \mathbf{0.9318} & 1 & \mathbf{7.8829} & \mathbf{3.9636} \\ 0.1182 & \mathbf{0.1269} & 1 & 0.5028 \\ 0.2351 & \mathbf{0.2523} & 1.9888 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.435981 \\ 0.409986 \\ 0.051536 \\ 0.102497 \end{pmatrix} = 0.996267 \cdot \begin{pmatrix} 0.437614 \\ \mathbf{0.411523} \\ 0.051729 \\ 0.102881 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0634} & 8.4597 & 4.2536 \\ \mathbf{0.9404} & 1 & \mathbf{7.9553} & \mathbf{4} \\ 0.1182 & \mathbf{0.1257} & 1 & 0.5028 \\ 0.2351 & \mathbf{1/4} & 1.9888 & 1 \end{pmatrix},$$

Example B.134.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 7 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/7 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.430552 \\ 0.411585 \\ 0.047056 \\ 0.110807 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0461 & 9.1497 & 3.8856 \\ 0.9559 & 1 & 8.7466 & 3.7144 \\ 0.1093 & 0.1143 & 1 & 0.4247 \\ 0.2574 & 0.2692 & 2.3548 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.425479 \\ 0.418517 \\ 0.046502 \\ 0.109502 \end{pmatrix} = 0.988218 \cdot \begin{pmatrix} 0.430552 \\ 0.423507 \\ 0.047056 \\ 0.110807 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0166 & 9.1497 & 3.8856 \\ 0.9836 & 1 & 9 & 3.8220 \\ 0.1093 & 1/9 & 1 & 0.4247 \\ 0.2574 & 0.2616 & 2.3548 & 1 \end{pmatrix},$$

Example B.135.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 8 & 6 \\ 1/6 & 1/8 & 1 & 1/2 \\ 1/8 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.435112 \\ \mathbf{0.433739} \\ 0.054304 \\ 0.076845 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0032} & 8.0125 & 5.6622 \\ \mathbf{0.9968} & 1 & \mathbf{7.9872} & \mathbf{5.6444} \\ 0.1248 & \mathbf{0.1252} & 1 & 0.7067 \\ 0.1766 & \mathbf{0.1772} & 1.4151 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.434809 \\ 0.434133 \\ 0.054267 \\ 0.076791 \end{pmatrix} = 0.999305 \cdot \begin{pmatrix} 0.435112 \\ \mathbf{0.434435} \\ 0.054304 \\ 0.076845 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0016} & 8.0125 & 5.6622 \\ \mathbf{0.9984} & 1 & \mathbf{8} & \mathbf{5.6534} \\ 0.1248 & \mathbf{1/8} & 1 & 0.7067 \\ 0.1766 & \mathbf{0.1769} & 1.4151 & 1 \end{pmatrix},$$

Example B.136.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/8 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.438946 \\ \mathbf{0.406783} \\ 0.046905 \\ 0.107366 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0791} & 9.3582 & 4.0883 \\ \mathbf{0.9267} & 1 & \mathbf{8.6724} & \mathbf{3.7888} \\ 0.1069 & \mathbf{0.1153} & 1 & 0.4369 \\ 0.2446 & \mathbf{0.2639} & 2.2890 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.432304 \\ 0.415759 \\ 0.046195 \\ 0.105741 \end{pmatrix} = 0.984868 \cdot \begin{pmatrix} 0.438946 \\ \mathbf{0.422147} \\ 0.046905 \\ 0.107366 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0398} & 9.3582 & 4.0883 \\ \mathbf{0.9617} & 1 & \mathbf{9} & \mathbf{3.9319} \\ 0.1069 & \mathbf{1/9} & 1 & 0.4369 \\ 0.2446 & \mathbf{0.2543} & 2.2890 & 1 \end{pmatrix},$$

Example B.137.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/8 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.434677 \\ 0.425244 \\ 0.048840 \\ 0.091240 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0222 & 8.9001 & 4.7641 \\ 0.9783 & 1 & 8.7069 & 4.6607 \\ 0.1124 & 0.1149 & 1 & 0.5353 \\ 0.2099 & 0.2146 & 1.8682 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.430615 \\ 0.430615 \\ 0.048383 \\ 0.090388 \end{pmatrix} = 0.990655 \cdot \begin{pmatrix} 0.434677 \\ 0.434677 \\ 0.048840 \\ 0.091240 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9001 & 4.7641 \\ 1 & 1 & 8.9001 & 4.7641 \\ 0.1124 & 0.1124 & 1 & 0.5353 \\ 0.2099 & 0.2099 & 1.8682 & 1 \end{pmatrix},$$

Example B.138.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 8 & 6 \\ 1/6 & 1/8 & 1 & 1/2 \\ 1/9 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.442808 \\ 0.428826 \\ 0.053987 \\ 0.074379 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0326 & 8.2021 & 5.9534 \\ 0.9684 & 1 & 7.9431 & 5.7654 \\ 0.1219 & 0.1259 & 1 & 0.7258 \\ 0.1680 & 0.1734 & 1.3777 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.441452 \\ 0.430575 \\ 0.053822 \\ 0.074151 \end{pmatrix} = 0.996938 \cdot \begin{pmatrix} 0.442808 \\ 0.431897 \\ 0.053987 \\ 0.074379 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0253 & 8.2021 & 5.9534 \\ 0.9754 & 1 & 8 & 5.8067 \\ 0.1219 & 1/8 & 1 & 0.7258 \\ 0.1680 & 0.1722 & 1.3777 & 1 \end{pmatrix},$$

Example B.139.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.442118 \\ 0.420618 \\ 0.048653 \\ 0.088611 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0511 & 9.0871 & 4.9894 \\ 0.9514 & 1 & 8.6452 & 4.7468 \\ 0.1100 & 0.1157 & 1 & 0.5491 \\ 0.2004 & 0.2107 & 1.8213 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.434616 \\ 0.430449 \\ 0.047828 \\ 0.087107 \end{pmatrix} = 0.983032 \cdot \begin{pmatrix} 0.442118 \\ 0.437879 \\ 0.048653 \\ 0.088611 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0097 & 9.0871 & 4.9894 \\ 0.9904 & 1 & 9 & 4.9416 \\ 0.1100 & 1/9 & 1 & 0.5491 \\ 0.2004 & 0.2024 & 1.8213 & 1 \end{pmatrix},$$

Example B.140.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 9 & 6 \\ 1/6 & 1/9 & 1 & 1/2 \\ 1/9 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.438301 \\ 0.436461 \\ 0.051876 \\ 0.073362 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0042 & 8.4491 & 5.9745 \\ 0.9958 & 1 & 8.4136 & 5.9494 \\ 0.1184 & 0.1189 & 1 & 0.7071 \\ 0.1674 & 0.1681 & 1.4142 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.437496 \\ 0.437496 \\ 0.051780 \\ 0.073227 \end{pmatrix} = 0.998164 \cdot \begin{pmatrix} 0.438301 \\ 0.438301 \\ 0.051876 \\ 0.073362 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.4491 & 5.9745 \\ 1 & 1 & 8.4491 & 5.9745 \\ 0.1184 & 0.1184 & 1 & 0.7071 \\ 0.1674 & 0.1674 & 1.4142 & 1 \end{pmatrix},$$

Example B.141.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 9 & 6 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/9 & 1/6 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.435592 \\ 0.432641 \\ 0.048137 \\ 0.083630 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0068 & 9.0491 & 5.2085 \\ 0.9932 & 1 & 8.9878 & 5.1733 \\ 0.1105 & 0.1113 & 1 & 0.5756 \\ 0.1920 & 0.1933 & 1.7374 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.435335 \\ 0.432975 \\ 0.048108 \\ 0.083581 \end{pmatrix} = 0.999411 \cdot \begin{pmatrix} 0.435592 \\ 0.433230 \\ 0.048137 \\ 0.083630 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0055 & 9.0491 & 5.2085 \\ 0.9946 & 1 & 9 & 5.1803 \\ 0.1105 & 1/9 & 1 & 0.5756 \\ 0.1920 & 0.1930 & 1.7374 & 1 \end{pmatrix},$$

Example B.142.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 4 \\ 1 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/4 \\ 1/4 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.410844 \\ \mathbf{0.405783} \\ 0.045653 \\ 0.137719 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & \mathbf{1.0125} & 8.9993 & 2.9832 \\ \mathbf{0.9877} & 1 & \mathbf{8.8884} & \mathbf{2.9465} \\ 0.1111 & \mathbf{0.1125} & 1 & 0.3315 \\ 0.3352 & \mathbf{0.3394} & 3.0166 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.408776 \\ 0.408776 \\ 0.045423 \\ 0.137026 \end{pmatrix} = 0.994965 \cdot \begin{pmatrix} 0.410844 \\ \mathbf{0.410844} \\ 0.045653 \\ 0.137719 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 8.9993 & 2.9832 \\ \mathbf{1} & 1 & \mathbf{8.9993} & \mathbf{2.9832} \\ 0.1111 & \mathbf{0.1111} & 1 & 0.3315 \\ 0.3352 & \mathbf{0.3352} & 3.0166 & 1 \end{pmatrix},$$

Example B.143.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 8 \\ 1 & 1 & 9 & 6 \\ 1/7 & 1/9 & 1 & 1/2 \\ 1/8 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.440778 \\ 0.435900 \\ 0.049048 \\ 0.074274 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.0112 & 8.9866 & 5.9345 \\ 0.9889 & 1 & 8.8871 & 5.8688 \\ 0.1113 & 0.1125 & 1 & 0.6604 \\ 0.1685 & 0.1704 & 1.5143 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.438638 \\ 0.438638 \\ 0.048810 \\ 0.073913 \end{pmatrix} = 0.995145 \cdot \begin{pmatrix} 0.440778 \\ 0.440778 \\ 0.049048 \\ 0.074274 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9866 & 5.9345 \\ 1 & 1 & 8.9866 & 5.9345 \\ 0.1113 & 0.1113 & 1 & 0.6604 \\ 0.1685 & 0.1685 & 1.5143 & 1 \end{pmatrix},$$

Example B.144.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 8 \\ 1 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/8 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.166405, \quad CR = 0.062747$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.50419133 \\ 0.33118710 \\ \mathbf{0.05487336} \\ 0.10974820 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.522376 & \mathbf{9.188271} & 4.594074 \\ 0.656868 & 1 & \mathbf{6.035480} & 3.017700 \\ \mathbf{0.108834} & \mathbf{0.165687} & 1 & \mathbf{0.499993} \\ 0.217672 & 0.331378 & \mathbf{2.000027} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.50419096 \\ 0.33118686 \\ 0.05487406 \\ 0.10974812 \end{pmatrix} = 0.999999 \cdot \begin{pmatrix} 0.50419133 \\ 0.33118710 \\ \mathbf{0.05487410} \\ 0.10974820 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.522376 & \mathbf{9.188148} & 4.594074 \\ 0.656868 & 1 & \mathbf{6.035399} & 3.017700 \\ \mathbf{0.108836} & \mathbf{0.165689} & 1 & \mathbf{1/2} \\ 0.217672 & 0.331378 & \mathbf{2} & 1 \end{pmatrix},$$

Example B.145.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 2 & 2 \\ 1/6 & 1/2 & 1 & 1/5 \\ 1/2 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.446413 \\ 0.250908 \\ 0.078049 \\ 0.224630 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7792 & 5.7196 & 1.9873 \\ 0.5621 & 1 & 3.2147 & 1.1170 \\ 0.1748 & 0.3111 & 1 & 0.3475 \\ 0.5032 & 0.8953 & 2.8781 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.447984 \\ 0.250196 \\ 0.077828 \\ 0.223992 \end{pmatrix} = 0.997161 \cdot \begin{pmatrix} 0.449260 \\ 0.250908 \\ 0.078049 \\ 0.224630 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7905 & 5.7561 & 2 \\ 0.5585 & 1 & 3.2147 & 1.1170 \\ 0.1737 & 0.3111 & 1 & 0.3475 \\ 1/2 & 0.8953 & 2.8781 & 1 \end{pmatrix},$$

Example B.146.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 5 \\ 1/2 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 1/2 \\ 1/5 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.515207 \\ 0.288037 \\ 0.090062 \\ 0.106695 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7887 & 5.7206 & 4.8288 \\ 0.5591 & 1 & 3.1982 & 2.6996 \\ 0.1748 & 0.3127 & 1 & 0.8441 \\ 0.2071 & 0.3704 & 1.1847 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.523905 \\ 0.282869 \\ 0.088446 \\ 0.104781 \end{pmatrix} = 0.982058 \cdot \begin{pmatrix} 0.533476 \\ 0.288037 \\ 0.090062 \\ 0.106695 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8521 & 5.9235 & 5 \\ 0.5399 & 1 & 3.1982 & 2.6996 \\ 0.1688 & 0.3127 & 1 & 0.8441 \\ 1/5 & 0.3704 & 1.1847 & 1 \end{pmatrix},$$

Example B.147.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 3 \\ 1/2 & 1 & 8 & 2 \\ 1/7 & 1/8 & 1 & 1/3 \\ 1/3 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.474274 \\ 0.315746 \\ 0.052838 \\ \mathbf{0.157143} \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.5021 & 8.9760 & \mathbf{3.0181} \\ 0.6657 & 1 & 5.9758 & \mathbf{2.0093} \\ 0.1114 & 0.1673 & 1 & \mathbf{0.3362} \\ \mathbf{0.3313} & \mathbf{0.4977} & \mathbf{2.9741} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.473927 \\ 0.315516 \\ 0.052799 \\ 0.157758 \end{pmatrix} = 0.999270 \cdot \begin{pmatrix} 0.474274 \\ 0.315746 \\ 0.052838 \\ \mathbf{0.157873} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5021 & 8.9760 & \mathbf{3.0041} \\ 0.6657 & 1 & 5.9758 & \mathbf{2} \\ 0.1114 & 0.1673 & 1 & \mathbf{0.3347} \\ \mathbf{0.3329} & \mathbf{1/2} & \mathbf{2.9879} & 1 \end{pmatrix},$$

Example B.148.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 2 \\ 1/2 & 1 & 3 & 2 \\ 1/8 & 1/3 & 1 & 1/7 \\ 1/2 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.452875 \\ 0.260532 \\ 0.056766 \\ 0.229827 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7383 & 7.9779 & 1.9705 \\ 0.5753 & 1 & 4.5896 & 1.1336 \\ 0.1253 & 0.2179 & 1 & 0.2470 \\ 0.5075 & 0.8821 & 4.0487 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.453560 \\ 0.260206 \\ 0.056695 \\ 0.229539 \end{pmatrix} = 0.998747 \cdot \begin{pmatrix} 0.454129 \\ 0.260532 \\ 0.056766 \\ 0.229827 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7431 & 8 & 1.9760 \\ 0.5737 & 1 & 4.5896 & 1.1336 \\ 1/8 & 0.2179 & 1 & 0.2470 \\ 0.5061 & 0.8821 & 4.0487 & 1 \end{pmatrix},$$

Example B.149.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 3 \\ 1/2 & 1 & 3 & 2 \\ 1/8 & 1/3 & 1 & 1/4 \\ 1/3 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.503620 \\ 0.256132 \\ 0.063137 \\ 0.177111 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9663 & 7.9766 & 2.8435 \\ 0.5086 & 1 & 4.0567 & 1.4462 \\ 0.1254 & 0.2465 & 1 & 0.3565 \\ 0.3517 & 0.6915 & 2.8052 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.504353 \\ 0.255754 \\ 0.063044 \\ 0.176849 \end{pmatrix} = 0.998523 \cdot \begin{pmatrix} 0.505099 \\ 0.256132 \\ 0.063137 \\ 0.177111 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9720 & 8 & 2.8519 \\ 0.5071 & 1 & 4.0567 & 1.4462 \\ 1/8 & 0.2465 & 1 & 0.3565 \\ 0.3506 & 0.6915 & 2.8052 & 1 \end{pmatrix},$$

Example B.150.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/8 & 1/3 & 1 & 1/3 \\ 1/4 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.523376 \\ 0.275059 \\ 0.066040 \\ 0.135525 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9028 & 7.9251 & 3.8618 \\ 0.5255 & 1 & 4.1650 & 2.0296 \\ 0.1262 & 0.2401 & 1 & 0.4873 \\ 0.2589 & 0.4927 & 2.0522 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.525721 \\ 0.273706 \\ 0.065715 \\ 0.134858 \end{pmatrix} = 0.995081 \cdot \begin{pmatrix} 0.528319 \\ 0.275059 \\ 0.066040 \\ 0.135525 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9207 & 8 & 3.8983 \\ 0.5206 & 1 & 4.1650 & 2.0296 \\ 1/8 & 0.2401 & 1 & 0.4873 \\ 0.2565 & 0.4927 & 2.0522 & 1 \end{pmatrix},$$

Example B.151.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 3 & 4 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/6 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.552249 \\ 0.280633 \\ 0.069265 \\ 0.097852 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9679 & 7.9729 & 5.6437 \\ 0.5082 & 1 & 4.0516 & 2.8679 \\ 0.1254 & 0.2468 & 1 & 0.7079 \\ 0.1772 & 0.3487 & 1.4127 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553087 \\ 0.280108 \\ 0.069136 \\ 0.097669 \end{pmatrix} = 0.998128 \cdot \begin{pmatrix} 0.554124 \\ 0.280633 \\ 0.069265 \\ 0.097852 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9745 & 8 & 5.6629 \\ 0.5064 & 1 & 4.0516 & 2.8679 \\ 1/8 & 0.2468 & 1 & 0.7079 \\ 0.1766 & 0.3487 & 1.4127 & 1 \end{pmatrix},$$

Example B.152.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 3 & 5 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/6 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.543984 \\ 0.294271 \\ 0.069072 \\ 0.092674 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8486 & 7.8757 & 5.8699 \\ 0.5410 & 1 & 4.2604 & 3.1753 \\ 0.1270 & 0.2347 & 1 & 0.7453 \\ 0.1704 & 0.3149 & 1.3417 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547867 \\ 0.291765 \\ 0.068483 \\ 0.091885 \end{pmatrix} = 0.991485 \cdot \begin{pmatrix} 0.552573 \\ 0.294271 \\ 0.069072 \\ 0.092674 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8778 & 8 & 5.9626 \\ 0.5325 & 1 & 4.2604 & 3.1753 \\ 1/8 & 0.2347 & 1 & 0.7453 \\ 0.1677 & 0.3149 & 1.3417 & 1 \end{pmatrix},$$

Example B.153.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 7 \\ 1/2 & 1 & 3 & 7 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/7 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.541387 \\ 0.309458 \\ 0.067890 \\ 0.081264 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7495 & 7.9745 & 6.6620 \\ 0.5716 & 1 & 4.5582 & 3.8080 \\ 0.1254 & 0.2194 & 1 & 0.8354 \\ 0.1501 & 0.2626 & 1.1970 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.542181 \\ 0.308922 \\ 0.067773 \\ 0.081124 \end{pmatrix} = 0.998269 \cdot \begin{pmatrix} 0.543121 \\ 0.309458 \\ 0.067890 \\ 0.081264 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7551 & 8 & 6.6834 \\ 0.5698 & 1 & 4.5582 & 3.8080 \\ 1/8 & 0.2194 & 1 & 0.8354 \\ 0.1496 & 0.2626 & 1.1970 & 1 \end{pmatrix},$$

Example B.154.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 7 \\ 1/2 & 1 & 3 & 8 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/7 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2536, \quad CR = 0.0956$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.535641 \\ 0.317607 \\ 0.067807 \\ 0.078945 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.6865 & 7.8994 & 6.7850 \\ 0.5929 & 1 & 4.6840 & 4.0232 \\ 0.1266 & 0.2135 & 1 & 0.8589 \\ 0.1474 & 0.2486 & 1.1642 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.538786 \\ 0.315456 \\ 0.067348 \\ 0.078410 \end{pmatrix} = 0.993227 \cdot \begin{pmatrix} 0.542460 \\ 0.317607 \\ 0.067807 \\ 0.078945 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7080 & 8 & 6.8714 \\ 0.5855 & 1 & 4.6840 & 4.0232 \\ 1/8 & 0.2135 & 1 & 0.8589 \\ 0.1455 & 0.2486 & 1.1642 & 1 \end{pmatrix},$$

Example B.155.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 3 & 2 \\ 1/9 & 1/3 & 1 & 1/8 \\ 1/2 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.456232 \\ 0.257000 \\ 0.052969 \\ 0.233799 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7752 & 8.6132 & 1.9514 \\ 0.5633 & 1 & 4.8519 & 1.0992 \\ 0.1161 & 0.2061 & 1 & 0.2266 \\ 0.5125 & 0.9097 & 4.4139 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.462343 \\ 0.254112 \\ 0.052374 \\ 0.231171 \end{pmatrix} = 0.988761 \cdot \begin{pmatrix} 0.467598 \\ 0.257000 \\ 0.052969 \\ 0.233799 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8194 & 8.8278 & 2 \\ 0.5496 & 1 & 4.8519 & 1.0992 \\ 0.1133 & 0.2061 & 1 & 0.2266 \\ 1/2 & 0.9097 & 4.4139 & 1 \end{pmatrix},$$

Example B.156.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/5 \\ 1/3 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.495590 \\ 0.277711 \\ 0.058078 \\ 0.168621 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7846 & 8.5332 & 2.9391 \\ 0.5604 & 1 & 4.7817 & 1.6470 \\ 0.1172 & 0.2091 & 1 & 0.3444 \\ 0.3402 & 0.6072 & 2.9034 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.500719 \\ 0.274887 \\ 0.057487 \\ 0.166906 \end{pmatrix} = 0.989832 \cdot \begin{pmatrix} 0.505863 \\ 0.277711 \\ 0.058078 \\ 0.168621 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8215 & 8.7101 & 3 \\ 0.5490 & 1 & 4.7817 & 1.6470 \\ 0.1148 & 0.2091 & 1 & 0.3444 \\ 1/3 & 0.6072 & 2.9034 & 1 \end{pmatrix},$$

Example B.157.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/4 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.531453 \\ 0.271785 \\ 0.063324 \\ 0.133439 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9554 & 8.3927 & 3.9828 \\ 0.5114 & 1 & 4.2920 & 2.0368 \\ 0.1192 & 0.2330 & 1 & 0.4746 \\ 0.2511 & 0.4910 & 2.1073 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.532529 \\ 0.271161 \\ 0.063178 \\ 0.133132 \end{pmatrix} = 0.997704 \cdot \begin{pmatrix} 0.533754 \\ 0.271785 \\ 0.063324 \\ 0.133439 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9639 & 8.4290 & 4 \\ 0.5092 & 1 & 4.2920 & 2.0368 \\ 0.1186 & 0.2330 & 1 & 0.4746 \\ 1/4 & 0.4910 & 2.1073 & 1 \end{pmatrix},$$

Example B.158.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/4 \\ 1/4 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.524837 \\ 0.270989 \\ 0.059651 \\ 0.144523 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9367 & 8.7984 & 3.6315 \\ 0.5163 & 1 & 4.5429 & 1.8751 \\ 0.1137 & 0.2201 & 1 & 0.4127 \\ 0.2754 & 0.5333 & 2.4228 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.530483 \\ 0.267769 \\ 0.058943 \\ 0.142805 \end{pmatrix} = 0.988117 \cdot \begin{pmatrix} 0.536863 \\ 0.270989 \\ 0.059651 \\ 0.144523 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9811 & 9 & 3.7147 \\ 0.5048 & 1 & 4.5429 & 1.8751 \\ 1/9 & 0.2201 & 1 & 0.4127 \\ 0.2692 & 0.5333 & 2.4228 & 1 \end{pmatrix},$$

Example B.159.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 1/4 \\ 1/4 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.515475 \\ 0.289040 \\ 0.059860 \\ 0.135626 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7834 & 8.6114 & 3.8007 \\ 0.5607 & 1 & 4.8286 & 2.1312 \\ 0.1161 & 0.2071 & 1 & 0.4414 \\ 0.2631 & 0.4692 & 2.2657 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.526490 \\ 0.282469 \\ 0.058499 \\ 0.132542 \end{pmatrix} = 0.977265 \cdot \begin{pmatrix} 0.538738 \\ 0.289040 \\ 0.059860 \\ 0.135626 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8639 & 9 & 3.9722 \\ 0.5365 & 1 & 4.8286 & 2.1312 \\ 1/9 & 0.2071 & 1 & 0.4414 \\ 0.2517 & 0.4692 & 2.2657 & 1 \end{pmatrix},$$

Example B.160.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/5 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.539348 \\ 0.282854 \\ 0.062203 \\ 0.115595 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9068 & 8.6708 & 4.6658 \\ 0.5244 & 1 & 4.5473 & 2.4469 \\ 0.1153 & 0.2199 & 1 & 0.5381 \\ 0.2143 & 0.4087 & 1.8584 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548592 \\ 0.277178 \\ 0.060955 \\ 0.113275 \end{pmatrix} = 0.979933 \cdot \begin{pmatrix} 0.559826 \\ 0.282854 \\ 0.062203 \\ 0.115595 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9792 & 9 & 4.8430 \\ 0.5053 & 1 & 4.5473 & 2.4469 \\ 1/9 & 0.2199 & 1 & 0.5381 \\ 0.2065 & 0.4087 & 1.8584 & 1 \end{pmatrix},$$

Example B.161.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/5 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.531040 \\ 0.296730 \\ 0.062247 \\ 0.109982 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7896 & 8.5312 & 4.8284 \\ 0.5588 & 1 & 4.7670 & 2.6980 \\ 0.1172 & 0.2098 & 1 & 0.5660 \\ 0.2071 & 0.3706 & 1.7669 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539726 \\ 0.291235 \\ 0.061094 \\ 0.107945 \end{pmatrix} = 0.981479 \cdot \begin{pmatrix} 0.549911 \\ 0.296730 \\ 0.062247 \\ 0.109982 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8532 & 8.8343 & 5 \\ 0.5396 & 1 & 4.7670 & 2.6980 \\ 0.1132 & 0.2098 & 1 & 0.5660 \\ 1/5 & 0.3706 & 1.7669 & 1 \end{pmatrix},$$

Example B.162.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/6 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.544544 \\ 0.290641 \\ 0.061358 \\ 0.103457 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8736 & 8.8748 & 5.2635 \\ 0.5337 & 1 & 4.7368 & 2.8093 \\ 0.1127 & 0.2111 & 1 & 0.5931 \\ 0.1900 & 0.3560 & 1.6861 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548016 \\ 0.288425 \\ 0.060891 \\ 0.102668 \end{pmatrix} = 0.992376 \cdot \begin{pmatrix} 0.552226 \\ 0.290641 \\ 0.061358 \\ 0.103457 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9000 & 9 & 5.3377 \\ 0.5263 & 1 & 4.7368 & 2.8093 \\ 1/9 & 0.2111 & 1 & 0.5931 \\ 0.1873 & 0.3560 & 1.6861 & 1 \end{pmatrix},$$

Example B.163.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1239, \quad CR = 0.0467$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.563299 \\ 0.285209 \\ 0.065213 \\ 0.086278 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9750 & 8.6378 & 6.5288 \\ 0.5063 & 1 & 4.3735 & 3.3057 \\ 0.1158 & 0.2287 & 1 & 0.7558 \\ 0.1532 & 0.3025 & 1.3230 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566386 \\ 0.283193 \\ 0.064752 \\ 0.085668 \end{pmatrix} = 0.992930 \cdot \begin{pmatrix} 0.570419 \\ 0.285209 \\ 0.065213 \\ 0.086278 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.7470 & 6.6114 \\ 1/2 & 1 & 4.3735 & 3.3057 \\ 0.1143 & 0.2287 & 1 & 0.7558 \\ 0.1513 & 0.3025 & 1.3230 & 1 \end{pmatrix},$$

Example B.164.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.555884 \\ 0.296331 \\ 0.065127 \\ 0.082658 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8759 & 8.5354 & 6.7251 \\ 0.5331 & 1 & 4.5500 & 3.5850 \\ 0.1172 & 0.2198 & 1 & 0.7879 \\ 0.1487 & 0.2789 & 1.2692 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.565751 \\ 0.289747 \\ 0.063680 \\ 0.080822 \end{pmatrix} = 0.977783 \cdot \begin{pmatrix} 0.578606 \\ 0.296331 \\ 0.065127 \\ 0.082658 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9526 & 8.8842 & 7 \\ 0.5121 & 1 & 4.5500 & 3.5850 \\ 0.1126 & 0.2198 & 1 & 0.7879 \\ 1/7 & 0.2789 & 1.2692 & 1 \end{pmatrix},$$

Example B.165.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 7 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.549309 \\ 0.305795 \\ 0.065061 \\ 0.079835 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7963 & 8.4430 & 6.8806 \\ 0.5567 & 1 & 4.7001 & 3.8303 \\ 0.1184 & 0.2128 & 1 & 0.8149 \\ 0.1453 & 0.2611 & 1.2271 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553566 \\ 0.302906 \\ 0.064446 \\ 0.079081 \end{pmatrix} = 0.990554 \cdot \begin{pmatrix} 0.558845 \\ 0.305795 \\ 0.065061 \\ 0.079835 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8275 & 8.5896 & 7 \\ 0.5472 & 1 & 4.7001 & 3.8303 \\ 0.1164 & 0.2128 & 1 & 0.8149 \\ 1/7 & 0.2611 & 1.2271 & 1 \end{pmatrix},$$

Example B.166.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/6 \\ 1/7 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2059, \quad CR = 0.0776$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.546842 \\ 0.270463 \\ 0.040176 \\ 0.142518 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0219 & 13.6110 & 3.8370 \\ 0.4946 & 1 & 6.7319 & 1.8977 \\ 0.0735 & 0.1485 & 1 & 0.2819 \\ 0.2606 & 0.5269 & 3.5473 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.545229 \\ 0.272615 \\ 0.040058 \\ 0.142098 \end{pmatrix} = 0.997051 \cdot \begin{pmatrix} 0.546842 \\ 0.273421 \\ 0.040176 \\ 0.142518 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 13.6110 & 3.8370 \\ 1/2 & 1 & 6.8055 & 1.9185 \\ 0.0735 & 0.1469 & 1 & 0.2819 \\ 0.2606 & 0.5212 & 3.5473 & 1 \end{pmatrix},$$

Example B.167.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/7 \\ 1/7 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2526, \quad CR = 0.0952$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.542796 \\ 0.269083 \\ 0.039015 \\ 0.149107 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0172 & 13.9125 & 3.6403 \\ 0.4957 & 1 & 6.8969 & 1.8046 \\ 0.0719 & 0.1450 & 1 & 0.2617 \\ 0.2747 & 0.5541 & 3.8218 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.541542 \\ 0.270771 \\ 0.038925 \\ 0.148762 \end{pmatrix} = 0.997690 \cdot \begin{pmatrix} 0.542796 \\ 0.271398 \\ 0.039015 \\ 0.149107 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 13.9125 & 3.6403 \\ 1/2 & 1 & 6.9562 & 1.8202 \\ 0.0719 & 0.1438 & 1 & 0.2617 \\ 0.2747 & 0.5494 & 3.8218 & 1 \end{pmatrix},$$

Example B.168.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/8 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.565343 \\ 0.291451 \\ 0.064310 \\ 0.078896 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.9398 & 8.7909 & 7.1657 \\ 0.5155 & 1 & 4.5320 & 3.6941 \\ 0.1138 & 0.2207 & 1 & 0.8151 \\ 0.1396 & 0.2707 & 1.2268 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571110 \\ 0.287584 \\ 0.063457 \\ 0.077849 \end{pmatrix} = 0.986731 \cdot \begin{pmatrix} 0.578790 \\ 0.291451 \\ 0.064310 \\ 0.078896 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9859 & 9 & 7.3361 \\ 0.5036 & 1 & 4.5320 & 3.6941 \\ 1/9 & 0.2207 & 1 & 0.8151 \\ 0.1363 & 0.2707 & 1.2268 & 1 \end{pmatrix},$$

Example B.169.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 7 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/8 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.558737 \\ 0.300825 \\ 0.064263 \\ 0.076175 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.8574 & 8.6946 & 7.3349 \\ 0.5384 & 1 & 4.6812 & 3.9491 \\ 0.1150 & 0.2136 & 1 & 0.8436 \\ 0.1363 & 0.2532 & 1.1854 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567232 \\ 0.295034 \\ 0.063026 \\ 0.074709 \end{pmatrix} = 0.980750 \cdot \begin{pmatrix} 0.578365 \\ 0.300825 \\ 0.064263 \\ 0.076175 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9226 & 9 & 7.5926 \\ 0.5201 & 1 & 4.6812 & 3.9491 \\ 1/9 & 0.2136 & 1 & 0.8436 \\ 0.1317 & 0.2532 & 1.1854 & 1 \end{pmatrix},$$

Example B.170.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 8 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/8 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.552835 \\ 0.308959 \\ 0.064227 \\ 0.073979 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 1.7893 & 8.6075 & 7.4728 \\ 0.5589 & 1 & 4.8104 & 4.1763 \\ 0.1162 & 0.2079 & 1 & 0.8682 \\ 0.1338 & 0.2394 & 1.1518 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.563831 \\ 0.301361 \\ 0.062648 \\ 0.072160 \end{pmatrix} = 0.975410 \cdot \begin{pmatrix} 0.578045 \\ 0.308959 \\ 0.064227 \\ 0.073979 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8709 & 9 & 7.8136 \\ 0.5345 & 1 & 4.8104 & 4.1763 \\ 1/9 & 0.2079 & 1 & 0.8682 \\ 0.1280 & 0.2394 & 1.1518 & 1 \end{pmatrix},$$

Example B.171.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 6 & 3 \\ 1/9 & 1/6 & 1 & 1/3 \\ 1/9 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.573644 \\ 0.281922 \\ 0.047131 \\ 0.097302 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.0348 & 12.1712 & 5.8955 \\ 0.4915 & 1 & 5.9816 & 2.8974 \\ 0.0822 & 0.1672 & 1 & 0.4844 \\ 0.1696 & 0.3451 & 2.0645 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.573148 \\ 0.282543 \\ 0.047091 \\ 0.097218 \end{pmatrix} = 0.999135 \cdot \begin{pmatrix} 0.573644 \\ 0.282788 \\ 0.047131 \\ 0.097302 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0285 & 12.1712 & 5.8955 \\ 0.4930 & 1 & 6 & 2.9063 \\ 0.0822 & 1/6 & 1 & 0.4844 \\ 0.1696 & 0.3441 & 2.0645 & 1 \end{pmatrix},$$

Example B.172.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/4 & 1 & 1 & 1/3 \\ 1/2 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.472518 \\ 0.167003 \\ 0.118609 \\ 0.241870 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.8294 & 3.9838 & 1.9536 \\ 0.3534 & 1 & 1.4080 & 0.6905 \\ 0.2510 & 0.7102 & 1 & 0.4904 \\ 0.5119 & 1.4483 & 2.0392 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.473528 \\ 0.166683 \\ 0.118382 \\ 0.241407 \end{pmatrix} = 0.998086 \cdot \begin{pmatrix} 0.474436 \\ 0.167003 \\ 0.118609 \\ 0.241870 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8409 & 4 & 1.9615 \\ 0.3520 & 1 & 1.4080 & 0.6905 \\ 1/4 & 0.7102 & 1 & 0.4904 \\ 0.5098 & 1.4483 & 2.0392 & 1 \end{pmatrix},$$

Example B.173.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/5 & 1 & 1 & 1/4 \\ 1/2 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.480787 \\ 0.163660 \\ 0.103003 \\ 0.252550 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.9377 & 4.6677 & 1.9037 \\ 0.3404 & 1 & 1.5889 & 0.6480 \\ 0.2142 & 0.6294 & 1 & 0.4079 \\ 0.5253 & 1.5431 & 2.4519 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.486026 \\ 0.162009 \\ 0.101964 \\ 0.250002 \end{pmatrix} = 0.989910 \cdot \begin{pmatrix} 0.490980 \\ 0.163660 \\ 0.103003 \\ 0.252550 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 4.7666 & 1.9441 \\ 1/3 & 1 & 1.5889 & 0.6480 \\ 0.2098 & 0.6294 & 1 & 0.4079 \\ 0.5144 & 1.5431 & 2.4519 & 1 \end{pmatrix},$$

Example B.174.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/5 & 1 & 1 & 1/5 \\ 1/2 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.473588 \\ 0.163100 \\ 0.098037 \\ 0.265274 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.9037 & 4.8307 & 1.7853 \\ 0.3444 & 1 & 1.6637 & 0.6148 \\ 0.2070 & 0.6011 & 1 & 0.3696 \\ 0.5601 & 1.6264 & 2.7058 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.481732 \\ 0.160577 \\ 0.096521 \\ 0.261170 \end{pmatrix} = 0.984530 \cdot \begin{pmatrix} 0.489301 \\ 0.163100 \\ 0.098037 \\ 0.265274 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 4.9910 & 1.8445 \\ 1/3 & 1 & 1.6637 & 0.6148 \\ 0.2004 & 0.6011 & 1 & 0.3696 \\ 0.5421 & 1.6264 & 2.7058 & 1 \end{pmatrix},$$

Example B.175.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 4 \\ 1/3 & 1 & 1 & 2 \\ 1/5 & 1 & 1 & 1/2 \\ 1/4 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.548822 \\ 0.186704 \\ 0.117588 \\ 0.146886 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.9395 & 4.6673 & 3.7364 \\ 0.3402 & 1 & 1.5878 & 1.2711 \\ 0.2143 & 0.6298 & 1 & 0.8005 \\ 0.2676 & 0.7867 & 1.2492 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553859 \\ 0.184620 \\ 0.116275 \\ 0.145246 \end{pmatrix} = 0.988835 \cdot \begin{pmatrix} 0.560113 \\ 0.186704 \\ 0.117588 \\ 0.146886 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 4.7633 & 3.8133 \\ 1/3 & 1 & 1.5878 & 1.2711 \\ 0.2099 & 0.6298 & 1 & 0.8005 \\ 0.2622 & 0.7867 & 1.2492 & 1 \end{pmatrix},$$

Example B.176.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 2 \\ 1/4 & 1 & 1 & 1 \\ 1/6 & 1 & 1 & 1/5 \\ 1/2 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.508720 \\ 0.146718 \\ 0.089203 \\ 0.255360 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.4673 & 5.7030 & 1.9922 \\ 0.2884 & 1 & 1.6448 & 0.5746 \\ 0.1753 & 0.6080 & 1 & 0.3493 \\ 0.5020 & 1.7405 & 2.8627 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.509700 \\ 0.146425 \\ 0.089025 \\ 0.254850 \end{pmatrix} = 0.998004 \cdot \begin{pmatrix} 0.510720 \\ 0.146718 \\ 0.089203 \\ 0.255360 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.4810 & 5.7254 & 2 \\ 0.2873 & 1 & 1.6448 & 0.5746 \\ 0.1747 & 0.6080 & 1 & 0.3493 \\ 1/2 & 1.7405 & 2.8627 & 1 \end{pmatrix},$$

Example B.177.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 3 \\ 1/4 & 1 & 1 & 1 \\ 1/6 & 1 & 1 & 1/3 \\ 1/3 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.562544 \\ 0.141204 \\ 0.097574 \\ 0.198678 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.9839 & 5.7653 & 2.8314 \\ 0.2510 & 1 & 1.4472 & 0.7107 \\ 0.1735 & 0.6910 & 1 & 0.4911 \\ 0.3532 & 1.4070 & 2.0362 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.563536 \\ 0.140884 \\ 0.097353 \\ 0.198228 \end{pmatrix} = 0.997734 \cdot \begin{pmatrix} 0.564816 \\ 0.141204 \\ 0.097574 \\ 0.198678 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4 & 5.7886 & 2.8429 \\ 1/4 & 1 & 1.4472 & 0.7107 \\ 0.1728 & 0.6910 & 1 & 0.4911 \\ 0.3518 & 1.4070 & 2.0362 & 1 \end{pmatrix},$$

Example B.178.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 5 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1 & 1 & 1/2 \\ 1/5 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.604451 \\ 0.161746 \\ 0.104262 \\ 0.129540 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.7370 & 5.7974 & 4.6661 \\ 0.2676 & 1 & 1.5513 & 1.2486 \\ 0.1725 & 0.6446 & 1 & 0.8049 \\ 0.2143 & 0.8009 & 1.2424 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.612633 \\ 0.158400 \\ 0.102106 \\ 0.126861 \end{pmatrix} = 0.979315 \cdot \begin{pmatrix} 0.625573 \\ 0.161746 \\ 0.104262 \\ 0.129540 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8676 & 6 & 4.8292 \\ 0.2586 & 1 & 1.5513 & 1.2486 \\ 1/6 & 0.6446 & 1 & 0.8049 \\ 0.2071 & 0.8009 & 1.2424 & 1 \end{pmatrix},$$

Example B.179.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 5 \\ 1/4 & 1 & 1 & 2 \\ 1/7 & 1 & 1 & 1/2 \\ 1/5 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.615586 \\ 0.159123 \\ 0.098674 \\ 0.126617 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 3.8686 & 6.2386 & 4.8618 \\ 0.2585 & 1 & 1.6126 & 1.2567 \\ 0.1603 & 0.6201 & 1 & 0.7793 \\ 0.2057 & 0.7957 & 1.2832 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.622197 \\ 0.156387 \\ 0.096977 \\ 0.124439 \end{pmatrix} = 0.982804 \cdot \begin{pmatrix} 0.633083 \\ 0.159123 \\ 0.098674 \\ 0.126617 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9786 & 6.4159 & 5 \\ 0.2513 & 1 & 1.6126 & 1.2567 \\ 0.1559 & 0.6201 & 1 & 0.7793 \\ 1/5 & 0.7957 & 1.2832 & 1 \end{pmatrix},$$

Example B.180.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/7 & 1 & 1 & 1/4 \\ 1/3 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.582259 \\ 0.128652 \\ 0.084139 \\ 0.204951 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.5259 & 6.9202 & 2.8410 \\ 0.2210 & 1 & 1.5290 & 0.6277 \\ 0.1445 & 0.6540 & 1 & 0.4105 \\ 0.3520 & 1.5931 & 2.4359 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.585044 \\ 0.127794 \\ 0.083578 \\ 0.203585 \end{pmatrix} = 0.993334 \cdot \begin{pmatrix} 0.588970 \\ 0.128652 \\ 0.084139 \\ 0.204951 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5780 & 7 & 2.8737 \\ 0.2184 & 1 & 1.5290 & 0.6277 \\ 1/7 & 0.6540 & 1 & 0.4105 \\ 0.3480 & 1.5931 & 2.4359 & 1 \end{pmatrix},$$

Example B.181.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 6 \\ 1/5 & 1 & 1 & 2 \\ 1/7 & 1 & 1 & 1/2 \\ 1/6 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.647371 \\ 0.143130 \\ 0.093615 \\ 0.115883 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.5229 & 6.9152 & 5.5864 \\ 0.2211 & 1 & 1.5289 & 1.2351 \\ 0.1446 & 0.6541 & 1 & 0.8078 \\ 0.1790 & 0.8096 & 1.2379 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.650148 \\ 0.142003 \\ 0.092878 \\ 0.114970 \end{pmatrix} = 0.992126 \cdot \begin{pmatrix} 0.655308 \\ 0.143130 \\ 0.093615 \\ 0.115883 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5784 & 7 & 5.6549 \\ 0.2184 & 1 & 1.5289 & 1.2351 \\ 1/7 & 0.6541 & 1 & 0.8078 \\ 0.1768 & 0.8096 & 1.2379 & 1 \end{pmatrix},$$

Example B.182.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 1 \\ 1/5 & 1 & 3 & 1 \\ 1/8 & 1/3 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.473274 \\ 0.176748 \\ \mathbf{0.058095} \\ 0.291882 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 2.6777 & \mathbf{8.1465} & 1.6215 \\ 0.3735 & 1 & \mathbf{3.0424} & 0.6055 \\ \mathbf{0.1228} & \mathbf{0.3287} & 1 & \mathbf{0.1990} \\ 0.6167 & 1.6514 & \mathbf{5.0242} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.473141 \\ 0.176698 \\ 0.058360 \\ 0.291800 \end{pmatrix} = 0.999719 \cdot \begin{pmatrix} 0.473274 \\ 0.176748 \\ \mathbf{0.058376} \\ 0.291882 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6777 & \mathbf{8.1073} & 1.6215 \\ 0.3735 & 1 & \mathbf{3.0277} & 0.6055 \\ \mathbf{0.1233} & \mathbf{0.3303} & 1 & \mathbf{1/5} \\ 0.6167 & 1.6514 & \mathbf{5} & 1 \end{pmatrix},$$

Example B.183.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/8 & 1 & 1 & 1/4 \\ 1/3 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.591780 \\ 0.126850 \\ 0.080180 \\ 0.201190 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.6652 & 7.3807 & 2.9414 \\ 0.2144 & 1 & 1.5821 & 0.6305 \\ 0.1355 & 0.6321 & 1 & 0.3985 \\ 0.3400 & 1.5860 & 2.5092 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.596537 \\ 0.125372 \\ 0.079246 \\ 0.198846 \end{pmatrix} = 0.988347 \cdot \begin{pmatrix} 0.603570 \\ 0.126850 \\ 0.080180 \\ 0.201190 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.7581 & 7.5277 & 3 \\ 0.2102 & 1 & 1.5821 & 0.6305 \\ 0.1328 & 0.6321 & 1 & 0.3985 \\ 1/3 & 1.5860 & 2.5092 & 1 \end{pmatrix},$$

Example B.184.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/8 & 1 & 1 & 1/5 \\ 1/3 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.583733 \\ 0.127005 \\ 0.076507 \\ 0.212755 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.5961 & 7.6298 & 2.7437 \\ 0.2176 & 1 & 1.6600 & 0.5970 \\ 0.1311 & 0.6024 & 1 & 0.3596 \\ 0.3645 & 1.6752 & 2.7809 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.595199 \\ 0.123507 \\ 0.074400 \\ 0.206895 \end{pmatrix} = 0.972456 \cdot \begin{pmatrix} 0.612057 \\ 0.127005 \\ 0.076507 \\ 0.212755 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8192 & 8 & 2.8768 \\ 0.2075 & 1 & 1.6600 & 0.5970 \\ 1/8 & 0.6024 & 1 & 0.3596 \\ 0.3476 & 1.6752 & 2.7809 & 1 \end{pmatrix},$$

Example B.185.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 6 \\ 1/5 & 1 & 1 & 2 \\ 1/8 & 1 & 1 & 1/2 \\ 1/6 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.656762 \\ 0.140815 \\ 0.089053 \\ 0.113371 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.6640 & 7.3750 & 5.7931 \\ 0.2144 & 1 & 1.5813 & 1.2421 \\ 0.1356 & 0.6324 & 1 & 0.7855 \\ 0.1726 & 0.8051 & 1.2731 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.664630 \\ 0.137587 \\ 0.087011 \\ 0.110772 \end{pmatrix} = 0.977076 \cdot \begin{pmatrix} 0.680223 \\ 0.140815 \\ 0.089053 \\ 0.113371 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8306 & 7.6384 & 6 \\ 0.2070 & 1 & 1.5813 & 1.2421 \\ 0.1309 & 0.6324 & 1 & 0.7855 \\ 1/6 & 0.8051 & 1.2731 & 1 \end{pmatrix},$$

Example B.186.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 7 \\ 1/5 & 1 & 1 & 2 \\ 1/8 & 1 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.667964 \\ 0.137426 \\ 0.087446 \\ 0.107163 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.8605 & 7.6386 & 6.2331 \\ 0.2057 & 1 & 1.5715 & 1.2824 \\ 0.1309 & 0.6363 & 1 & 0.8160 \\ 0.1604 & 0.7798 & 1.2255 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.674208 \\ 0.134842 \\ 0.085802 \\ 0.105148 \end{pmatrix} = 0.981196 \cdot \begin{pmatrix} 0.687129 \\ 0.137426 \\ 0.087446 \\ 0.107163 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5 & 7.8577 & 6.4120 \\ 1/5 & 1 & 1.5715 & 1.2824 \\ 0.1273 & 0.6363 & 1 & 0.8160 \\ 0.1560 & 0.7798 & 1.2255 & 1 \end{pmatrix},$$

Example B.187.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/5 \\ 1/3 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.591889 \\ 0.125495 \\ 0.073383 \\ 0.209234 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.7164 & 8.0657 & 2.8288 \\ 0.2120 & 1 & 1.7101 & 0.5998 \\ 0.1240 & 0.5847 & 1 & 0.3507 \\ 0.3535 & 1.6673 & 2.8513 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.605912 \\ 0.121182 \\ 0.070861 \\ 0.202044 \end{pmatrix} = 0.965638 \cdot \begin{pmatrix} 0.627473 \\ 0.125495 \\ 0.073383 \\ 0.209234 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5 & 8.5507 & 2.9989 \\ 1/5 & 1 & 1.7101 & 0.5998 \\ 0.1169 & 0.5847 & 1 & 0.3507 \\ 0.3335 & 1.6673 & 2.8513 & 1 \end{pmatrix},$$

Example B.188.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 6 \\ 1/5 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/6 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1683, \quad CR = 0.0634$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.664599 \\ 0.138832 \\ 0.085331 \\ 0.111238 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.7871 & 7.7885 & 5.9746 \\ 0.2089 & 1 & 1.6270 & 1.2481 \\ 0.1284 & 0.6146 & 1 & 0.7671 \\ 0.1674 & 0.8012 & 1.3036 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.665545 \\ 0.138440 \\ 0.085090 \\ 0.110924 \end{pmatrix} = 0.997179 \cdot \begin{pmatrix} 0.667428 \\ 0.138832 \\ 0.085331 \\ 0.111238 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8075 & 7.8216 & 6 \\ 0.2080 & 1 & 1.6270 & 1.2481 \\ 0.1279 & 0.6146 & 1 & 0.7671 \\ 1/6 & 0.8012 & 1.3036 & 1 \end{pmatrix},$$

Example B.189.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 7 \\ 1/5 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1669, \quad CR = 0.0629$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.675877 \\ 0.135431 \\ 0.083689 \\ 0.105003 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 4.9906 & 8.0761 & 6.4367 \\ 0.2004 & 1 & 1.6183 & 1.2898 \\ 0.1238 & 0.6179 & 1 & 0.7970 \\ 0.1554 & 0.7753 & 1.2547 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.676291 \\ 0.135258 \\ 0.083582 \\ 0.104869 \end{pmatrix} = 0.998723 \cdot \begin{pmatrix} 0.677156 \\ 0.135431 \\ 0.083689 \\ 0.105003 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5 & 8.0914 & 6.4489 \\ 1/5 & 1 & 1.6183 & 1.2898 \\ 0.1236 & 0.6179 & 1 & 0.7970 \\ 0.1551 & 0.7753 & 1.2547 & 1 \end{pmatrix},$$

Example B.190.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 8 & 4 \\ 1/6 & 1 & 1 & 1 \\ 1/8 & 1 & 1 & 1/3 \\ 1/4 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.639479 \\ 0.114086 \\ 0.080856 \\ 0.165579 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 5.6052 & 7.9088 & 3.8621 \\ 0.1784 & 1 & 1.4110 & 0.6890 \\ 0.1264 & 0.7087 & 1 & 0.4883 \\ 0.2589 & 1.4514 & 2.0478 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.642117 \\ 0.113251 \\ 0.080265 \\ 0.164367 \end{pmatrix} = 0.992682 \cdot \begin{pmatrix} 0.646851 \\ 0.114086 \\ 0.080856 \\ 0.165579 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.6699 & 8 & 3.9066 \\ 0.1764 & 1 & 1.4110 & 0.6890 \\ 1/8 & 0.7087 & 1 & 0.4883 \\ 0.2560 & 1.4514 & 2.0478 & 1 \end{pmatrix},$$

Example B.191.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 3 \\ 1/6 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/5 \\ 1/3 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.605204 \\ 0.117831 \\ 0.071364 \\ 0.205601 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 5.1362 & 8.4806 & 2.9436 \\ 0.1947 & 1 & 1.6511 & 0.5731 \\ 0.1179 & 0.6056 & 1 & 0.3471 \\ 0.3397 & 1.7449 & 2.8810 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.609731 \\ 0.116480 \\ 0.070545 \\ 0.203244 \end{pmatrix} = 0.988533 \cdot \begin{pmatrix} 0.616804 \\ 0.117831 \\ 0.071364 \\ 0.205601 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.2346 & 8.6431 & 3 \\ 0.1910 & 1 & 1.6511 & 0.5731 \\ 0.1157 & 0.6056 & 1 & 0.3471 \\ 1/3 & 1.7449 & 2.8810 & 1 \end{pmatrix},$$

Example B.192.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 4 \\ 1/6 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/3 \\ 1/4 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.647631 \\ 0.112425 \\ 0.077342 \\ 0.162603 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 5.7606 & 8.3736 & 3.9829 \\ 0.1736 & 1 & 1.4536 & 0.6914 \\ 0.1194 & 0.6879 & 1 & 0.4756 \\ 0.2511 & 1.4463 & 2.1024 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.648608 \\ 0.112113 \\ 0.077127 \\ 0.162152 \end{pmatrix} = 0.997228 \cdot \begin{pmatrix} 0.650411 \\ 0.112425 \\ 0.077342 \\ 0.162603 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.7853 & 8.4096 & 4 \\ 0.1729 & 1 & 1.4536 & 0.6914 \\ 0.1189 & 0.6879 & 1 & 0.4756 \\ 1/4 & 1.4463 & 2.1024 & 1 \end{pmatrix},$$

Example B.193.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 4 \\ 1/6 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/4 \\ 1/4 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.638607 \\ 0.112876 \\ 0.072796 \\ 0.175721 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 5.6576 & 8.7726 & 3.6342 \\ 0.1768 & 1 & 1.5506 & 0.6424 \\ 0.1140 & 0.6449 & 1 & 0.4143 \\ 0.2752 & 1.5568 & 2.4139 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.644493 \\ 0.111038 \\ 0.071610 \\ 0.172859 \end{pmatrix} = 0.983713 \cdot \begin{pmatrix} 0.655163 \\ 0.112876 \\ 0.072796 \\ 0.175721 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.8043 & 9 & 3.7284 \\ 0.1723 & 1 & 1.5506 & 0.6424 \\ 1/9 & 0.6449 & 1 & 0.4143 \\ 0.2682 & 1.5568 & 2.4139 & 1 \end{pmatrix},$$

Example B.194.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 7 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.689634 \\ 0.126543 \\ 0.081140 \\ 0.102683 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 5.4498 & 8.4994 & 6.7161 \\ 0.1835 & 1 & 1.5596 & 1.2324 \\ 0.1177 & 0.6412 & 1 & 0.7902 \\ 0.1489 & 0.8114 & 1.2655 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.698425 \\ 0.122959 \\ 0.078841 \\ 0.099775 \end{pmatrix} = 0.971675 \cdot \begin{pmatrix} 0.718784 \\ 0.126543 \\ 0.081140 \\ 0.102683 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.6801 & 8.8586 & 7 \\ 0.1761 & 1 & 1.5596 & 1.2324 \\ 0.1129 & 0.6412 & 1 & 0.7902 \\ 1/7 & 0.8114 & 1.2655 & 1 \end{pmatrix},$$

Example B.195.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 8 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/8 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.698881 \\ 0.123672 \\ 0.079763 \\ 0.097684 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 5.6511 & 8.7620 & 7.1545 \\ 0.1770 & 1 & 1.5505 & 1.2660 \\ 0.1141 & 0.6450 & 1 & 0.8165 \\ 0.1398 & 0.7899 & 1.2247 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.704491 \\ 0.121368 \\ 0.078277 \\ 0.095864 \end{pmatrix} = 0.981370 \cdot \begin{pmatrix} 0.717865 \\ 0.123672 \\ 0.079763 \\ 0.097684 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.8046 & 9 & 7.3489 \\ 0.1723 & 1 & 1.5505 & 1.2660 \\ 1/9 & 0.6450 & 1 & 0.8165 \\ 0.1361 & 0.7899 & 1.2247 & 1 \end{pmatrix},$$

Example B.196.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 9 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/9 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.706532 \\ 0.121250 \\ 0.078601 \\ 0.093618 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 5.8271 & 8.9889 & 7.5470 \\ 0.1716 & 1 & 1.5426 & 1.2952 \\ 0.1112 & 0.6483 & 1 & 0.8396 \\ 0.1325 & 0.7721 & 1.1911 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.706788 \\ 0.121144 \\ 0.078532 \\ 0.093536 \end{pmatrix} = 0.999126 \cdot \begin{pmatrix} 0.707406 \\ 0.121250 \\ 0.078601 \\ 0.093618 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.8343 & 9 & 7.5563 \\ 0.1714 & 1 & 1.5426 & 1.2952 \\ 1/9 & 0.6483 & 1 & 0.8396 \\ 0.1323 & 0.7721 & 1.1911 & 1 \end{pmatrix},$$

Example B.197.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 9 & 7 \\ 1/7 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1714, \quad CR = 0.0646$$

$$\mathbf{w}^{AMAST} = \begin{pmatrix} 0.700319 \\ 0.119756 \\ 0.079113 \\ 0.100812 \end{pmatrix}$$

$$\left[\frac{w_i^{AMAST}}{w_j^{AMAST}} \right] = \begin{pmatrix} 1 & 5.8479 & 8.8522 & 6.9467 \\ 0.1710 & 1 & 1.5137 & 1.1879 \\ 0.1130 & 0.6606 & 1 & 0.7848 \\ 0.1440 & 0.8418 & 1.2743 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.701919 \\ 0.119116 \\ 0.078690 \\ 0.100274 \end{pmatrix} = 0.994660 \cdot \begin{pmatrix} 0.705687 \\ 0.119756 \\ 0.079113 \\ 0.100812 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.8927 & 8.9200 & 7 \\ 0.1697 & 1 & 1.5137 & 1.1879 \\ 0.1121 & 0.6606 & 1 & 0.7848 \\ 1/7 & 0.8418 & 1.2743 & 1 \end{pmatrix},$$

C Inefficient cosine weight vector

Example C.1.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 2 & 1 \\ 1 & 1 & 3 & 5 \\ 1/2 & 1/3 & 1 & 1 \\ 1 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.277891 \\ 0.423016 \\ \mathbf{0.136206} \\ 0.162886 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 0.6569 & \mathbf{2.0402} & 1.7060 \\ 1.5222 & 1 & \mathbf{3.1057} & 2.5970 \\ \mathbf{0.4901} & \mathbf{0.3220} & 1 & \mathbf{0.8362} \\ 0.5862 & 0.3851 & \mathbf{1.1959} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.277132 \\ 0.421860 \\ 0.138566 \\ 0.162441 \end{pmatrix} = 0.997268 \cdot \begin{pmatrix} 0.277891 \\ 0.423016 \\ \mathbf{0.138946} \\ 0.162886 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.6569 & \mathbf{2} & 1.7060 \\ 1.5222 & 1 & \mathbf{3.0445} & 2.5970 \\ \mathbf{1/2} & \mathbf{0.3285} & 1 & \mathbf{0.8530} \\ 0.5862 & 0.3851 & \mathbf{1.1723} & 1 \end{pmatrix},$$

Example C.2.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 2 \\ 1 & 1 & 4 & 6 \\ 1/3 & 1/4 & 1 & 1 \\ 1/2 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.328166 \\ 0.447400 \\ \mathbf{0.108475} \\ 0.115960 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 0.7335 & \mathbf{3.0253} & 2.8300 \\ 1.3633 & 1 & \mathbf{4.1245} & 3.8582 \\ \mathbf{0.3305} & \mathbf{0.2425} & 1 & \mathbf{0.9355} \\ 0.3534 & 0.2592 & \mathbf{1.0690} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.327866 \\ 0.446991 \\ 0.109289 \\ 0.115854 \end{pmatrix} = 0.999087 \cdot \begin{pmatrix} 0.328166 \\ 0.447400 \\ \mathbf{0.109389} \\ 0.115960 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.7335 & \mathbf{3} & 2.8300 \\ 1.3633 & 1 & \mathbf{4.0900} & 3.8582 \\ \mathbf{1/3} & \mathbf{0.2445} & 1 & \mathbf{0.9433} \\ 0.3534 & 0.2592 & \mathbf{1.0601} & 1 \end{pmatrix},$$

Example C.3.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 2 \\ 1 & 1 & 4 & 7 \\ 1/3 & 1/4 & 1 & 1 \\ 1/2 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.326135 \\ 0.455155 \\ \mathbf{0.106807} \\ 0.111902 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 0.7165 & \mathbf{3.0535} & 2.9145 \\ 1.3956 & 1 & \mathbf{4.2615} & 4.0674 \\ \mathbf{0.3275} & \mathbf{0.2347} & 1 & \mathbf{0.9545} \\ 0.3431 & 0.2459 & \mathbf{1.0477} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.325515 \\ 0.454290 \\ 0.108505 \\ 0.111690 \end{pmatrix} = 0.998099 \cdot \begin{pmatrix} 0.326135 \\ 0.455155 \\ \mathbf{0.108712} \\ 0.111902 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.7165 & \mathbf{3} & 2.9145 \\ 1.3956 & 1 & \mathbf{4.1868} & 4.0674 \\ \mathbf{1/3} & \mathbf{0.2388} & 1 & \mathbf{0.9715} \\ 0.3431 & 0.2459 & \mathbf{1.0294} & 1 \end{pmatrix},$$

Example C.4.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 2 \\ 1 & 1 & 4 & 8 \\ 1/3 & 1/4 & 1 & 1 \\ 1/2 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.324566 \\ 0.461187 \\ \mathbf{0.105490} \\ 0.108758 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 0.7038 & \mathbf{3.0767} & 2.9843 \\ 1.4209 & 1 & \mathbf{4.3719} & 4.2405 \\ \mathbf{0.3250} & \mathbf{0.2287} & 1 & \mathbf{0.9700} \\ 0.3351 & 0.2358 & \mathbf{1.0310} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.323692 \\ 0.459946 \\ 0.107897 \\ 0.108465 \end{pmatrix} = 0.997309 \cdot \begin{pmatrix} 0.324566 \\ 0.461187 \\ \mathbf{0.108189} \\ 0.108758 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.7038 & \mathbf{3} & 2.9843 \\ 1.4209 & 1 & \mathbf{4.2628} & 4.2405 \\ \mathbf{1/3} & \mathbf{0.2346} & 1 & \mathbf{0.9948} \\ 0.3351 & 0.2358 & \mathbf{1.0053} & 1 \end{pmatrix},$$

Example C.5.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 2 \\ 1 & 1 & 4 & 9 \\ 1/3 & 1/4 & 1 & 1 \\ 1/2 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2052, \quad CR = 0.0774$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.323323 \\ 0.465999 \\ \mathbf{0.104428} \\ 0.106250 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 0.6938 & \mathbf{3.0961} & 3.0430 \\ 1.4413 & 1 & \mathbf{4.4624} & 4.3859 \\ \mathbf{0.3230} & \mathbf{0.2241} & 1 & \mathbf{0.9828} \\ 0.3286 & 0.2280 & \mathbf{1.0175} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.322735 \\ 0.465151 \\ 0.106057 \\ 0.106057 \end{pmatrix} = 0.998181 \cdot \begin{pmatrix} 0.323323 \\ 0.465999 \\ \mathbf{0.106250} \\ 0.106250 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.6938 & \mathbf{3.0430} & 3.0430 \\ 1.4413 & 1 & \mathbf{4.3859} & 4.3859 \\ \mathbf{0.3286} & \mathbf{0.2280} & 1 & \mathbf{1} \\ 0.3286 & 0.2280 & \mathbf{1} & 1 \end{pmatrix},$$

Example C.6.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 5 & 7 \\ 1/4 & 1/5 & 1 & 1 \\ 1/3 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0609, \quad CR = 0.0230$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.358827 \\ 0.460005 \\ \mathbf{0.089320} \\ 0.091848 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 0.7801 & \mathbf{4.0173} & 3.9068 \\ 1.2820 & 1 & \mathbf{5.1501} & 5.0083 \\ \mathbf{0.2489} & \mathbf{0.1942} & 1 & \mathbf{0.9725} \\ 0.2560 & 0.1997 & \mathbf{1.0283} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.358688 \\ 0.459827 \\ 0.089672 \\ 0.091812 \end{pmatrix} = 0.999613 \cdot \begin{pmatrix} 0.358827 \\ 0.460005 \\ \mathbf{0.089707} \\ 0.091848 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.7801 & \mathbf{4} & 3.9068 \\ 1.2820 & 1 & \mathbf{5.1279} & 5.0083 \\ \mathbf{1/4} & \mathbf{0.1950} & 1 & \mathbf{0.9767} \\ 0.2560 & 0.1997 & \mathbf{1.0239} & 1 \end{pmatrix},$$

Example C.7.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 5 & 8 \\ 1/4 & 1/5 & 1 & 1 \\ 1/3 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0835, \quad CR = 0.0315$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.355922 \\ 0.467308 \\ \mathbf{0.088064} \\ 0.088707 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 0.7616 & \mathbf{4.0416} & 4.0123 \\ 1.3129 & 1 & \mathbf{5.3065} & 5.2680 \\ \mathbf{0.2474} & \mathbf{0.1884} & 1 & \mathbf{0.9928} \\ 0.2492 & 0.1898 & \mathbf{1.0073} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.355693 \\ 0.467007 \\ 0.088650 \\ 0.088650 \end{pmatrix} = 0.999357 \cdot \begin{pmatrix} 0.355922 \\ 0.467308 \\ \mathbf{0.088707} \\ 0.088707 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.7616 & \mathbf{4.0123} & 4.0123 \\ 1.3129 & 1 & \mathbf{5.2680} & 5.2680 \\ \mathbf{0.2492} & \mathbf{0.1898} & 1 & \mathbf{1} \\ 0.2492 & 0.1898 & \mathbf{1} & 1 \end{pmatrix},$$

Example C.8.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 2 \\ 1 & 1 & 3 & 3 \\ 1/5 & 1/3 & 1 & 2 \\ 1/2 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.374739 \\ 0.360408 \\ 0.141045 \\ 0.123808 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0398 & 2.6569 & 3.0268 \\ 0.9618 & 1 & 2.5553 & 2.9110 \\ 0.3764 & 0.3913 & 1 & 1.1392 \\ 0.3304 & 0.3435 & 0.8778 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.370655 \\ 0.367377 \\ 0.139508 \\ 0.122459 \end{pmatrix} = 0.989103 \cdot \begin{pmatrix} 0.374739 \\ 0.371425 \\ 0.141045 \\ 0.123808 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0089 & 2.6569 & 3.0268 \\ 0.9912 & 1 & 2.6334 & 3 \\ 0.3764 & 0.3797 & 1 & 1.1392 \\ 0.3304 & 1/3 & 0.8778 & 1 \end{pmatrix},$$

Example C.9.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 6 & 8 \\ 1/5 & 1/6 & 1 & 1 \\ 1/4 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0407, \quad CR = 0.0153$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.379959 \\ 0.467614 \\ \mathbf{0.075802} \\ 0.076625 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 0.8125 & \mathbf{5.0125} & 4.9587 \\ 1.2307 & 1 & \mathbf{6.1689} & 6.1026 \\ \mathbf{0.1995} & \mathbf{0.1621} & 1 & \mathbf{0.9893} \\ 0.2017 & 0.1639 & \mathbf{1.0109} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.379887 \\ 0.467525 \\ 0.075977 \\ 0.076611 \end{pmatrix} = 0.999810 \cdot \begin{pmatrix} 0.379959 \\ 0.467614 \\ \mathbf{0.075992} \\ 0.076625 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.8125 & \mathbf{5} & 4.9587 \\ 1.2307 & 1 & \mathbf{6.1535} & 6.1026 \\ \mathbf{1/5} & \mathbf{0.1625} & 1 & \mathbf{0.9917} \\ 0.2017 & 0.1639 & \mathbf{1.0083} & 1 \end{pmatrix},$$

Example C.10.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 2 \\ 1 & 1 & 4 & 3 \\ 1/6 & 1/4 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.384188 \\ 0.382181 \\ 0.096887 \\ 0.136744 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0053 & 3.9653 & 2.8096 \\ 0.9948 & 1 & 3.9446 & 2.7949 \\ 0.2522 & 0.2535 & 1 & 0.7085 \\ 0.3559 & 0.3578 & 1.4114 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.383419 \\ 0.383419 \\ 0.096692 \\ 0.136470 \end{pmatrix} = 0.997997 \cdot \begin{pmatrix} 0.384188 \\ 0.384188 \\ 0.096887 \\ 0.136744 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 3.9653 & 2.8096 \\ 1 & 1 & 3.9653 & 2.8096 \\ 0.2522 & 0.2522 & 1 & 0.7085 \\ 0.3559 & 0.3559 & 1.4114 & 1 \end{pmatrix},$$

Example C.11.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 5 \\ 1 & 1 & 7 & 9 \\ 1/6 & 1/7 & 1 & 1 \\ 1/5 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0293, \quad CR = 0.0110$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.395513 \\ 0.472713 \\ \mathbf{0.065815} \\ 0.065958 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 0.8367 & \mathbf{6.0095} & 5.9964 \\ 1.1952 & 1 & \mathbf{7.1825} & 7.1668 \\ \mathbf{0.1664} & \mathbf{0.1392} & 1 & \mathbf{0.9978} \\ 0.1668 & 0.1395 & \mathbf{1.0022} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.395472 \\ 0.472664 \\ 0.065912 \\ 0.065952 \end{pmatrix} = 0.999896 \cdot \begin{pmatrix} 0.395513 \\ 0.472713 \\ \mathbf{0.065919} \\ 0.065958 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 0.8367 & \mathbf{6} & 5.9964 \\ 1.1952 & 1 & \mathbf{7.1711} & 7.1668 \\ \mathbf{1/6} & \mathbf{0.1394} & 1 & \mathbf{0.9994} \\ 0.1668 & 0.1395 & \mathbf{1.0006} & 1 \end{pmatrix},$$

Example C.12.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 3 \\ 1 & 1 & 4 & 5 \\ 1/7 & 1/4 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2057, \quad CR = 0.0776$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.406263 \\ 0.399032 \\ 0.106748 \\ 0.087957 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0181 & 3.8058 & 4.6189 \\ 0.9822 & 1 & 3.7381 & 4.5367 \\ 0.2628 & 0.2675 & 1 & 1.2136 \\ 0.2165 & 0.2204 & 0.8240 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.403347 \\ 0.403347 \\ 0.105981 \\ 0.087326 \end{pmatrix} = 0.992821 \cdot \begin{pmatrix} 0.406263 \\ 0.406263 \\ 0.106748 \\ 0.087957 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 3.8058 & 4.6189 \\ 1 & 1 & 3.8058 & 4.6189 \\ 0.2628 & 0.2628 & 1 & 1.2136 \\ 0.2165 & 0.2165 & 0.8240 & 1 \end{pmatrix},$$

Example C.13.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 2 \\ 1 & 1 & 5 & 3 \\ 1/8 & 1/5 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.394277 \\ 0.386061 \\ 0.085014 \\ 0.134648 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0213 & 4.6378 & 2.9282 \\ 0.9792 & 1 & 4.5411 & 2.8672 \\ 0.2156 & 0.2202 & 1 & 0.6314 \\ 0.3415 & 0.3488 & 1.5838 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.391064 \\ 0.391064 \\ 0.084321 \\ 0.133551 \end{pmatrix} = 0.991851 \cdot \begin{pmatrix} 0.394277 \\ 0.394277 \\ 0.085014 \\ 0.134648 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.6378 & 2.9282 \\ 1 & 1 & 4.6378 & 2.9282 \\ 0.2156 & 0.2156 & 1 & 0.6314 \\ 0.3415 & 0.3415 & 1.5838 & 1 \end{pmatrix},$$

Example C.14.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 3 \\ 1 & 1 & 4 & 4 \\ 1/8 & 1/4 & 1 & 2 \\ 1/3 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.417444 \\ 0.378601 \\ 0.109055 \\ 0.094899 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1026 & 3.8278 & 4.3988 \\ 0.9070 & 1 & 3.4717 & 3.9895 \\ 0.2612 & 0.2880 & 1 & 1.1492 \\ 0.2273 & 0.2507 & 0.8702 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.417029 \\ 0.379219 \\ 0.108947 \\ 0.094805 \end{pmatrix} = 0.999006 \cdot \begin{pmatrix} 0.417444 \\ 0.379596 \\ 0.109055 \\ 0.094899 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0997 & 3.8278 & 4.3988 \\ 0.9093 & 1 & 3.4808 & 4 \\ 0.2612 & 0.2873 & 1 & 1.1492 \\ 0.2273 & 1/4 & 0.8702 & 1 \end{pmatrix},$$

Example C.15.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 3 \\ 1 & 1 & 4 & 5 \\ 1/8 & 1/4 & 1 & 2 \\ 1/3 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.413488 \\ 0.394873 \\ 0.103900 \\ 0.087739 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0471 & 3.9797 & 4.7127 \\ 0.9550 & 1 & 3.8005 & 4.5005 \\ 0.2513 & 0.2631 & 1 & 1.1842 \\ 0.2122 & 0.2222 & 0.8445 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.405931 \\ 0.405931 \\ 0.102002 \\ 0.086135 \end{pmatrix} = 0.981725 \cdot \begin{pmatrix} 0.413488 \\ 0.413488 \\ 0.103900 \\ 0.087739 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 3.9797 & 4.7127 \\ 1 & 1 & 3.9797 & 4.7127 \\ 0.2513 & 0.2513 & 1 & 1.1842 \\ 0.2122 & 0.2122 & 0.8445 & 1 \end{pmatrix},$$

Example C.16.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 3 \\ 1 & 1 & 6 & 4 \\ 1/8 & 1/6 & 1 & 1 \\ 1/3 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.411604 \\ \mathbf{0.410768} \\ 0.073793 \\ 0.103836 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & \mathbf{1.0020} & 5.5778 & 3.9640 \\ \mathbf{0.9980} & 1 & \mathbf{5.5665} & \mathbf{3.9559} \\ 0.1793 & \mathbf{0.1796} & 1 & 0.7107 \\ 0.2523 & \mathbf{0.2528} & 1.4071 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.411260 \\ 0.411260 \\ 0.073731 \\ 0.103749 \end{pmatrix} = 0.999165 \cdot \begin{pmatrix} 0.411604 \\ \mathbf{0.411604} \\ 0.073793 \\ 0.103836 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 5.5778 & 3.9640 \\ \mathbf{1} & 1 & \mathbf{5.5778} & \mathbf{3.9640} \\ 0.1793 & \mathbf{0.1793} & 1 & 0.7107 \\ 0.2523 & \mathbf{0.2523} & 1.4071 & 1 \end{pmatrix},$$

Example C.17.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 4 \\ 1 & 1 & 5 & 6 \\ 1/8 & 1/5 & 1 & 2 \\ 1/4 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.422076 \\ 0.414297 \\ 0.091105 \\ 0.072523 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0188 & 4.6329 & 5.8199 \\ 0.9816 & 1 & 4.5475 & 5.7127 \\ 0.2158 & 0.2199 & 1 & 1.2562 \\ 0.1718 & 0.1750 & 0.7960 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.418818 \\ 0.418818 \\ 0.090401 \\ 0.071963 \end{pmatrix} = 0.992282 \cdot \begin{pmatrix} 0.422076 \\ 0.422076 \\ 0.091105 \\ 0.072523 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.6329 & 5.8199 \\ 1 & 1 & 4.6329 & 5.8199 \\ 0.2158 & 0.2158 & 1 & 1.2562 \\ 0.1718 & 0.1718 & 0.7960 & 1 \end{pmatrix},$$

Example C.18.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 2 \\ 1 & 1 & 5 & 3 \\ 1/9 & 1/5 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.400732 \\ 0.382128 \\ 0.082913 \\ 0.134227 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0487 & 4.8332 & 2.9855 \\ 0.9536 & 1 & 4.6088 & 2.8469 \\ 0.2069 & 0.2170 & 1 & 0.6177 \\ 0.3350 & 0.3513 & 1.6189 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.393413 \\ 0.393413 \\ 0.081399 \\ 0.131775 \end{pmatrix} = 0.981735 \cdot \begin{pmatrix} 0.400732 \\ 0.400732 \\ 0.082913 \\ 0.134227 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.8332 & 2.9855 \\ 1 & 1 & 4.8332 & 2.9855 \\ 0.2069 & 0.2069 & 1 & 0.6177 \\ 0.3350 & 0.3350 & 1.6189 & 1 \end{pmatrix},$$

Example C.19.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 2 \\ 1 & 1 & 6 & 3 \\ 1/9 & 1/6 & 1 & 1 \\ 1/2 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.394944 \\ 0.392476 \\ 0.078944 \\ 0.133635 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0063 & 5.0028 & 2.9554 \\ 0.9938 & 1 & 4.9716 & 2.9369 \\ 0.1999 & 0.2011 & 1 & 0.5907 \\ 0.3384 & 0.3405 & 1.6928 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.393972 \\ 0.393972 \\ 0.078750 \\ 0.133306 \end{pmatrix} = 0.997538 \cdot \begin{pmatrix} 0.394944 \\ 0.394944 \\ 0.078944 \\ 0.133635 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.0028 & 2.9554 \\ 1 & 1 & 5.0028 & 2.9554 \\ 0.1999 & 0.1999 & 1 & 0.5907 \\ 0.3384 & 0.3384 & 1.6928 & 1 \end{pmatrix},$$

Example C.20.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 3 \\ 1 & 1 & 6 & 4 \\ 1/9 & 1/6 & 1 & 1 \\ 1/3 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.418753 \\ 0.406318 \\ 0.071640 \\ 0.103289 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0306 & 5.8453 & 4.0542 \\ 0.9703 & 1 & 5.6717 & 3.9338 \\ 0.1711 & 0.1763 & 1 & 0.6936 \\ 0.2467 & 0.2542 & 1.4418 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.415908 \\ 0.410351 \\ 0.071153 \\ 0.102588 \end{pmatrix} = 0.993207 \cdot \begin{pmatrix} 0.418753 \\ 0.413157 \\ 0.071640 \\ 0.103289 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0135 & 5.8453 & 4.0542 \\ 0.9866 & 1 & 5.7672 & 4 \\ 0.1711 & 0.1734 & 1 & 0.6936 \\ 0.2467 & 1/4 & 1.4418 & 1 \end{pmatrix},$$

Example C.21.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 4 \\ 1 & 1 & 5 & 6 \\ 1/9 & 1/5 & 1 & 2 \\ 1/4 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.428766 \\ 0.410109 \\ 0.088826 \\ 0.072298 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0455 & 4.8270 & 5.9305 \\ 0.9565 & 1 & 4.6170 & 5.6725 \\ 0.2072 & 0.2166 & 1 & 1.2286 \\ 0.1686 & 0.1763 & 0.8139 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.420913 \\ 0.420913 \\ 0.087199 \\ 0.070974 \end{pmatrix} = 0.981685 \cdot \begin{pmatrix} 0.428766 \\ 0.428766 \\ 0.088826 \\ 0.072298 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.8270 & 5.9305 \\ 1 & 1 & 4.8270 & 5.9305 \\ 0.2072 & 0.2072 & 1 & 1.2286 \\ 0.1686 & 0.1686 & 0.8139 & 1 \end{pmatrix},$$

Example C.22.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 4 \\ 1 & 1 & 5 & 7 \\ 1/9 & 1/5 & 1 & 2 \\ 1/4 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1975, \quad CR = 0.0745$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.425071 \\ 0.420775 \\ 0.085708 \\ 0.068446 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0102 & 4.9595 & 6.2103 \\ 0.9899 & 1 & 4.9094 & 6.1475 \\ 0.2016 & 0.2037 & 1 & 1.2522 \\ 0.1610 & 0.1627 & 0.7986 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.423253 \\ 0.423253 \\ 0.085341 \\ 0.068153 \end{pmatrix} = 0.995722 \cdot \begin{pmatrix} 0.425071 \\ 0.425071 \\ 0.085708 \\ 0.068446 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.9595 & 6.2103 \\ 1 & 1 & 4.9595 & 6.2103 \\ 0.2016 & 0.2016 & 1 & 1.2522 \\ 0.1610 & 0.1610 & 0.7986 & 1 \end{pmatrix},$$

Example C.23.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 4 \\ 1 & 1 & 6 & 6 \\ 1/9 & 1/6 & 1 & 2 \\ 1/4 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.422569 \\ 0.420882 \\ 0.084578 \\ 0.071972 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0040 & 4.9962 & 5.8713 \\ 0.9960 & 1 & 4.9763 & 5.8479 \\ 0.2002 & 0.2010 & 1 & 1.1751 \\ 0.1703 & 0.1710 & 0.8510 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.421857 \\ 0.421857 \\ 0.084435 \\ 0.071851 \end{pmatrix} = 0.998316 \cdot \begin{pmatrix} 0.422569 \\ 0.422569 \\ 0.084578 \\ 0.071972 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.9962 & 5.8713 \\ 1 & 1 & 4.9962 & 5.8713 \\ 0.2002 & 0.2002 & 1 & 1.1751 \\ 0.1703 & 0.1703 & 0.8510 & 1 \end{pmatrix},$$

Example C.24.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 5 \\ 1 & 1 & 6 & 7 \\ 1/9 & 1/6 & 1 & 2 \\ 1/5 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1417, \quad CR = 0.0534$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.433298 \\ 0.425390 \\ 0.079446 \\ 0.061865 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0186 & 5.4540 & 7.0039 \\ 0.9817 & 1 & 5.3545 & 6.8761 \\ 0.1834 & 0.1868 & 1 & 1.2842 \\ 0.1428 & 0.1454 & 0.7787 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.430002 \\ 0.429762 \\ 0.078842 \\ 0.061395 \end{pmatrix} = 0.992392 \cdot \begin{pmatrix} 0.433298 \\ 0.433057 \\ 0.079446 \\ 0.061865 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0006 & 5.4540 & 7.0039 \\ 0.9994 & 1 & 5.4510 & 7 \\ 0.1834 & 0.1835 & 1 & 1.2842 \\ 0.1428 & 1/7 & 0.7787 & 1 \end{pmatrix},$$

Example C.25.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 3 \\ 1/2 & 1 & 2 & 2 \\ 1 & 1/2 & 1 & 2 \\ 1/3 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.360837 \\ 0.279636 \\ 0.239857 \\ \mathbf{0.119671} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2904 & 1.5044 & \mathbf{3.0152} \\ 0.7750 & 1 & 1.1658 & \mathbf{2.3367} \\ 0.6647 & 0.8577 & 1 & \mathbf{2.0043} \\ \mathbf{0.3316} & \mathbf{0.4280} & \mathbf{0.4989} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.360744 \\ 0.279564 \\ 0.239795 \\ 0.119898 \end{pmatrix} = 0.999742 \cdot \begin{pmatrix} 0.360837 \\ 0.279636 \\ 0.239857 \\ \mathbf{0.119928} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2904 & 1.5044 & \mathbf{3.0088} \\ 0.7750 & 1 & 1.1658 & \mathbf{2.3317} \\ 0.6647 & 0.8577 & 1 & \mathbf{2} \\ \mathbf{0.3324} & \mathbf{0.4289} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.26.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1 & 1/2 & 1 & 3 \\ 1/5 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.377008 \\ 0.305452 \\ 0.243734 \\ \mathbf{0.073806} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2343 & 1.5468 & \mathbf{5.1081} \\ 0.8102 & 1 & 1.2532 & \mathbf{4.1386} \\ 0.6465 & 0.7979 & 1 & \mathbf{3.3024} \\ \mathbf{0.1958} & \mathbf{0.2416} & \mathbf{0.3028} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.376407 \\ 0.304966 \\ 0.243346 \\ 0.075281 \end{pmatrix} = 0.998407 \cdot \begin{pmatrix} 0.377008 \\ 0.305452 \\ 0.243734 \\ \mathbf{0.075402} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2343 & 1.5468 & \mathbf{5} \\ 0.8102 & 1 & 1.2532 & \mathbf{4.0510} \\ 0.6465 & 0.7979 & 1 & \mathbf{3.2325} \\ \mathbf{1/5} & \mathbf{0.2469} & \mathbf{0.3094} & 1 \end{pmatrix},$$

Example C.27.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1 & 1/2 & 1 & 4 \\ 1/6 & 1/4 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.383895 \\ 0.297292 \\ 0.255164 \\ \mathbf{0.063649} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2913 & 1.5045 & \mathbf{6.0314} \\ 0.7744 & 1 & 1.1651 & \mathbf{4.6708} \\ 0.6647 & 0.8583 & 1 & \mathbf{4.0089} \\ \mathbf{0.1658} & \mathbf{0.2141} & \mathbf{0.2494} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.383841 \\ 0.297250 \\ 0.255127 \\ 0.063782 \end{pmatrix} = 0.999858 \cdot \begin{pmatrix} 0.383895 \\ 0.297292 \\ 0.255164 \\ \mathbf{0.063791} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2913 & 1.5045 & \mathbf{6.0180} \\ 0.7744 & 1 & 1.1651 & \mathbf{4.6604} \\ 0.6647 & 0.8583 & 1 & \mathbf{4} \\ \mathbf{0.1662} & \mathbf{0.2146} & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.28.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 6 \\ 1/2 & 1 & 2 & 5 \\ 1 & 1/2 & 1 & 4 \\ 1/6 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.378639 \\ 0.310197 \\ 0.251547 \\ \mathbf{0.059617} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2206 & 1.5052 & \mathbf{6.3512} \\ 0.8192 & 1 & 1.2332 & \mathbf{5.2032} \\ 0.6643 & 0.8109 & 1 & \mathbf{4.2194} \\ \mathbf{0.1574} & \mathbf{0.1922} & \mathbf{0.2370} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.377724 \\ 0.309447 \\ 0.250939 \\ 0.061889 \end{pmatrix} = 0.997583 \cdot \begin{pmatrix} 0.378639 \\ 0.310197 \\ 0.251547 \\ \mathbf{0.062039} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2206 & 1.5052 & \mathbf{6.1032} \\ 0.8192 & 1 & 1.2332 & \mathbf{5} \\ 0.6643 & 0.8109 & 1 & \mathbf{4.0546} \\ \mathbf{0.1638} & \mathbf{1/5} & \mathbf{0.2466} & 1 \end{pmatrix},$$

Example C.29.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 7 \\ 1/2 & 1 & 2 & 6 \\ 1 & 1/2 & 1 & 5 \\ 1/7 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.379685 \\ 0.313361 \\ 0.256876 \\ \mathbf{0.050078} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2117 & 1.4781 & \mathbf{7.5819} \\ 0.8253 & 1 & 1.2199 & \mathbf{6.2575} \\ 0.6766 & 0.8197 & 1 & \mathbf{5.1296} \\ \mathbf{0.1319} & \mathbf{0.1598} & \mathbf{0.1949} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.379193 \\ 0.312955 \\ 0.256543 \\ 0.051309 \end{pmatrix} = 0.998704 \cdot \begin{pmatrix} 0.379685 \\ 0.313361 \\ 0.256876 \\ \mathbf{0.051375} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2117 & 1.4781 & \mathbf{7.3904} \\ 0.8253 & 1 & 1.2199 & \mathbf{6.0995} \\ 0.6766 & 0.8197 & 1 & \mathbf{5} \\ \mathbf{0.1353} & \mathbf{0.1639} & \mathbf{1/5} & 1 \end{pmatrix},$$

Example C.30.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1 & 1/2 & 1 & 5 \\ 1/8 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.388617 \\ 0.309745 \\ 0.253903 \\ 0.047734 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2546 & 1.5306 & 8.1412 \\ 0.7970 & 1 & 1.2199 & 6.4889 \\ 0.6534 & 0.8197 & 1 & 5.3191 \\ 0.1228 & 0.1541 & 0.1880 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.388290 \\ 0.309485 \\ 0.253689 \\ 0.048536 \end{pmatrix} = 0.999158 \cdot \begin{pmatrix} 0.388617 \\ 0.309745 \\ 0.253903 \\ 0.048577 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2546 & 1.5306 & 8 \\ 0.7970 & 1 & 1.2199 & 6.3764 \\ 0.6534 & 0.8197 & 1 & 5.2268 \\ 1/8 & 0.1568 & 0.1913 & 1 \end{pmatrix},$$

Example C.31.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 8 \\ 1/2 & 1 & 2 & 7 \\ 1 & 1/2 & 1 & 6 \\ 1/8 & 1/7 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1681, \quad CR = 0.0634$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.380421 \\ 0.315634 \\ 0.260745 \\ \mathbf{0.043201} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2053 & 1.4590 & \mathbf{8.8059} \\ 0.8297 & 1 & 1.2105 & \mathbf{7.3063} \\ 0.6854 & 0.8261 & 1 & \mathbf{6.0357} \\ \mathbf{0.1136} & \mathbf{0.1369} & \mathbf{0.1657} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.380323 \\ 0.315553 \\ 0.260678 \\ 0.043446 \end{pmatrix} = 0.999743 \cdot \begin{pmatrix} 0.380421 \\ 0.315634 \\ 0.260745 \\ \mathbf{0.043458} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2053 & 1.4590 & \mathbf{8.7539} \\ 0.8297 & 1 & 1.2105 & \mathbf{7.2630} \\ 0.6854 & 0.8261 & 1 & \mathbf{6} \\ \mathbf{0.1142} & \mathbf{0.1377} & \mathbf{1/6} & 1 \end{pmatrix},$$

Example C.32.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 9 \\ 1/2 & 1 & 2 & 6 \\ 1 & 1/2 & 1 & 6 \\ 1/9 & 1/6 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.392235 \\ 0.303709 \\ 0.260703 \\ \mathbf{0.043353} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2915 & 1.5045 & \mathbf{9.0474} \\ 0.7743 & 1 & 1.1650 & \mathbf{7.0055} \\ 0.6647 & 0.8584 & 1 & \mathbf{6.0135} \\ \mathbf{0.1105} & \mathbf{0.1427} & \mathbf{0.1663} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.392197 \\ 0.303680 \\ 0.260677 \\ 0.043446 \end{pmatrix} = 0.999903 \cdot \begin{pmatrix} 0.392235 \\ 0.303709 \\ 0.260703 \\ \mathbf{0.043450} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2915 & 1.5045 & \mathbf{9.0272} \\ 0.7743 & 1 & 1.1650 & \mathbf{6.9898} \\ 0.6647 & 0.8584 & 1 & \mathbf{6} \\ \mathbf{0.1108} & \mathbf{0.1431} & \mathbf{1/6} & 1 \end{pmatrix},$$

Example C.33.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 9 \\ 1/2 & 1 & 2 & 7 \\ 1 & 1/2 & 1 & 6 \\ 1/9 & 1/7 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.388220 \\ 0.312412 \\ 0.257989 \\ \mathbf{0.041379} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2427 & 1.5048 & \mathbf{9.3820} \\ 0.8047 & 1 & 1.2110 & \mathbf{7.5500} \\ 0.6645 & 0.8258 & 1 & \mathbf{6.2347} \\ \mathbf{0.1066} & \mathbf{0.1325} & \mathbf{0.1604} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.387593 \\ 0.311907 \\ 0.257572 \\ 0.042929 \end{pmatrix} = 0.998384 \cdot \begin{pmatrix} 0.388220 \\ 0.312412 \\ 0.257989 \\ \mathbf{0.042998} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2427 & 1.5048 & \mathbf{9.0288} \\ 0.8047 & 1 & 1.2110 & \mathbf{7.2657} \\ 0.6645 & 0.8258 & 1 & \mathbf{6} \\ \mathbf{0.1108} & \mathbf{0.1376} & \mathbf{1/6} & 1 \end{pmatrix},$$

Example C.34.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 1 & 9 \\ 1/2 & 1 & 2 & 8 \\ 1 & 1/2 & 1 & 6 \\ 1/9 & 1/8 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.384411 \\ 0.320359 \\ 0.255424 \\ \mathbf{0.039806} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1999 & 1.5050 & \mathbf{9.6571} \\ 0.8334 & 1 & 1.2542 & \mathbf{8.0480} \\ 0.6645 & 0.7973 & 1 & \mathbf{6.4167} \\ \mathbf{0.1036} & \mathbf{0.1243} & \mathbf{0.1558} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.384319 \\ 0.320283 \\ 0.255363 \\ 0.040035 \end{pmatrix} = 0.999761 \cdot \begin{pmatrix} 0.384411 \\ 0.320359 \\ 0.255424 \\ \mathbf{0.040045} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1999 & 1.5050 & \mathbf{9.5995} \\ 0.8334 & 1 & 1.2542 & \mathbf{8} \\ 0.6645 & 0.7973 & 1 & \mathbf{6.3784} \\ \mathbf{0.1042} & \mathbf{1/8} & \mathbf{0.1568} & 1 \end{pmatrix},$$

Example C.35.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 2 & 3 \\ 1/2 & 1 & 4 & 2 \\ 1/2 & 1/4 & 1 & 1 \\ 1/3 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.409351 \\ 0.314832 \\ 0.139545 \\ \mathbf{0.136272} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3002 & 2.9335 & \mathbf{3.0039} \\ 0.7691 & 1 & 2.2561 & \mathbf{2.3103} \\ 0.3409 & 0.4432 & 1 & \mathbf{1.0240} \\ \mathbf{0.3329} & \mathbf{0.4328} & \mathbf{0.9765} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.409278 \\ 0.314776 \\ 0.139520 \\ 0.136426 \end{pmatrix} = 0.999822 \cdot \begin{pmatrix} 0.409351 \\ 0.314832 \\ 0.139545 \\ \mathbf{0.136450} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3002 & 2.9335 & \mathbf{3} \\ 0.7691 & 1 & 2.2561 & \mathbf{2.3073} \\ 0.3409 & 0.4432 & 1 & \mathbf{1.0227} \\ \mathbf{1/3} & \mathbf{0.4334} & \mathbf{0.9778} & 1 \end{pmatrix},$$

Example C.36.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 2 & 3 \\ 1/2 & 1 & 5 & 2 \\ 1/2 & 1/5 & 1 & 1 \\ 1/3 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2394, \quad CR = 0.0903$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.406241 \\ 0.326471 \\ 0.133707 \\ \mathbf{0.133581} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2443 & 3.0383 & \mathbf{3.0412} \\ 0.8036 & 1 & 2.4417 & \mathbf{2.4440} \\ 0.3291 & 0.4096 & 1 & \mathbf{1.0009} \\ \mathbf{0.3288} & \mathbf{0.4092} & \mathbf{0.9991} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.406189 \\ 0.326430 \\ 0.133690 \\ 0.133690 \end{pmatrix} = 0.999873 \cdot \begin{pmatrix} 0.406241 \\ 0.326471 \\ 0.133707 \\ \mathbf{0.133707} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2443 & 3.0383 & \mathbf{3.0383} \\ 0.8036 & 1 & 2.4417 & \mathbf{2.4417} \\ 0.3291 & 0.4096 & 1 & \mathbf{1} \\ \mathbf{0.3291} & \mathbf{0.4096} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.37.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 1/2 & 1 & 5 & 3 \\ 1/3 & 1/5 & 1 & 1 \\ 1/4 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.446032 \\ 0.338777 \\ 0.108423 \\ \mathbf{0.106768} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3166 & 4.1138 & \mathbf{4.1776} \\ 0.7595 & 1 & 3.1246 & \mathbf{3.1730} \\ 0.2431 & 0.3200 & 1 & \mathbf{1.0155} \\ \mathbf{0.2394} & \mathbf{0.3152} & \mathbf{0.9847} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.445295 \\ 0.338217 \\ 0.108244 \\ 0.108244 \end{pmatrix} = 0.998347 \cdot \begin{pmatrix} 0.446032 \\ 0.338777 \\ 0.108423 \\ \mathbf{0.108423} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3166 & 4.1138 & \mathbf{4.1138} \\ 0.7595 & 1 & 3.1246 & \mathbf{3.1246} \\ 0.2431 & 0.3200 & 1 & \mathbf{1} \\ \mathbf{0.2431} & \mathbf{0.3200} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.38.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 6 \\ 1/2 & 1 & 2 & 2 \\ 1/3 & 1/2 & 1 & 4 \\ 1/6 & 1/2 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.485340 \\ 0.242800 \\ 0.190323 \\ 0.081538 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9989 & 2.5501 & 5.9523 \\ 0.5003 & 1 & 1.2757 & 2.9778 \\ 0.3921 & 0.7839 & 1 & 2.3342 \\ 0.1680 & 0.3358 & 0.4284 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.485473 \\ 0.242737 \\ 0.190273 \\ 0.081517 \end{pmatrix} = 0.999741 \cdot \begin{pmatrix} 0.485599 \\ 0.242800 \\ 0.190323 \\ 0.081538 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 2.5515 & 5.9555 \\ 1/2 & 1 & 1.2757 & 2.9778 \\ 0.3919 & 0.7839 & 1 & 2.3342 \\ 0.1679 & 0.3358 & 0.4284 & 1 \end{pmatrix},$$

Example C.39.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 8 \\ 1/2 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.501433 \\ 0.257635 \\ 0.177754 \\ 0.063178 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9463 & 2.8209 & 7.9368 \\ 0.5138 & 1 & 1.4494 & 4.0779 \\ 0.3545 & 0.6899 & 1 & 2.8135 \\ 0.1260 & 0.2452 & 0.3554 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.503416 \\ 0.256611 \\ 0.177047 \\ 0.062927 \end{pmatrix} = 0.996024 \cdot \begin{pmatrix} 0.505425 \\ 0.257635 \\ 0.177754 \\ 0.063178 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9618 & 2.8434 & 8 \\ 0.5097 & 1 & 1.4494 & 4.0779 \\ 0.3517 & 0.6899 & 1 & 2.8135 \\ 1/8 & 0.2452 & 0.3554 & 1 \end{pmatrix},$$

Example C.40.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 9 \\ 1/2 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.503940 \\ 0.261950 \\ 0.175497 \\ 0.058612 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9238 & 2.8715 & 8.5978 \\ 0.5198 & 1 & 1.4926 & 4.4692 \\ 0.3483 & 0.6700 & 1 & 2.9942 \\ 0.1163 & 0.2238 & 0.3340 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.513648 \\ 0.256824 \\ 0.172063 \\ 0.057465 \end{pmatrix} = 0.980430 \cdot \begin{pmatrix} 0.523900 \\ 0.261950 \\ 0.175497 \\ 0.058612 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 2.9852 & 8.9384 \\ 1/2 & 1 & 1.4926 & 4.4692 \\ 0.3350 & 0.6700 & 1 & 2.9942 \\ 0.1119 & 0.2238 & 0.3340 & 1 \end{pmatrix},$$

Example C.41.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 9 \\ 1/2 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 2 \\ 1/9 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.498655 \\ 0.269997 \\ 0.174422 \\ 0.056926 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8469 & 2.8589 & 8.7597 \\ 0.5415 & 1 & 1.5480 & 4.7430 \\ 0.3498 & 0.6460 & 1 & 3.0640 \\ 0.1142 & 0.2108 & 0.3264 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.505420 \\ 0.266354 \\ 0.172068 \\ 0.056158 \end{pmatrix} = 0.986507 \cdot \begin{pmatrix} 0.512333 \\ 0.269997 \\ 0.174422 \\ 0.056926 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8976 & 2.9373 & 9 \\ 0.5270 & 1 & 1.5480 & 4.7430 \\ 0.3404 & 0.6460 & 1 & 3.0640 \\ 1/9 & 0.2108 & 0.3264 & 1 \end{pmatrix},$$

Example C.42.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 9 \\ 1/2 & 1 & 1 & 9 \\ 1/3 & 1 & 1 & 2 \\ 1/9 & 1/9 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.493865 \\ 0.277104 \\ 0.173494 \\ 0.055537 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7822 & 2.8466 & 8.8926 \\ 0.5611 & 1 & 1.5972 & 4.9895 \\ 0.3513 & 0.6261 & 1 & 3.1239 \\ 0.1125 & 0.2004 & 0.3201 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.496867 \\ 0.275460 \\ 0.172465 \\ 0.055207 \end{pmatrix} = 0.994069 \cdot \begin{pmatrix} 0.499832 \\ 0.277104 \\ 0.173494 \\ 0.055537 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8038 & 2.8810 & 9 \\ 0.5544 & 1 & 1.5972 & 4.9895 \\ 0.3471 & 0.6261 & 1 & 3.1239 \\ 1/9 & 0.2004 & 0.3201 & 1 \end{pmatrix},$$

Example C.43.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 3 \\ 1/2 & 1 & 4 & 8 \\ 1/4 & 1/4 & 1 & 1 \\ 1/3 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.426950 \\ 0.382759 \\ \mathbf{0.094033} \\ 0.096258 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1155 & \mathbf{4.5405} & 4.4355 \\ 0.8965 & 1 & \mathbf{4.0705} & 3.9764 \\ \mathbf{0.2202} & \mathbf{0.2457} & 1 & \mathbf{0.9769} \\ 0.2255 & 0.2515 & \mathbf{1.0237} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.426244 \\ 0.382126 \\ 0.095532 \\ 0.096098 \end{pmatrix} = 0.998346 \cdot \begin{pmatrix} 0.426950 \\ 0.382759 \\ \mathbf{0.095690} \\ 0.096258 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1155 & \mathbf{4.4618} & 4.4355 \\ 0.8965 & 1 & \mathbf{4} & 3.9764 \\ \mathbf{0.2241} & \mathbf{1/4} & 1 & \mathbf{0.9941} \\ 0.2255 & 0.2515 & \mathbf{1.0059} & 1 \end{pmatrix},$$

Example C.44.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 5 \\ 1/2 & 1 & 6 & 4 \\ 1/4 & 1/6 & 1 & 1 \\ 1/5 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1046, \quad CR = 0.0395$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.469601 \\ 0.353707 \\ 0.088812 \\ \textcolor{red}{0.087880} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3277 & 5.2876 & \textcolor{red}{5.3436} \\ 0.7532 & 1 & 3.9826 & \textcolor{red}{4.0249} \\ 0.1891 & 0.2511 & 1 & \textcolor{red}{1.0106} \\ \textcolor{red}{0.1871} & \textcolor{red}{0.2485} & \textcolor{red}{0.9895} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.469344 \\ 0.353513 \\ 0.088764 \\ 0.088378 \end{pmatrix} = 0.999454 \cdot \begin{pmatrix} 0.469601 \\ 0.353707 \\ 0.088812 \\ \textcolor{green}{0.088427} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3277 & 5.2876 & \textcolor{green}{5.3106} \\ 0.7532 & 1 & 3.9826 & \textcolor{blue}{4} \\ 0.1891 & 0.2511 & 1 & \textcolor{green}{1.0044} \\ \textcolor{green}{0.1883} & \textcolor{blue}{1/4} & \textcolor{green}{0.9957} & 1 \end{pmatrix},$$

Example C.45.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 6 \\ 1/2 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 2 \\ 1/6 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.514784 \\ 0.264368 \\ 0.129082 \\ 0.091766 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9472 & 3.9880 & 5.6098 \\ 0.5136 & 1 & 2.0481 & 2.8809 \\ 0.2508 & 0.4883 & 1 & 1.4066 \\ 0.1783 & 0.3471 & 0.7109 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.515533 \\ 0.263960 \\ 0.128883 \\ 0.091624 \end{pmatrix} = 0.998457 \cdot \begin{pmatrix} 0.516330 \\ 0.264368 \\ 0.129082 \\ 0.091766 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9531 & 4 & 5.6266 \\ 0.5120 & 1 & 2.0481 & 2.8809 \\ 1/4 & 0.4883 & 1 & 1.4066 \\ 0.1777 & 0.3471 & 0.7109 & 1 \end{pmatrix},$$

Example C.46.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 6 \\ 1/2 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 3 \\ 1/6 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.505929 \\ 0.261140 \\ 0.147592 \\ 0.085338 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9374 & 3.4279 & 5.9285 \\ 0.5162 & 1 & 1.7693 & 3.0601 \\ 0.2917 & 0.5652 & 1 & 1.7295 \\ 0.1687 & 0.3268 & 0.5782 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.508925 \\ 0.259557 \\ 0.146698 \\ 0.084821 \end{pmatrix} = 0.993938 \cdot \begin{pmatrix} 0.512029 \\ 0.261140 \\ 0.147592 \\ 0.085338 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9607 & 3.4692 & 6 \\ 0.5100 & 1 & 1.7693 & 3.0601 \\ 0.2883 & 0.5652 & 1 & 1.7295 \\ 1/6 & 0.3268 & 0.5782 & 1 \end{pmatrix},$$

Example C.47.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 6 \\ 1/2 & 1 & 8 & 4 \\ 1/4 & 1/8 & 1 & 1 \\ 1/6 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.475265 \\ 0.363759 \\ 0.081792 \\ \mathbf{0.079184} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3065 & 5.8107 & \mathbf{6.0020} \\ 0.7654 & 1 & 4.4474 & \mathbf{4.5938} \\ 0.1721 & 0.2249 & 1 & \mathbf{1.0329} \\ \mathbf{0.1666} & \mathbf{0.2177} & \mathbf{0.9681} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.475252 \\ 0.363749 \\ 0.081789 \\ 0.079209 \end{pmatrix} = 0.999973 \cdot \begin{pmatrix} 0.475265 \\ 0.363759 \\ 0.081792 \\ \mathbf{0.079211} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3065 & 5.8107 & \mathbf{6} \\ 0.7654 & 1 & 4.4474 & \mathbf{4.5923} \\ 0.1721 & 0.2249 & 1 & \mathbf{1.0326} \\ \mathbf{1/6} & \mathbf{0.2178} & \mathbf{0.9684} & 1 \end{pmatrix},$$

Example C.48.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 6 \\ 1/2 & 1 & 9 & 4 \\ 1/4 & 1/9 & 1 & 1 \\ 1/6 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2052, \quad CR = 0.0774$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.472334 \\ 0.369690 \\ 0.079810 \\ \mathbf{0.078167} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2776 & 5.9183 & \mathbf{6.0426} \\ 0.7827 & 1 & 4.6321 & \mathbf{4.7295} \\ 0.1690 & 0.2159 & 1 & \mathbf{1.0210} \\ \mathbf{0.1655} & \mathbf{0.2114} & \mathbf{0.9794} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.472072 \\ 0.369484 \\ 0.079765 \\ 0.078679 \end{pmatrix} = 0.999445 \cdot \begin{pmatrix} 0.472334 \\ 0.369690 \\ 0.079810 \\ \mathbf{0.078722} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2776 & 5.9183 & \mathbf{6} \\ 0.7827 & 1 & 4.6321 & \mathbf{4.6961} \\ 0.1690 & 0.2159 & 1 & \mathbf{1.0138} \\ \mathbf{1/6} & \mathbf{0.2129} & \mathbf{0.9864} & 1 \end{pmatrix},$$

Example C.49.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 7 \\ 1/2 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 3 \\ 1/7 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1964, \quad CR = 0.0741$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.517181 \\ 0.259614 \\ 0.142322 \\ 0.080884 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9921 & 3.6339 & 6.3941 \\ 0.5020 & 1 & 1.8241 & 3.2097 \\ 0.2752 & 0.5482 & 1 & 1.7596 \\ 0.1564 & 0.3116 & 0.5683 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.518167 \\ 0.259083 \\ 0.142031 \\ 0.080719 \end{pmatrix} = 0.997958 \cdot \begin{pmatrix} 0.519227 \\ 0.259614 \\ 0.142322 \\ 0.080884 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.6483 & 6.4194 \\ 1/2 & 1 & 1.8241 & 3.2097 \\ 0.2741 & 0.5482 & 1 & 1.7596 \\ 0.1558 & 0.3116 & 0.5683 & 1 \end{pmatrix},$$

Example C.50.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 3 \\ 1/2 & 1 & 4 & 6 \\ 1/5 & 1/4 & 1 & 1 \\ 1/3 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.449999 \\ 0.360879 \\ \mathbf{0.088750} \\ 0.100372 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2470 & \mathbf{5.0704} & 4.4833 \\ 0.8020 & 1 & \mathbf{4.0662} & 3.5954 \\ \mathbf{0.1972} & \mathbf{0.2459} & 1 & \mathbf{0.8842} \\ 0.2231 & 0.2781 & \mathbf{1.1309} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.449437 \\ 0.360428 \\ 0.089887 \\ 0.100247 \end{pmatrix} = 0.998752 \cdot \begin{pmatrix} 0.449999 \\ 0.360879 \\ \mathbf{0.090000} \\ 0.100372 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2470 & \mathbf{5} & 4.4833 \\ 0.8020 & 1 & \mathbf{4.0098} & 3.5954 \\ \mathbf{1/5} & \mathbf{0.2494} & 1 & \mathbf{0.8967} \\ 0.2231 & 0.2781 & \mathbf{1.1153} & 1 \end{pmatrix},$$

Example C.51.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 3 \\ 1/2 & 1 & 4 & 7 \\ 1/5 & 1/4 & 1 & 1 \\ 1/3 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2057, \quad CR = 0.0776$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.446820 \\ 0.368973 \\ \mathbf{0.087055} \\ 0.097152 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2110 & \mathbf{5.1326} & 4.5992 \\ 0.8258 & 1 & \mathbf{4.2384} & 3.7979 \\ \mathbf{0.1948} & \mathbf{0.2359} & 1 & \mathbf{0.8961} \\ 0.2174 & 0.2633 & \mathbf{1.1160} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.445791 \\ 0.368123 \\ 0.089158 \\ 0.096928 \end{pmatrix} = 0.997696 \cdot \begin{pmatrix} 0.446820 \\ 0.368973 \\ \mathbf{0.089364} \\ 0.097152 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2110 & \mathbf{5} & 4.5992 \\ 0.8258 & 1 & \mathbf{4.1289} & 3.7979 \\ \mathbf{1/5} & \mathbf{0.2422} & 1 & \mathbf{0.9198} \\ 0.2174 & 0.2633 & \mathbf{1.0871} & 1 \end{pmatrix},$$

Example C.52.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 3 \\ 1/2 & 1 & 4 & 8 \\ 1/5 & 1/4 & 1 & 1 \\ 1/3 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.444355 \\ 0.375335 \\ \mathbf{0.085684} \\ 0.094626 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1839 & \mathbf{5.1860} & 4.6959 \\ 0.8447 & 1 & \mathbf{4.3804} & 3.9665 \\ \mathbf{0.1928} & \mathbf{0.2283} & 1 & \mathbf{0.9055} \\ 0.2130 & 0.2521 & \mathbf{1.1044} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.442943 \\ 0.374143 \\ 0.088589 \\ 0.094325 \end{pmatrix} = 0.996823 \cdot \begin{pmatrix} 0.444355 \\ 0.375335 \\ \mathbf{0.088871} \\ 0.094626 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1839 & \mathbf{5} & 4.6959 \\ 0.8447 & 1 & \mathbf{4.2234} & 3.9665 \\ \mathbf{1/5} & \mathbf{0.2368} & 1 & \mathbf{0.9392} \\ 0.2130 & 0.2521 & \mathbf{1.0648} & 1 \end{pmatrix},$$

Example C.53.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 6 \\ 1/2 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 2 \\ 1/6 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.522799 \\ 0.273953 \\ 0.112884 \\ 0.090364 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9084 & 4.6313 & 5.7855 \\ 0.5240 & 1 & 2.4268 & 3.0316 \\ 0.2159 & 0.4121 & 1 & 1.2492 \\ 0.1728 & 0.3299 & 0.8005 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.531874 \\ 0.268743 \\ 0.110738 \\ 0.088646 \end{pmatrix} = 0.980983 \cdot \begin{pmatrix} 0.542185 \\ 0.273953 \\ 0.112884 \\ 0.090364 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9791 & 4.8030 & 6 \\ 0.5053 & 1 & 2.4268 & 3.0316 \\ 0.2082 & 0.4121 & 1 & 1.2492 \\ 1/6 & 0.3299 & 0.8005 & 1 \end{pmatrix},$$

Example C.54.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 7 \\ 1/2 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 2 \\ 1/7 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.533559 \\ 0.272039 \\ 0.108844 \\ 0.085558 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9613 & 4.9021 & 6.2363 \\ 0.5099 & 1 & 2.4994 & 3.1796 \\ 0.2040 & 0.4001 & 1 & 1.2722 \\ 0.1604 & 0.3145 & 0.7861 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.538415 \\ 0.269207 \\ 0.107711 \\ 0.084667 \end{pmatrix} = 0.989590 \cdot \begin{pmatrix} 0.544079 \\ 0.272039 \\ 0.108844 \\ 0.085558 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 4.9987 & 6.3592 \\ 1/2 & 1 & 2.4994 & 3.1796 \\ 0.2001 & 0.4001 & 1 & 1.2722 \\ 0.1573 & 0.3145 & 0.7861 & 1 \end{pmatrix},$$

Example C.55.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 7 \\ 1/2 & 1 & 8 & 5 \\ 1/5 & 1/8 & 1 & 1 \\ 1/7 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1159, \quad CR = 0.0437$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.493086 \\ 0.365997 \\ 0.071780 \\ \mathbf{0.069137} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3472 & 6.8694 & \mathbf{7.1320} \\ 0.7423 & 1 & 5.0989 & \mathbf{5.2938} \\ 0.1456 & 0.1961 & 1 & \mathbf{1.0382} \\ \mathbf{0.1402} & \mathbf{0.1889} & \mathbf{0.9632} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.492444 \\ 0.365521 \\ 0.071686 \\ 0.070349 \end{pmatrix} = 0.998698 \cdot \begin{pmatrix} 0.493086 \\ 0.365997 \\ 0.071780 \\ \mathbf{0.070441} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3472 & 6.8694 & \mathbf{7} \\ 0.7423 & 1 & 5.0989 & \mathbf{5.1958} \\ 0.1456 & 0.1961 & 1 & \mathbf{1.0190} \\ \mathbf{1/7} & \mathbf{0.1925} & \mathbf{0.9813} & 1 \end{pmatrix},$$

Example C.56.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 7 \\ 1/2 & 1 & 9 & 5 \\ 1/5 & 1/9 & 1 & 1 \\ 1/7 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1429, \quad CR = 0.0539$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.489275 \\ 0.372683 \\ 0.069853 \\ \mathbf{0.068188} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3128 & 7.0043 & \mathbf{7.1754} \\ 0.7617 & 1 & 5.3352 & \mathbf{5.4655} \\ 0.1428 & 0.1874 & 1 & \mathbf{1.0244} \\ \mathbf{0.1394} & \mathbf{0.1830} & \mathbf{0.9762} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.488462 \\ 0.372063 \\ 0.069737 \\ 0.069737 \end{pmatrix} = 0.998337 \cdot \begin{pmatrix} 0.489275 \\ 0.372683 \\ 0.069853 \\ \mathbf{0.069853} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3128 & 7.0043 & \mathbf{7.0043} \\ 0.7617 & 1 & 5.3352 & \mathbf{5.3352} \\ 0.1428 & 0.1874 & 1 & \mathbf{1} \\ \mathbf{0.1428} & \mathbf{0.1874} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.57.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 3 \\ 1/2 & 1 & 5 & 8 \\ 1/6 & 1/5 & 1 & 1 \\ 1/3 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.449795 \\ 0.383656 \\ \mathbf{0.074718} \\ 0.091831 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1724 & \mathbf{6.0199} & 4.8981 \\ 0.8530 & 1 & \mathbf{5.1347} & 4.1779 \\ \mathbf{0.1661} & \mathbf{0.1948} & 1 & \mathbf{0.8136} \\ 0.2042 & 0.2394 & \mathbf{1.2290} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.449683 \\ 0.383561 \\ 0.074947 \\ 0.091808 \end{pmatrix} = 0.999752 \cdot \begin{pmatrix} 0.449795 \\ 0.383656 \\ \mathbf{0.074966} \\ 0.091831 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1724 & \mathbf{6} & 4.8981 \\ 0.8530 & 1 & \mathbf{5.1178} & 4.1779 \\ \mathbf{1/6} & \mathbf{0.1954} & 1 & \mathbf{0.8163} \\ 0.2042 & 0.2394 & \mathbf{1.2250} & 1 \end{pmatrix},$$

Example C.58.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 4 \\ 1/2 & 1 & 5 & 8 \\ 1/6 & 1/5 & 1 & 1 \\ 1/4 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.467048 \\ 0.378274 \\ \mathbf{0.074282} \\ 0.080395 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2347 & \mathbf{6.2875} & 5.8094 \\ 0.8099 & 1 & \mathbf{5.0924} & 4.7052 \\ \mathbf{0.1590} & \mathbf{0.1964} & 1 & \mathbf{0.9240} \\ 0.1721 & 0.2125 & \mathbf{1.0823} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.466408 \\ 0.377756 \\ 0.075551 \\ 0.080285 \end{pmatrix} = 0.998629 \cdot \begin{pmatrix} 0.467048 \\ 0.378274 \\ \mathbf{0.075655} \\ 0.080395 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2347 & \mathbf{6.1734} & 5.8094 \\ 0.8099 & 1 & \mathbf{5} & 4.7052 \\ \mathbf{0.1620} & \mathbf{1/5} & 1 & \mathbf{0.9410} \\ 0.1721 & 0.2125 & \mathbf{1.0627} & 1 \end{pmatrix},$$

Example C.59.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 4 \\ 1/2 & 1 & 5 & 9 \\ 1/6 & 1/5 & 1 & 1 \\ 1/4 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.464054 \\ 0.384321 \\ 0.073227 \\ 0.078397 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2075 & 6.3372 & 5.9193 \\ 0.8282 & 1 & 5.2483 & 4.9022 \\ 0.1578 & 0.1905 & 1 & 0.9341 \\ 0.1689 & 0.2040 & 1.0706 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.462373 \\ 0.382929 \\ 0.076586 \\ 0.078113 \end{pmatrix} = 0.996376 \cdot \begin{pmatrix} 0.464054 \\ 0.384321 \\ 0.076864 \\ 0.078397 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2075 & 6.0373 & 5.9193 \\ 0.8282 & 1 & 5 & 4.9022 \\ 0.1656 & 1/5 & 1 & 0.9804 \\ 0.1689 & 0.2040 & 1.0199 & 1 \end{pmatrix},$$

Example C.60.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 5 \\ 1/2 & 1 & 2 & 3 \\ 1/6 & 1/2 & 1 & 2 \\ 1/5 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0662, \quad CR = 0.0250$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.531987 \\ 0.254397 \\ 0.128344 \\ 0.085272 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0912 & 4.1450 & 6.2387 \\ 0.4782 & 1 & 1.9822 & 2.9833 \\ 0.2413 & 0.5045 & 1 & 1.5051 \\ 0.1603 & 0.3352 & 0.6644 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.531233 \\ 0.255454 \\ 0.128162 \\ 0.085151 \end{pmatrix} = 0.998582 \cdot \begin{pmatrix} 0.531987 \\ 0.255817 \\ 0.128344 \\ 0.085272 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0796 & 4.1450 & 6.2387 \\ 0.4809 & 1 & 1.9932 & 3 \\ 0.2413 & 0.5017 & 1 & 1.5051 \\ 0.1603 & 1/3 & 0.6644 & 1 \end{pmatrix},$$

Example C.61.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/6 & 1/2 & 1 & 3 \\ 1/6 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.532190 \\ 0.261615 \\ 0.139171 \\ 0.067024 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0342 & 3.8240 & 7.9403 \\ 0.4916 & 1 & 1.8798 & 3.9033 \\ 0.2615 & 0.5320 & 1 & 2.0764 \\ 0.1259 & 0.2562 & 0.4816 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.529817 \\ 0.264908 \\ 0.138550 \\ 0.066725 \end{pmatrix} = 0.995540 \cdot \begin{pmatrix} 0.532190 \\ 0.266095 \\ 0.139171 \\ 0.067024 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.8240 & 7.9403 \\ 1/2 & 1 & 1.9120 & 3.9702 \\ 0.2615 & 0.5230 & 1 & 2.0764 \\ 0.1259 & 0.2519 & 0.4816 & 1 \end{pmatrix},$$

Example C.62.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 6 \\ 1/2 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 2 \\ 1/6 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.528117 \\ 0.280279 \\ 0.102171 \\ 0.089432 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8843 & 5.1689 & 5.9052 \\ 0.5307 & 1 & 2.7432 & 3.1340 \\ 0.1935 & 0.3645 & 1 & 1.1425 \\ 0.1693 & 0.3191 & 0.8753 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.532082 \\ 0.277924 \\ 0.101313 \\ 0.088680 \end{pmatrix} = 0.991597 \cdot \begin{pmatrix} 0.536591 \\ 0.280279 \\ 0.102171 \\ 0.089432 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9145 & 5.2519 & 6 \\ 0.5223 & 1 & 2.7432 & 3.1340 \\ 0.1904 & 0.3645 & 1 & 1.1425 \\ 1/6 & 0.3191 & 0.8753 & 1 \end{pmatrix},$$

Example C.63.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 5 \\ 1/7 & 1/5 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1868, \quad CR = 0.0704$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.526013 \\ 0.262059 \\ 0.158522 \\ 0.053406 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0072 & 3.3182 & 9.8494 \\ 0.4982 & 1 & 1.6531 & 4.9069 \\ 0.3014 & 0.6049 & 1 & 2.9683 \\ 0.1015 & 0.2038 & 0.3369 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.525515 \\ 0.262758 \\ 0.158372 \\ 0.053355 \end{pmatrix} = 0.999053 \cdot \begin{pmatrix} 0.526013 \\ 0.263007 \\ 0.158522 \\ 0.053406 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.3182 & 9.8494 \\ 1/2 & 1 & 1.6591 & 4.9247 \\ 0.3014 & 0.6027 & 1 & 2.9683 \\ 0.1015 & 0.2031 & 0.3369 & 1 \end{pmatrix},$$

Example C.64.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 6 \\ 1/7 & 1/5 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2439, \quad CR = 0.0920$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.520631 \\ 0.258178 \\ 0.169371 \\ 0.051820 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0166 & 3.0739 & 10.0469 \\ 0.4959 & 1 & 1.5243 & 4.9822 \\ 0.3253 & 0.6560 & 1 & 3.2684 \\ 0.0995 & 0.2007 & 0.3060 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.520151 \\ 0.258862 \\ 0.169215 \\ 0.051772 \end{pmatrix} = 0.999079 \cdot \begin{pmatrix} 0.520631 \\ 0.259100 \\ 0.169371 \\ 0.051820 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0094 & 3.0739 & 10.0469 \\ 0.4977 & 1 & 1.5298 & 5 \\ 0.3253 & 0.6537 & 1 & 3.2684 \\ 0.0995 & 1/5 & 0.3060 & 1 \end{pmatrix},$$

Example C.65.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 7 \\ 1/2 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 2 \\ 1/7 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.539080 \\ 0.278433 \\ 0.097940 \\ 0.084547 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9361 & 5.5042 & 6.3761 \\ 0.5165 & 1 & 2.8429 & 3.2932 \\ 0.1817 & 0.3518 & 1 & 1.1584 \\ 0.1568 & 0.3037 & 0.8632 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547134 \\ 0.273567 \\ 0.096229 \\ 0.083069 \end{pmatrix} = 0.982525 \cdot \begin{pmatrix} 0.556865 \\ 0.278433 \\ 0.097940 \\ 0.084547 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.6858 & 6.5865 \\ 1/2 & 1 & 2.8429 & 3.2932 \\ 0.1759 & 0.3518 & 1 & 1.1584 \\ 0.1518 & 0.3037 & 0.8632 & 1 \end{pmatrix},$$

Example C.66.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 8 \\ 1/2 & 1 & 1 & 3 \\ 1/6 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.566852 \\ 0.213990 \\ 0.149369 \\ \mathbf{0.069789} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6490 & 3.7950 & \mathbf{8.1224} \\ 0.3775 & 1 & 1.4326 & \mathbf{3.0662} \\ 0.2635 & 0.6980 & 1 & \mathbf{2.1403} \\ \mathbf{0.1231} & \mathbf{0.3261} & \mathbf{0.4672} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566248 \\ 0.213761 \\ 0.149210 \\ 0.070781 \end{pmatrix} = 0.998934 \cdot \begin{pmatrix} 0.566852 \\ 0.213990 \\ 0.149369 \\ \mathbf{0.070857} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6490 & 3.7950 & \mathbf{8} \\ 0.3775 & 1 & 1.4326 & \mathbf{3.0200} \\ 0.2635 & 0.6980 & 1 & \mathbf{2.1081} \\ \mathbf{1/8} & \mathbf{0.3311} & \mathbf{0.4744} & 1 \end{pmatrix},$$

Example C.67.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 8 \\ 1/2 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.547804 \\ 0.276988 \\ 0.094489 \\ 0.080719 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9777 & 5.7975 & 6.7866 \\ 0.5056 & 1 & 2.9314 & 3.4315 \\ 0.1725 & 0.3411 & 1 & 1.1706 \\ 0.1473 & 0.2914 & 0.8543 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.550578 \\ 0.275289 \\ 0.093910 \\ 0.080224 \end{pmatrix} = 0.993867 \cdot \begin{pmatrix} 0.553975 \\ 0.276988 \\ 0.094489 \\ 0.080719 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.8628 & 6.8630 \\ 1/2 & 1 & 2.9314 & 3.4315 \\ 0.1706 & 0.3411 & 1 & 1.1706 \\ 0.1457 & 0.2914 & 0.8543 & 1 \end{pmatrix},$$

Example C.68.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 8 \\ 1/2 & 1 & 9 & 6 \\ 1/6 & 1/9 & 1 & 1 \\ 1/8 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.503766 \\ 0.372965 \\ 0.062597 \\ \mathbf{0.060672} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3507 & 8.0478 & \mathbf{8.3031} \\ 0.7404 & 1 & 5.9582 & \mathbf{6.1472} \\ 0.1243 & 0.1678 & 1 & \mathbf{1.0317} \\ \mathbf{0.1204} & \mathbf{0.1627} & \mathbf{0.9693} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.503017 \\ 0.372411 \\ 0.062504 \\ 0.062068 \end{pmatrix} = 0.998513 \cdot \begin{pmatrix} 0.503766 \\ 0.372965 \\ 0.062597 \\ \mathbf{0.062161} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3507 & 8.0478 & \mathbf{8.1042} \\ 0.7404 & 1 & 5.9582 & \mathbf{6} \\ 0.1243 & 0.1678 & 1 & \mathbf{1.0070} \\ \mathbf{0.1234} & \mathbf{1/6} & \mathbf{0.9930} & 1 \end{pmatrix},$$

Example C.69.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 3 \\ 1/2 & 1 & 2 & 2 \\ 1/7 & 1/2 & 1 & 2 \\ 1/3 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.501795 \\ 0.238087 \\ 0.140624 \\ 0.119494 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1076 & 3.5683 & 4.1993 \\ 0.4745 & 1 & 1.6931 & 1.9925 \\ 0.2802 & 0.5906 & 1 & 1.1768 \\ 0.2381 & 0.5019 & 0.8497 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.501344 \\ 0.238773 \\ 0.140497 \\ 0.119386 \end{pmatrix} = 0.999101 \cdot \begin{pmatrix} 0.501795 \\ 0.238988 \\ 0.140624 \\ 0.119494 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0997 & 3.5683 & 4.1993 \\ 0.4763 & 1 & 1.6995 & 2 \\ 0.2802 & 0.5884 & 1 & 1.1768 \\ 0.2381 & 1/2 & 0.8497 & 1 \end{pmatrix},$$

Example C.70.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 4 \\ 1/2 & 1 & 2 & 3 \\ 1/7 & 1/2 & 1 & 3 \\ 1/4 & 1/3 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.511903 \\ 0.250633 \\ 0.149823 \\ 0.087640 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0424 & 3.4167 & 5.8410 \\ 0.4896 & 1 & 1.6729 & 2.8598 \\ 0.2927 & 0.5978 & 1 & 1.7095 \\ 0.1712 & 0.3497 & 0.5850 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.509195 \\ 0.254598 \\ 0.149031 \\ 0.087177 \end{pmatrix} = 0.994710 \cdot \begin{pmatrix} 0.511903 \\ 0.255952 \\ 0.149823 \\ 0.087640 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.4167 & 5.8410 \\ 1/2 & 1 & 1.7084 & 2.9205 \\ 0.2927 & 0.5854 & 1 & 1.7095 \\ 0.1712 & 0.3424 & 0.5850 & 1 \end{pmatrix},$$

Example C.71.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 4 \\ 1/5 & 1/4 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.517818 \\ 0.257820 \\ 0.155036 \\ 0.069327 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0084 & 3.3400 & 7.4692 \\ 0.4979 & 1 & 1.6630 & 3.7189 \\ 0.2994 & 0.6013 & 1 & 2.2363 \\ 0.1339 & 0.2689 & 0.4472 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.517254 \\ 0.258627 \\ 0.154868 \\ 0.069251 \end{pmatrix} = 0.998912 \cdot \begin{pmatrix} 0.517818 \\ 0.258909 \\ 0.155036 \\ 0.069327 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.3400 & 7.4692 \\ 1/2 & 1 & 1.6700 & 3.7346 \\ 0.2994 & 0.5988 & 1 & 2.2363 \\ 0.1339 & 0.2678 & 0.4472 & 1 \end{pmatrix},$$

Example C.72.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 5 \\ 1/2 & 1 & 5 & 7 \\ 1/7 & 1/5 & 1 & 1 \\ 1/5 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0899, \quad CR = 0.0339$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.497667 \\ 0.357946 \\ \mathbf{0.070250} \\ 0.074137 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3903 & \mathbf{7.0842} & 6.7128 \\ 0.7192 & 1 & \mathbf{5.0953} & 4.8282 \\ \mathbf{0.1412} & \mathbf{0.1963} & 1 & \mathbf{0.9476} \\ 0.1490 & 0.2071 & \mathbf{1.0553} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.497247 \\ 0.357643 \\ 0.071035 \\ 0.074074 \end{pmatrix} = 0.999156 \cdot \begin{pmatrix} 0.497667 \\ 0.357946 \\ \mathbf{0.071095} \\ 0.074137 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3903 & \mathbf{7} & 6.7128 \\ 0.7192 & 1 & \mathbf{5.0347} & 4.8282 \\ \mathbf{1/7} & \mathbf{0.1986} & 1 & \mathbf{0.9590} \\ 0.1490 & 0.2071 & \mathbf{1.0428} & 1 \end{pmatrix},$$

Example C.73.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 3 \\ 1/6 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.540646 \\ 0.258301 \\ 0.134303 \\ 0.066750 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0931 & 4.0256 & 8.0996 \\ 0.4778 & 1 & 1.9233 & 3.8697 \\ 0.2484 & 0.5199 & 1 & 2.0120 \\ 0.1235 & 0.2584 & 0.4970 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.535984 \\ 0.264697 \\ 0.133145 \\ 0.066174 \end{pmatrix} = 0.991377 \cdot \begin{pmatrix} 0.540646 \\ 0.266999 \\ 0.134303 \\ 0.066750 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0249 & 4.0256 & 8.0996 \\ 0.4939 & 1 & 1.9880 & 4 \\ 0.2484 & 0.5030 & 1 & 2.0120 \\ 0.1235 & 1/4 & 0.4970 & 1 \end{pmatrix},$$

Example C.74.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/7 & 1/2 & 1 & 4 \\ 1/6 & 1/4 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.533087 \\ 0.253508 \\ 0.149628 \\ 0.063777 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1028 & 3.5627 & 8.3585 \\ 0.4755 & 1 & 1.6943 & 3.9749 \\ 0.2807 & 0.5902 & 1 & 2.3461 \\ 0.1196 & 0.2516 & 0.4262 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.532234 \\ 0.254702 \\ 0.149389 \\ 0.063675 \end{pmatrix} = 0.998401 \cdot \begin{pmatrix} 0.533087 \\ 0.255110 \\ 0.149628 \\ 0.063777 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0896 & 3.5627 & 8.3585 \\ 0.4786 & 1 & 1.7050 & 4 \\ 0.2807 & 0.5865 & 1 & 2.3461 \\ 0.1196 & 1/4 & 0.4262 & 1 \end{pmatrix},$$

Example C.75.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/7 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.540476 \\ 0.262881 \\ 0.141342 \\ 0.055301 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0560 & 3.8239 & 9.7733 \\ 0.4864 & 1 & 1.8599 & 4.7536 \\ 0.2615 & 0.5377 & 1 & 2.5559 \\ 0.1023 & 0.2104 & 0.3913 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.536529 \\ 0.268264 \\ 0.140310 \\ 0.054897 \end{pmatrix} = 0.992697 \cdot \begin{pmatrix} 0.540476 \\ 0.270238 \\ 0.141342 \\ 0.055301 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.8239 & 9.7733 \\ 1/2 & 1 & 1.9119 & 4.8867 \\ 0.2615 & 0.5230 & 1 & 2.5559 \\ 0.1023 & 0.2046 & 0.3913 & 1 \end{pmatrix},$$

Example C.76.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/7 & 1/2 & 1 & 5 \\ 1/7 & 1/5 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.534231 \\ 0.258628 \\ 0.153764 \\ 0.053377 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0656 & 3.4744 & 10.0087 \\ 0.4841 & 1 & 1.6820 & 4.8453 \\ 0.2878 & 0.5945 & 1 & 2.8807 \\ 0.0999 & 0.2064 & 0.3471 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.529857 \\ 0.264699 \\ 0.152505 \\ 0.052940 \end{pmatrix} = 0.991811 \cdot \begin{pmatrix} 0.534231 \\ 0.266884 \\ 0.153764 \\ 0.053377 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0017 & 3.4744 & 10.0087 \\ 0.4996 & 1 & 1.7357 & 5 \\ 0.2878 & 0.5761 & 1 & 2.8807 \\ 0.0999 & 1/5 & 0.3471 & 1 \end{pmatrix},$$

Example C.77.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 8 \\ 1/2 & 1 & 1 & 3 \\ 1/7 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.574301 \\ 0.212851 \\ 0.144060 \\ 0.068788 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6981 & 3.9865 & 8.3489 \\ 0.3706 & 1 & 1.4775 & 3.0943 \\ 0.2508 & 0.6768 & 1 & 2.0943 \\ 0.1198 & 0.3232 & 0.4775 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.573062 \\ 0.212392 \\ 0.143749 \\ 0.070797 \end{pmatrix} = 0.997842 \cdot \begin{pmatrix} 0.574301 \\ 0.212851 \\ 0.144060 \\ 0.070950 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6981 & 3.9865 & 8.0944 \\ 0.3706 & 1 & 1.4775 & 3 \\ 0.2508 & 0.6768 & 1 & 2.0304 \\ 0.1235 & 1/3 & 0.4925 & 1 \end{pmatrix},$$

Example C.78.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 8 \\ 1/2 & 1 & 2 & 5 \\ 1/7 & 1/2 & 1 & 4 \\ 1/8 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1380, \quad CR = 0.0520$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.551577 \\ 0.258851 \\ 0.137542 \\ 0.052031 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1309 & 4.0103 & 10.6010 \\ 0.4693 & 1 & 1.8820 & 4.9750 \\ 0.2494 & 0.5314 & 1 & 2.6435 \\ 0.0943 & 0.2010 & 0.3783 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.550859 \\ 0.259815 \\ 0.137363 \\ 0.051963 \end{pmatrix} = 0.998699 \cdot \begin{pmatrix} 0.551577 \\ 0.260154 \\ 0.137542 \\ 0.052031 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1202 & 4.0103 & 10.6010 \\ 0.4717 & 1 & 1.8915 & 5 \\ 0.2494 & 0.5287 & 1 & 2.6435 \\ 0.0943 & 1/5 & 0.3783 & 1 \end{pmatrix},$$

Example C.79.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 5 \\ 1/8 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.540351 \\ 0.266084 \\ 0.146276 \\ 0.047289 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0308 & 3.6940 & 11.4265 \\ 0.4924 & 1 & 1.8191 & 5.6268 \\ 0.2707 & 0.5497 & 1 & 3.0932 \\ 0.0875 & 0.1777 & 0.3233 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.538149 \\ 0.269075 \\ 0.145680 \\ 0.047096 \end{pmatrix} = 0.995925 \cdot \begin{pmatrix} 0.540351 \\ 0.270175 \\ 0.146276 \\ 0.047289 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.6940 & 11.4265 \\ 1/2 & 1 & 1.8470 & 5.7133 \\ 0.2707 & 0.5414 & 1 & 3.0932 \\ 0.0875 & 0.1750 & 0.3233 & 1 \end{pmatrix},$$

Example C.80.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 6 \\ 1/8 & 1/6 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.535069 \\ 0.262292 \\ 0.156702 \\ 0.045937 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0400 & 3.4146 & 11.6479 \\ 0.4902 & 1 & 1.6738 & 5.7098 \\ 0.2929 & 0.5974 & 1 & 3.4112 \\ 0.0859 & 0.1751 & 0.2931 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.532279 \\ 0.266139 \\ 0.155885 \\ 0.045697 \end{pmatrix} = 0.994784 \cdot \begin{pmatrix} 0.535069 \\ 0.267535 \\ 0.156702 \\ 0.045937 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.4146 & 11.6479 \\ 1/2 & 1 & 1.7073 & 5.8240 \\ 0.2929 & 0.5857 & 1 & 3.4112 \\ 0.0859 & 0.1717 & 0.2931 & 1 \end{pmatrix},$$

Example C.81.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 9 \\ 1/2 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 5 \\ 1/9 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1610, \quad CR = 0.0607$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.549964 \\ 0.262481 \\ 0.142793 \\ 0.044763 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0953 & 3.8515 & 12.2862 \\ 0.4773 & 1 & 1.8382 & 5.8638 \\ 0.2596 & 0.5440 & 1 & 3.1900 \\ 0.0814 & 0.1705 & 0.3135 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.546632 \\ 0.266949 \\ 0.141928 \\ 0.044491 \end{pmatrix} = 0.993942 \cdot \begin{pmatrix} 0.549964 \\ 0.268576 \\ 0.142793 \\ 0.044763 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0477 & 3.8515 & 12.2862 \\ 0.4884 & 1 & 1.8809 & 6 \\ 0.2596 & 0.5317 & 1 & 3.1900 \\ 0.0814 & 1/6 & 0.3135 & 1 \end{pmatrix},$$

Example C.82.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 9 \\ 1/2 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 6 \\ 1/9 & 1/6 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.544560 \\ 0.259075 \\ 0.152892 \\ 0.043473 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1019 & 3.5617 & 12.5264 \\ 0.4758 & 1 & 1.6945 & 5.9594 \\ 0.2808 & 0.5901 & 1 & 3.5169 \\ 0.0798 & 0.1678 & 0.2843 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543602 \\ 0.260379 \\ 0.152623 \\ 0.043397 \end{pmatrix} = 0.998240 \cdot \begin{pmatrix} 0.544560 \\ 0.260838 \\ 0.152892 \\ 0.043473 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0877 & 3.5617 & 12.5264 \\ 0.4790 & 1 & 1.7060 & 6 \\ 0.2808 & 0.5862 & 1 & 3.5169 \\ 0.0798 & 1/6 & 0.2843 & 1 \end{pmatrix},$$

Example C.83.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 9 \\ 1/2 & 1 & 8 & 6 \\ 1/7 & 1/8 & 1 & 1 \\ 1/9 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.527976 \\ 0.354461 \\ 0.059551 \\ \mathbf{0.058012} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.4895 & 8.8660 & \mathbf{9.1012} \\ 0.6714 & 1 & 5.9522 & \mathbf{6.1101} \\ 0.1128 & 0.1680 & 1 & \mathbf{1.0265} \\ \mathbf{0.1099} & \mathbf{0.1637} & \mathbf{0.9742} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.527632 \\ 0.354230 \\ 0.059512 \\ 0.058626 \end{pmatrix} = 0.999348 \cdot \begin{pmatrix} 0.527976 \\ 0.354461 \\ 0.059551 \\ \mathbf{0.058664} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4895 & 8.8660 & \mathbf{9} \\ 0.6714 & 1 & 5.9522 & \mathbf{6.0422} \\ 0.1128 & 0.1680 & 1 & \mathbf{1.0151} \\ \mathbf{1/9} & \mathbf{0.1655} & \mathbf{0.9851} & 1 \end{pmatrix},$$

Example C.84.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 9 \\ 1/2 & 1 & 9 & 6 \\ 1/7 & 1/9 & 1 & 1 \\ 1/9 & 1/6 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0762, \quad CR = 0.0287$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.523024 \\ 0.361976 \\ 0.057768 \\ \mathbf{0.057233} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.4449 & 9.0539 & \mathbf{9.1385} \\ 0.6921 & 1 & 6.2660 & \mathbf{6.3246} \\ 0.1105 & 0.1596 & 1 & \mathbf{1.0094} \\ \mathbf{0.1094} & \mathbf{0.1581} & \mathbf{0.9907} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.522744 \\ 0.361782 \\ 0.057737 \\ 0.057737 \end{pmatrix} = 0.999465 \cdot \begin{pmatrix} 0.523024 \\ 0.361976 \\ 0.057768 \\ \mathbf{0.057768} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4449 & 9.0539 & \mathbf{9.0539} \\ 0.6921 & 1 & 6.2660 & \mathbf{6.2660} \\ 0.1105 & 0.1596 & 1 & \mathbf{1} \\ \mathbf{0.1105} & \mathbf{0.1596} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.85.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 3 \\ 1/2 & 1 & 2 & 2 \\ 1/8 & 1/2 & 1 & 2 \\ 1/3 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.507894 \\ 0.235506 \\ 0.137200 \\ 0.119400 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1566 & 3.7019 & 4.2537 \\ 0.4637 & 1 & 1.7165 & 1.9724 \\ 0.2701 & 0.5826 & 1 & 1.1491 \\ 0.2351 & 0.5070 & 0.8703 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.506227 \\ 0.238016 \\ 0.136750 \\ 0.119008 \end{pmatrix} = 0.996717 \cdot \begin{pmatrix} 0.507894 \\ 0.238800 \\ 0.137200 \\ 0.119400 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1269 & 3.7019 & 4.2537 \\ 0.4702 & 1 & 1.7405 & 2 \\ 0.2701 & 0.5745 & 1 & 1.1491 \\ 0.2351 & 1/2 & 0.8703 & 1 \end{pmatrix},$$

Example C.86.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1/8 & 1/2 & 1 & 3 \\ 1/5 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.531437 \\ 0.260953 \\ 0.135257 \\ 0.072353 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0365 & 3.9291 & 7.3451 \\ 0.4910 & 1 & 1.9293 & 3.6067 \\ 0.2545 & 0.5183 & 1 & 1.8694 \\ 0.1361 & 0.2773 & 0.5349 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.528917 \\ 0.264458 \\ 0.134615 \\ 0.072010 \end{pmatrix} = 0.995257 \cdot \begin{pmatrix} 0.531437 \\ 0.265719 \\ 0.135257 \\ 0.072353 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.9291 & 7.3451 \\ 1/2 & 1 & 1.9645 & 3.6725 \\ 0.2545 & 0.5090 & 1 & 1.8694 \\ 0.1361 & 0.2723 & 0.5349 & 1 \end{pmatrix},$$

Example C.87.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 5 \\ 1/2 & 1 & 6 & 9 \\ 1/8 & 1/6 & 1 & 1 \\ 1/5 & 1/9 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.491709 \\ 0.379083 \\ \mathbf{0.061296} \\ 0.067912 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2971 & \mathbf{8.0218} & 7.2404 \\ 0.7710 & 1 & \mathbf{6.1845} & 5.5820 \\ \mathbf{0.1247} & \mathbf{0.1617} & 1 & \mathbf{0.9026} \\ 0.1381 & 0.1791 & \mathbf{1.1079} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.491626 \\ 0.379020 \\ 0.061453 \\ 0.067900 \end{pmatrix} = 0.999833 \cdot \begin{pmatrix} 0.491709 \\ 0.379083 \\ \mathbf{0.061464} \\ 0.067912 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2971 & \mathbf{8} & 7.2404 \\ 0.7710 & 1 & \mathbf{6.1676} & 5.5820 \\ \mathbf{1/8} & \mathbf{0.1621} & 1 & \mathbf{0.9051} \\ 0.1381 & 0.1791 & \mathbf{1.1049} & 1 \end{pmatrix},$$

Example C.88.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/8 & 1/2 & 1 & 3 \\ 1/6 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.547213 \\ 0.255702 \\ 0.130545 \\ 0.066541 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1400 & 4.1918 & 8.2237 \\ 0.4673 & 1 & 1.9587 & 3.8428 \\ 0.2386 & 0.5105 & 1 & 1.9619 \\ 0.1216 & 0.2602 & 0.5097 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.544280 \\ 0.259691 \\ 0.129845 \\ 0.066184 \end{pmatrix} = 0.994641 \cdot \begin{pmatrix} 0.547213 \\ 0.261090 \\ 0.130545 \\ 0.066541 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0959 & 4.1918 & 8.2237 \\ 0.4771 & 1 & 2 & 3.9238 \\ 0.2386 & 1/2 & 1 & 1.9619 \\ 0.1216 & 0.2549 & 0.5097 & 1 \end{pmatrix},$$

Example C.89.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/8 & 1/2 & 1 & 4 \\ 1/6 & 1/4 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.539459 \\ 0.250824 \\ 0.145981 \\ 0.063736 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1508 & 3.6954 & 8.4639 \\ 0.4650 & 1 & 1.7182 & 3.9353 \\ 0.2706 & 0.5820 & 1 & 2.2904 \\ 0.1181 & 0.2541 & 0.4366 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.537245 \\ 0.253898 \\ 0.145382 \\ 0.063475 \end{pmatrix} = 0.995896 \cdot \begin{pmatrix} 0.539459 \\ 0.254945 \\ 0.145981 \\ 0.063736 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1160 & 3.6954 & 8.4639 \\ 0.4726 & 1 & 1.7464 & 4 \\ 0.2706 & 0.5726 & 1 & 2.2904 \\ 0.1181 & 1/4 & 0.4366 & 1 \end{pmatrix},$$

Example C.90.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 2 & 5 \\ 1/8 & 1/2 & 1 & 4 \\ 1/6 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.534041 \\ 0.264783 \\ 0.141830 \\ 0.059346 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0169 & 3.7654 & 8.9988 \\ 0.4958 & 1 & 1.8669 & 4.4617 \\ 0.2656 & 0.5356 & 1 & 2.3899 \\ 0.1111 & 0.2241 & 0.4184 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.532849 \\ 0.266424 \\ 0.141513 \\ 0.059214 \end{pmatrix} = 0.997767 \cdot \begin{pmatrix} 0.534041 \\ 0.267020 \\ 0.141830 \\ 0.059346 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.7654 & 8.9988 \\ 1/2 & 1 & 1.8827 & 4.4994 \\ 0.2656 & 0.5312 & 1 & 2.3899 \\ 0.1111 & 0.2223 & 0.4184 & 1 \end{pmatrix},$$

Example C.91.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.550557 \\ 0.282221 \\ 0.069185 \\ 0.098037 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9508 & 7.9577 & 5.6158 \\ 0.5126 & 1 & 4.0792 & 2.8787 \\ 0.1257 & 0.2451 & 1 & 0.7057 \\ 0.1781 & 0.3474 & 1.4170 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551867 \\ 0.281398 \\ 0.068983 \\ 0.097752 \end{pmatrix} = 0.997085 \cdot \begin{pmatrix} 0.553481 \\ 0.282221 \\ 0.069185 \\ 0.098037 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9612 & 8 & 5.6456 \\ 0.5099 & 1 & 4.0792 & 2.8787 \\ 1/8 & 0.2451 & 1 & 0.7057 \\ 0.1771 & 0.3474 & 1.4170 & 1 \end{pmatrix},$$

Example C.92.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/8 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2035, \quad CR = 0.0767$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.546977 \\ 0.260254 \\ 0.137586 \\ 0.055183 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1017 & 3.9755 & 9.9121 \\ 0.4758 & 1 & 1.8916 & 4.7162 \\ 0.2515 & 0.5287 & 1 & 2.4933 \\ 0.1009 & 0.2120 & 0.4011 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539833 \\ 0.269916 \\ 0.135789 \\ 0.054462 \end{pmatrix} = 0.986939 \cdot \begin{pmatrix} 0.546977 \\ 0.273488 \\ 0.137586 \\ 0.055183 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.9755 & 9.9121 \\ 1/2 & 1 & 1.9878 & 4.9560 \\ 0.2515 & 0.5031 & 1 & 2.4933 \\ 0.1009 & 0.2018 & 0.4011 & 1 \end{pmatrix},$$

Example C.93.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 8 \\ 1/2 & 1 & 1 & 3 \\ 1/8 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.580027 \\ 0.211978 \\ 0.139981 \\ \mathbf{0.068014} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7363 & 4.1436 & \mathbf{8.5281} \\ 0.3655 & 1 & 1.5143 & \mathbf{3.1167} \\ 0.2413 & 0.6604 & 1 & \mathbf{2.0581} \\ \mathbf{0.1173} & \mathbf{0.3209} & \mathbf{0.4859} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.578883 \\ 0.211560 \\ 0.139705 \\ 0.069852 \end{pmatrix} = 0.998027 \cdot \begin{pmatrix} 0.580027 \\ 0.211978 \\ 0.139981 \\ \mathbf{0.069990} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7363 & 4.1436 & \mathbf{8.2872} \\ 0.3655 & 1 & 1.5143 & \mathbf{3.0287} \\ 0.2413 & 0.6604 & 1 & \mathbf{2} \\ \mathbf{0.1207} & \mathbf{0.3302} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.94.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 8 \\ 1/2 & 1 & 2 & 5 \\ 1/8 & 1/2 & 1 & 4 \\ 1/8 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1722, \quad CR = 0.0649$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.558226 \\ 0.256172 \\ 0.133722 \\ 0.051880 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1791 & 4.1745 & 10.7600 \\ 0.4589 & 1 & 1.9157 & 4.9378 \\ 0.2395 & 0.5220 & 1 & 2.5775 \\ 0.0929 & 0.2025 & 0.3880 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.556431 \\ 0.258564 \\ 0.133292 \\ 0.051713 \end{pmatrix} = 0.996785 \cdot \begin{pmatrix} 0.558226 \\ 0.259398 \\ 0.133722 \\ 0.051880 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1520 & 4.1745 & 10.7600 \\ 0.4647 & 1 & 1.9398 & 5 \\ 0.2395 & 0.5155 & 1 & 2.5775 \\ 0.0929 & 1/5 & 0.3880 & 1 \end{pmatrix},$$

Example C.95.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 8 \\ 1/2 & 1 & 2 & 6 \\ 1/8 & 1/2 & 1 & 5 \\ 1/8 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.546821 \\ 0.263441 \\ 0.142521 \\ 0.047217 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0757 & 3.8368 & 11.5809 \\ 0.4818 & 1 & 1.8484 & 5.5793 \\ 0.2606 & 0.5410 & 1 & 3.0184 \\ 0.0863 & 0.1792 & 0.3313 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.541423 \\ 0.270711 \\ 0.141115 \\ 0.046751 \end{pmatrix} = 0.990129 \cdot \begin{pmatrix} 0.546821 \\ 0.273410 \\ 0.142521 \\ 0.047217 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.8368 & 11.5809 \\ 1/2 & 1 & 1.9184 & 5.7905 \\ 0.2606 & 0.5213 & 1 & 3.0184 \\ 0.0863 & 0.1727 & 0.3313 & 1 \end{pmatrix},$$

Example C.96.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 9 \\ 1/2 & 1 & 1 & 3 \\ 1/8 & 1 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.588442 \\ 0.208816 \\ 0.137822 \\ \mathbf{0.064920} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8180 & 4.2696 & \mathbf{9.0642} \\ 0.3549 & 1 & 1.5151 & \mathbf{3.2165} \\ 0.2342 & 0.6600 & 1 & \mathbf{2.1230} \\ \mathbf{0.1103} & \mathbf{0.3109} & \mathbf{0.4710} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.588169 \\ 0.208720 \\ 0.137759 \\ 0.065352 \end{pmatrix} = 0.999537 \cdot \begin{pmatrix} 0.588442 \\ 0.208816 \\ 0.137822 \\ \mathbf{0.065382} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8180 & 4.2696 & \mathbf{9} \\ 0.3549 & 1 & 1.5151 & \mathbf{3.1938} \\ 0.2342 & 0.6600 & 1 & \mathbf{2.1079} \\ \mathbf{1/9} & \mathbf{0.3131} & \mathbf{0.4744} & 1 \end{pmatrix},$$

Example C.97.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 9 \\ 1/2 & 1 & 2 & 6 \\ 1/8 & 1/2 & 1 & 5 \\ 1/9 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1974, \quad CR = 0.0744$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.556555 \\ 0.259793 \\ 0.138985 \\ 0.044666 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1423 & 4.0044 & 12.4604 \\ 0.4668 & 1 & 1.8692 & 5.8164 \\ 0.2497 & 0.5350 & 1 & 3.1117 \\ 0.0803 & 0.1719 & 0.3214 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552027 \\ 0.265816 \\ 0.137855 \\ 0.044303 \end{pmatrix} = 0.991864 \cdot \begin{pmatrix} 0.556555 \\ 0.267996 \\ 0.138985 \\ 0.044666 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0767 & 4.0044 & 12.4604 \\ 0.4815 & 1 & 1.9282 & 6 \\ 0.2497 & 0.5186 & 1 & 3.1117 \\ 0.0803 & 1/6 & 0.3214 & 1 \end{pmatrix},$$

Example C.98.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 9 \\ 1/2 & 1 & 2 & 6 \\ 1/8 & 1/2 & 1 & 6 \\ 1/9 & 1/6 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.551047 \\ 0.256343 \\ 0.149164 \\ 0.043446 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1496 & 3.6942 & 12.6835 \\ 0.4652 & 1 & 1.7185 & 5.9003 \\ 0.2707 & 0.5819 & 1 & 3.4333 \\ 0.0788 & 0.1695 & 0.2913 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548670 \\ 0.259551 \\ 0.148521 \\ 0.043258 \end{pmatrix} = 0.995687 \cdot \begin{pmatrix} 0.551047 \\ 0.260675 \\ 0.149164 \\ 0.043446 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1139 & 3.6942 & 12.6835 \\ 0.4731 & 1 & 1.7476 & 6 \\ 0.2707 & 0.5722 & 1 & 3.4333 \\ 0.0788 & 1/6 & 0.2913 & 1 \end{pmatrix},$$

Example C.99.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 9 \\ 1/2 & 1 & 2 & 7 \\ 1/8 & 1/2 & 1 & 5 \\ 1/9 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1961, \quad CR = 0.0739$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.551865 \\ 0.269427 \\ 0.136242 \\ 0.042467 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0483 & 4.0506 & 12.9952 \\ 0.4882 & 1 & 1.9776 & 6.3444 \\ 0.2469 & 0.5057 & 1 & 3.2082 \\ 0.0770 & 0.1576 & 0.3117 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.550183 \\ 0.271653 \\ 0.135826 \\ 0.042338 \end{pmatrix} = 0.996953 \cdot \begin{pmatrix} 0.551865 \\ 0.272483 \\ 0.136242 \\ 0.042467 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0253 & 4.0506 & 12.9952 \\ 0.4937 & 1 & 2 & 6.4164 \\ 0.2469 & 1/2 & 1 & 3.2082 \\ 0.0770 & 0.1559 & 0.3117 & 1 \end{pmatrix},$$

Example C.100.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 9 \\ 1/2 & 1 & 2 & 7 \\ 1/8 & 1/2 & 1 & 6 \\ 1/9 & 1/7 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2463, \quad CR = 0.0929$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.546734 \\ 0.265800 \\ 0.146169 \\ 0.041297 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0569 & 3.7404 & 13.2390 \\ 0.4862 & 1 & 1.8184 & 6.4363 \\ 0.2673 & 0.5499 & 1 & 3.5394 \\ 0.0755 & 0.1554 & 0.2825 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.542628 \\ 0.271314 \\ 0.145071 \\ 0.040987 \end{pmatrix} = 0.992490 \cdot \begin{pmatrix} 0.546734 \\ 0.273367 \\ 0.146169 \\ 0.041297 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 3.7404 & 13.2390 \\ 1/2 & 1 & 1.8702 & 6.6195 \\ 0.2673 & 0.5347 & 1 & 3.5394 \\ 0.0755 & 0.1511 & 0.2825 & 1 \end{pmatrix},$$

Example C.101.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 3 & 2 \\ 1/9 & 1/3 & 1 & 1 \\ 1/3 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.521135 \\ 0.256422 \\ 0.091348 \\ 0.131094 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0323 & 5.7049 & 3.9753 \\ 0.4920 & 1 & 2.8071 & 1.9560 \\ 0.1753 & 0.3562 & 1 & 0.6968 \\ 0.2516 & 0.5112 & 1.4351 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.518984 \\ 0.259492 \\ 0.090971 \\ 0.130553 \end{pmatrix} = 0.995871 \cdot \begin{pmatrix} 0.521135 \\ 0.260568 \\ 0.091348 \\ 0.131094 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.7049 & 3.9753 \\ 1/2 & 1 & 2.8525 & 1.9876 \\ 0.1753 & 0.3506 & 1 & 0.6968 \\ 0.2516 & 0.5031 & 1.4351 & 1 \end{pmatrix},$$

Example C.102.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 2 & 4 \\ 1/9 & 1/2 & 1 & 3 \\ 1/5 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2541, \quad CR = 0.0958$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.536502 \\ 0.258922 \\ 0.132340 \\ 0.072236 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0721 & 4.0540 & 7.4271 \\ 0.4826 & 1 & 1.9565 & 3.5844 \\ 0.2467 & 0.5111 & 1 & 1.8321 \\ 0.1346 & 0.2790 & 0.5458 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.533430 \\ 0.263165 \\ 0.131583 \\ 0.071822 \end{pmatrix} = 0.994274 \cdot \begin{pmatrix} 0.536502 \\ 0.264681 \\ 0.132340 \\ 0.072236 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0270 & 4.0540 & 7.4271 \\ 0.4933 & 1 & 2 & 3.6641 \\ 0.2467 & 1/2 & 1 & 1.8321 \\ 0.1346 & 0.2729 & 0.5458 & 1 \end{pmatrix},$$

Example C.103.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 2 & 4 \\ 1/9 & 1/2 & 1 & 3 \\ 1/6 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2052, \quad CR = 0.0774$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.552448 \\ 0.253617 \\ 0.127558 \\ 0.066377 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1783 & 4.3310 & 8.3229 \\ 0.4591 & 1 & 1.9882 & 3.8209 \\ 0.2309 & 0.5030 & 1 & 1.9217 \\ 0.1201 & 0.2617 & 0.5204 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551622 \\ 0.254734 \\ 0.127367 \\ 0.066277 \end{pmatrix} = 0.998503 \cdot \begin{pmatrix} 0.552448 \\ 0.255116 \\ 0.127558 \\ 0.066377 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1655 & 4.3310 & 8.3229 \\ 0.4618 & 1 & 2 & 3.8435 \\ 0.2309 & 1/2 & 1 & 1.9217 \\ 0.1201 & 0.2602 & 0.5204 & 1 \end{pmatrix},$$

Example C.104.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 2 \\ 1/6 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.557162 \\ 0.274665 \\ 0.097832 \\ 0.070341 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0285 & 5.6951 & 7.9208 \\ 0.4930 & 1 & 2.8075 & 3.9047 \\ 0.1756 & 0.3562 & 1 & 1.3908 \\ 0.1262 & 0.2561 & 0.7190 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.554989 \\ 0.277494 \\ 0.097450 \\ 0.070067 \end{pmatrix} = 0.996100 \cdot \begin{pmatrix} 0.557162 \\ 0.278581 \\ 0.097832 \\ 0.070341 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 5.6951 & 7.9208 \\ 1/2 & 1 & 2.8476 & 3.9604 \\ 0.1756 & 0.3512 & 1 & 1.3908 \\ 0.1262 & 0.2525 & 0.7190 & 1 \end{pmatrix},$$

Example C.105.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.552687 \\ 0.286452 \\ 0.064103 \\ 0.096758 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9294 & 8.6219 & 5.7120 \\ 0.5183 & 1 & 4.4686 & 2.9605 \\ 0.1160 & 0.2238 & 1 & 0.6625 \\ 0.1751 & 0.3378 & 1.5094 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.561551 \\ 0.280775 \\ 0.062833 \\ 0.094841 \end{pmatrix} = 0.980184 \cdot \begin{pmatrix} 0.572903 \\ 0.286452 \\ 0.064103 \\ 0.096758 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.9373 & 5.9210 \\ 1/2 & 1 & 4.4686 & 2.9605 \\ 0.1119 & 0.2238 & 1 & 0.6625 \\ 0.1689 & 0.3378 & 1.5094 & 1 \end{pmatrix},$$

Example C.106.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 8 & 2 \\ 1/9 & 1/8 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.546778 \\ 0.294871 \\ 0.062203 \\ 0.096148 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8543 & 8.7903 & 5.6868 \\ 0.5393 & 1 & 4.7405 & 3.0668 \\ 0.1138 & 0.2109 & 1 & 0.6469 \\ 0.1758 & 0.3261 & 1.5457 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.552614 \\ 0.291074 \\ 0.061402 \\ 0.094910 \end{pmatrix} = 0.987123 \cdot \begin{pmatrix} 0.559823 \\ 0.294871 \\ 0.062203 \\ 0.096148 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8985 & 9 & 5.8225 \\ 0.5267 & 1 & 4.7405 & 3.0668 \\ 1/9 & 0.2109 & 1 & 0.6469 \\ 0.1717 & 0.3261 & 1.5457 & 1 \end{pmatrix},$$

Example C.107.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 9 & 2 \\ 1/9 & 1/9 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.541447 \\ 0.302287 \\ 0.060641 \\ 0.095624 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7912 & 8.9287 & 5.6623 \\ 0.5583 & 1 & 4.9849 & 3.1612 \\ 0.1120 & 0.2006 & 1 & 0.6342 \\ 0.1766 & 0.3163 & 1.5769 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543421 \\ 0.300987 \\ 0.060380 \\ 0.095212 \end{pmatrix} = 0.995697 \cdot \begin{pmatrix} 0.545769 \\ 0.302287 \\ 0.060641 \\ 0.095624 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8055 & 9 & 5.7075 \\ 0.5539 & 1 & 4.9849 & 3.1612 \\ 1/9 & 0.2006 & 1 & 0.6342 \\ 0.1752 & 0.3163 & 1.5769 & 1 \end{pmatrix},$$

Example C.108.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 2 & 5 \\ 1/9 & 1/2 & 1 & 4 \\ 1/7 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2405, \quad CR = 0.0907$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.552157 \\ 0.258148 \\ 0.134603 \\ 0.055092 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1389 & 4.1021 & 10.0225 \\ 0.4675 & 1 & 1.9178 & 4.6858 \\ 0.2438 & 0.5214 & 1 & 2.4433 \\ 0.0998 & 0.2134 & 0.4093 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.546118 \\ 0.266262 \\ 0.133131 \\ 0.054489 \end{pmatrix} = 0.989062 \cdot \begin{pmatrix} 0.552157 \\ 0.269207 \\ 0.134603 \\ 0.055092 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0511 & 4.1021 & 10.0225 \\ 0.4876 & 1 & 2 & 4.8865 \\ 0.2438 & 1/2 & 1 & 2.4433 \\ 0.0998 & 0.2046 & 0.4093 & 1 \end{pmatrix},$$

Example C.109.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 1 & 3 \\ 1/9 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2052, \quad CR = 0.0774$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.584562 \\ 0.211289 \\ 0.136751 \\ \mathbf{0.067399} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7666 & 4.2746 & \mathbf{8.6732} \\ 0.3614 & 1 & 1.5451 & \mathbf{3.1349} \\ 0.2339 & 0.6472 & 1 & \mathbf{2.0290} \\ \mathbf{0.1153} & \mathbf{0.3190} & \mathbf{0.4929} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.583991 \\ 0.211083 \\ 0.136617 \\ 0.068309 \end{pmatrix} = 0.999024 \cdot \begin{pmatrix} 0.584562 \\ 0.211289 \\ 0.136751 \\ \mathbf{0.068375} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7666 & 4.2746 & \mathbf{8.5493} \\ 0.3614 & 1 & 1.5451 & \mathbf{3.0901} \\ 0.2339 & 0.6472 & 1 & \mathbf{2} \\ \mathbf{0.1170} & \mathbf{0.3236} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.110.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 2 & 5 \\ 1/9 & 1/2 & 1 & 4 \\ 1/8 & 1/5 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2067, \quad CR = 0.0779$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.563528 \\ 0.254024 \\ 0.130687 \\ 0.051762 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2184 & 4.3120 & 10.8870 \\ 0.4508 & 1 & 1.9438 & 4.9076 \\ 0.2319 & 0.5145 & 1 & 2.5248 \\ 0.0919 & 0.2038 & 0.3961 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.560844 \\ 0.257576 \\ 0.130065 \\ 0.051515 \end{pmatrix} = 0.995238 \cdot \begin{pmatrix} 0.563528 \\ 0.258808 \\ 0.130687 \\ 0.051762 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1774 & 4.3120 & 10.8870 \\ 0.4593 & 1 & 1.9804 & 5 \\ 0.2319 & 0.5050 & 1 & 2.5248 \\ 0.0919 & 1/5 & 0.3961 & 1 \end{pmatrix},$$

Example C.111.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 1 & 3 \\ 1/9 & 1 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.593077 \\ 0.208101 \\ 0.134546 \\ \mathbf{0.064276} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8499 & 4.4080 & \mathbf{9.2270} \\ 0.3509 & 1 & 1.5467 & \mathbf{3.2376} \\ 0.2269 & 0.6465 & 1 & \mathbf{2.0932} \\ \mathbf{0.1084} & \mathbf{0.3089} & \mathbf{0.4777} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.592117 \\ 0.207764 \\ 0.134328 \\ 0.065791 \end{pmatrix} = 0.998381 \cdot \begin{pmatrix} 0.593077 \\ 0.208101 \\ 0.134546 \\ \mathbf{0.065897} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8499 & 4.4080 & \mathbf{9} \\ 0.3509 & 1 & 1.5467 & \mathbf{3.1580} \\ 0.2269 & 0.6465 & 1 & \mathbf{2.0417} \\ \mathbf{1/9} & \mathbf{0.3167} & \mathbf{0.4898} & 1 \end{pmatrix},$$

Example C.112.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 2 & 6 \\ 1/9 & 1/2 & 1 & 5 \\ 1/9 & 1/6 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2339, \quad CR = 0.0882$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.561809 \\ 0.257638 \\ 0.135962 \\ 0.044591 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1806 & 4.1321 & 12.5990 \\ 0.4586 & 1 & 1.8949 & 5.7777 \\ 0.2420 & 0.5277 & 1 & 3.0490 \\ 0.0794 & 0.1731 & 0.3280 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.556296 \\ 0.264923 \\ 0.134627 \\ 0.044154 \end{pmatrix} = 0.990187 \cdot \begin{pmatrix} 0.561809 \\ 0.267549 \\ 0.135962 \\ 0.044591 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0998 & 4.1321 & 12.5990 \\ 0.4762 & 1 & 1.9678 & 6 \\ 0.2420 & 0.5082 & 1 & 3.0490 \\ 0.0794 & 1/6 & 0.3280 & 1 \end{pmatrix},$$

Example C.113.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 7 & 3 \\ 1/9 & 1/7 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.567633 \\ 0.294316 \\ 0.074098 \\ 0.063953 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9287 & 7.6605 & 8.8758 \\ 0.5185 & 1 & 3.9720 & 4.6021 \\ 0.1305 & 0.2518 & 1 & 1.1586 \\ 0.1127 & 0.2173 & 0.8631 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571040 \\ 0.291997 \\ 0.073515 \\ 0.063449 \end{pmatrix} = 0.992121 \cdot \begin{pmatrix} 0.575575 \\ 0.294316 \\ 0.074098 \\ 0.063953 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9556 & 7.7677 & 9 \\ 0.5113 & 1 & 3.9720 & 4.6021 \\ 0.1287 & 0.2518 & 1 & 1.1586 \\ 1/9 & 0.2173 & 0.8631 & 1 \end{pmatrix},$$

Example C.114.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 8 & 3 \\ 1/9 & 1/8 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.561399 \\ 0.302837 \\ 0.072124 \\ 0.063640 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8538 & 7.7839 & 8.8215 \\ 0.5394 & 1 & 4.1989 & 4.7586 \\ 0.1285 & 0.2382 & 1 & 1.1333 \\ 0.1134 & 0.2101 & 0.8824 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566326 \\ 0.299436 \\ 0.071313 \\ 0.062925 \end{pmatrix} = 0.988767 \cdot \begin{pmatrix} 0.572760 \\ 0.302837 \\ 0.072124 \\ 0.063640 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8913 & 7.9414 & 9 \\ 0.5287 & 1 & 4.1989 & 4.7586 \\ 0.1259 & 0.2382 & 1 & 1.1333 \\ 1/9 & 0.2101 & 0.8824 & 1 \end{pmatrix},$$

Example C.115.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 3 \\ 1/3 & 1 & 1 & 3 \\ 1/2 & 1 & 1 & 2 \\ 1/3 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.445988 \\ 0.226592 \\ \mathbf{0.216517} \\ 0.110903 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9682 & \mathbf{2.0598} & 4.0214 \\ 0.5081 & 1 & \mathbf{1.0465} & 2.0431 \\ \mathbf{0.4855} & \mathbf{0.9555} & 1 & \mathbf{1.9523} \\ 0.2487 & 0.4894 & \mathbf{0.5122} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.443641 \\ 0.225400 \\ 0.220640 \\ 0.110320 \end{pmatrix} = 0.994738 \cdot \begin{pmatrix} 0.445988 \\ 0.226592 \\ \mathbf{0.221807} \\ 0.110903 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9682 & \mathbf{2.0107} & 4.0214 \\ 0.5081 & 1 & \mathbf{1.0216} & 2.0431 \\ \mathbf{0.4973} & \mathbf{0.9789} & 1 & \mathbf{2} \\ 0.2487 & 0.4894 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.116.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 4 \\ 1/3 & 1 & 1 & 5 \\ 1/2 & 1 & 1 & 3 \\ 1/4 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.451771 \\ 0.244757 \\ \mathbf{0.224367} \\ 0.079105 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8458 & \mathbf{2.0135} & 5.7110 \\ 0.5418 & 1 & \mathbf{1.0909} & 3.0941 \\ \mathbf{0.4966} & \mathbf{0.9167} & 1 & \mathbf{2.8363} \\ 0.1751 & 0.3232 & \mathbf{0.3526} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.451086 \\ 0.244386 \\ 0.225543 \\ 0.078985 \end{pmatrix} = 0.998484 \cdot \begin{pmatrix} 0.451771 \\ 0.244757 \\ \mathbf{0.225886} \\ 0.079105 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8458 & \mathbf{2} & 5.7110 \\ 0.5418 & 1 & \mathbf{1.0835} & 3.0941 \\ \mathbf{1/2} & \mathbf{0.9229} & 1 & \mathbf{2.8555} \\ 0.1751 & 0.3232 & \mathbf{0.3502} & 1 \end{pmatrix},$$

Example C.117.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 4 \\ 1/3 & 1 & 1 & 6 \\ 1/2 & 1 & 1 & 3 \\ 1/4 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.447625 \\ 0.255680 \\ \mathbf{0.220364} \\ 0.076331 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7507 & \mathbf{2.0313} & 5.8643 \\ 0.5712 & 1 & \mathbf{1.1603} & 3.3496 \\ \mathbf{0.4923} & \mathbf{0.8619} & 1 & \mathbf{2.8869} \\ 0.1705 & 0.2985 & \mathbf{0.3464} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.446086 \\ 0.254802 \\ 0.223043 \\ 0.076069 \end{pmatrix} = 0.996563 \cdot \begin{pmatrix} 0.447625 \\ 0.255680 \\ \mathbf{0.223812} \\ 0.076331 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7507 & \mathbf{2} & 5.8643 \\ 0.5712 & 1 & \mathbf{1.1424} & 3.3496 \\ \mathbf{1/2} & \mathbf{0.8754} & 1 & \mathbf{2.9321} \\ 0.1705 & 0.2985 & \mathbf{0.3410} & 1 \end{pmatrix},$$

Example C.118.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 4 \\ 1/3 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 3 \\ 1/4 & 1/7 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2478, \quad CR = 0.0935$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.444340 \\ 0.264506 \\ \mathbf{0.216986} \\ 0.074167 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6799 & \mathbf{2.0478} & 5.9910 \\ 0.5953 & 1 & \mathbf{1.2190} & 3.5663 \\ \mathbf{0.4883} & \mathbf{0.8203} & 1 & \mathbf{2.9256} \\ 0.1669 & 0.2804 & \mathbf{0.3418} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.442049 \\ 0.263142 \\ 0.221024 \\ 0.073785 \end{pmatrix} = 0.994843 \cdot \begin{pmatrix} 0.444340 \\ 0.264506 \\ \mathbf{0.222170} \\ 0.074167 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6799 & \mathbf{2} & 5.9910 \\ 0.5953 & 1 & \mathbf{1.1906} & 3.5663 \\ \mathbf{1/2} & \mathbf{0.8399} & 1 & \mathbf{2.9955} \\ 0.1669 & 0.2804 & \mathbf{0.3338} & 1 \end{pmatrix},$$

Example C.119.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 5 \\ 1/3 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 4 \\ 1/5 & 1/8 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.452267 \\ 0.262170 \\ \mathbf{0.225398} \\ 0.060164 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7251 & \mathbf{2.0065} & 7.5172 \\ 0.5797 & 1 & \mathbf{1.1631} & 4.3576 \\ \mathbf{0.4984} & \mathbf{0.8597} & 1 & \mathbf{3.7464} \\ 0.1330 & 0.2295 & \mathbf{0.2669} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.451935 \\ 0.261978 \\ 0.225967 \\ 0.060120 \end{pmatrix} = 0.999265 \cdot \begin{pmatrix} 0.452267 \\ 0.262170 \\ \mathbf{0.226134} \\ 0.060164 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7251 & \mathbf{2} & 7.5172 \\ 0.5797 & 1 & \mathbf{1.1594} & 4.3576 \\ \mathbf{1/2} & \mathbf{0.8625} & 1 & \mathbf{3.7586} \\ 0.1330 & 0.2295 & \mathbf{0.2661} & 1 \end{pmatrix},$$

Example C.120.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 5 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 4 \\ 1/5 & 1/9 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2541, \quad CR = 0.0958$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.449730 \\ 0.268855 \\ \mathbf{0.222563} \\ 0.058852 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6728 & \mathbf{2.0207} & 7.6417 \\ 0.5978 & 1 & \mathbf{1.2080} & 4.5683 \\ \mathbf{0.4949} & \mathbf{0.8278} & 1 & \mathbf{3.7817} \\ 0.1309 & 0.2189 & \mathbf{0.2644} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.448697 \\ 0.268237 \\ 0.224349 \\ 0.058717 \end{pmatrix} = 0.997703 \cdot \begin{pmatrix} 0.449730 \\ 0.268855 \\ \mathbf{0.224865} \\ 0.058852 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6728 & \mathbf{2} & 7.6417 \\ 0.5978 & 1 & \mathbf{1.1956} & 4.5683 \\ \mathbf{1/2} & \mathbf{0.8364} & 1 & \mathbf{3.8208} \\ 0.1309 & 0.2189 & \mathbf{0.2617} & 1 \end{pmatrix},$$

Example C.121.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 6 \\ 1/3 & 1 & 1 & 6 \\ 1/2 & 1 & 1 & 4 \\ 1/6 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.471937 \\ 0.239805 \\ \mathbf{0.229396} \\ 0.058862 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9680 & \mathbf{2.0573} & 8.0176 \\ 0.5081 & 1 & \mathbf{1.0454} & 4.0740 \\ \mathbf{0.4861} & \mathbf{0.9566} & 1 & \mathbf{3.8972} \\ 0.1247 & 0.2455 & \mathbf{0.2566} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.469098 \\ 0.238362 \\ 0.234033 \\ 0.058508 \end{pmatrix} = 0.993984 \cdot \begin{pmatrix} 0.471937 \\ 0.239805 \\ \mathbf{0.235449} \\ 0.058862 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9680 & \mathbf{2.0044} & 8.0176 \\ 0.5081 & 1 & \mathbf{1.0185} & 4.0740 \\ \mathbf{0.4989} & \mathbf{0.9818} & 1 & \mathbf{4} \\ 0.1247 & 0.2455 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.122.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 6 \\ 1/3 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 4 \\ 1/6 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.467620 \\ 0.249210 \\ \mathbf{0.226171} \\ 0.056999 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8764 & \mathbf{2.0676} & 8.2040 \\ 0.5329 & 1 & \mathbf{1.1019} & 4.3722 \\ \mathbf{0.4837} & \mathbf{0.9075} & 1 & \mathbf{3.9680} \\ 0.1219 & 0.2287 & \mathbf{0.2520} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.466769 \\ 0.248756 \\ 0.227580 \\ 0.056895 \end{pmatrix} = 0.998179 \cdot \begin{pmatrix} 0.467620 \\ 0.249210 \\ \mathbf{0.227995} \\ 0.056999 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8764 & \mathbf{2.0510} & 8.2040 \\ 0.5329 & 1 & \mathbf{1.0931} & 4.3722 \\ \mathbf{0.4876} & \mathbf{0.9149} & 1 & \mathbf{4} \\ 0.1219 & 0.2287 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.123.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 6 \\ 1/3 & 1 & 3 & 3 \\ 1/2 & 1/3 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.481352 \\ 0.275959 \\ 0.163676 \\ 0.079012 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7443 & 2.9409 & 6.0921 \\ 0.5733 & 1 & 1.6860 & 3.4926 \\ 0.3400 & 0.5931 & 1 & 2.0715 \\ 0.1641 & 0.2863 & 0.4827 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.480769 \\ 0.275625 \\ 0.163478 \\ 0.080128 \end{pmatrix} = 0.998788 \cdot \begin{pmatrix} 0.481352 \\ 0.275959 \\ 0.163676 \\ 0.080225 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7443 & 2.9409 & 6 \\ 0.5733 & 1 & 1.6860 & 3.4398 \\ 0.3400 & 0.5931 & 1 & 2.0402 \\ 1/6 & 0.2907 & 0.4901 & 1 \end{pmatrix},$$

Example C.124.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1027, \quad CR = 0.0387$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.474632 \\ 0.240567 \\ \mathbf{0.234953} \\ 0.049849 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9730 & \mathbf{2.0201} & 9.5215 \\ 0.5068 & 1 & \mathbf{1.0239} & 4.8260 \\ \mathbf{0.4950} & \mathbf{0.9767} & 1 & \mathbf{4.7133} \\ 0.1050 & 0.2072 & \mathbf{0.2122} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.473513 \\ 0.240000 \\ 0.236756 \\ 0.049731 \end{pmatrix} = 0.997643 \cdot \begin{pmatrix} 0.474632 \\ 0.240567 \\ \mathbf{0.237316} \\ 0.049849 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9730 & \mathbf{2} & 9.5215 \\ 0.5068 & 1 & \mathbf{1.0137} & 4.8260 \\ \mathbf{1/2} & \mathbf{0.9865} & 1 & \mathbf{4.7607} \\ 0.1050 & 0.2072 & \mathbf{0.2101} & 1 \end{pmatrix},$$

Example C.125.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1301, \quad CR = 0.0490$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.470872 \\ 0.248724 \\ \mathbf{0.231949} \\ 0.048454 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8931 & \mathbf{2.0301} & 9.7179 \\ 0.5282 & 1 & \mathbf{1.0723} & 5.1332 \\ \mathbf{0.4926} & \mathbf{0.9326} & 1 & \mathbf{4.7870} \\ 0.1029 & 0.1948 & \mathbf{0.2089} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.469236 \\ 0.247860 \\ 0.234618 \\ 0.048286 \end{pmatrix} = 0.996525 \cdot \begin{pmatrix} 0.470872 \\ 0.248724 \\ \mathbf{0.235436} \\ 0.048454 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8931 & \mathbf{2} & 9.7179 \\ 0.5282 & 1 & \mathbf{1.0564} & 5.1332 \\ \mathbf{1/2} & \mathbf{0.9466} & 1 & \mathbf{4.8589} \\ 0.1029 & 0.1948 & \mathbf{0.2058} & 1 \end{pmatrix},$$

Example C.126.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 7 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/9 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1583, \quad CR = 0.0597$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.467589 \\ 0.255894 \\ \mathbf{0.229226} \\ 0.047291 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8273 & \mathbf{2.0399} & 9.8875 \\ 0.5473 & 1 & \mathbf{1.1163} & 5.4110 \\ \mathbf{0.4902} & \mathbf{0.8958} & 1 & \mathbf{4.8471} \\ 0.1011 & 0.1848 & \mathbf{0.2063} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.465463 \\ 0.254730 \\ 0.232731 \\ 0.047076 \end{pmatrix} = 0.995452 \cdot \begin{pmatrix} 0.467589 \\ 0.255894 \\ \mathbf{0.233795} \\ 0.047291 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8273 & \mathbf{2} & 9.8875 \\ 0.5473 & 1 & \mathbf{1.0945} & 5.4110 \\ \mathbf{1/2} & \mathbf{0.9136} & 1 & \mathbf{4.9437} \\ 0.1011 & 0.1848 & \mathbf{0.2023} & 1 \end{pmatrix},$$

Example C.127.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 8 \\ 1/3 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 5 \\ 1/8 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0799, \quad CR = 0.0301$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.484216 \\ 0.236413 \\ \mathbf{0.232300} \\ 0.047070 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0482 & \mathbf{2.0844} & 10.2871 \\ 0.4882 & 1 & \mathbf{1.0177} & 5.0226 \\ \mathbf{0.4797} & \mathbf{0.9826} & 1 & \mathbf{4.9352} \\ 0.0972 & 0.1991 & \mathbf{0.2026} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.482744 \\ 0.235694 \\ 0.234635 \\ 0.046927 \end{pmatrix} = 0.996958 \cdot \begin{pmatrix} 0.484216 \\ 0.236413 \\ \mathbf{0.235351} \\ 0.047070 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0482 & \mathbf{2.0574} & 10.2871 \\ 0.4882 & 1 & \mathbf{1.0045} & 5.0226 \\ \mathbf{0.4860} & \mathbf{0.9955} & 1 & \mathbf{5} \\ 0.0972 & 0.1991 & \mathbf{1/5} & 1 \end{pmatrix},$$

Example C.128.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 8 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 6 \\ 1/8 & 1/9 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1263, \quad CR = 0.0476$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.473261 \\ 0.248284 \\ \mathbf{0.236268} \\ 0.042186 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9061 & \mathbf{2.0031} & 11.2185 \\ 0.5246 & 1 & \mathbf{1.0509} & 5.8855 \\ \mathbf{0.4992} & \mathbf{0.9516} & 1 & \mathbf{5.6007} \\ 0.0891 & 0.1699 & \mathbf{0.1785} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.473090 \\ 0.248195 \\ 0.236545 \\ 0.042170 \end{pmatrix} = 0.999638 \cdot \begin{pmatrix} 0.473261 \\ 0.248284 \\ \mathbf{0.236631} \\ 0.042186 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9061 & \mathbf{2} & 11.2185 \\ 0.5246 & 1 & \mathbf{1.0492} & 5.8855 \\ \mathbf{1/2} & \mathbf{0.9531} & 1 & \mathbf{5.6093} \\ 0.0891 & 0.1699 & \mathbf{0.1783} & 1 \end{pmatrix},$$

Example C.129.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 8 \\ 1/3 & 1 & 2 & 4 \\ 1/2 & 1/2 & 1 & 3 \\ 1/8 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.498715 \\ 0.254440 \\ 0.186220 \\ \mathbf{0.060625} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9601 & 2.6781 & \mathbf{8.2262} \\ 0.5102 & 1 & 1.3663 & \mathbf{4.1969} \\ 0.3734 & 0.7319 & 1 & \mathbf{3.0717} \\ \mathbf{0.1216} & \mathbf{0.2383} & \mathbf{0.3256} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.497994 \\ 0.254072 \\ 0.185951 \\ 0.061984 \end{pmatrix} = 0.998554 \cdot \begin{pmatrix} 0.498715 \\ 0.254440 \\ 0.186220 \\ \mathbf{0.062073} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9601 & 2.6781 & \mathbf{8.0343} \\ 0.5102 & 1 & 1.3663 & \mathbf{4.0990} \\ 0.3734 & 0.7319 & 1 & \mathbf{3} \\ \mathbf{0.1245} & \mathbf{0.2440} & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.130.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 8 \\ 1/3 & 1 & 3 & 5 \\ 1/2 & 1/3 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1999, \quad CR = 0.0754$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.482594 \\ 0.292780 \\ 0.169350 \\ 0.055276 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6483 & 2.8497 & 8.7306 \\ 0.6067 & 1 & 1.7288 & 5.2967 \\ 0.3509 & 0.5784 & 1 & 3.0637 \\ 0.1145 & 0.1888 & 0.3264 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.482028 \\ 0.292437 \\ 0.169151 \\ 0.056384 \end{pmatrix} = 0.998828 \cdot \begin{pmatrix} 0.482594 \\ 0.292780 \\ 0.169350 \\ 0.056450 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6483 & 2.8497 & 8.5491 \\ 0.6067 & 1 & 1.7288 & 5.1865 \\ 0.3509 & 0.5784 & 1 & 3 \\ 0.1170 & 0.1928 & 1/3 & 1 \end{pmatrix},$$

Example C.131.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 9 \\ 1/3 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 6 \\ 1/9 & 1/8 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.484909 \\ 0.237450 \\ \mathbf{0.236547} \\ 0.041093 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0421 & \mathbf{2.0500} & 11.8001 \\ 0.4897 & 1 & \mathbf{1.0038} & 5.7783 \\ \mathbf{0.4878} & \mathbf{0.9962} & 1 & \mathbf{5.7563} \\ 0.0847 & 0.1731 & \mathbf{0.1737} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.484471 \\ 0.237236 \\ 0.237236 \\ 0.041056 \end{pmatrix} = 0.999097 \cdot \begin{pmatrix} 0.484909 \\ 0.237450 \\ \mathbf{0.237450} \\ 0.041093 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0421 & \mathbf{2.0421} & 11.8001 \\ 0.4897 & 1 & \mathbf{1} & 5.7783 \\ \mathbf{0.4897} & \mathbf{1} & 1 & \mathbf{5.7783} \\ 0.0847 & 0.1731 & \mathbf{0.1731} & 1 \end{pmatrix},$$

Example C.132.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 9 \\ 1/3 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 6 \\ 1/9 & 1/9 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.481343 \\ 0.244587 \\ \mathbf{0.234023} \\ 0.040048 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9680 & \mathbf{2.0568} & 12.0193 \\ 0.5081 & 1 & \mathbf{1.0451} & 6.1074 \\ \mathbf{0.4862} & \mathbf{0.9568} & 1 & \mathbf{5.8436} \\ 0.0832 & 0.1637 & \mathbf{0.1711} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.478347 \\ 0.243065 \\ 0.238790 \\ 0.039798 \end{pmatrix} = 0.993776 \cdot \begin{pmatrix} 0.481343 \\ 0.244587 \\ \mathbf{0.240286} \\ 0.040048 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9680 & \mathbf{2.0032} & 12.0193 \\ 0.5081 & 1 & \mathbf{1.0179} & 6.1074 \\ \mathbf{0.4992} & \mathbf{0.9824} & 1 & \mathbf{6} \\ 0.0832 & 0.1637 & \mathbf{1/6} & 1 \end{pmatrix},$$

Example C.133.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 9 \\ 1/3 & 1 & 3 & 5 \\ 1/2 & 1/3 & 1 & 3 \\ 1/9 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.491194 \\ 0.289032 \\ 0.167102 \\ 0.052672 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6994 & 2.9395 & 9.3256 \\ 0.5884 & 1 & 1.7297 & 5.4874 \\ 0.3402 & 0.5781 & 1 & 3.1725 \\ 0.1072 & 0.1822 & 0.3152 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.490260 \\ 0.288483 \\ 0.166784 \\ 0.054473 \end{pmatrix} = 0.998098 \cdot \begin{pmatrix} 0.491194 \\ 0.289032 \\ 0.167102 \\ 0.054577 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6994 & 2.9395 & 9 \\ 0.5884 & 1 & 1.7297 & 5.2959 \\ 0.3402 & 0.5781 & 1 & 3.0618 \\ 1/9 & 0.1888 & 0.3266 & 1 \end{pmatrix},$$

Example C.134.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 4 \\ 1/3 & 1 & 2 & 7 \\ 1/3 & 1/2 & 1 & 2 \\ 1/4 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.473023 \\ 0.301853 \\ \mathbf{0.145993} \\ 0.079131 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.5671 & \mathbf{3.2400} & 5.9777 \\ 0.6381 & 1 & \mathbf{2.0676} & 3.8146 \\ \mathbf{0.3086} & \mathbf{0.4837} & 1 & \mathbf{1.8450} \\ 0.1673 & 0.2622 & \mathbf{0.5420} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.470700 \\ 0.300371 \\ 0.150186 \\ 0.078743 \end{pmatrix} = 0.995091 \cdot \begin{pmatrix} 0.473023 \\ 0.301853 \\ \mathbf{0.150927} \\ 0.079131 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5671 & \mathbf{3.1341} & 5.9777 \\ 0.6381 & 1 & \mathbf{2} & 3.8146 \\ \mathbf{0.3191} & \mathbf{1/2} & 1 & \mathbf{1.9073} \\ 0.1673 & 0.2622 & \mathbf{0.5243} & 1 \end{pmatrix},$$

Example C.135.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 4 \\ 1/3 & 1 & 3 & 2 \\ 1/3 & 1/3 & 1 & 1 \\ 1/4 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.499159 \\ 0.254519 \\ 0.124787 \\ \mathbf{0.121535} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9612 & 4.0001 & \mathbf{4.1071} \\ 0.5099 & 1 & 2.0396 & \mathbf{2.0942} \\ 0.2500 & 0.4903 & 1 & \mathbf{1.0268} \\ \mathbf{0.2435} & \mathbf{0.4775} & \mathbf{0.9739} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.497541 \\ 0.253695 \\ 0.124382 \\ 0.124382 \end{pmatrix} = 0.996759 \cdot \begin{pmatrix} 0.499159 \\ 0.254519 \\ 0.124787 \\ \mathbf{0.124787} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9612 & 4.0001 & \mathbf{4.0001} \\ 0.5099 & 1 & 2.0396 & \mathbf{2.0396} \\ 0.2500 & 0.4903 & 1 & \mathbf{1} \\ \mathbf{0.2500} & \mathbf{0.4903} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.136.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 8 \\ 1/3 & 1 & 4 & 5 \\ 1/3 & 1/4 & 1 & 2 \\ 1/8 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1689, \quad CR = 0.0637$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.514792 \\ 0.302332 \\ 0.123379 \\ 0.059497 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7027 & 4.1724 & 8.6523 \\ 0.5873 & 1 & 2.4504 & 5.0814 \\ 0.2397 & 0.4081 & 1 & 2.0737 \\ 0.1156 & 0.1968 & 0.4822 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.514294 \\ 0.302039 \\ 0.123260 \\ 0.060408 \end{pmatrix} = 0.999032 \cdot \begin{pmatrix} 0.514792 \\ 0.302332 \\ 0.123379 \\ 0.060466 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7027 & 4.1724 & 8.5137 \\ 0.5873 & 1 & 2.4504 & 5 \\ 0.2397 & 0.4081 & 1 & 2.0405 \\ 0.1175 & 1/5 & 0.4901 & 1 \end{pmatrix},$$

Example C.137.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 8 \\ 1/3 & 1 & 5 & 5 \\ 1/3 & 1/5 & 1 & 2 \\ 1/8 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2311, \quad CR = 0.0871$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.508140 \\ 0.315762 \\ 0.118034 \\ 0.058064 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6093 & 4.3050 & 8.7514 \\ 0.6214 & 1 & 2.6752 & 5.4382 \\ 0.2323 & 0.3738 & 1 & 2.0328 \\ 0.1143 & 0.1839 & 0.4919 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.507656 \\ 0.315461 \\ 0.117922 \\ 0.058961 \end{pmatrix} = 0.999048 \cdot \begin{pmatrix} 0.508140 \\ 0.315762 \\ 0.118034 \\ 0.059017 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6093 & 4.3050 & 8.6101 \\ 0.6214 & 1 & 2.6752 & 5.3503 \\ 0.2323 & 0.3738 & 1 & 2 \\ 0.1161 & 0.1869 & 1/2 & 1 \end{pmatrix},$$

Example C.138.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 9 \\ 1/3 & 1 & 2 & 2 \\ 1/3 & 1/2 & 1 & 5 \\ 1/9 & 1/2 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.542905 \\ 0.207790 \\ 0.186510 \\ 0.062795 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6128 & 2.9109 & 8.6457 \\ 0.3827 & 1 & 1.1141 & 3.3090 \\ 0.3435 & 0.8976 & 1 & 2.9701 \\ 0.1157 & 0.3022 & 0.3367 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.550379 \\ 0.204393 \\ 0.183460 \\ 0.061768 \end{pmatrix} = 0.983647 \cdot \begin{pmatrix} 0.559529 \\ 0.207790 \\ 0.186510 \\ 0.062795 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6928 & 3 & 8.9104 \\ 0.3714 & 1 & 1.1141 & 3.3090 \\ 1/3 & 0.8976 & 1 & 2.9701 \\ 0.1122 & 0.3022 & 0.3367 & 1 \end{pmatrix},$$

Example C.139.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 9 \\ 1/3 & 1 & 4 & 5 \\ 1/3 & 1/4 & 1 & 2 \\ 1/9 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.523485 \\ 0.298106 \\ 0.121745 \\ \mathbf{0.056663} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7560 & 4.2998 & \mathbf{9.2385} \\ 0.5695 & 1 & 2.4486 & \mathbf{5.2610} \\ 0.2326 & 0.4084 & 1 & \mathbf{2.1486} \\ \mathbf{0.1082} & \mathbf{0.1901} & \mathbf{0.4654} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.522700 \\ 0.297659 \\ 0.121563 \\ 0.058078 \end{pmatrix} = 0.998501 \cdot \begin{pmatrix} 0.523485 \\ 0.298106 \\ 0.121745 \\ \mathbf{0.058165} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7560 & 4.2998 & \mathbf{9} \\ 0.5695 & 1 & 2.4486 & \mathbf{5.1252} \\ 0.2326 & 0.4084 & 1 & \mathbf{2.0931} \\ \mathbf{1/9} & \mathbf{0.1951} & \mathbf{0.4778} & 1 \end{pmatrix},$$

Example C.140.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 9 \\ 1/3 & 1 & 5 & 5 \\ 1/3 & 1/5 & 1 & 2 \\ 1/9 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.516885 \\ 0.311589 \\ 0.116340 \\ \mathbf{0.055186} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6589 & 4.4429 & \mathbf{9.3663} \\ 0.6028 & 1 & 2.6782 & \mathbf{5.6462} \\ 0.2251 & 0.3734 & 1 & \mathbf{2.1082} \\ \mathbf{0.1068} & \mathbf{0.1771} & \mathbf{0.4743} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.515727 \\ 0.310890 \\ 0.116080 \\ 0.057303 \end{pmatrix} = 0.997759 \cdot \begin{pmatrix} 0.516885 \\ 0.311589 \\ 0.116340 \\ \mathbf{0.057432} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6589 & 4.4429 & \mathbf{9} \\ 0.6028 & 1 & 2.6782 & \mathbf{5.4254} \\ 0.2251 & 0.3734 & 1 & \mathbf{2.0257} \\ \mathbf{1/9} & \mathbf{0.1843} & \mathbf{0.4937} & 1 \end{pmatrix},$$

Example C.141.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 3 & 9 \\ 1/3 & 1 & 5 & 6 \\ 1/3 & 1/5 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.510092 \\ 0.322357 \\ 0.114815 \\ \mathbf{0.052736} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.5824 & 4.4427 & \mathbf{9.6725} \\ 0.6320 & 1 & 2.8076 & \mathbf{6.1126} \\ 0.2251 & 0.3562 & 1 & \mathbf{2.1772} \\ \mathbf{0.1034} & \mathbf{0.1636} & \mathbf{0.4593} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.509587 \\ 0.322038 \\ 0.114701 \\ 0.053673 \end{pmatrix} = 0.999011 \cdot \begin{pmatrix} 0.510092 \\ 0.322357 \\ 0.114815 \\ \mathbf{0.053726} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5824 & 4.4427 & \mathbf{9.4943} \\ 0.6320 & 1 & 2.8076 & \mathbf{6} \\ 0.2251 & 0.3562 & 1 & \mathbf{2.1370} \\ \mathbf{0.1053} & \mathbf{1/6} & \mathbf{0.4679} & 1 \end{pmatrix},$$

Example C.142.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 5 \\ 1/3 & 1 & 2 & 8 \\ 1/4 & 1/2 & 1 & 2 \\ 1/5 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.509105 \\ 0.295555 \\ \mathbf{0.127170} \\ 0.068170 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7225 & \mathbf{4.0033} & 7.4681 \\ 0.5805 & 1 & \mathbf{2.3241} & 4.3355 \\ \mathbf{0.2498} & \mathbf{0.4303} & 1 & \mathbf{1.8655} \\ 0.1339 & 0.2307 & \mathbf{0.5361} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.509051 \\ 0.295524 \\ 0.127263 \\ 0.068163 \end{pmatrix} = 0.999894 \cdot \begin{pmatrix} 0.509105 \\ 0.295555 \\ \mathbf{0.127276} \\ 0.068170 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7225 & \mathbf{4} & 7.4681 \\ 0.5805 & 1 & \mathbf{2.3222} & 4.3355 \\ \mathbf{1/4} & \mathbf{0.4306} & 1 & \mathbf{1.8670} \\ 0.1339 & 0.2307 & \mathbf{0.5356} & 1 \end{pmatrix},$$

Example C.143.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 5 \\ 1/3 & 1 & 2 & 9 \\ 1/4 & 1/2 & 1 & 2 \\ 1/5 & 1/9 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2541, \quad CR = 0.0958$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.505897 \\ 0.302098 \\ \mathbf{0.125386} \\ 0.066618 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6746 & \mathbf{4.0347} & 7.5939 \\ 0.5972 & 1 & \mathbf{2.4093} & 4.5348 \\ \mathbf{0.2478} & \mathbf{0.4151} & 1 & \mathbf{1.8822} \\ 0.1317 & 0.2205 & \mathbf{0.5313} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.505347 \\ 0.301770 \\ 0.126337 \\ 0.066546 \end{pmatrix} = 0.998913 \cdot \begin{pmatrix} 0.505897 \\ 0.302098 \\ \mathbf{0.126474} \\ 0.066618 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6746 & \mathbf{4} & 7.5939 \\ 0.5972 & 1 & \mathbf{2.3886} & 4.5348 \\ \mathbf{1/4} & \mathbf{0.4187} & 1 & \mathbf{1.8985} \\ 0.1317 & 0.2205 & \mathbf{0.5267} & 1 \end{pmatrix},$$

Example C.144.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 5 \\ 1/3 & 1 & 5 & 3 \\ 1/4 & 1/5 & 1 & 1 \\ 1/5 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1544, \quad CR = 0.0582$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.515622 \\ 0.294237 \\ 0.095348 \\ \mathbf{0.094794} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7524 & 5.4078 & \mathbf{5.4394} \\ 0.5706 & 1 & 3.0859 & \mathbf{3.1040} \\ 0.1849 & 0.3241 & 1 & \mathbf{1.0058} \\ \mathbf{0.1838} & \mathbf{0.3222} & \mathbf{0.9942} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.515336 \\ 0.294074 \\ 0.095295 \\ 0.095295 \end{pmatrix} = 0.999446 \cdot \begin{pmatrix} 0.515622 \\ 0.294237 \\ 0.095348 \\ \mathbf{0.095348} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7524 & 5.4078 & \mathbf{5.4078} \\ 0.5706 & 1 & 3.0859 & \mathbf{3.0859} \\ 0.1849 & 0.3241 & 1 & \mathbf{1} \\ \mathbf{0.1849} & \mathbf{0.3241} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.145.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 2 & 6 \\ 1/4 & 1/2 & 1 & 2 \\ 1/6 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.532133 \\ 0.271367 \\ \mathbf{0.129746} \\ 0.066755 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9609 & \mathbf{4.1013} & 7.9715 \\ 0.5100 & 1 & \mathbf{2.0915} & 4.0651 \\ \mathbf{0.2438} & \mathbf{0.4781} & 1 & \mathbf{1.9436} \\ 0.1254 & 0.2460 & \mathbf{0.5145} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.530389 \\ 0.270478 \\ 0.132597 \\ 0.066536 \end{pmatrix} = 0.996724 \cdot \begin{pmatrix} 0.532133 \\ 0.271367 \\ \mathbf{0.133033} \\ 0.066755 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9609 & \mathbf{4} & 7.9715 \\ 0.5100 & 1 & \mathbf{2.0398} & 4.0651 \\ \mathbf{1/4} & \mathbf{0.4902} & 1 & \mathbf{1.9929} \\ 0.1254 & 0.2460 & \mathbf{0.5018} & 1 \end{pmatrix},$$

Example C.146.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 2 & 7 \\ 1/4 & 1/2 & 1 & 2 \\ 1/6 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.526608 \\ 0.281163 \\ \mathbf{0.127673} \\ 0.064557 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8730 & \mathbf{4.1247} & 8.1573 \\ 0.5339 & 1 & \mathbf{2.2022} & 4.3553 \\ \mathbf{0.2424} & \mathbf{0.4541} & 1 & \mathbf{1.9777} \\ 0.1226 & 0.2296 & \mathbf{0.5056} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.525850 \\ 0.280758 \\ 0.128928 \\ 0.064464 \end{pmatrix} = 0.998561 \cdot \begin{pmatrix} 0.526608 \\ 0.281163 \\ \mathbf{0.129114} \\ 0.064557 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8730 & \mathbf{4.0786} & 8.1573 \\ 0.5339 & 1 & \mathbf{2.1776} & 4.3553 \\ \mathbf{0.2452} & \mathbf{0.4592} & 1 & \mathbf{2} \\ 0.1226 & 0.2296 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.147.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 5 & 3 \\ 1/4 & 1/5 & 1 & 1 \\ 1/6 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.529897 \\ 0.288515 \\ 0.093506 \\ 0.088082 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8366 & 5.6670 & 6.0160 \\ 0.5445 & 1 & 3.0855 & 3.2755 \\ 0.1765 & 0.3241 & 1 & 1.0616 \\ 0.1662 & 0.3053 & 0.9420 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.529773 \\ 0.288448 \\ 0.093484 \\ 0.088295 \end{pmatrix} = 0.999766 \cdot \begin{pmatrix} 0.529897 \\ 0.288515 \\ 0.093506 \\ 0.088316 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8366 & 5.6670 & 6 \\ 0.5445 & 1 & 3.0855 & 3.2668 \\ 0.1765 & 0.3241 & 1 & 1.0588 \\ 1/6 & 0.3061 & 0.9445 & 1 \end{pmatrix},$$

Example C.148.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 6 & 3 \\ 1/4 & 1/6 & 1 & 1 \\ 1/6 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.524066 \\ 0.299689 \\ 0.090018 \\ 0.086227 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7487 & 5.8218 & 6.0778 \\ 0.5719 & 1 & 3.3292 & 3.4756 \\ 0.1718 & 0.3004 & 1 & 1.0440 \\ 0.1645 & 0.2877 & 0.9579 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.523481 \\ 0.299354 \\ 0.089918 \\ 0.087247 \end{pmatrix} = 0.998884 \cdot \begin{pmatrix} 0.524066 \\ 0.299689 \\ 0.090018 \\ 0.087344 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7487 & 5.8218 & 6 \\ 0.5719 & 1 & 3.3292 & 3.4311 \\ 0.1718 & 0.3004 & 1 & 1.0306 \\ 1/6 & 0.2915 & 0.9703 & 1 \end{pmatrix},$$

Example C.149.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 7 & 3 \\ 1/4 & 1/7 & 1 & 1 \\ 1/6 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2478, \quad CR = 0.0935$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.519517 \\ 0.308455 \\ 0.087320 \\ \mathbf{0.084708} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6843 & 5.9496 & \mathbf{6.1331} \\ 0.5937 & 1 & 3.5325 & \mathbf{3.6414} \\ 0.1681 & 0.2831 & 1 & \mathbf{1.0308} \\ \mathbf{0.1631} & \mathbf{0.2746} & \mathbf{0.9701} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.518543 \\ 0.307877 \\ 0.087157 \\ 0.086424 \end{pmatrix} = 0.998125 \cdot \begin{pmatrix} 0.519517 \\ 0.308455 \\ 0.087320 \\ \mathbf{0.086586} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6843 & 5.9496 & \mathbf{6} \\ 0.5937 & 1 & 3.5325 & \mathbf{3.5624} \\ 0.1681 & 0.2831 & 1 & \mathbf{1.0085} \\ \mathbf{1/6} & \mathbf{0.2807} & \mathbf{0.9916} & 1 \end{pmatrix},$$

Example C.150.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 6 \\ 1/3 & 1 & 7 & 4 \\ 1/4 & 1/7 & 1 & 1 \\ 1/6 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.509947 \\ 0.325510 \\ 0.085681 \\ 0.078862 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.5666 & 5.9517 & 6.4663 \\ 0.6383 & 1 & 3.7991 & 4.1276 \\ 0.1680 & 0.2632 & 1 & 1.0865 \\ 0.1546 & 0.2423 & 0.9204 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.508668 \\ 0.324693 \\ 0.085466 \\ 0.081173 \end{pmatrix} = 0.997491 \cdot \begin{pmatrix} 0.509947 \\ 0.325510 \\ 0.085681 \\ 0.081377 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5666 & 5.9517 & 6.2664 \\ 0.6383 & 1 & 3.7991 & 4 \\ 0.1680 & 0.2632 & 1 & 1.0529 \\ 0.1596 & 1/4 & 0.9498 & 1 \end{pmatrix},$$

Example C.151.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 8 \\ 1/3 & 1 & 2 & 2 \\ 1/4 & 1/2 & 1 & 3 \\ 1/8 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.575317 \\ 0.202838 \\ 0.149564 \\ 0.072281 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8363 & 3.8466 & 7.9595 \\ 0.3526 & 1 & 1.3562 & 2.8063 \\ 0.2600 & 0.7374 & 1 & 2.0692 \\ 0.1256 & 0.3563 & 0.4833 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.576557 \\ 0.202246 \\ 0.149128 \\ 0.072070 \end{pmatrix} = 0.997081 \cdot \begin{pmatrix} 0.578245 \\ 0.202838 \\ 0.149564 \\ 0.072281 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8508 & 3.8662 & 8 \\ 0.3508 & 1 & 1.3562 & 2.8063 \\ 0.2587 & 0.7374 & 1 & 2.0692 \\ 1/8 & 0.3563 & 0.4833 & 1 \end{pmatrix},$$

Example C.152.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 9 \\ 1/3 & 1 & 2 & 2 \\ 1/4 & 1/2 & 1 & 4 \\ 1/9 & 1/2 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.575894 \\ 0.199349 \\ 0.159322 \\ 0.065436 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8889 & 3.6147 & 8.8009 \\ 0.3462 & 1 & 1.2512 & 3.0465 \\ 0.2767 & 0.7992 & 1 & 2.4348 \\ 0.1136 & 0.3282 & 0.4107 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.581348 \\ 0.196785 \\ 0.157273 \\ 0.064594 \end{pmatrix} = 0.987139 \cdot \begin{pmatrix} 0.588922 \\ 0.199349 \\ 0.159322 \\ 0.065436 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9542 & 3.6964 & 9 \\ 0.3385 & 1 & 1.2512 & 3.0465 \\ 0.2705 & 0.7992 & 1 & 2.4348 \\ 1/9 & 0.3282 & 0.4107 & 1 \end{pmatrix},$$

Example C.153.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 9 \\ 1/3 & 1 & 2 & 8 \\ 1/4 & 1/2 & 1 & 3 \\ 1/9 & 1/8 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.548857 \\ 0.269976 \\ \mathbf{0.134383} \\ 0.046784 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0330 & \mathbf{4.0843} & 11.7316 \\ 0.4919 & 1 & \mathbf{2.0090} & 5.7706 \\ \mathbf{0.2448} & \mathbf{0.4978} & 1 & \mathbf{2.8724} \\ 0.0852 & 0.1733 & \mathbf{0.3481} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548525 \\ 0.269813 \\ 0.134906 \\ 0.046756 \end{pmatrix} = 0.999395 \cdot \begin{pmatrix} 0.548857 \\ 0.269976 \\ \mathbf{0.134988} \\ 0.046784 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0330 & \mathbf{4.0660} & 11.7316 \\ 0.4919 & 1 & \mathbf{2} & 5.7706 \\ \mathbf{0.2459} & \mathbf{1/2} & 1 & \mathbf{2.8853} \\ 0.0852 & 0.1733 & \mathbf{0.3466} & 1 \end{pmatrix},$$

Example C.154.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 9 \\ 1/3 & 1 & 2 & 9 \\ 1/4 & 1/2 & 1 & 3 \\ 1/9 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.544205 \\ 0.277526 \\ \mathbf{0.132725} \\ 0.045544 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9609 & \mathbf{4.1003} & 11.9490 \\ 0.5100 & 1 & \mathbf{2.0910} & 6.0936 \\ \mathbf{0.2439} & \mathbf{0.4782} & 1 & \mathbf{2.9142} \\ 0.0837 & 0.1641 & \mathbf{0.3431} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.542401 \\ 0.276606 \\ 0.135600 \\ 0.045393 \end{pmatrix} = 0.996685 \cdot \begin{pmatrix} 0.544205 \\ 0.277526 \\ \mathbf{0.136051} \\ 0.045544 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9609 & \mathbf{4} & 11.9490 \\ 0.5100 & 1 & \mathbf{2.0399} & 6.0936 \\ \mathbf{1/4} & \mathbf{0.4902} & 1 & \mathbf{2.9872} \\ 0.0837 & 0.1641 & \mathbf{0.3348} & 1 \end{pmatrix},$$

Example C.155.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 3 \\ 1/3 & 1 & 3 & 5 \\ 1/5 & 1/3 & 1 & 1 \\ 1/3 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.493171 \\ 0.302897 \\ \mathbf{0.095980} \\ 0.107952 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6282 & \mathbf{5.1382} & 4.5684 \\ 0.6142 & 1 & \mathbf{3.1558} & 2.8058 \\ \mathbf{0.1946} & \mathbf{0.3169} & 1 & \mathbf{0.8891} \\ 0.2189 & 0.3564 & \mathbf{1.1247} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.491866 \\ 0.302095 \\ 0.098373 \\ 0.107666 \end{pmatrix} = 0.997353 \cdot \begin{pmatrix} 0.493171 \\ 0.302897 \\ \mathbf{0.098634} \\ 0.107952 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6282 & \mathbf{5} & 4.5684 \\ 0.6142 & 1 & \mathbf{3.0709} & 2.8058 \\ \mathbf{1/5} & \mathbf{0.3256} & 1 & \mathbf{0.9137} \\ 0.2189 & 0.3564 & \mathbf{1.0945} & 1 \end{pmatrix},$$

Example C.156.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 7 \\ 1/3 & 1 & 6 & 4 \\ 1/5 & 1/6 & 1 & 1 \\ 1/7 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1417, \quad CR = 0.0534$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.543943 \\ 0.302896 \\ 0.078735 \\ \mathbf{0.074426} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7958 & 6.9086 & \mathbf{7.3085} \\ 0.5569 & 1 & 3.8471 & \mathbf{4.0697} \\ 0.1447 & 0.2599 & 1 & \mathbf{1.0579} \\ \mathbf{0.1368} & \mathbf{0.2457} & \mathbf{0.9453} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543238 \\ 0.302504 \\ 0.078633 \\ 0.075626 \end{pmatrix} = 0.998704 \cdot \begin{pmatrix} 0.543943 \\ 0.302896 \\ 0.078735 \\ \mathbf{0.075724} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7958 & 6.9086 & \mathbf{7.1832} \\ 0.5569 & 1 & 3.8471 & \mathbf{4} \\ 0.1447 & 0.2599 & 1 & \mathbf{1.0398} \\ \mathbf{0.1392} & \mathbf{1/4} & \mathbf{0.9618} & 1 \end{pmatrix},$$

Example C.157.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 7 \\ 1/3 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1 \\ 1/7 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1793, \quad CR = 0.0676$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.538249 \\ 0.312516 \\ 0.076173 \\ \mathbf{0.073063} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7223 & 7.0662 & \mathbf{7.3669} \\ 0.5806 & 1 & 4.1027 & \mathbf{4.2774} \\ 0.1415 & 0.2437 & 1 & \mathbf{1.0426} \\ \mathbf{0.1357} & \mathbf{0.2338} & \mathbf{0.9592} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.536580 \\ 0.311547 \\ 0.075937 \\ 0.075937 \end{pmatrix} = 0.996900 \cdot \begin{pmatrix} 0.538249 \\ 0.312516 \\ 0.076173 \\ \mathbf{0.076173} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7223 & 7.0662 & \mathbf{7.0662} \\ 0.5806 & 1 & 4.1027 & \mathbf{4.1027} \\ 0.1415 & 0.2437 & 1 & \mathbf{1} \\ \mathbf{0.1415} & \mathbf{0.2437} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.158.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 7 \\ 1/3 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1 \\ 1/7 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.533600 \\ 0.320379 \\ 0.074113 \\ \mathbf{0.071908} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6655 & 7.1998 & \mathbf{7.4206} \\ 0.6004 & 1 & 4.3229 & \mathbf{4.4554} \\ 0.1389 & 0.2313 & 1 & \mathbf{1.0307} \\ \mathbf{0.1348} & \mathbf{0.2244} & \mathbf{0.9703} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.532426 \\ 0.319674 \\ 0.073950 \\ 0.073950 \end{pmatrix} = 0.997800 \cdot \begin{pmatrix} 0.533600 \\ 0.320379 \\ 0.074113 \\ \mathbf{0.074113} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6655 & 7.1998 & \mathbf{7.1998} \\ 0.6004 & 1 & 4.3229 & \mathbf{4.3229} \\ 0.1389 & 0.2313 & 1 & \mathbf{1} \\ \mathbf{0.1389} & \mathbf{0.2313} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.159.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 7 \\ 1/3 & 1 & 9 & 4 \\ 1/5 & 1/9 & 1 & 1 \\ 1/7 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2553, \quad CR = 0.0963$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.529777 \\ 0.326874 \\ 0.072422 \\ \mathbf{0.070928} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6207 & 7.3152 & \mathbf{7.4692} \\ 0.6170 & 1 & 4.5135 & \mathbf{4.6085} \\ 0.1367 & 0.2216 & 1 & \mathbf{1.0211} \\ \mathbf{0.1339} & \mathbf{0.2170} & \mathbf{0.9794} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.528986 \\ 0.326386 \\ 0.072314 \\ 0.072314 \end{pmatrix} = 0.998509 \cdot \begin{pmatrix} 0.529777 \\ 0.326874 \\ 0.072422 \\ \mathbf{0.072422} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6207 & 7.3152 & \mathbf{7.3152} \\ 0.6170 & 1 & 4.5135 & \mathbf{4.5135} \\ 0.1367 & 0.2216 & 1 & \mathbf{1} \\ \mathbf{0.1367} & \mathbf{0.2216} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.160.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 7 \\ 1/3 & 1 & 9 & 5 \\ 1/5 & 1/9 & 1 & 1 \\ 1/7 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2539, \quad CR = 0.0957$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.521019 \\ 0.340762 \\ 0.071154 \\ \mathbf{0.067064} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.5290 & 7.3224 & \mathbf{7.7690} \\ 0.6540 & 1 & 4.7891 & \mathbf{5.0811} \\ 0.1366 & 0.2088 & 1 & \mathbf{1.0610} \\ \mathbf{0.1287} & \mathbf{0.1968} & \mathbf{0.9425} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.520453 \\ 0.340392 \\ 0.071077 \\ 0.068078 \end{pmatrix} = 0.998913 \cdot \begin{pmatrix} 0.521019 \\ 0.340762 \\ 0.071154 \\ \mathbf{0.068152} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5290 & 7.3224 & \mathbf{7.6449} \\ 0.6540 & 1 & 4.7891 & \mathbf{5} \\ 0.1366 & 0.2088 & 1 & \mathbf{1.0440} \\ \mathbf{0.1308} & \mathbf{1/5} & \mathbf{0.9578} & 1 \end{pmatrix},$$

Example C.161.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 8 \\ 1/3 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.543511 \\ 0.315649 \\ 0.072912 \\ \mathbf{0.067928} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7219 & 7.4544 & \mathbf{8.0013} \\ 0.5808 & 1 & 4.3292 & \mathbf{4.6468} \\ 0.1341 & 0.2310 & 1 & \mathbf{1.0734} \\ \mathbf{0.1250} & \mathbf{0.2152} & \mathbf{0.9317} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543505 \\ 0.315645 \\ 0.072911 \\ 0.067938 \end{pmatrix} = 0.999989 \cdot \begin{pmatrix} 0.543511 \\ 0.315649 \\ 0.072912 \\ \mathbf{0.067939} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7219 & 7.4544 & \mathbf{8} \\ 0.5808 & 1 & 4.3292 & \mathbf{4.6461} \\ 0.1341 & 0.2310 & 1 & \mathbf{1.0732} \\ \mathbf{1/8} & \mathbf{0.2152} & \mathbf{0.9318} & 1 \end{pmatrix},$$

Example C.162.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 8 \\ 1/3 & 1 & 9 & 4 \\ 1/5 & 1/9 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2541, \quad CR = 0.0958$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.539714 \\ 0.322175 \\ 0.071197 \\ \mathbf{0.066914} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6752 & 7.5805 & \mathbf{8.0658} \\ 0.5969 & 1 & 4.5251 & \mathbf{4.8147} \\ 0.1319 & 0.2210 & 1 & \mathbf{1.0640} \\ \mathbf{0.1240} & \mathbf{0.2077} & \mathbf{0.9398} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539417 \\ 0.321997 \\ 0.071158 \\ 0.067427 \end{pmatrix} = 0.999450 \cdot \begin{pmatrix} 0.539714 \\ 0.322175 \\ 0.071197 \\ \mathbf{0.067464} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6752 & 7.5805 & \mathbf{8} \\ 0.5969 & 1 & 4.5251 & \mathbf{4.7755} \\ 0.1319 & 0.2210 & 1 & \mathbf{1.0553} \\ \mathbf{1/8} & \mathbf{0.2094} & \mathbf{0.9476} & 1 \end{pmatrix},$$

Example C.163.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 8 \\ 1/3 & 1 & 9 & 5 \\ 1/5 & 1/9 & 1 & 1 \\ 1/8 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2489, \quad CR = 0.0939$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.531336 \\ 0.335301 \\ 0.070127 \\ \mathbf{0.063236} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.5847 & 7.5767 & \mathbf{8.4025} \\ 0.6311 & 1 & 4.7813 & \mathbf{5.3024} \\ 0.1320 & 0.2091 & 1 & \mathbf{1.1090} \\ \mathbf{0.1190} & \mathbf{0.1886} & \mathbf{0.9017} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.529651 \\ 0.334238 \\ 0.069905 \\ 0.066206 \end{pmatrix} = 0.996829 \cdot \begin{pmatrix} 0.531336 \\ 0.335301 \\ 0.070127 \\ \mathbf{0.066417} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5847 & 7.5767 & \mathbf{8} \\ 0.6311 & 1 & 4.7813 & \mathbf{5.0484} \\ 0.1320 & 0.2091 & 1 & \mathbf{1.0559} \\ \mathbf{1/8} & \mathbf{0.1981} & \mathbf{0.9471} & 1 \end{pmatrix},$$

Example C.164.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 9 \\ 1/3 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 3 \\ 1/9 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.590582 \\ 0.216798 \\ 0.124675 \\ 0.067945 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7241 & 4.7370 & 8.6920 \\ 0.3671 & 1 & 1.7389 & 3.1908 \\ 0.2111 & 0.5751 & 1 & 1.8349 \\ 0.1150 & 0.3134 & 0.5450 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.598973 \\ 0.212355 \\ 0.122120 \\ 0.066553 \end{pmatrix} = 0.979505 \cdot \begin{pmatrix} 0.611505 \\ 0.216798 \\ 0.124675 \\ 0.067945 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8206 & 4.9048 & 9 \\ 0.3545 & 1 & 1.7389 & 3.1908 \\ 0.2039 & 0.5751 & 1 & 1.8349 \\ 1/9 & 0.3134 & 0.5450 & 1 \end{pmatrix},$$

Example C.165.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.605532 \\ 0.213196 \\ 0.105240 \\ 0.076032 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8403 & 5.7538 & 7.9641 \\ 0.3521 & 1 & 2.0258 & 2.8040 \\ 0.1738 & 0.4936 & 1 & 1.3841 \\ 0.1256 & 0.3566 & 0.7225 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.606605 \\ 0.212616 \\ 0.104953 \\ 0.075826 \end{pmatrix} = 0.997280 \cdot \begin{pmatrix} 0.608259 \\ 0.213196 \\ 0.105240 \\ 0.076032 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8530 & 5.7798 & 8 \\ 0.3505 & 1 & 2.0258 & 2.8040 \\ 0.1730 & 0.4936 & 1 & 1.3841 \\ 1/8 & 0.3566 & 0.7225 & 1 \end{pmatrix},$$

Example C.166.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 4 & 2 \\ 1/6 & 1/4 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.595081 \\ 0.230558 \\ 0.099209 \\ 0.075151 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5811 & 5.9982 & 7.9184 \\ 0.3874 & 1 & 2.3240 & 3.0679 \\ 0.1667 & 0.4303 & 1 & 1.3201 \\ 0.1263 & 0.3260 & 0.7575 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.595152 \\ 0.230517 \\ 0.099192 \\ 0.075138 \end{pmatrix} = 0.999825 \cdot \begin{pmatrix} 0.595256 \\ 0.230558 \\ 0.099209 \\ 0.075151 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5818 & 6 & 7.9208 \\ 0.3873 & 1 & 2.3240 & 3.0679 \\ 1/6 & 0.4303 & 1 & 1.3201 \\ 0.1263 & 0.3260 & 0.7575 & 1 \end{pmatrix},$$

Example C.167.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 6 & 4 \\ 1/6 & 1/6 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.568778 \\ 0.290350 \\ 0.071468 \\ 0.069404 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9589 & 7.9585 & 8.1952 \\ 0.5105 & 1 & 4.0626 & 4.1835 \\ 0.1257 & 0.2461 & 1 & 1.0297 \\ 0.1220 & 0.2390 & 0.9711 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567816 \\ 0.289860 \\ 0.071347 \\ 0.070977 \end{pmatrix} = 0.998310 \cdot \begin{pmatrix} 0.568778 \\ 0.290350 \\ 0.071468 \\ 0.071097 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9589 & 7.9585 & 8 \\ 0.5105 & 1 & 4.0626 & 4.0839 \\ 0.1257 & 0.2461 & 1 & 1.0052 \\ 1/8 & 0.2449 & 0.9948 & 1 \end{pmatrix},$$

Example C.168.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 7 & 4 \\ 1/6 & 1/7 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.562344 \\ 0.300390 \\ 0.069049 \\ \mathbf{0.068217} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8720 & 8.1441 & \mathbf{8.2435} \\ 0.5342 & 1 & 4.3504 & \mathbf{4.4035} \\ 0.1228 & 0.2299 & 1 & \mathbf{1.0122} \\ \mathbf{0.1213} & \mathbf{0.2271} & \mathbf{0.9879} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.561877 \\ 0.300140 \\ 0.068992 \\ 0.068992 \end{pmatrix} = 0.999168 \cdot \begin{pmatrix} 0.562344 \\ 0.300390 \\ 0.069049 \\ \mathbf{0.069049} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8720 & 8.1441 & \mathbf{8.1441} \\ 0.5342 & 1 & 4.3504 & \mathbf{4.3504} \\ 0.1228 & 0.2299 & 1 & \mathbf{1} \\ \mathbf{0.1228} & \mathbf{0.2299} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.169.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 8 & 5 \\ 1/6 & 1/8 & 1 & 1 \\ 1/8 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1689, \quad CR = 0.0637$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.548566 \\ 0.321874 \\ 0.066034 \\ \mathbf{0.063526} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7043 & 8.3074 & \mathbf{8.6353} \\ 0.5868 & 1 & 4.8744 & \mathbf{5.0668} \\ 0.1204 & 0.2052 & 1 & \mathbf{1.0395} \\ \mathbf{0.1158} & \mathbf{0.1974} & \mathbf{0.9620} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548101 \\ 0.321601 \\ 0.065978 \\ 0.064320 \end{pmatrix} = 0.999152 \cdot \begin{pmatrix} 0.548566 \\ 0.321874 \\ 0.066034 \\ \mathbf{0.064375} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7043 & 8.3074 & \mathbf{8.5214} \\ 0.5868 & 1 & 4.8744 & \mathbf{5} \\ 0.1204 & 0.2052 & 1 & \mathbf{1.0258} \\ \mathbf{0.1174} & \mathbf{1/5} & \mathbf{0.9749} & 1 \end{pmatrix},$$

Example C.170.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 8 \\ 1/3 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1 \\ 1/8 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1999, \quad CR = 0.0754$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.543992 \\ 0.328974 \\ 0.064412 \\ \mathbf{0.062622} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6536 & 8.4456 & \mathbf{8.6869} \\ 0.6047 & 1 & 5.1074 & \mathbf{5.2533} \\ 0.1184 & 0.1958 & 1 & \mathbf{1.0286} \\ \mathbf{0.1151} & \mathbf{0.1904} & \mathbf{0.9722} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543021 \\ 0.328386 \\ 0.064296 \\ 0.064296 \end{pmatrix} = 0.998214 \cdot \begin{pmatrix} 0.543992 \\ 0.328974 \\ 0.064412 \\ \mathbf{0.064412} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6536 & 8.4456 & \mathbf{8.4456} \\ 0.6047 & 1 & 5.1074 & \mathbf{5.1074} \\ 0.1184 & 0.1958 & 1 & \mathbf{1} \\ \mathbf{0.1184} & \mathbf{0.1958} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.171.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.613493 \\ 0.211410 \\ 0.102403 \\ 0.072694 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9019 & 5.9910 & 8.4394 \\ 0.3446 & 1 & 2.0645 & 2.9082 \\ 0.1669 & 0.4844 & 1 & 1.4087 \\ 0.1185 & 0.3439 & 0.7099 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.613850 \\ 0.211215 \\ 0.102308 \\ 0.072627 \end{pmatrix} = 0.999078 \cdot \begin{pmatrix} 0.614416 \\ 0.211410 \\ 0.102403 \\ 0.072694 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9063 & 6 & 8.4521 \\ 0.3441 & 1 & 2.0645 & 2.9082 \\ 1/6 & 0.4844 & 1 & 1.4087 \\ 0.1183 & 0.3439 & 0.7099 & 1 \end{pmatrix},$$

Example C.172.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 3 \\ 1/9 & 1/2 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.605389 \\ 0.209163 \\ 0.117739 \\ 0.067709 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8943 & 5.1418 & 8.9410 \\ 0.3455 & 1 & 1.7765 & 3.0891 \\ 0.1945 & 0.5629 & 1 & 1.7389 \\ 0.1118 & 0.3237 & 0.5751 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.606959 \\ 0.208331 \\ 0.117271 \\ 0.067440 \end{pmatrix} = 0.996023 \cdot \begin{pmatrix} 0.609382 \\ 0.209163 \\ 0.117739 \\ 0.067709 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9134 & 5.1757 & 9 \\ 0.3432 & 1 & 1.7765 & 3.0891 \\ 0.1932 & 0.5629 & 1 & 1.7389 \\ 1/9 & 0.3237 & 0.5751 & 1 \end{pmatrix},$$

Example C.173.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 7 & 5 \\ 1/6 & 1/7 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1351, \quad CR = 0.0509$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.562783 \\ 0.308638 \\ 0.067094 \\ \mathbf{0.061485} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8234 & 8.3879 & \mathbf{9.1532} \\ 0.5484 & 1 & 4.6001 & \mathbf{5.0198} \\ 0.1192 & 0.2174 & 1 & \mathbf{1.0912} \\ \mathbf{0.1093} & \mathbf{0.1992} & \mathbf{0.9164} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.562646 \\ 0.308563 \\ 0.067078 \\ 0.061713 \end{pmatrix} = 0.999757 \cdot \begin{pmatrix} 0.562783 \\ 0.308638 \\ 0.067094 \\ \mathbf{0.061728} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8234 & 8.3879 & \mathbf{9.1172} \\ 0.5484 & 1 & 4.6001 & \mathbf{5} \\ 0.1192 & 0.2174 & 1 & \mathbf{1.0869} \\ \mathbf{0.1097} & \mathbf{1/5} & \mathbf{0.9200} & 1 \end{pmatrix},$$

Example C.174.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 8 & 5 \\ 1/6 & 1/8 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.557357 \\ 0.317110 \\ 0.065115 \\ \mathbf{0.060419} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7576 & 8.5596 & \mathbf{9.2249} \\ 0.5690 & 1 & 4.8700 & \mathbf{5.2485} \\ 0.1168 & 0.2053 & 1 & \mathbf{1.0777} \\ \mathbf{0.1084} & \mathbf{0.1905} & \mathbf{0.9279} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.556516 \\ 0.316632 \\ 0.065017 \\ 0.061835 \end{pmatrix} = 0.998493 \cdot \begin{pmatrix} 0.557357 \\ 0.317110 \\ 0.065115 \\ \mathbf{0.061929} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7576 & 8.5596 & \mathbf{9} \\ 0.5690 & 1 & 4.8700 & \mathbf{5.1206} \\ 0.1168 & 0.2053 & 1 & \mathbf{1.0515} \\ \mathbf{1/9} & \mathbf{0.1953} & \mathbf{0.9511} & 1 \end{pmatrix},$$

Example C.175.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 9 \\ 1/3 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.552794 \\ 0.324238 \\ 0.063476 \\ \mathbf{0.059492} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7049 & 8.7087 & \mathbf{9.2919} \\ 0.5865 & 1 & 5.1080 & \mathbf{5.4501} \\ 0.1148 & 0.1958 & 1 & \mathbf{1.0670} \\ \mathbf{0.1076} & \mathbf{0.1835} & \mathbf{0.9372} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551729 \\ 0.323613 \\ 0.063354 \\ 0.061303 \end{pmatrix} = 0.998074 \cdot \begin{pmatrix} 0.552794 \\ 0.324238 \\ 0.063476 \\ \mathbf{0.061422} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7049 & 8.7087 & \mathbf{9} \\ 0.5865 & 1 & 5.1080 & \mathbf{5.2789} \\ 0.1148 & 0.1958 & 1 & \mathbf{1.0335} \\ \mathbf{1/9} & \mathbf{0.1894} & \mathbf{0.9676} & 1 \end{pmatrix},$$

Example C.176.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 4 \\ 1/3 & 1 & 4 & 7 \\ 1/7 & 1/4 & 1 & 1 \\ 1/4 & 1/7 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2395, \quad CR = 0.0903$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.521828 \\ 0.319867 \\ \mathbf{0.073915} \\ 0.084390 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6314 & \mathbf{7.0598} & 6.1835 \\ 0.6130 & 1 & \mathbf{4.3275} & 3.7903 \\ \mathbf{0.1416} & \mathbf{0.2311} & 1 & \mathbf{0.8759} \\ 0.1617 & 0.2638 & \mathbf{1.1417} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.521499 \\ 0.319665 \\ 0.074500 \\ 0.084337 \end{pmatrix} = 0.999369 \cdot \begin{pmatrix} 0.521828 \\ 0.319867 \\ \mathbf{0.074547} \\ 0.084390 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6314 & \mathbf{7} & 6.1835 \\ 0.6130 & 1 & \mathbf{4.2908} & 3.7903 \\ \mathbf{1/7} & \mathbf{0.2331} & 1 & \mathbf{0.8834} \\ 0.1617 & 0.2638 & \mathbf{1.1320} & 1 \end{pmatrix},$$

Example C.177.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 9 \\ 1/3 & 1 & 4 & 2 \\ 1/7 & 1/4 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.615574 \\ 0.221821 \\ 0.091234 \\ 0.071372 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7751 & 6.7472 & 8.6249 \\ 0.3603 & 1 & 2.4313 & 3.1080 \\ 0.1482 & 0.4113 & 1 & 1.2783 \\ 0.1159 & 0.3218 & 0.7823 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.624240 \\ 0.216820 \\ 0.089177 \\ 0.069763 \end{pmatrix} = 0.977457 \cdot \begin{pmatrix} 0.638637 \\ 0.221821 \\ 0.091234 \\ 0.071372 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8791 & 7 & 8.9480 \\ 0.3473 & 1 & 2.4313 & 3.1080 \\ 1/7 & 0.4113 & 1 & 1.2783 \\ 0.1118 & 0.3218 & 0.7823 & 1 \end{pmatrix},$$

Example C.178.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 9 \\ 1/3 & 1 & 5 & 2 \\ 1/7 & 1/5 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2300, \quad CR = 0.0867$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.606199 \\ 0.235838 \\ 0.087275 \\ 0.070688 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5704 & 6.9459 & 8.5757 \\ 0.3890 & 1 & 2.7022 & 3.3363 \\ 0.1440 & 0.3701 & 1 & 1.2346 \\ 0.1166 & 0.2997 & 0.8100 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.608051 \\ 0.234729 \\ 0.086864 \\ 0.070356 \end{pmatrix} = 0.995297 \cdot \begin{pmatrix} 0.610924 \\ 0.235838 \\ 0.087275 \\ 0.070688 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5904 & 7 & 8.6425 \\ 0.3860 & 1 & 2.7022 & 3.3363 \\ 1/7 & 0.3701 & 1 & 1.2346 \\ 0.1157 & 0.2997 & 0.8100 & 1 \end{pmatrix},$$

Example C.179.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 9 \\ 1/3 & 1 & 5 & 4 \\ 1/7 & 1/5 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0490, \quad CR = 0.0185$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.597959 \\ 0.267078 \\ 0.068645 \\ \mathbf{0.066319} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2389 & 8.7109 & \mathbf{9.0165} \\ 0.4466 & 1 & 3.8907 & \mathbf{4.0272} \\ 0.1148 & 0.2570 & 1 & \mathbf{1.0351} \\ \mathbf{0.1109} & \mathbf{0.2483} & \mathbf{0.9661} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.597886 \\ 0.267046 \\ 0.068636 \\ 0.066432 \end{pmatrix} = 0.999879 \cdot \begin{pmatrix} 0.597959 \\ 0.267078 \\ 0.068645 \\ \mathbf{0.066440} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2389 & 8.7109 & \mathbf{9} \\ 0.4466 & 1 & 3.8907 & \mathbf{4.0198} \\ 0.1148 & 0.2570 & 1 & \mathbf{1.0332} \\ \mathbf{1/9} & \mathbf{0.2488} & \mathbf{0.9679} & 1 \end{pmatrix},$$

Example C.180.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 9 \\ 1/3 & 1 & 6 & 4 \\ 1/7 & 1/6 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0762, \quad CR = 0.0287$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.590031 \\ 0.279079 \\ 0.065732 \\ \mathbf{0.065157} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1142 & 8.9763 & \mathbf{9.0556} \\ 0.4730 & 1 & 4.2457 & \mathbf{4.2832} \\ 0.1114 & 0.2355 & 1 & \mathbf{1.0088} \\ \mathbf{0.1104} & \mathbf{0.2335} & \mathbf{0.9912} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.589794 \\ 0.278967 \\ 0.065706 \\ 0.065533 \end{pmatrix} = 0.999598 \cdot \begin{pmatrix} 0.590031 \\ 0.279079 \\ 0.065732 \\ \mathbf{0.065559} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1142 & 8.9763 & \mathbf{9} \\ 0.4730 & 1 & 4.2457 & \mathbf{4.2569} \\ 0.1114 & 0.2355 & 1 & \mathbf{1.0026} \\ \mathbf{1/9} & \mathbf{0.2349} & \mathbf{0.9974} & 1 \end{pmatrix},$$

Example C.181.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 9 \\ 1/3 & 1 & 8 & 5 \\ 1/7 & 1/8 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1321, \quad CR = 0.0498$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.569212 \\ 0.310428 \\ 0.060685 \\ \mathbf{0.059676} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8336 & 9.3797 & \mathbf{9.5384} \\ 0.5454 & 1 & 5.1154 & \mathbf{5.2019} \\ 0.1066 & 0.1955 & 1 & \mathbf{1.0169} \\ \mathbf{0.1048} & \mathbf{0.1922} & \mathbf{0.9834} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568637 \\ 0.310114 \\ 0.060624 \\ 0.060624 \end{pmatrix} = 0.998991 \cdot \begin{pmatrix} 0.569212 \\ 0.310428 \\ 0.060685 \\ \mathbf{0.060685} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8336 & 9.3797 & \mathbf{9.3797} \\ 0.5454 & 1 & 5.1154 & \mathbf{5.1154} \\ 0.1066 & 0.1955 & 1 & \mathbf{1} \\ \mathbf{0.1066} & \mathbf{0.1955} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.182.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 9 \\ 1/3 & 1 & 9 & 5 \\ 1/7 & 1/9 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1603, \quad CR = 0.0605$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.564103 \\ 0.317898 \\ 0.059138 \\ \mathbf{0.058861} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7745 & 9.5388 & \mathbf{9.5836} \\ 0.5635 & 1 & 5.3755 & \mathbf{5.4008} \\ 0.1048 & 0.1860 & 1 & \mathbf{1.0047} \\ \mathbf{0.1043} & \mathbf{0.1852} & \mathbf{0.9953} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.563947 \\ 0.317810 \\ 0.059122 \\ 0.059122 \end{pmatrix} = 0.999723 \cdot \begin{pmatrix} 0.564103 \\ 0.317898 \\ 0.059138 \\ \mathbf{0.059138} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7745 & 9.5388 & \mathbf{9.5388} \\ 0.5635 & 1 & 5.3755 & \mathbf{5.3755} \\ 0.1048 & 0.1860 & 1 & \mathbf{1} \\ \mathbf{0.1048} & \mathbf{0.1860} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.183.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 5 \\ 1/3 & 1 & 5 & 8 \\ 1/8 & 1/5 & 1 & 1 \\ 1/5 & 1/8 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2144, \quad CR = 0.0808$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.535176 \\ 0.328708 \\ \mathbf{0.064270} \\ 0.071845 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6281 & \mathbf{8.3270} & 7.4490 \\ 0.6142 & 1 & \mathbf{5.1145} & 4.5752 \\ \mathbf{0.1201} & \mathbf{0.1955} & 1 & \mathbf{0.8946} \\ 0.1342 & 0.2186 & \mathbf{1.1179} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.534390 \\ 0.328225 \\ 0.065645 \\ 0.071740 \end{pmatrix} = 0.998531 \cdot \begin{pmatrix} 0.535176 \\ 0.328708 \\ \mathbf{0.065742} \\ 0.071845 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6281 & \mathbf{8.1406} & 7.4490 \\ 0.6142 & 1 & \mathbf{5} & 4.5752 \\ \mathbf{0.1228} & \mathbf{1/5} & 1 & \mathbf{0.9150} \\ 0.1342 & 0.2186 & \mathbf{1.0928} & 1 \end{pmatrix},$$

Example C.184.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 9 \\ 1/3 & 1 & 4 & 2 \\ 1/8 & 1/4 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.625919 \\ 0.215817 \\ 0.087240 \\ 0.071025 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{cos}}{w_j^{cos}} \end{bmatrix} = \begin{pmatrix} 1 & 2.9002 & 7.1747 & 8.8127 \\ 0.3448 & 1 & 2.4738 & 3.0386 \\ 0.1394 & 0.4042 & 1 & 1.2283 \\ 0.1135 & 0.3291 & 0.8141 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.630831 \\ 0.212983 \\ 0.086094 \\ 0.070092 \end{pmatrix} = 0.986869 \cdot \begin{pmatrix} 0.639224 \\ 0.215817 \\ 0.087240 \\ 0.071025 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2.9619 & 7.3272 & 9 \\ 0.3376 & 1 & 2.4738 & 3.0386 \\ 0.1365 & 0.4042 & 1 & 1.2283 \\ 1/9 & 0.3291 & 0.8141 & 1 \end{pmatrix},$$

Example C.185.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 9 \\ 1/3 & 1 & 5 & 2 \\ 1/8 & 1/5 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2267, \quad CR = 0.0855$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.616897 \\ 0.229245 \\ 0.083458 \\ 0.070400 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6910 & 7.3917 & 8.7627 \\ 0.3716 & 1 & 2.7468 & 3.2563 \\ 0.1353 & 0.3641 & 1 & 1.1855 \\ 0.1141 & 0.3071 & 0.8435 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.623192 \\ 0.225478 \\ 0.082087 \\ 0.069244 \end{pmatrix} = 0.983570 \cdot \begin{pmatrix} 0.633602 \\ 0.229245 \\ 0.083458 \\ 0.070400 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7639 & 7.5919 & 9 \\ 0.3618 & 1 & 2.7468 & 3.2563 \\ 0.1317 & 0.3641 & 1 & 1.1855 \\ 1/9 & 0.3071 & 0.8435 & 1 \end{pmatrix},$$

Example C.186.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 7 \\ 1/3 & 1 & 2 & 3 \\ 1/9 & 1/2 & 1 & 2 \\ 1/7 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0762, \quad CR = 0.0287$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.622835 \\ 0.203644 \\ 0.103673 \\ 0.069847 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0584 & 6.0077 & 8.9171 \\ 0.3270 & 1 & 1.9643 & 2.9156 \\ 0.1665 & 0.5091 & 1 & 1.4843 \\ 0.1121 & 0.3430 & 0.6737 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.620538 \\ 0.206581 \\ 0.103291 \\ 0.069590 \end{pmatrix} = 0.996312 \cdot \begin{pmatrix} 0.622835 \\ 0.207346 \\ 0.103673 \\ 0.069847 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0038 & 6.0077 & 8.9171 \\ 0.3329 & 1 & 2 & 2.9686 \\ 0.1665 & 1/2 & 1 & 1.4843 \\ 0.1121 & 0.3369 & 0.6737 & 1 \end{pmatrix},$$

Example C.187.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 9 \\ 1/3 & 1 & 2 & 4 \\ 1/9 & 1/2 & 1 & 3 \\ 1/9 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.628027 \\ 0.207466 \\ 0.111269 \\ 0.053238 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0271 & 5.6442 & 11.7967 \\ 0.3303 & 1 & 1.8646 & 3.8970 \\ 0.1772 & 0.5363 & 1 & 2.0900 \\ 0.0848 & 0.2566 & 0.4785 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.626851 \\ 0.208950 \\ 0.111060 \\ 0.053138 \end{pmatrix} = 0.998128 \cdot \begin{pmatrix} 0.628027 \\ 0.209342 \\ 0.111269 \\ 0.053238 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.6442 & 11.7967 \\ 1/3 & 1 & 1.8814 & 3.9322 \\ 0.1772 & 0.5315 & 1 & 2.0900 \\ 0.0848 & 0.2543 & 0.4785 & 1 \end{pmatrix},$$

Example C.188.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 9 \\ 1/3 & 1 & 5 & 2 \\ 1/9 & 1/5 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.625935 \\ 0.223519 \\ 0.080374 \\ 0.070172 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8004 & 7.7877 & 8.9200 \\ 0.3571 & 1 & 2.7810 & 3.1853 \\ 0.1284 & 0.3596 & 1 & 1.1454 \\ 0.1121 & 0.3139 & 0.8731 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.628022 \\ 0.222272 \\ 0.079926 \\ 0.069780 \end{pmatrix} = 0.994421 \cdot \begin{pmatrix} 0.631546 \\ 0.223519 \\ 0.080374 \\ 0.070172 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8255 & 7.8575 & 9 \\ 0.3539 & 1 & 2.7810 & 3.1853 \\ 0.1273 & 0.3596 & 1 & 1.1454 \\ 1/9 & 0.3139 & 0.8731 & 1 \end{pmatrix},$$

Example C.189.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 3 \\ 1/4 & 1 & 1 & 4 \\ 1/2 & 1 & 1 & 2 \\ 1/3 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.457005 \\ 0.230200 \\ \mathbf{0.207456} \\ 0.105339 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9853 & \mathbf{2.2029} & 4.3384 \\ 0.5037 & 1 & \mathbf{1.1096} & 2.1853 \\ \mathbf{0.4539} & \mathbf{0.9012} & 1 & \mathbf{1.9694} \\ 0.2305 & 0.4576 & \mathbf{0.5078} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.455538 \\ 0.229461 \\ 0.210001 \\ 0.105000 \end{pmatrix} = 0.996789 \cdot \begin{pmatrix} 0.457005 \\ 0.230200 \\ \mathbf{0.210677} \\ 0.105339 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9853 & \mathbf{2.1692} & 4.3384 \\ 0.5037 & 1 & \mathbf{1.0927} & 2.1853 \\ \mathbf{0.4610} & \mathbf{0.9152} & 1 & \mathbf{2} \\ 0.2305 & 0.4576 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.190.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 4 \\ 1/4 & 1 & 1 & 5 \\ 1/2 & 1 & 1 & 3 \\ 1/4 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.469490 \\ 0.230507 \\ \mathbf{0.220586} \\ 0.079416 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0368 & \mathbf{2.1284} & 5.9118 \\ 0.4910 & 1 & \mathbf{1.0450} & 2.9025 \\ \mathbf{0.4698} & \mathbf{0.9570} & 1 & \mathbf{2.7776} \\ 0.1692 & 0.3445 & \mathbf{0.3600} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.464878 \\ 0.228243 \\ 0.228243 \\ 0.078636 \end{pmatrix} = 0.990176 \cdot \begin{pmatrix} 0.469490 \\ 0.230507 \\ \mathbf{0.230507} \\ 0.079416 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0368 & \mathbf{2.0368} & 5.9118 \\ 0.4910 & 1 & \mathbf{1} & 2.9025 \\ \mathbf{0.4910} & \mathbf{1} & 1 & \mathbf{2.9025} \\ 0.1692 & 0.3445 & \mathbf{0.3445} & 1 \end{pmatrix},$$

Example C.191.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 5 \\ 1/4 & 1 & 1 & 6 \\ 1/2 & 1 & 1 & 4 \\ 1/5 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.477042 \\ 0.230392 \\ \mathbf{0.228669} \\ 0.063897 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0706 & \mathbf{2.0862} & 7.4658 \\ 0.4830 & 1 & \mathbf{1.0075} & 3.6057 \\ \mathbf{0.4793} & \mathbf{0.9925} & 1 & \mathbf{3.5787} \\ 0.1339 & 0.2773 & \mathbf{0.2794} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.476221 \\ 0.229996 \\ 0.229996 \\ 0.063787 \end{pmatrix} = 0.998280 \cdot \begin{pmatrix} 0.477042 \\ 0.230392 \\ \mathbf{0.230392} \\ 0.063897 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0706 & \mathbf{2.0706} & 7.4658 \\ 0.4830 & 1 & \mathbf{1} & 3.6057 \\ \mathbf{0.4830} & \mathbf{1} & 1 & \mathbf{3.6057} \\ 0.1339 & 0.2773 & \mathbf{0.2773} & 1 \end{pmatrix},$$

Example C.192.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 5 \\ 1/4 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 4 \\ 1/5 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.473247 \\ 0.239819 \\ \mathbf{0.224813} \\ 0.062122 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9734 & \mathbf{2.1051} & 7.6181 \\ 0.5068 & 1 & \mathbf{1.0667} & 3.8605 \\ \mathbf{0.4750} & \mathbf{0.9374} & 1 & \mathbf{3.6189} \\ 0.1313 & 0.2590 & \mathbf{0.2763} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.467723 \\ 0.237020 \\ 0.233861 \\ 0.061396 \end{pmatrix} = 0.988328 \cdot \begin{pmatrix} 0.473247 \\ 0.239819 \\ \mathbf{0.236623} \\ 0.062122 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9734 & \mathbf{2} & 7.6181 \\ 0.5068 & 1 & \mathbf{1.0135} & 3.8605 \\ \mathbf{1/2} & \mathbf{0.9867} & 1 & \mathbf{3.8090} \\ 0.1313 & 0.2590 & \mathbf{0.2625} & 1 \end{pmatrix},$$

Example C.193.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 6 \\ 1/4 & 1 & 1 & 7 \\ 1/2 & 1 & 1 & 4 \\ 1/6 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.485921 \\ 0.234572 \\ \mathbf{0.222305} \\ 0.057202 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0715 & \mathbf{2.1858} & 8.4948 \\ 0.4827 & 1 & \mathbf{1.0552} & 4.1007 \\ \mathbf{0.4575} & \mathbf{0.9477} & 1 & \mathbf{3.8863} \\ 0.1177 & 0.2439 & \mathbf{0.2573} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.482780 \\ 0.233056 \\ 0.227331 \\ 0.056833 \end{pmatrix} = 0.993537 \cdot \begin{pmatrix} 0.485921 \\ 0.234572 \\ \mathbf{0.228810} \\ 0.057202 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0715 & \mathbf{2.1237} & 8.4948 \\ 0.4827 & 1 & \mathbf{1.0252} & 4.1007 \\ \mathbf{0.4709} & \mathbf{0.9754} & 1 & \mathbf{4} \\ 0.1177 & 0.2439 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.194.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 6 \\ 1/4 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 4 \\ 1/6 & 1/8 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.482150 \\ 0.242702 \\ \mathbf{0.219324} \\ 0.055825 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9866 & \mathbf{2.1983} & 8.6368 \\ 0.5034 & 1 & \mathbf{1.1066} & 4.3476 \\ \mathbf{0.4549} & \mathbf{0.9037} & 1 & \mathbf{3.9288} \\ 0.1158 & 0.2300 & \mathbf{0.2545} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.480241 \\ 0.241741 \\ 0.222415 \\ 0.055604 \end{pmatrix} = 0.996040 \cdot \begin{pmatrix} 0.482150 \\ 0.242702 \\ \mathbf{0.223299} \\ 0.055825 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9866 & \mathbf{2.1592} & 8.6368 \\ 0.5034 & 1 & \mathbf{1.0869} & 4.3476 \\ \mathbf{0.4631} & \mathbf{0.9201} & 1 & \mathbf{4} \\ 0.1158 & 0.2300 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.195.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 6 \\ 1/4 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 5 \\ 1/6 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.478727 \\ 0.238437 \\ \mathbf{0.230649} \\ 0.052187 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0078 & \mathbf{2.0756} & 9.1733 \\ 0.4981 & 1 & \mathbf{1.0338} & 4.5689 \\ \mathbf{0.4818} & \mathbf{0.9673} & 1 & \mathbf{4.4196} \\ 0.1090 & 0.2189 & \mathbf{0.2263} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.475028 \\ 0.236594 \\ 0.236594 \\ 0.051784 \end{pmatrix} = 0.992272 \cdot \begin{pmatrix} 0.478727 \\ 0.238437 \\ \mathbf{0.238437} \\ 0.052187 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0078 & \mathbf{2.0078} & 9.1733 \\ 0.4981 & 1 & \mathbf{1} & 4.5689 \\ \mathbf{0.4981} & \mathbf{1} & 1 & \mathbf{4.5689} \\ 0.1090 & 0.2189 & \mathbf{0.2189} & 1 \end{pmatrix},$$

Example C.196.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 7 \\ 1/4 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2035, \quad CR = 0.0767$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.489307 \\ 0.233934 \\ \mathbf{0.228166} \\ 0.048593 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0916 & \mathbf{2.1445} & 10.0696 \\ 0.4781 & 1 & \mathbf{1.0253} & 4.8142 \\ \mathbf{0.4663} & \mathbf{0.9753} & 1 & \mathbf{4.6955} \\ 0.0993 & 0.2077 & \mathbf{0.2130} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.486501 \\ 0.232593 \\ 0.232593 \\ 0.048314 \end{pmatrix} = 0.994264 \cdot \begin{pmatrix} 0.489307 \\ 0.233934 \\ \mathbf{0.233934} \\ 0.048593 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0916 & \mathbf{2.0916} & 10.0696 \\ 0.4781 & 1 & \mathbf{1} & 4.8142 \\ \mathbf{0.4781} & \mathbf{1} & 1 & \mathbf{4.8142} \\ 0.0993 & 0.2077 & \mathbf{0.2077} & 1 \end{pmatrix},$$

Example C.197.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 7 \\ 1/4 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 5 \\ 1/7 & 1/9 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2371, \quad CR = 0.0894$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.485952 \\ 0.241173 \\ \mathbf{0.225338} \\ 0.047537 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0150 & \mathbf{2.1565} & 10.2225 \\ 0.4963 & 1 & \mathbf{1.0703} & 5.0733 \\ \mathbf{0.4637} & \mathbf{0.9343} & 1 & \mathbf{4.7402} \\ 0.0978 & 0.1971 & \mathbf{0.2110} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.480024 \\ 0.238231 \\ 0.234788 \\ 0.046958 \end{pmatrix} = 0.987801 \cdot \begin{pmatrix} 0.485952 \\ 0.241173 \\ \mathbf{0.237687} \\ 0.047537 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0150 & \mathbf{2.0445} & 10.2225 \\ 0.4963 & 1 & \mathbf{1.0147} & 5.0733 \\ \mathbf{0.4891} & \mathbf{0.9855} & 1 & \mathbf{5} \\ 0.0978 & 0.1971 & \mathbf{1/5} & 1 \end{pmatrix},$$

Example C.198.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 7 \\ 1/4 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 6 \\ 1/7 & 1/9 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.482730 \\ 0.237314 \\ \mathbf{0.234934} \\ 0.045023 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0341 & \mathbf{2.0547} & 10.7219 \\ 0.4916 & 1 & \mathbf{1.0101} & 5.2710 \\ \mathbf{0.4867} & \mathbf{0.9900} & 1 & \mathbf{5.2181} \\ 0.0933 & 0.1897 & \mathbf{0.1916} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.481583 \\ 0.236750 \\ 0.236750 \\ 0.044916 \end{pmatrix} = 0.997625 \cdot \begin{pmatrix} 0.482730 \\ 0.237314 \\ \mathbf{0.237314} \\ 0.045023 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0341 & \mathbf{2.0341} & 10.7219 \\ 0.4916 & 1 & \mathbf{1} & 5.2710 \\ \mathbf{0.4916} & \mathbf{1} & 1 & \mathbf{5.2710} \\ 0.0933 & 0.1897 & \mathbf{0.1897} & 1 \end{pmatrix},$$

Example C.199.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 8 \\ 1/4 & 1 & 1 & 8 \\ 1/2 & 1 & 1 & 5 \\ 1/8 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1722, \quad CR = 0.0649$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.498881 \\ 0.229568 \\ \mathbf{0.225780} \\ 0.045770 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1731 & \mathbf{2.2096} & 10.8997 \\ 0.4602 & 1 & \mathbf{1.0168} & 5.0157 \\ \mathbf{0.4526} & \mathbf{0.9835} & 1 & \mathbf{4.9329} \\ 0.0917 & 0.1994 & \mathbf{0.2027} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.497354 \\ 0.228865 \\ 0.228150 \\ 0.045630 \end{pmatrix} = 0.996939 \cdot \begin{pmatrix} 0.498881 \\ 0.229568 \\ \mathbf{0.228851} \\ 0.045770 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1731 & \mathbf{2.1799} & 10.8997 \\ 0.4602 & 1 & \mathbf{1.0031} & 5.0157 \\ \mathbf{0.4587} & \mathbf{0.9969} & 1 & \mathbf{5} \\ 0.0917 & 0.1994 & \mathbf{1/5} & 1 \end{pmatrix},$$

Example C.200.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 8 \\ 1/4 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 5 \\ 1/8 & 1/9 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2032, \quad CR = 0.0766$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.495168 \\ 0.236842 \\ \mathbf{0.223229} \\ 0.044760 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0907 & \mathbf{2.2182} & 11.0626 \\ 0.4783 & 1 & \mathbf{1.0610} & 5.2913 \\ \mathbf{0.4508} & \mathbf{0.9425} & 1 & \mathbf{4.9872} \\ 0.0904 & 0.1890 & \mathbf{0.2005} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.494884 \\ 0.236707 \\ 0.223674 \\ 0.044735 \end{pmatrix} = 0.999427 \cdot \begin{pmatrix} 0.495168 \\ 0.236842 \\ \mathbf{0.223802} \\ 0.044760 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0907 & \mathbf{2.2125} & 11.0626 \\ 0.4783 & 1 & \mathbf{1.0583} & 5.2913 \\ \mathbf{0.4520} & \mathbf{0.9449} & 1 & \mathbf{5} \\ 0.0904 & 0.1890 & \mathbf{1/5} & 1 \end{pmatrix},$$

Example C.201.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 8 \\ 1/4 & 1 & 1 & 9 \\ 1/2 & 1 & 1 & 6 \\ 1/8 & 1/9 & 1/6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.491796 \\ 0.233377 \\ \mathbf{0.232545} \\ 0.042283 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1073 & \mathbf{2.1148} & 11.6312 \\ 0.4745 & 1 & \mathbf{1.0036} & 5.5195 \\ \mathbf{0.4728} & \mathbf{0.9964} & 1 & \mathbf{5.4998} \\ 0.0860 & 0.1812 & \mathbf{0.1818} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.491387 \\ 0.233183 \\ 0.233183 \\ 0.042247 \end{pmatrix} = 0.999169 \cdot \begin{pmatrix} 0.491796 \\ 0.233377 \\ \mathbf{0.233377} \\ 0.042283 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1073 & \mathbf{2.1073} & 11.6312 \\ 0.4745 & 1 & \mathbf{1} & 5.5195 \\ \mathbf{0.4745} & \mathbf{1} & 1 & \mathbf{5.5195} \\ 0.0860 & 0.1812 & \mathbf{0.1812} & 1 \end{pmatrix},$$

Example C.202.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 8 \\ 1/4 & 1 & 2 & 4 \\ 1/2 & 1/2 & 1 & 3 \\ 1/8 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.516054 \\ 0.238534 \\ 0.185931 \\ \mathbf{0.059481} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1634 & 2.7755 & \mathbf{8.6759} \\ 0.4622 & 1 & 1.2829 & \mathbf{4.0102} \\ 0.3603 & 0.7795 & 1 & \mathbf{3.1259} \\ \mathbf{0.1153} & \mathbf{0.2494} & \mathbf{0.3199} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.515976 \\ 0.238498 \\ 0.185902 \\ 0.059624 \end{pmatrix} = 0.999848 \cdot \begin{pmatrix} 0.516054 \\ 0.238534 \\ 0.185931 \\ \mathbf{0.059633} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1634 & 2.7755 & \mathbf{8.6538} \\ 0.4622 & 1 & 1.2829 & \mathbf{4} \\ 0.3603 & 0.7795 & 1 & \mathbf{3.1179} \\ \mathbf{0.1156} & \mathbf{1/4} & \mathbf{0.3207} & 1 \end{pmatrix},$$

Example C.203.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 2 & 9 \\ 1/4 & 1 & 2 & 4 \\ 1/2 & 1/2 & 1 & 3 \\ 1/9 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.524681 \\ 0.235102 \\ 0.183467 \\ \mathbf{0.056750} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2317 & 2.8598 & \mathbf{9.2455} \\ 0.4481 & 1 & 1.2814 & \mathbf{4.1428} \\ 0.3497 & 0.7804 & 1 & \mathbf{3.2329} \\ \mathbf{0.1082} & \mathbf{0.2414} & \mathbf{0.3093} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.523870 \\ 0.234739 \\ 0.183184 \\ 0.058208 \end{pmatrix} = 0.998454 \cdot \begin{pmatrix} 0.524681 \\ 0.235102 \\ 0.183467 \\ \mathbf{0.058298} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2317 & 2.8598 & \mathbf{9} \\ 0.4481 & 1 & 1.2814 & \mathbf{4.0328} \\ 0.3497 & 0.7804 & 1 & \mathbf{3.1471} \\ \mathbf{1/9} & \mathbf{0.2480} & \mathbf{0.3178} & 1 \end{pmatrix},$$

Example C.204.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 4 \\ 1/4 & 1 & 4 & 2 \\ 1/3 & 1/4 & 1 & 1 \\ 1/4 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.508759 \\ 0.256842 \\ 0.118349 \\ \mathbf{0.116050} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9808 & 4.2988 & \mathbf{4.3840} \\ 0.5048 & 1 & 2.1702 & \mathbf{2.2132} \\ 0.2326 & 0.4608 & 1 & \mathbf{1.0198} \\ \mathbf{0.2281} & \mathbf{0.4518} & \mathbf{0.9806} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.507592 \\ 0.256253 \\ 0.118078 \\ 0.118078 \end{pmatrix} = 0.997707 \cdot \begin{pmatrix} 0.508759 \\ 0.256842 \\ 0.118349 \\ \mathbf{0.118349} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9808 & 4.2988 & \mathbf{4.2988} \\ 0.5048 & 1 & 2.1702 & \mathbf{2.1702} \\ 0.2326 & 0.4608 & 1 & \mathbf{1} \\ \mathbf{0.2326} & \mathbf{0.4608} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.205.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 7 \\ 1/4 & 1 & 1 & 4 \\ 1/3 & 1 & 1 & 3 \\ 1/7 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.558511 \\ 0.192086 \\ \mathbf{0.185943} \\ 0.063461 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9076 & \mathbf{3.0037} & 8.8009 \\ 0.3439 & 1 & \mathbf{1.0330} & 3.0268 \\ \mathbf{0.3329} & \mathbf{0.9680} & 1 & \mathbf{2.9300} \\ 0.1136 & 0.3304 & \mathbf{0.3413} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.558384 \\ 0.192042 \\ 0.186128 \\ 0.063446 \end{pmatrix} = 0.999773 \cdot \begin{pmatrix} 0.558511 \\ 0.192086 \\ \mathbf{0.186170} \\ 0.063461 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9076 & \mathbf{3} & 8.8009 \\ 0.3439 & 1 & \mathbf{1.0318} & 3.0268 \\ \mathbf{1/3} & \mathbf{0.9692} & 1 & \mathbf{2.9336} \\ 0.1136 & 0.3304 & \mathbf{0.3409} & 1 \end{pmatrix},$$

Example C.206.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 8 \\ 1/4 & 1 & 2 & 3 \\ 1/3 & 1/2 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.570251 \\ 0.213393 \\ 0.146172 \\ \mathbf{0.070184} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6723 & 3.9012 & \mathbf{8.1251} \\ 0.3742 & 1 & 1.4599 & \mathbf{3.0405} \\ 0.2563 & 0.6850 & 1 & \mathbf{2.0827} \\ \mathbf{0.1231} & \mathbf{0.3289} & \mathbf{0.4801} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.569712 \\ 0.213191 \\ 0.146034 \\ 0.071064 \end{pmatrix} = 0.999054 \cdot \begin{pmatrix} 0.570251 \\ 0.213393 \\ 0.146172 \\ \mathbf{0.071131} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6723 & 3.9012 & \mathbf{8.0169} \\ 0.3742 & 1 & 1.4599 & \mathbf{3} \\ 0.2563 & 0.6850 & 1 & \mathbf{2.0550} \\ \mathbf{0.1247} & \mathbf{1/3} & \mathbf{0.4866} & 1 \end{pmatrix},$$

Example C.207.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 8 \\ 1/4 & 1 & 4 & 4 \\ 1/3 & 1/4 & 1 & 2 \\ 1/8 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.539803 \\ 0.272660 \\ 0.125887 \\ \mathbf{0.061649} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9798 & 4.2880 & \mathbf{8.7560} \\ 0.5051 & 1 & 2.1659 & \mathbf{4.4228} \\ 0.2332 & 0.4617 & 1 & \mathbf{2.0420} \\ \mathbf{0.1142} & \mathbf{0.2261} & \mathbf{0.4897} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539105 \\ 0.272308 \\ 0.125725 \\ 0.062862 \end{pmatrix} = 0.998707 \cdot \begin{pmatrix} 0.539803 \\ 0.272660 \\ 0.125887 \\ \mathbf{0.062944} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9798 & 4.2880 & \mathbf{8.5760} \\ 0.5051 & 1 & 2.1659 & \mathbf{4.3318} \\ 0.2332 & 0.4617 & 1 & \mathbf{2} \\ \mathbf{0.1166} & \mathbf{0.2309} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.208.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 9 \\ 1/4 & 1 & 4 & 4 \\ 1/3 & 1/4 & 1 & 2 \\ 1/9 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.548528 \\ 0.268916 \\ 0.123968 \\ 0.058588 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0398 & 4.4248 & 9.3624 \\ 0.4903 & 1 & 2.1692 & 4.5899 \\ 0.2260 & 0.4610 & 1 & 2.1159 \\ 0.1068 & 0.2179 & 0.4726 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.547237 \\ 0.268283 \\ 0.123676 \\ 0.060804 \end{pmatrix} = 0.997646 \cdot \begin{pmatrix} 0.548528 \\ 0.268916 \\ 0.123968 \\ 0.060948 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0398 & 4.4248 & 9 \\ 0.4903 & 1 & 2.1692 & 4.4123 \\ 0.2260 & 0.4610 & 1 & 2.0340 \\ 1/9 & 0.2266 & 0.4916 & 1 \end{pmatrix},$$

Example C.209.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 9 \\ 1/4 & 1 & 4 & 5 \\ 1/3 & 1/4 & 1 & 2 \\ 1/9 & 1/5 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2500, \quad CR = 0.0942$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.541012 \\ 0.280924 \\ 0.122275 \\ 0.055788 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9258 & 4.4246 & 9.6976 \\ 0.5193 & 1 & 2.2975 & 5.0356 \\ 0.2260 & 0.4353 & 1 & 2.1918 \\ 0.1031 & 0.1986 & 0.4563 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.540798 \\ 0.280813 \\ 0.122227 \\ 0.056163 \end{pmatrix} = 0.999603 \cdot \begin{pmatrix} 0.541012 \\ 0.280924 \\ 0.122275 \\ 0.056185 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9258 & 4.4246 & 9.6291 \\ 0.5193 & 1 & 2.2975 & 5 \\ 0.2260 & 0.4353 & 1 & 2.1763 \\ 0.1039 & 1/5 & 0.4595 & 1 \end{pmatrix},$$

Example C.210.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 5 \\ 1/4 & 1 & 2 & 6 \\ 1/4 & 1/2 & 1 & 2 \\ 1/5 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.536208 \\ 0.261524 \\ \mathbf{0.129604} \\ 0.072664 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0503 & \mathbf{4.1373} & 7.3793 \\ 0.4877 & 1 & \mathbf{2.0179} & 3.5991 \\ \mathbf{0.2417} & \mathbf{0.4956} & 1 & \mathbf{1.7836} \\ 0.1355 & 0.2778 & \mathbf{0.5607} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.535588 \\ 0.261222 \\ 0.130611 \\ 0.072580 \end{pmatrix} = 0.998843 \cdot \begin{pmatrix} 0.536208 \\ 0.261524 \\ \mathbf{0.130762} \\ 0.072664 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0503 & \mathbf{4.1006} & 7.3793 \\ 0.4877 & 1 & \mathbf{2} & 3.5991 \\ \mathbf{0.2439} & \mathbf{1/2} & 1 & \mathbf{1.7996} \\ 0.1355 & 0.2778 & \mathbf{0.5557} & 1 \end{pmatrix},$$

Example C.211.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 5 \\ 1/4 & 1 & 2 & 7 \\ 1/4 & 1/2 & 1 & 2 \\ 1/5 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.531298 \\ 0.271097 \\ \mathbf{0.127073} \\ 0.070532 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9598 & \mathbf{4.1810} & 7.5327 \\ 0.5103 & 1 & \mathbf{2.1334} & 3.8436 \\ \mathbf{0.2392} & \mathbf{0.4687} & 1 & \mathbf{1.8016} \\ 0.1328 & 0.2602 & \mathbf{0.5551} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.528259 \\ 0.269547 \\ 0.132065 \\ 0.070129 \end{pmatrix} = 0.994281 \cdot \begin{pmatrix} 0.531298 \\ 0.271097 \\ \mathbf{0.132824} \\ 0.070532 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9598 & \mathbf{4} & 7.5327 \\ 0.5103 & 1 & \mathbf{2.0410} & 3.8436 \\ \mathbf{1/4} & \mathbf{0.4900} & 1 & \mathbf{1.8832} \\ 0.1328 & 0.2602 & \mathbf{0.5310} & 1 \end{pmatrix},$$

Example C.212.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 5 \\ 1/4 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 1 \\ 1/5 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1046, \quad CR = 0.0395$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.562078 \\ 0.222690 \\ 0.108116 \\ \mathbf{0.107116} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5240 & 5.1988 & \mathbf{5.2474} \\ 0.3962 & 1 & 2.0597 & \mathbf{2.0790} \\ 0.1924 & 0.4855 & 1 & \mathbf{1.0093} \\ \mathbf{0.1906} & \mathbf{0.4810} & \mathbf{0.9907} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.561516 \\ 0.222467 \\ 0.108008 \\ 0.108008 \end{pmatrix} = 0.999001 \cdot \begin{pmatrix} 0.562078 \\ 0.222690 \\ 0.108116 \\ \mathbf{0.108116} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5240 & 5.1988 & \mathbf{5.1988} \\ 0.3962 & 1 & 2.0597 & \mathbf{2.0597} \\ 0.1924 & 0.4855 & 1 & \mathbf{1} \\ \mathbf{0.1924} & \mathbf{0.4855} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.213.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 6 \\ 1/4 & 1 & 2 & 7 \\ 1/4 & 1/2 & 1 & 2 \\ 1/6 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.545350 \\ 0.264346 \\ \mathbf{0.125474} \\ 0.064830 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0630 & \mathbf{4.3463} & 8.4120 \\ 0.4847 & 1 & \mathbf{2.1068} & 4.0775 \\ \mathbf{0.2301} & \mathbf{0.4747} & 1 & \mathbf{1.9354} \\ 0.1189 & 0.2452 & \mathbf{0.5167} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543077 \\ 0.263244 \\ 0.129120 \\ 0.064560 \end{pmatrix} = 0.995832 \cdot \begin{pmatrix} 0.545350 \\ 0.264346 \\ \mathbf{0.129660} \\ 0.064830 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0630 & \mathbf{4.2060} & 8.4120 \\ 0.4847 & 1 & \mathbf{2.0388} & 4.0775 \\ \mathbf{0.2378} & \mathbf{0.4905} & 1 & \mathbf{2} \\ 0.1189 & 0.2452 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.214.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 6 \\ 1/4 & 1 & 2 & 8 \\ 1/4 & 1/2 & 1 & 2 \\ 1/6 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.540580 \\ 0.272623 \\ \mathbf{0.123592} \\ 0.063205 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9829 & \mathbf{4.3739} & 8.5528 \\ 0.5043 & 1 & \mathbf{2.2058} & 4.3133 \\ \mathbf{0.2286} & \mathbf{0.4533} & 1 & \mathbf{1.9554} \\ 0.1169 & 0.2318 & \mathbf{0.5114} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539061 \\ 0.271856 \\ 0.126055 \\ 0.063027 \end{pmatrix} = 0.997190 \cdot \begin{pmatrix} 0.540580 \\ 0.272623 \\ \mathbf{0.126410} \\ 0.063205 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9829 & \mathbf{4.2764} & 8.5528 \\ 0.5043 & 1 & \mathbf{2.1567} & 4.3133 \\ \mathbf{0.2338} & \mathbf{0.4637} & 1 & \mathbf{2} \\ 0.1169 & 0.2318 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.215.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 6 \\ 1/4 & 1 & 5 & 3 \\ 1/4 & 1/5 & 1 & 1 \\ 1/6 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.548169 \\ 0.271359 \\ 0.093916 \\ \mathbf{0.086555} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0201 & 5.8368 & \mathbf{6.3332} \\ 0.4950 & 1 & 2.8894 & \mathbf{3.1351} \\ 0.1713 & 0.3461 & 1 & \mathbf{1.0850} \\ \mathbf{0.1579} & \mathbf{0.3190} & \mathbf{0.9216} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.546041 \\ 0.270306 \\ 0.093552 \\ 0.090102 \end{pmatrix} = 0.996117 \cdot \begin{pmatrix} 0.548169 \\ 0.271359 \\ 0.093916 \\ \mathbf{0.090453} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0201 & 5.8368 & \mathbf{6.0603} \\ 0.4950 & 1 & 2.8894 & \mathbf{3} \\ 0.1713 & 0.3461 & 1 & \mathbf{1.0383} \\ \mathbf{0.1650} & \mathbf{1/3} & \mathbf{0.9631} & 1 \end{pmatrix},$$

Example C.216.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 7 \\ 1/4 & 1 & 2 & 9 \\ 1/4 & 1/2 & 1 & 3 \\ 1/7 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.544288 \\ 0.270614 \\ \mathbf{0.133690} \\ 0.051408 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0113 & \mathbf{4.0713} & 10.5875 \\ 0.4972 & 1 & \mathbf{2.0242} & 5.2640 \\ \mathbf{0.2456} & \mathbf{0.4940} & 1 & \mathbf{2.6006} \\ 0.0945 & 0.1900 & \mathbf{0.3845} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.543409 \\ 0.270177 \\ 0.135088 \\ 0.051325 \end{pmatrix} = 0.998386 \cdot \begin{pmatrix} 0.544288 \\ 0.270614 \\ \mathbf{0.135307} \\ 0.051408 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0113 & \mathbf{4.0226} & 10.5875 \\ 0.4972 & 1 & \mathbf{2} & 5.2640 \\ \mathbf{0.2486} & \mathbf{1/2} & 1 & \mathbf{2.6320} \\ 0.0945 & 0.1900 & \mathbf{0.3799} & 1 \end{pmatrix},$$

Example C.217.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 8 \\ 1/4 & 1 & 2 & 9 \\ 1/4 & 1/2 & 1 & 3 \\ 1/8 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.554394 \\ 0.265311 \\ \mathbf{0.132096} \\ 0.048198 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0896 & \mathbf{4.1969} & 11.5024 \\ 0.4786 & 1 & \mathbf{2.0085} & 5.5046 \\ \mathbf{0.2383} & \mathbf{0.4979} & 1 & \mathbf{2.7407} \\ 0.0869 & 0.1817 & \mathbf{0.3649} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.554085 \\ 0.265163 \\ 0.132581 \\ 0.048171 \end{pmatrix} = 0.999441 \cdot \begin{pmatrix} 0.554394 \\ 0.265311 \\ \mathbf{0.132655} \\ 0.048198 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0896 & \mathbf{4.1792} & 11.5024 \\ 0.4786 & 1 & \mathbf{2} & 5.5046 \\ \mathbf{0.2393} & \mathbf{1/2} & 1 & \mathbf{2.7523} \\ 0.0869 & 0.1817 & \mathbf{0.3633} & 1 \end{pmatrix},$$

Example C.218.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 2 & 6 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1301, \quad CR = 0.0490$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.582601 \\ 0.241470 \\ \mathbf{0.115056} \\ 0.060873 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4127 & \mathbf{5.0636} & 9.5708 \\ 0.4145 & 1 & \mathbf{2.0987} & 3.9668 \\ \mathbf{0.1975} & \mathbf{0.4765} & 1 & \mathbf{1.8901} \\ 0.1045 & 0.2521 & \mathbf{0.5291} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.581749 \\ 0.241117 \\ 0.116350 \\ 0.060784 \end{pmatrix} = 0.998538 \cdot \begin{pmatrix} 0.582601 \\ 0.241470 \\ \mathbf{0.116520} \\ 0.060873 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4127 & \mathbf{5} & 9.5708 \\ 0.4145 & 1 & \mathbf{2.0723} & 3.9668 \\ \mathbf{1/5} & \mathbf{0.4825} & 1 & \mathbf{1.9142} \\ 0.1045 & 0.2521 & \mathbf{0.5224} & 1 \end{pmatrix},$$

Example C.219.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 2 & 7 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.576341 \\ 0.251569 \\ \mathbf{0.113119} \\ 0.058971 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2910 & \mathbf{5.0950} & 9.7734 \\ 0.4365 & 1 & \mathbf{2.2239} & 4.2660 \\ \mathbf{0.1963} & \mathbf{0.4497} & 1 & \mathbf{1.9182} \\ 0.1023 & 0.2344 & \mathbf{0.5213} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575105 \\ 0.251029 \\ 0.115021 \\ 0.058844 \end{pmatrix} = 0.997856 \cdot \begin{pmatrix} 0.576341 \\ 0.251569 \\ \mathbf{0.115268} \\ 0.058971 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2910 & \mathbf{5} & 9.7734 \\ 0.4365 & 1 & \mathbf{2.1825} & 4.2660 \\ \mathbf{1/5} & \mathbf{0.4582} & 1 & \mathbf{1.9547} \\ 0.1023 & 0.2344 & \mathbf{0.5116} & 1 \end{pmatrix},$$

Example C.220.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 2 & 8 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2035, \quad CR = 0.0767$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.570988 \\ 0.260205 \\ \mathbf{0.111398} \\ 0.057409 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1944 & \mathbf{5.1257} & 9.9460 \\ 0.4557 & 1 & \mathbf{2.3358} & 4.5325 \\ \mathbf{0.1951} & \mathbf{0.4281} & 1 & \mathbf{1.9404} \\ 0.1005 & 0.2206 & \mathbf{0.5153} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.569394 \\ 0.259479 \\ 0.113879 \\ 0.057249 \end{pmatrix} = 0.997208 \cdot \begin{pmatrix} 0.570988 \\ 0.260205 \\ \mathbf{0.114198} \\ 0.057409 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1944 & \mathbf{5} & 9.9460 \\ 0.4557 & 1 & \mathbf{2.2786} & 4.5325 \\ \mathbf{1/5} & \mathbf{0.4389} & 1 & \mathbf{1.9892} \\ 0.1005 & 0.2206 & \mathbf{0.5027} & 1 \end{pmatrix},$$

Example C.221.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 2 & 9 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/9 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2405, \quad CR = 0.0907$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.566418 \\ 0.267606 \\ \mathbf{0.109875} \\ 0.056100 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1166 & \mathbf{5.1551} & 10.0965 \\ 0.4725 & 1 & \mathbf{2.4355} & 4.7701 \\ \mathbf{0.1940} & \mathbf{0.4106} & 1 & \mathbf{1.9586} \\ 0.0990 & 0.2096 & \mathbf{0.5106} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.565104 \\ 0.266986 \\ 0.111940 \\ 0.055970 \end{pmatrix} = 0.997680 \cdot \begin{pmatrix} 0.566418 \\ 0.267606 \\ \mathbf{0.112201} \\ 0.056100 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1166 & \mathbf{5.0483} & 10.0965 \\ 0.4725 & 1 & \mathbf{2.3851} & 4.7701 \\ \mathbf{0.1981} & \mathbf{0.4193} & 1 & \mathbf{2} \\ 0.0990 & 0.2096 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.222.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 5 & 3 \\ 1/5 & 1/5 & 1 & 1 \\ 1/7 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.579361 \\ 0.257422 \\ 0.083404 \\ \mathbf{0.079813} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2506 & 6.9465 & \mathbf{7.2589} \\ 0.4443 & 1 & 3.0865 & \mathbf{3.2253} \\ 0.1440 & 0.3240 & 1 & \mathbf{1.0450} \\ \mathbf{0.1378} & \mathbf{0.3100} & \mathbf{0.9570} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.577656 \\ 0.256664 \\ 0.083158 \\ 0.082522 \end{pmatrix} = 0.997056 \cdot \begin{pmatrix} 0.579361 \\ 0.257422 \\ 0.083404 \\ \mathbf{0.082766} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2506 & 6.9465 & \mathbf{7} \\ 0.4443 & 1 & 3.0865 & \mathbf{3.1102} \\ 0.1440 & 0.3240 & 1 & \mathbf{1.0077} \\ \mathbf{1/7} & \mathbf{0.3215} & \mathbf{0.9924} & 1 \end{pmatrix},$$

Example C.223.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 7 \\ 1/4 & 1 & 6 & 3 \\ 1/5 & 1/6 & 1 & 1 \\ 1/7 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.572135 \\ 0.269276 \\ 0.080430 \\ \mathbf{0.078159} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1247 & 7.1135 & \mathbf{7.3202} \\ 0.4707 & 1 & 3.3480 & \mathbf{3.4452} \\ 0.1406 & 0.2987 & 1 & \mathbf{1.0291} \\ \mathbf{0.1366} & \mathbf{0.2903} & \mathbf{0.9718} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.570839 \\ 0.268666 \\ 0.080247 \\ 0.080247 \end{pmatrix} = 0.997734 \cdot \begin{pmatrix} 0.572135 \\ 0.269276 \\ 0.080430 \\ \mathbf{0.080430} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1247 & 7.1135 & \mathbf{7.1135} \\ 0.4707 & 1 & 3.3480 & \mathbf{3.3480} \\ 0.1406 & 0.2987 & 1 & \mathbf{1} \\ \mathbf{0.1406} & \mathbf{0.2987} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.224.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 8 \\ 1/4 & 1 & 2 & 6 \\ 1/5 & 1/2 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1046, \quad CR = 0.0395$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.593971 \\ 0.235450 \\ \mathbf{0.113323} \\ 0.057255 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5227 & \mathbf{5.2414} & 10.3741 \\ 0.3964 & 1 & \mathbf{2.0777} & 4.1123 \\ \mathbf{0.1908} & \mathbf{0.4813} & 1 & \mathbf{1.9793} \\ 0.0964 & 0.2432 & \mathbf{0.5052} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.593267 \\ 0.235171 \\ 0.114375 \\ 0.057187 \end{pmatrix} = 0.998815 \cdot \begin{pmatrix} 0.593971 \\ 0.235450 \\ \mathbf{0.114510} \\ 0.057255 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5227 & \mathbf{5.1871} & 10.3741 \\ 0.3964 & 1 & \mathbf{2.0562} & 4.1123 \\ \mathbf{0.1928} & \mathbf{0.4863} & 1 & \mathbf{2} \\ 0.0964 & 0.2432 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.225.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 8 \\ 1/4 & 1 & 6 & 4 \\ 1/5 & 1/6 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.572675 \\ 0.280093 \\ 0.077858 \\ 0.069374 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0446 & 7.3553 & 8.2549 \\ 0.4891 & 1 & 3.5975 & 4.0375 \\ 0.1360 & 0.2780 & 1 & 1.1223 \\ 0.1211 & 0.2477 & 0.8910 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.572303 \\ 0.279911 \\ 0.077808 \\ 0.069978 \end{pmatrix} = 0.999351 \cdot \begin{pmatrix} 0.572675 \\ 0.280093 \\ 0.077858 \\ 0.070023 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0446 & 7.3553 & 8.1783 \\ 0.4891 & 1 & 3.5975 & 4 \\ 0.1360 & 0.2780 & 1 & 1.1119 \\ 0.1223 & 1/4 & 0.8994 & 1 \end{pmatrix},$$

Example C.226.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 5 & 8 \\ 1/4 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.566828 \\ 0.289773 \\ 0.075484 \\ \mathbf{0.067915} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9561 & 7.5092 & \mathbf{8.3461} \\ 0.5112 & 1 & 3.8389 & \mathbf{4.2667} \\ 0.1332 & 0.2605 & 1 & \mathbf{1.1114} \\ \mathbf{0.1198} & \mathbf{0.2344} & \mathbf{0.8997} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.565167 \\ 0.288924 \\ 0.075263 \\ 0.070646 \end{pmatrix} = 0.997070 \cdot \begin{pmatrix} 0.566828 \\ 0.289773 \\ 0.075484 \\ \mathbf{0.070853} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9561 & 7.5092 & \mathbf{8} \\ 0.5112 & 1 & 3.8389 & \mathbf{4.0898} \\ 0.1332 & 0.2605 & 1 & \mathbf{1.0654} \\ \mathbf{1/8} & \mathbf{0.2445} & \mathbf{0.9387} & 1 \end{pmatrix},$$

Example C.227.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 8 \\ 1/4 & 1 & 4 & 3 \\ 1/6 & 1/4 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.614790 \\ 0.230315 \\ 0.079088 \\ \mathbf{0.075807} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6693 & 7.7735 & \mathbf{8.1100} \\ 0.3746 & 1 & 2.9122 & \mathbf{3.0382} \\ 0.1286 & 0.3434 & 1 & \mathbf{1.0433} \\ \mathbf{0.1233} & \mathbf{0.3291} & \mathbf{0.9585} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.614197 \\ 0.230093 \\ 0.079011 \\ 0.076698 \end{pmatrix} = 0.999036 \cdot \begin{pmatrix} 0.614790 \\ 0.230315 \\ 0.079088 \\ \mathbf{0.076772} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6693 & 7.7735 & \mathbf{8.0080} \\ 0.3746 & 1 & 2.9122 & \mathbf{3} \\ 0.1286 & 0.3434 & 1 & \mathbf{1.0302} \\ \mathbf{0.1249} & \mathbf{1/3} & \mathbf{0.9707} & 1 \end{pmatrix},$$

Example C.228.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 8 \\ 1/4 & 1 & 5 & 3 \\ 1/6 & 1/5 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.605358 \\ 0.244998 \\ 0.075447 \\ \mathbf{0.074197} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4709 & 8.0236 & \mathbf{8.1587} \\ 0.4047 & 1 & 3.2473 & \mathbf{3.3020} \\ 0.1246 & 0.3080 & 1 & \mathbf{1.0168} \\ \mathbf{0.1226} & \mathbf{0.3028} & \mathbf{0.9834} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.604602 \\ 0.244692 \\ 0.075353 \\ 0.075353 \end{pmatrix} = 0.998752 \cdot \begin{pmatrix} 0.605358 \\ 0.244998 \\ 0.075447 \\ \mathbf{0.075447} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4709 & 8.0236 & \mathbf{8.0236} \\ 0.4047 & 1 & 3.2473 & \mathbf{3.2473} \\ 0.1246 & 0.3080 & 1 & \mathbf{1} \\ \mathbf{0.1246} & \mathbf{0.3080} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.229.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 8 \\ 1/4 & 1 & 7 & 4 \\ 1/6 & 1/7 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.581507 \\ 0.282175 \\ 0.069315 \\ \mathbf{0.067003} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0608 & 8.3893 & \mathbf{8.6788} \\ 0.4852 & 1 & 4.0709 & \mathbf{4.2114} \\ 0.1192 & 0.2456 & 1 & \mathbf{1.0345} \\ \mathbf{0.1152} & \mathbf{0.2375} & \mathbf{0.9666} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.580166 \\ 0.281524 \\ 0.069155 \\ 0.069155 \end{pmatrix} = 0.997693 \cdot \begin{pmatrix} 0.581507 \\ 0.282175 \\ 0.069315 \\ \mathbf{0.069315} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0608 & 8.3893 & \mathbf{8.3893} \\ 0.4852 & 1 & 4.0709 & \mathbf{4.0709} \\ 0.1192 & 0.2456 & 1 & \mathbf{1} \\ \mathbf{0.1192} & \mathbf{0.2456} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.230.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 8 \\ 1/4 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1 \\ 1/8 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.575958 \\ 0.290585 \\ 0.067523 \\ \mathbf{0.065934} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9821 & 8.5298 & \mathbf{8.7354} \\ 0.5045 & 1 & 4.3035 & \mathbf{4.4072} \\ 0.1172 & 0.2324 & 1 & \mathbf{1.0241} \\ \mathbf{0.1145} & \mathbf{0.2269} & \mathbf{0.9765} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575044 \\ 0.290123 \\ 0.067416 \\ 0.067416 \end{pmatrix} = 0.998413 \cdot \begin{pmatrix} 0.575958 \\ 0.290585 \\ 0.067523 \\ \mathbf{0.067523} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9821 & 8.5298 & \mathbf{8.5298} \\ 0.5045 & 1 & 4.3035 & \mathbf{4.3035} \\ 0.1172 & 0.2324 & 1 & \mathbf{1} \\ \mathbf{0.1172} & \mathbf{0.2324} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.231.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 6 & 4 \\ 1/6 & 1/6 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.596913 \\ 0.267698 \\ 0.070470 \\ \mathbf{0.064919} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2298 & 8.4705 & \mathbf{9.1947} \\ 0.4485 & 1 & 3.7988 & \mathbf{4.1235} \\ 0.1181 & 0.2632 & 1 & \mathbf{1.0855} \\ \mathbf{0.1088} & \mathbf{0.2425} & \mathbf{0.9212} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.596076 \\ 0.267322 \\ 0.070371 \\ 0.066231 \end{pmatrix} = 0.998598 \cdot \begin{pmatrix} 0.596913 \\ 0.267698 \\ 0.070470 \\ \mathbf{0.066324} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2298 & 8.4705 & \mathbf{9} \\ 0.4485 & 1 & 3.7988 & \mathbf{4.0362} \\ 0.1181 & 0.2632 & 1 & \mathbf{1.0625} \\ \mathbf{1/9} & \mathbf{0.2478} & \mathbf{0.9412} & 1 \end{pmatrix},$$

Example C.232.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 7 & 4 \\ 1/6 & 1/7 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.590238 \\ 0.277855 \\ 0.068250 \\ \mathbf{0.063657} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1243 & 8.6482 & \mathbf{9.2721} \\ 0.4708 & 1 & 4.0711 & \mathbf{4.3648} \\ 0.1156 & 0.2456 & 1 & \mathbf{1.0721} \\ \mathbf{0.1079} & \mathbf{0.2291} & \mathbf{0.9327} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.589104 \\ 0.277321 \\ 0.068119 \\ 0.065456 \end{pmatrix} = 0.998079 \cdot \begin{pmatrix} 0.590238 \\ 0.277855 \\ 0.068250 \\ \mathbf{0.065582} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1243 & 8.6482 & \mathbf{9} \\ 0.4708 & 1 & 4.0711 & \mathbf{4.2368} \\ 0.1156 & 0.2456 & 1 & \mathbf{1.0407} \\ \mathbf{1/9} & \mathbf{0.2360} & \mathbf{0.9609} & 1 \end{pmatrix},$$

Example C.233.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.584684 \\ 0.286315 \\ 0.066438 \\ \mathbf{0.062563} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0421 & 8.8005 & \mathbf{9.3456} \\ 0.4897 & 1 & 4.3095 & \mathbf{4.5765} \\ 0.1136 & 0.2320 & 1 & \mathbf{1.0619} \\ \mathbf{0.1070} & \mathbf{0.2185} & \mathbf{0.9417} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.583283 \\ 0.285629 \\ 0.066279 \\ 0.064809 \end{pmatrix} = 0.997604 \cdot \begin{pmatrix} 0.584684 \\ 0.286315 \\ 0.066438 \\ \mathbf{0.064965} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0421 & 8.8005 & \mathbf{9} \\ 0.4897 & 1 & 4.3095 & \mathbf{4.4072} \\ 0.1136 & 0.2320 & 1 & \mathbf{1.0227} \\ \mathbf{1/9} & \mathbf{0.2269} & \mathbf{0.9778} & 1 \end{pmatrix},$$

Example C.234.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 9 \\ 1/4 & 1 & 8 & 5 \\ 1/6 & 1/8 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2500, \quad CR = 0.0942$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.576159 \\ 0.298809 \\ 0.065477 \\ 0.059555 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9282 & 8.7995 & 9.6743 \\ 0.5186 & 1 & 4.5636 & 5.0173 \\ 0.1136 & 0.2191 & 1 & 1.0994 \\ 0.1034 & 0.1993 & 0.9096 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.576040 \\ 0.298748 \\ 0.065463 \\ 0.059750 \end{pmatrix} = 0.999794 \cdot \begin{pmatrix} 0.576159 \\ 0.298809 \\ 0.065477 \\ 0.059762 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9282 & 8.7995 & 9.6409 \\ 0.5186 & 1 & 4.5636 & 5 \\ 0.1136 & 0.2191 & 1 & 1.0956 \\ 0.1037 & 1/5 & 0.9127 & 1 \end{pmatrix},$$

Example C.235.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 9 \\ 1/4 & 1 & 6 & 4 \\ 1/7 & 1/6 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1330, \quad CR = 0.0501$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.610281 \\ 0.260283 \\ 0.065586 \\ \mathbf{0.063850} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.3447 & 9.3051 & \mathbf{9.5580} \\ 0.4265 & 1 & 3.9686 & \mathbf{4.0765} \\ 0.1075 & 0.2520 & 1 & \mathbf{1.0272} \\ \mathbf{0.1046} & \mathbf{0.2453} & \mathbf{0.9735} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.609537 \\ 0.259966 \\ 0.065506 \\ 0.064991 \end{pmatrix} = 0.998781 \cdot \begin{pmatrix} 0.610281 \\ 0.260283 \\ 0.065586 \\ \mathbf{0.065071} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3447 & 9.3051 & \mathbf{9.3787} \\ 0.4265 & 1 & 3.9686 & \mathbf{4} \\ 0.1075 & 0.2520 & 1 & \mathbf{1.0079} \\ \mathbf{0.1066} & \mathbf{1/4} & \mathbf{0.9921} & 1 \end{pmatrix},$$

Example C.236.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 9 \\ 1/4 & 1 & 7 & 4 \\ 1/7 & 1/7 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1694, \quad CR = 0.0639$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.603110 \\ 0.270598 \\ 0.063523 \\ \mathbf{0.062769} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2288 & 9.4944 & \mathbf{9.6085} \\ 0.4487 & 1 & 4.2599 & \mathbf{4.3110} \\ 0.1053 & 0.2347 & 1 & \mathbf{1.0120} \\ \mathbf{0.1041} & \mathbf{0.2320} & \mathbf{0.9881} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.602656 \\ 0.270394 \\ 0.063475 \\ 0.063475 \end{pmatrix} = 0.999246 \cdot \begin{pmatrix} 0.603110 \\ 0.270598 \\ 0.063523 \\ \mathbf{0.063523} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2288 & 9.4944 & \mathbf{9.4944} \\ 0.4487 & 1 & 4.2599 & \mathbf{4.2599} \\ 0.1053 & 0.2347 & 1 & \mathbf{1} \\ \mathbf{0.1053} & \mathbf{0.2347} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.237.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 9 \\ 1/4 & 1 & 8 & 4 \\ 1/7 & 1/8 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2064, \quad CR = 0.0778$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.596983 \\ 0.279370 \\ 0.061831 \\ \mathbf{0.061816} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1369 & 9.6551 & \mathbf{9.6575} \\ 0.4680 & 1 & 4.5183 & \mathbf{4.5194} \\ 0.1036 & 0.2213 & 1 & \mathbf{1.0002} \\ \mathbf{0.1035} & \mathbf{0.2213} & \mathbf{0.9998} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.596974 \\ 0.279366 \\ 0.061830 \\ 0.061830 \end{pmatrix} = 0.999985 \cdot \begin{pmatrix} 0.596983 \\ 0.279370 \\ 0.061831 \\ \mathbf{0.061831} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1369 & 9.6551 & \mathbf{9.6551} \\ 0.4680 & 1 & 4.5183 & \mathbf{4.5183} \\ 0.1036 & 0.2213 & 1 & \mathbf{1} \\ \mathbf{0.1036} & \mathbf{0.2213} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.238.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 9 \\ 1/4 & 1 & 9 & 5 \\ 1/7 & 1/9 & 1 & 1 \\ 1/9 & 1/5 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2430, \quad CR = 0.0916$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.583147 \\ 0.299427 \\ 0.059469 \\ \mathbf{0.057958} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9475 & 9.8060 & \mathbf{10.0616} \\ 0.5135 & 1 & 5.0350 & \mathbf{5.1663} \\ 0.1020 & 0.1986 & 1 & \mathbf{1.0261} \\ \mathbf{0.0994} & \mathbf{0.1936} & \mathbf{0.9746} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.582267 \\ 0.298975 \\ 0.059379 \\ 0.059379 \end{pmatrix} = 0.998491 \cdot \begin{pmatrix} 0.583147 \\ 0.299427 \\ 0.059469 \\ \mathbf{0.059469} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9475 & 9.8060 & \mathbf{9.8060} \\ 0.5135 & 1 & 5.0350 & \mathbf{5.0350} \\ 0.1020 & 0.1986 & 1 & \mathbf{1} \\ \mathbf{0.1020} & \mathbf{0.1986} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.239.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 2 & 6 \\ 1/5 & 1 & 2 & 2 \\ 1/2 & 1/2 & 1 & 2 \\ 1/6 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.527572 \\ 0.205814 \\ 0.180233 \\ \mathbf{0.086382} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5633 & 2.9272 & \mathbf{6.1074} \\ 0.3901 & 1 & 1.1419 & \mathbf{2.3826} \\ 0.3416 & 0.8757 & 1 & \mathbf{2.0865} \\ \mathbf{0.1637} & \mathbf{0.4197} & \mathbf{0.4793} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.526757 \\ 0.205496 \\ 0.179954 \\ 0.087793 \end{pmatrix} = 0.998456 \cdot \begin{pmatrix} 0.527572 \\ 0.205814 \\ 0.180233 \\ \mathbf{0.087929} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5633 & 2.9272 & \mathbf{6} \\ 0.3901 & 1 & 1.1419 & \mathbf{2.3407} \\ 0.3416 & 0.8757 & 1 & \mathbf{2.0498} \\ \mathbf{1/6} & \mathbf{0.4272} & \mathbf{0.4879} & 1 \end{pmatrix},$$

Example C.240.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 2 & 8 \\ 1/5 & 1 & 2 & 3 \\ 1/2 & 1/2 & 1 & 3 \\ 1/8 & 1/3 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2311, \quad CR = 0.0871$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.534531 \\ 0.214727 \\ 0.188530 \\ \mathbf{0.062212} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4894 & 2.8353 & \mathbf{8.5921} \\ 0.4017 & 1 & 1.1390 & \mathbf{3.4515} \\ 0.3527 & 0.8780 & 1 & \mathbf{3.0304} \\ \mathbf{0.1164} & \mathbf{0.2897} & \mathbf{0.3300} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.534194 \\ 0.214592 \\ 0.188411 \\ 0.062804 \end{pmatrix} = 0.999369 \cdot \begin{pmatrix} 0.534531 \\ 0.214727 \\ 0.188530 \\ \mathbf{0.062843} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4894 & 2.8353 & \mathbf{8.5058} \\ 0.4017 & 1 & 1.1390 & \mathbf{3.4169} \\ 0.3527 & 0.8780 & 1 & \mathbf{3} \\ \mathbf{0.1176} & \mathbf{0.2927} & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.241.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 2 & 9 \\ 1/5 & 1 & 2 & 3 \\ 1/2 & 1/2 & 1 & 3 \\ 1/9 & 1/3 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.543005 \\ 0.212036 \\ 0.185655 \\ 0.059304 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5609 & 2.9248 & 9.1563 \\ 0.3905 & 1 & 1.1421 & 3.5754 \\ 0.3419 & 0.8756 & 1 & 3.1306 \\ 0.1092 & 0.2797 & 0.3194 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.542446 \\ 0.211818 \\ 0.185464 \\ 0.060272 \end{pmatrix} = 0.998971 \cdot \begin{pmatrix} 0.543005 \\ 0.212036 \\ 0.185655 \\ 0.060334 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5609 & 2.9248 & 9 \\ 0.3905 & 1 & 1.1421 & 3.5144 \\ 0.3419 & 0.8756 & 1 & 3.0771 \\ 1/9 & 0.2845 & 0.3250 & 1 \end{pmatrix},$$

Example C.242.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 2 & 9 \\ 1/5 & 1 & 2 & 4 \\ 1/2 & 1/2 & 1 & 3 \\ 1/9 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2316, \quad CR = 0.0873$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.535960 \\ 0.224841 \\ 0.183253 \\ \mathbf{0.055946} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.3837 & 2.9247 & \mathbf{9.5799} \\ 0.4195 & 1 & 1.2269 & \mathbf{4.0189} \\ 0.3419 & 0.8150 & 1 & \mathbf{3.2755} \\ \mathbf{0.1044} & \mathbf{0.2488} & \mathbf{0.3053} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.535818 \\ 0.224782 \\ 0.183204 \\ 0.056196 \end{pmatrix} = 0.999736 \cdot \begin{pmatrix} 0.535960 \\ 0.224841 \\ 0.183253 \\ \mathbf{0.056210} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3837 & 2.9247 & \mathbf{9.5349} \\ 0.4195 & 1 & 1.2269 & \mathbf{4} \\ 0.3419 & 0.8150 & 1 & \mathbf{3.2601} \\ \mathbf{0.1049} & \mathbf{1/4} & \mathbf{0.3067} & 1 \end{pmatrix},$$

Example C.243.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 4 \\ 1/5 & 1 & 1 & 3 \\ 1/3 & 1 & 1 & 2 \\ 1/4 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.537946 \\ 0.187821 \\ \mathbf{0.178342} \\ 0.095892 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8641 & \mathbf{3.0164} & 5.6099 \\ 0.3491 & 1 & \mathbf{1.0531} & 1.9587 \\ \mathbf{0.3315} & \mathbf{0.9495} & 1 & \mathbf{1.8598} \\ 0.1783 & 0.5105 & \mathbf{0.5377} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.537423 \\ 0.187638 \\ 0.179141 \\ 0.095798 \end{pmatrix} = 0.999027 \cdot \begin{pmatrix} 0.537946 \\ 0.187821 \\ \mathbf{0.179315} \\ 0.095892 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8641 & \mathbf{3} & 5.6099 \\ 0.3491 & 1 & \mathbf{1.0474} & 1.9587 \\ \mathbf{1/3} & \mathbf{0.9547} & 1 & \mathbf{1.8700} \\ 0.1783 & 0.5105 & \mathbf{0.5348} & 1 \end{pmatrix},$$

Example C.244.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 4 \\ 1/5 & 1 & 1 & 4 \\ 1/3 & 1 & 1 & 2 \\ 1/4 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.529500 \\ 0.205787 \\ \mathbf{0.173628} \\ 0.091084 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5730 & \mathbf{3.0496} & 5.8133 \\ 0.3886 & 1 & \mathbf{1.1852} & 2.2593 \\ \mathbf{0.3279} & \mathbf{0.8437} & 1 & \mathbf{1.9062} \\ 0.1720 & 0.4426 & \mathbf{0.5246} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.527984 \\ 0.205198 \\ 0.175995 \\ 0.090824 \end{pmatrix} = 0.997137 \cdot \begin{pmatrix} 0.529500 \\ 0.205787 \\ \mathbf{0.176500} \\ 0.091084 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5730 & \mathbf{3} & 5.8133 \\ 0.3886 & 1 & \mathbf{1.1659} & 2.2593 \\ \mathbf{1/3} & \mathbf{0.8577} & 1 & \mathbf{1.9378} \\ 0.1720 & 0.4426 & \mathbf{0.5161} & 1 \end{pmatrix},$$

Example C.245.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 5 \\ 1/5 & 1 & 3 & 2 \\ 1/3 & 1/3 & 1 & 1 \\ 1/5 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.546921 \\ 0.222638 \\ 0.122313 \\ \mathbf{0.108129} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4566 & 4.4715 & \mathbf{5.0581} \\ 0.4071 & 1 & 1.8202 & \mathbf{2.0590} \\ 0.2236 & 0.5494 & 1 & \mathbf{1.1312} \\ \mathbf{0.1977} & \mathbf{0.4857} & \mathbf{0.8840} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.546235 \\ 0.222358 \\ 0.122160 \\ 0.109247 \end{pmatrix} = 0.998746 \cdot \begin{pmatrix} 0.546921 \\ 0.222638 \\ 0.122313 \\ \mathbf{0.109384} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4566 & 4.4715 & \mathbf{5} \\ 0.4071 & 1 & 1.8202 & \mathbf{2.0354} \\ 0.2236 & 0.5494 & 1 & \mathbf{1.1182} \\ \mathbf{1/5} & \mathbf{0.4913} & \mathbf{0.8943} & 1 \end{pmatrix},$$

Example C.246.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 6 \\ 1/5 & 1 & 1 & 4 \\ 1/3 & 1 & 1 & 3 \\ 1/6 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.559246 \\ 0.186896 \\ \mathbf{0.186234} \\ 0.067624 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9923 & \mathbf{3.0029} & 8.2699 \\ 0.3342 & 1 & \mathbf{1.0036} & 2.7638 \\ \mathbf{0.3330} & \mathbf{0.9965} & 1 & \mathbf{2.7540} \\ 0.1209 & 0.3618 & \mathbf{0.3631} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.559144 \\ 0.186862 \\ 0.186381 \\ 0.067612 \end{pmatrix} = 0.999818 \cdot \begin{pmatrix} 0.559246 \\ 0.186896 \\ \mathbf{0.186415} \\ 0.067624 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9923 & \mathbf{3} & 8.2699 \\ 0.3342 & 1 & \mathbf{1.0026} & 2.7638 \\ \mathbf{1/3} & \mathbf{0.9974} & 1 & \mathbf{2.7566} \\ 0.1209 & 0.3618 & \mathbf{0.3628} & 1 \end{pmatrix},$$

Example C.247.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 6 \\ 1/5 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/6 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1758, \quad CR = 0.0663$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.552028 \\ 0.200600 \\ \mathbf{0.182504} \\ 0.064867 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7519 & \mathbf{3.0247} & 8.5101 \\ 0.3634 & 1 & \mathbf{1.0992} & 3.0925 \\ \mathbf{0.3306} & \mathbf{0.9098} & 1 & \mathbf{2.8135} \\ 0.1175 & 0.3234 & \mathbf{0.3554} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.551199 \\ 0.200299 \\ 0.183733 \\ 0.064770 \end{pmatrix} = 0.998497 \cdot \begin{pmatrix} 0.552028 \\ 0.200600 \\ \mathbf{0.184009} \\ 0.064867 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7519 & \mathbf{3} & 8.5101 \\ 0.3634 & 1 & \mathbf{1.0902} & 3.0925 \\ \mathbf{1/3} & \mathbf{0.9173} & 1 & \mathbf{2.8367} \\ 0.1175 & 0.3234 & \mathbf{0.3525} & 1 \end{pmatrix},$$

Example C.248.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 6 \\ 1/5 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 3 \\ 1/6 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.545917 \\ 0.212187 \\ \mathbf{0.179151} \\ 0.062745 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5728 & \mathbf{3.0472} & 8.7006 \\ 0.3887 & 1 & \mathbf{1.1844} & 3.3817 \\ \mathbf{0.3282} & \mathbf{0.8443} & 1 & \mathbf{2.8552} \\ 0.1149 & 0.2957 & \mathbf{0.3502} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.544381 \\ 0.211590 \\ 0.181460 \\ 0.062568 \end{pmatrix} = 0.997187 \cdot \begin{pmatrix} 0.545917 \\ 0.212187 \\ \mathbf{0.181972} \\ 0.062745 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5728 & \mathbf{3} & 8.7006 \\ 0.3887 & 1 & \mathbf{1.1660} & 3.3817 \\ \mathbf{1/3} & \mathbf{0.8576} & 1 & \mathbf{2.9002} \\ 0.1149 & 0.2957 & \mathbf{0.3448} & 1 \end{pmatrix},$$

Example C.249.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 7 \\ 1/5 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/7 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1415, \quad CR = 0.0533$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.565250 \\ 0.194718 \\ \mathbf{0.179583} \\ 0.060449 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9029 & \mathbf{3.1476} & 9.3509 \\ 0.3445 & 1 & \mathbf{1.0843} & 3.2212 \\ \mathbf{0.3177} & \mathbf{0.9223} & 1 & \mathbf{2.9708} \\ 0.1069 & 0.3104 & \mathbf{0.3366} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.564256 \\ 0.194375 \\ 0.181027 \\ 0.060342 \end{pmatrix} = 0.998240 \cdot \begin{pmatrix} 0.565250 \\ 0.194718 \\ \mathbf{0.181346} \\ 0.060449 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9029 & \mathbf{3.1170} & 9.3509 \\ 0.3445 & 1 & \mathbf{1.0737} & 3.2212 \\ \mathbf{0.3208} & \mathbf{0.9313} & 1 & \mathbf{3} \\ 0.1069 & 0.3104 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.250.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.564769 \\ 0.197297 \\ \mathbf{0.187461} \\ 0.050473 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8625 & \mathbf{3.0127} & 11.1895 \\ 0.3493 & 1 & \mathbf{1.0525} & 3.9089 \\ \mathbf{0.3319} & \mathbf{0.9501} & 1 & \mathbf{3.7141} \\ 0.0894 & 0.2558 & \mathbf{0.2692} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.564320 \\ 0.197140 \\ 0.188107 \\ 0.050433 \end{pmatrix} = 0.999206 \cdot \begin{pmatrix} 0.564769 \\ 0.197297 \\ \mathbf{0.188256} \\ 0.050473 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8625 & \mathbf{3} & 11.1895 \\ 0.3493 & 1 & \mathbf{1.0480} & 3.9089 \\ \mathbf{1/3} & \mathbf{0.9542} & 1 & \mathbf{3.7298} \\ 0.0894 & 0.2558 & \mathbf{0.2681} & 1 \end{pmatrix},$$

Example C.251.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.559327 \\ 0.207008 \\ \mathbf{0.184630} \\ 0.049035 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7020 & \mathbf{3.0294} & 11.4066 \\ 0.3701 & 1 & \mathbf{1.1212} & 4.2216 \\ \mathbf{0.3301} & \mathbf{0.8919} & 1 & \mathbf{3.7653} \\ 0.0877 & 0.2369 & \mathbf{0.2656} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.558315 \\ 0.206633 \\ 0.186105 \\ 0.048947 \end{pmatrix} = 0.998191 \cdot \begin{pmatrix} 0.559327 \\ 0.207008 \\ \mathbf{0.186442} \\ 0.049035 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7020 & \mathbf{3} & 11.4066 \\ 0.3701 & 1 & \mathbf{1.1103} & 4.2216 \\ \mathbf{1/3} & \mathbf{0.9007} & 1 & \mathbf{3.8022} \\ 0.0877 & 0.2369 & \mathbf{0.2630} & 1 \end{pmatrix},$$

Example C.252.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 8 \\ 1/5 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/8 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.554565 \\ 0.215554 \\ \mathbf{0.182040} \\ 0.047842 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5727 & \mathbf{3.0464} & 11.5916 \\ 0.3887 & 1 & \mathbf{1.1841} & 4.5055 \\ \mathbf{0.3283} & \mathbf{0.8445} & 1 & \mathbf{3.8050} \\ 0.0863 & 0.2219 & \mathbf{0.2628} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553008 \\ 0.214949 \\ 0.184336 \\ 0.047708 \end{pmatrix} = 0.997193 \cdot \begin{pmatrix} 0.554565 \\ 0.215554 \\ \mathbf{0.184855} \\ 0.047842 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5727 & \mathbf{3} & 11.5916 \\ 0.3887 & 1 & \mathbf{1.1661} & 4.5055 \\ \mathbf{1/3} & \mathbf{0.8576} & 1 & \mathbf{3.8639} \\ 0.0863 & 0.2219 & \mathbf{0.2588} & 1 \end{pmatrix},$$

Example C.253.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 9 \\ 1/5 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.574675 \\ 0.192736 \\ \mathbf{0.184819} \\ 0.047771 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9817 & \mathbf{3.1094} & 12.0299 \\ 0.3354 & 1 & \mathbf{1.0428} & 4.0346 \\ \mathbf{0.3216} & \mathbf{0.9589} & 1 & \mathbf{3.8689} \\ 0.0831 & 0.2479 & \mathbf{0.2585} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571097 \\ 0.191536 \\ 0.189893 \\ 0.047473 \end{pmatrix} = 0.993775 \cdot \begin{pmatrix} 0.574675 \\ 0.192736 \\ \mathbf{0.191083} \\ 0.047771 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9817 & \mathbf{3.0075} & 12.0299 \\ 0.3354 & 1 & \mathbf{1.0087} & 4.0346 \\ \mathbf{0.3325} & \mathbf{0.9914} & 1 & \mathbf{4} \\ 0.0831 & 0.2479 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.254.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 9 \\ 1/5 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1610, \quad CR = 0.0607$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.569038 \\ 0.202249 \\ \mathbf{0.182308} \\ 0.046405 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8135 & \mathbf{3.1213} & 12.2625 \\ 0.3554 & 1 & \mathbf{1.1094} & 4.3584 \\ \mathbf{0.3204} & \mathbf{0.9014} & 1 & \mathbf{3.9286} \\ 0.0815 & 0.2294 & \mathbf{0.2545} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567160 \\ 0.201582 \\ 0.185007 \\ 0.046252 \end{pmatrix} = 0.996699 \cdot \begin{pmatrix} 0.569038 \\ 0.202249 \\ \mathbf{0.185619} \\ 0.046405 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8135 & \mathbf{3.0656} & 12.2625 \\ 0.3554 & 1 & \mathbf{1.0896} & 4.3584 \\ \mathbf{0.3262} & \mathbf{0.9178} & 1 & \mathbf{4} \\ 0.0815 & 0.2294 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.255.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 3 & 9 \\ 1/5 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/8 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1974, \quad CR = 0.0744$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.564008 \\ 0.210730 \\ \mathbf{0.179990} \\ 0.045272 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6764 & \mathbf{3.1335} & 12.4582 \\ 0.3736 & 1 & \mathbf{1.1708} & 4.6547 \\ \mathbf{0.3191} & \mathbf{0.8541} & 1 & \mathbf{3.9757} \\ 0.0803 & 0.2148 & \mathbf{0.2515} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.563389 \\ 0.210499 \\ 0.180890 \\ 0.045223 \end{pmatrix} = 0.998903 \cdot \begin{pmatrix} 0.564008 \\ 0.210730 \\ \mathbf{0.181089} \\ 0.045272 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6764 & \mathbf{3.1145} & 12.4582 \\ 0.3736 & 1 & \mathbf{1.1637} & 4.6547 \\ \mathbf{0.3211} & \mathbf{0.8593} & 1 & \mathbf{4} \\ 0.0803 & 0.2148 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.256.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 4 & 5 \\ 1/5 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 1 \\ 1/5 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1569, \quad CR = 0.0592$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.574832 \\ 0.211863 \\ 0.107803 \\ \mathbf{0.105503} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7132 & 5.3322 & \mathbf{5.4485} \\ 0.3686 & 1 & 1.9653 & \mathbf{2.0081} \\ 0.1875 & 0.5088 & 1 & \mathbf{1.0218} \\ \mathbf{0.1835} & \mathbf{0.4980} & \mathbf{0.9787} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.574585 \\ 0.211772 \\ 0.107757 \\ 0.105886 \end{pmatrix} = 0.999571 \cdot \begin{pmatrix} 0.574832 \\ 0.211863 \\ 0.107803 \\ \mathbf{0.105931} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7132 & 5.3322 & \mathbf{5.4265} \\ 0.3686 & 1 & 1.9653 & \mathbf{2} \\ 0.1875 & 0.5088 & 1 & \mathbf{1.0177} \\ \mathbf{0.1843} & \mathbf{1/2} & \mathbf{0.9826} & 1 \end{pmatrix},$$

Example C.257.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 4 & 6 \\ 1/5 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.589240 \\ 0.207103 \\ 0.105576 \\ \mathbf{0.098081} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8452 & 5.5812 & \mathbf{6.0077} \\ 0.3515 & 1 & 1.9616 & \mathbf{2.1116} \\ 0.1792 & 0.5098 & 1 & \mathbf{1.0764} \\ \mathbf{0.1665} & \mathbf{0.4736} & \mathbf{0.9290} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.589166 \\ 0.207077 \\ 0.105563 \\ 0.098194 \end{pmatrix} = 0.999874 \cdot \begin{pmatrix} 0.589240 \\ 0.207103 \\ 0.105576 \\ \mathbf{0.098207} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8452 & 5.5812 & \mathbf{6} \\ 0.3515 & 1 & 1.9616 & \mathbf{2.1088} \\ 0.1792 & 0.5098 & 1 & \mathbf{1.0750} \\ \mathbf{1/6} & \mathbf{0.4742} & \mathbf{0.9302} & 1 \end{pmatrix},$$

Example C.258.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 4 & 6 \\ 1/5 & 1 & 4 & 2 \\ 1/4 & 1/4 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.578739 \\ 0.226049 \\ 0.100038 \\ 0.095174 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5602 & 5.7852 & 6.0809 \\ 0.3906 & 1 & 2.2596 & 2.3751 \\ 0.1729 & 0.4426 & 1 & 1.0511 \\ 0.1645 & 0.4210 & 0.9514 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.577997 \\ 0.225759 \\ 0.099910 \\ 0.096333 \end{pmatrix} = 0.998719 \cdot \begin{pmatrix} 0.578739 \\ 0.226049 \\ 0.100038 \\ 0.096456 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5602 & 5.7852 & 6 \\ 0.3906 & 1 & 2.2596 & 2.3435 \\ 0.1729 & 0.4426 & 1 & 1.0371 \\ 1/6 & 0.4267 & 0.9642 & 1 \end{pmatrix},$$

Example C.259.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 6 \\ 1/5 & 1 & 2 & 6 \\ 1/5 & 1/2 & 1 & 2 \\ 1/6 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.582134 \\ 0.237016 \\ \mathbf{0.115373} \\ 0.065477 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4561 & \mathbf{5.0457} & 8.8907 \\ 0.4072 & 1 & \mathbf{2.0544} & 3.6199 \\ \mathbf{0.1982} & \mathbf{0.4868} & 1 & \mathbf{1.7620} \\ 0.1125 & 0.2763 & \mathbf{0.5675} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.581521 \\ 0.236767 \\ 0.116304 \\ 0.065408 \end{pmatrix} = 0.998947 \cdot \begin{pmatrix} 0.582134 \\ 0.237016 \\ \mathbf{0.116427} \\ 0.065477 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4561 & \mathbf{5} & 8.8907 \\ 0.4072 & 1 & \mathbf{2.0358} & 3.6199 \\ \mathbf{1/5} & \mathbf{0.4912} & 1 & \mathbf{1.7781} \\ 0.1125 & 0.2763 & \mathbf{0.5624} & 1 \end{pmatrix},$$

Example C.260.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 7 \\ 1/5 & 1 & 2 & 6 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1868, \quad CR = 0.0704$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.595610 \\ 0.230178 \\ \mathbf{0.113410} \\ 0.060802 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5876 & \mathbf{5.2518} & 9.7958 \\ 0.3865 & 1 & \mathbf{2.0296} & 3.7857 \\ \mathbf{0.1904} & \mathbf{0.4927} & 1 & \mathbf{1.8652} \\ 0.1021 & 0.2642 & \mathbf{0.5361} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.594612 \\ 0.229792 \\ 0.114896 \\ 0.060700 \end{pmatrix} = 0.998324 \cdot \begin{pmatrix} 0.595610 \\ 0.230178 \\ \mathbf{0.115089} \\ 0.060802 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5876 & \mathbf{5.1752} & 9.7958 \\ 0.3865 & 1 & \mathbf{2} & 3.7857 \\ \mathbf{0.1932} & \mathbf{1/2} & 1 & \mathbf{1.8928} \\ 0.1021 & 0.2642 & \mathbf{0.5283} & 1 \end{pmatrix},$$

Example C.261.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 7 \\ 1/5 & 1 & 2 & 7 \\ 1/5 & 1/2 & 1 & 2 \\ 1/7 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2287, \quad CR = 0.0862$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.589180 \\ 0.240362 \\ \mathbf{0.111417} \\ 0.059041 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4512 & \mathbf{5.2881} & 9.9792 \\ 0.4080 & 1 & \mathbf{2.1573} & 4.0711 \\ \mathbf{0.1891} & \mathbf{0.4635} & 1 & \mathbf{1.8871} \\ 0.1002 & 0.2456 & \mathbf{0.5299} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.585423 \\ 0.238829 \\ 0.117085 \\ 0.058664 \end{pmatrix} = 0.993622 \cdot \begin{pmatrix} 0.589180 \\ 0.240362 \\ \mathbf{0.117836} \\ 0.059041 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4512 & \mathbf{5} & 9.9792 \\ 0.4080 & 1 & \mathbf{2.0398} & 4.0711 \\ \mathbf{1/5} & \mathbf{0.4902} & 1 & \mathbf{1.9958} \\ 0.1002 & 0.2456 & \mathbf{0.5010} & 1 \end{pmatrix},$$

Example C.262.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 7 \\ 1/5 & 1 & 5 & 3 \\ 1/5 & 1/5 & 1 & 1 \\ 1/7 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2309, \quad CR = 0.0871$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.591798 \\ 0.246052 \\ 0.083457 \\ \mathbf{0.078693} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4052 & 7.0911 & \mathbf{7.5203} \\ 0.4158 & 1 & 2.9483 & \mathbf{3.1267} \\ 0.1410 & 0.3392 & 1 & \mathbf{1.0605} \\ \mathbf{0.1330} & \mathbf{0.3198} & \mathbf{0.9429} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.589837 \\ 0.245237 \\ 0.083180 \\ 0.081746 \end{pmatrix} = 0.996687 \cdot \begin{pmatrix} 0.591798 \\ 0.246052 \\ 0.083457 \\ \mathbf{0.082017} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4052 & 7.0911 & \mathbf{7.2155} \\ 0.4158 & 1 & 2.9483 & \mathbf{3} \\ 0.1410 & 0.3392 & 1 & \mathbf{1.0176} \\ \mathbf{0.1386} & \mathbf{1/3} & \mathbf{0.9828} & 1 \end{pmatrix},$$

Example C.263.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 8 \\ 1/5 & 1 & 2 & 6 \\ 1/5 & 1/2 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1569, \quad CR = 0.0592$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.607280 \\ 0.223976 \\ \mathbf{0.111643} \\ 0.057101 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7114 & \mathbf{5.4395} & 10.6352 \\ 0.3688 & 1 & \mathbf{2.0062} & 3.9224 \\ \mathbf{0.1838} & \mathbf{0.4985} & 1 & \mathbf{1.9552} \\ 0.0940 & 0.2549 & \mathbf{0.5115} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.607071 \\ 0.223898 \\ 0.111949 \\ 0.057081 \end{pmatrix} = 0.999656 \cdot \begin{pmatrix} 0.607280 \\ 0.223976 \\ \mathbf{0.111988} \\ 0.057101 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7114 & \mathbf{5.4227} & 10.6352 \\ 0.3688 & 1 & \mathbf{2} & 3.9224 \\ \mathbf{0.1844} & \mathbf{1/2} & 1 & \mathbf{1.9612} \\ 0.0940 & 0.2549 & \mathbf{0.5099} & 1 \end{pmatrix},$$

Example C.264.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 8 \\ 1/5 & 1 & 2 & 7 \\ 1/5 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1955, \quad CR = 0.0737$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.600530 \\ 0.234107 \\ \mathbf{0.109909} \\ 0.055455 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5652 & \mathbf{5.4639} & 10.8292 \\ 0.3898 & 1 & \mathbf{2.1300} & 4.2216 \\ \mathbf{0.1830} & \mathbf{0.4695} & 1 & \mathbf{1.9820} \\ 0.0923 & 0.2369 & \mathbf{0.5046} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.599929 \\ 0.233873 \\ 0.110799 \\ 0.055399 \end{pmatrix} = 0.999000 \cdot \begin{pmatrix} 0.600530 \\ 0.234107 \\ \mathbf{0.110910} \\ 0.055455 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5652 & \mathbf{5.4146} & 10.8292 \\ 0.3898 & 1 & \mathbf{2.1108} & 4.2216 \\ \mathbf{0.1847} & \mathbf{0.4738} & 1 & \mathbf{2} \\ 0.0923 & 0.2369 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.265.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 8 \\ 1/5 & 1 & 5 & 3 \\ 1/5 & 1/5 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.601764 \\ 0.241775 \\ 0.082093 \\ \mathbf{0.074368} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4889 & 7.3303 & \mathbf{8.0917} \\ 0.4018 & 1 & 2.9451 & \mathbf{3.2511} \\ 0.1364 & 0.3395 & 1 & \mathbf{1.1039} \\ \mathbf{0.1236} & \mathbf{0.3076} & \mathbf{0.9059} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.601251 \\ 0.241569 \\ 0.082023 \\ 0.075156 \end{pmatrix} = 0.999148 \cdot \begin{pmatrix} 0.601764 \\ 0.241775 \\ 0.082093 \\ \mathbf{0.075221} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4889 & 7.3303 & \mathbf{8} \\ 0.4018 & 1 & 2.9451 & \mathbf{3.2142} \\ 0.1364 & 0.3395 & 1 & \mathbf{1.0914} \\ \mathbf{1/8} & \mathbf{0.3111} & \mathbf{0.9163} & 1 \end{pmatrix},$$

Example C.266.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 9 \\ 1/5 & 1 & 2 & 9 \\ 1/5 & 1/2 & 1 & 3 \\ 1/9 & 1/9 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.595059 \\ 0.242281 \\ \mathbf{0.117989} \\ 0.044671 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4561 & \mathbf{5.0433} & 13.3210 \\ 0.4072 & 1 & \mathbf{2.0534} & 5.4237 \\ \mathbf{0.1983} & \mathbf{0.4870} & 1 & \mathbf{2.6413} \\ 0.0751 & 0.1844 & \mathbf{0.3786} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.594451 \\ 0.242033 \\ 0.118890 \\ 0.044625 \end{pmatrix} = 0.998978 \cdot \begin{pmatrix} 0.595059 \\ 0.242281 \\ \mathbf{0.119012} \\ 0.044671 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4561 & \mathbf{5} & 13.3210 \\ 0.4072 & 1 & \mathbf{2.0358} & 5.4237 \\ \mathbf{1/5} & \mathbf{0.4912} & 1 & \mathbf{2.6642} \\ 0.0751 & 0.1844 & \mathbf{0.3753} & 1 \end{pmatrix},$$

Example C.267.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 8 \\ 1/5 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.614955 \\ 0.228982 \\ \mathbf{0.101868} \\ 0.054195 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6856 & \mathbf{6.0368} & 11.3471 \\ 0.3724 & 1 & \mathbf{2.2478} & 4.2251 \\ \mathbf{0.1657} & \mathbf{0.4449} & 1 & \mathbf{1.8797} \\ 0.0881 & 0.2367 & \mathbf{0.5320} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.614572 \\ 0.228839 \\ 0.102429 \\ 0.054161 \end{pmatrix} = 0.999376 \cdot \begin{pmatrix} 0.614955 \\ 0.228982 \\ \mathbf{0.102493} \\ 0.054195 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6856 & \mathbf{6} & 11.3471 \\ 0.3724 & 1 & \mathbf{2.2341} & 4.2251 \\ \mathbf{1/6} & \mathbf{0.4476} & 1 & \mathbf{1.8912} \\ 0.0881 & 0.2367 & \mathbf{0.5288} & 1 \end{pmatrix},$$

Example C.268.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 8 \\ 1/5 & 1 & 2 & 8 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.609017 \\ 0.237910 \\ \mathbf{0.100267} \\ 0.052806 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5599 & \mathbf{6.0740} & 11.5331 \\ 0.3906 & 1 & \mathbf{2.3728} & 4.5054 \\ \mathbf{0.1646} & \mathbf{0.4214} & 1 & \mathbf{1.8988} \\ 0.0867 & 0.2220 & \mathbf{0.5267} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.608265 \\ 0.237617 \\ 0.101377 \\ 0.052741 \end{pmatrix} = 0.998766 \cdot \begin{pmatrix} 0.609017 \\ 0.237910 \\ \mathbf{0.101503} \\ 0.052806 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5599 & \mathbf{6} & 11.5331 \\ 0.3906 & 1 & \mathbf{2.3439} & 4.5054 \\ \mathbf{1/6} & \mathbf{0.4266} & 1 & \mathbf{1.9222} \\ 0.0867 & 0.2220 & \mathbf{0.5202} & 1 \end{pmatrix},$$

Example C.269.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 8 \\ 1/5 & 1 & 5 & 3 \\ 1/6 & 1/5 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1792, \quad CR = 0.0676$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.618529 \\ 0.233185 \\ 0.075336 \\ \mathbf{0.072950} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6525 & 8.2102 & \mathbf{8.4788} \\ 0.3770 & 1 & 3.0952 & \mathbf{3.1965} \\ 0.1218 & 0.3231 & 1 & \mathbf{1.0327} \\ \mathbf{0.1179} & \mathbf{0.3128} & \mathbf{0.9683} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.617056 \\ 0.232630 \\ 0.075157 \\ 0.075157 \end{pmatrix} = 0.997620 \cdot \begin{pmatrix} 0.618529 \\ 0.233185 \\ 0.075336 \\ \mathbf{0.075336} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6525 & 8.2102 & \mathbf{8.2102} \\ 0.3770 & 1 & 3.0952 & \mathbf{3.0952} \\ 0.1218 & 0.3231 & 1 & \mathbf{1} \\ \mathbf{0.1218} & \mathbf{0.3231} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.270.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 8 \\ 1/5 & 1 & 6 & 3 \\ 1/6 & 1/6 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2311, \quad CR = 0.0871$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.610309 \\ 0.245436 \\ 0.072765 \\ \mathbf{0.071491} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4866 & 8.3874 & \mathbf{8.5369} \\ 0.4022 & 1 & 3.3730 & \mathbf{3.4331} \\ 0.1192 & 0.2965 & 1 & \mathbf{1.0178} \\ \mathbf{0.1171} & \mathbf{0.2913} & \mathbf{0.9825} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.609532 \\ 0.245124 \\ 0.072672 \\ 0.072672 \end{pmatrix} = 0.998728 \cdot \begin{pmatrix} 0.610309 \\ 0.245436 \\ 0.072765 \\ \mathbf{0.072765} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4866 & 8.3874 & \mathbf{8.3874} \\ 0.4022 & 1 & 3.3730 & \mathbf{3.3730} \\ 0.1192 & 0.2965 & 1 & \mathbf{1} \\ \mathbf{0.1192} & \mathbf{0.2965} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.271.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 9 \\ 1/5 & 1 & 2 & 6 \\ 1/6 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.632218 \\ 0.213014 \\ \mathbf{0.101981} \\ 0.052786 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9680 & \mathbf{6.1993} & 11.9769 \\ 0.3369 & 1 & \mathbf{2.0888} & 4.0354 \\ \mathbf{0.1613} & \mathbf{0.4788} & 1 & \mathbf{1.9320} \\ 0.0835 & 0.2478 & \mathbf{0.5176} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.630083 \\ 0.212295 \\ 0.105014 \\ 0.052608 \end{pmatrix} = 0.996623 \cdot \begin{pmatrix} 0.632218 \\ 0.213014 \\ \mathbf{0.105370} \\ 0.052786 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9680 & \mathbf{6} & 11.9769 \\ 0.3369 & 1 & \mathbf{2.0216} & 4.0354 \\ \mathbf{1/6} & \mathbf{0.4947} & 1 & \mathbf{1.9962} \\ 0.0835 & 0.2478 & \mathbf{0.5010} & 1 \end{pmatrix},$$

Example C.272.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 9 \\ 1/5 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1610, \quad CR = 0.0607$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.625220 \\ 0.223135 \\ \mathbf{0.100431} \\ 0.051214 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8020 & \mathbf{6.2254} & 12.2080 \\ 0.3569 & 1 & \mathbf{2.2218} & 4.3569 \\ \mathbf{0.1606} & \mathbf{0.4501} & 1 & \mathbf{1.9610} \\ 0.0819 & 0.2295 & \mathbf{0.5099} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.623974 \\ 0.222691 \\ 0.102224 \\ 0.051112 \end{pmatrix} = 0.998007 \cdot \begin{pmatrix} 0.625220 \\ 0.223135 \\ \mathbf{0.102428} \\ 0.051214 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8020 & \mathbf{6.1040} & 12.2080 \\ 0.3569 & 1 & \mathbf{2.1785} & 4.3569 \\ \mathbf{0.1638} & \mathbf{0.4590} & 1 & \mathbf{2} \\ 0.0819 & 0.2295 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.273.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 9 \\ 1/5 & 1 & 2 & 8 \\ 1/6 & 1/2 & 1 & 2 \\ 1/9 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1974, \quad CR = 0.0744$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.619017 \\ 0.232061 \\ \mathbf{0.099014} \\ 0.049908 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6675 & \mathbf{6.2518} & 12.4032 \\ 0.3749 & 1 & \mathbf{2.3437} & 4.6498 \\ \mathbf{0.1600} & \mathbf{0.4267} & 1 & \mathbf{1.9839} \\ 0.0806 & 0.2151 & \mathbf{0.5041} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.618521 \\ 0.231875 \\ 0.099736 \\ 0.049868 \end{pmatrix} = 0.999198 \cdot \begin{pmatrix} 0.619017 \\ 0.232061 \\ \mathbf{0.099816} \\ 0.049908 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6675 & \mathbf{6.2016} & 12.4032 \\ 0.3749 & 1 & \mathbf{2.3249} & 4.6498 \\ \mathbf{0.1612} & \mathbf{0.4301} & 1 & \mathbf{2} \\ 0.0806 & 0.2151 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.274.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 9 \\ 1/5 & 1 & 5 & 3 \\ 1/6 & 1/5 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1758, \quad CR = 0.0663$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.626914 \\ 0.229552 \\ 0.074129 \\ \mathbf{0.069405} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7310 & 8.4571 & \mathbf{9.0326} \\ 0.3662 & 1 & 3.0967 & \mathbf{3.3074} \\ 0.1182 & 0.3229 & 1 & \mathbf{1.0681} \\ \mathbf{0.1107} & \mathbf{0.3024} & \mathbf{0.9363} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.626756 \\ 0.229494 \\ 0.074110 \\ 0.069640 \end{pmatrix} = 0.999748 \cdot \begin{pmatrix} 0.626914 \\ 0.229552 \\ 0.074129 \\ \mathbf{0.069657} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7310 & 8.4571 & \mathbf{9} \\ 0.3662 & 1 & 3.0967 & \mathbf{3.2955} \\ 0.1182 & 0.3229 & 1 & \mathbf{1.0642} \\ \mathbf{1/9} & \mathbf{0.3034} & \mathbf{0.9397} & 1 \end{pmatrix},$$

Example C.275.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 9 \\ 1/5 & 1 & 6 & 3 \\ 1/6 & 1/6 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.618643 \\ 0.241905 \\ 0.071530 \\ \mathbf{0.067922} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5574 & 8.6487 & \mathbf{9.1081} \\ 0.3910 & 1 & 3.3818 & \mathbf{3.5615} \\ 0.1156 & 0.2957 & 1 & \mathbf{1.0531} \\ \mathbf{0.1098} & \mathbf{0.2808} & \mathbf{0.9496} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.618139 \\ 0.241707 \\ 0.071472 \\ 0.068682 \end{pmatrix} = 0.999185 \cdot \begin{pmatrix} 0.618643 \\ 0.241905 \\ 0.071530 \\ \mathbf{0.068738} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5574 & 8.6487 & \mathbf{9} \\ 0.3910 & 1 & 3.3818 & \mathbf{3.5192} \\ 0.1156 & 0.2957 & 1 & \mathbf{1.0406} \\ \mathbf{1/9} & \mathbf{0.2842} & \mathbf{0.9610} & 1 \end{pmatrix},$$

Example C.276.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 9 \\ 1/5 & 1 & 5 & 3 \\ 1/7 & 1/5 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1415, \quad CR = 0.0533$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.641130 \\ 0.221852 \\ 0.068907 \\ \mathbf{0.068111} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8899 & 9.3043 & \mathbf{9.4131} \\ 0.3460 & 1 & 3.2196 & \mathbf{3.2572} \\ 0.1075 & 0.3106 & 1 & \mathbf{1.0117} \\ \mathbf{0.1062} & \mathbf{0.3070} & \mathbf{0.9884} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.640620 \\ 0.221675 \\ 0.068852 \\ 0.068852 \end{pmatrix} = 0.999204 \cdot \begin{pmatrix} 0.641130 \\ 0.221852 \\ 0.068907 \\ \mathbf{0.068907} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8899 & 9.3043 & \mathbf{9.3043} \\ 0.3460 & 1 & 3.2196 & \mathbf{3.2196} \\ 0.1075 & 0.3106 & 1 & \mathbf{1} \\ \mathbf{0.1075} & \mathbf{0.3106} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.277.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 9 \\ 1/5 & 1 & 7 & 4 \\ 1/7 & 1/7 & 1 & 1 \\ 1/9 & 1/4 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2346, \quad CR = 0.0885$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.615823 \\ 0.258701 \\ 0.063577 \\ \mathbf{0.061899} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.3804 & 9.6862 & \mathbf{9.9488} \\ 0.4201 & 1 & 4.0691 & \mathbf{4.1794} \\ 0.1032 & 0.2458 & 1 & \mathbf{1.0271} \\ \mathbf{0.1005} & \mathbf{0.2393} & \mathbf{0.9736} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.614791 \\ 0.258267 \\ 0.063471 \\ 0.063471 \end{pmatrix} = 0.998325 \cdot \begin{pmatrix} 0.615823 \\ 0.258701 \\ 0.063577 \\ \mathbf{0.063577} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3804 & 9.6862 & \mathbf{9.6862} \\ 0.4201 & 1 & 4.0691 & \mathbf{4.0691} \\ 0.1032 & 0.2458 & 1 & \mathbf{1} \\ \mathbf{0.1032} & \mathbf{0.2458} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.278.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 4 \\ 1/6 & 1 & 1 & 3 \\ 1/3 & 1 & 1 & 2 \\ 1/4 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.547251 \\ 0.180896 \\ \mathbf{0.176137} \\ 0.095715 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0252 & \mathbf{3.1070} & 5.7175 \\ 0.3306 & 1 & \mathbf{1.0270} & 1.8899 \\ \mathbf{0.3219} & \mathbf{0.9737} & 1 & \mathbf{1.8402} \\ 0.1749 & 0.5291 & \mathbf{0.5434} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.544659 \\ 0.180039 \\ 0.180039 \\ 0.095262 \end{pmatrix} = 0.995263 \cdot \begin{pmatrix} 0.547251 \\ 0.180896 \\ \mathbf{0.180896} \\ 0.095715 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0252 & \mathbf{3.0252} & 5.7175 \\ 0.3306 & 1 & \mathbf{1} & 1.8899 \\ \mathbf{0.3306} & \mathbf{1} & 1 & \mathbf{1.8899} \\ 0.1749 & 0.5291 & \mathbf{0.5291} & 1 \end{pmatrix},$$

Example C.279.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 5 \\ 1/6 & 1 & 1 & 3 \\ 1/3 & 1 & 1 & 2 \\ 1/5 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1488, \quad CR = 0.0561$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.568009 \\ 0.173192 \\ \mathbf{0.172142} \\ 0.086657 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.2797 & \mathbf{3.2996} & 6.5546 \\ 0.3049 & 1 & \mathbf{1.0061} & 1.9986 \\ \mathbf{0.3031} & \mathbf{0.9939} & 1 & \mathbf{1.9865} \\ 0.1526 & 0.5004 & \mathbf{0.5034} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567413 \\ 0.173010 \\ 0.173010 \\ 0.086567 \end{pmatrix} = 0.998952 \cdot \begin{pmatrix} 0.568009 \\ 0.173192 \\ \mathbf{0.173192} \\ 0.086657 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.2797 & \mathbf{3.2797} & 6.5546 \\ 0.3049 & 1 & \mathbf{1} & 1.9986 \\ \mathbf{0.3049} & \mathbf{1} & 1 & \mathbf{1.9986} \\ 0.1526 & 0.5004 & \mathbf{0.5004} & 1 \end{pmatrix},$$

Example C.280.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 6 \\ 1/6 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/6 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.561468 \\ 0.193489 \\ \mathbf{0.180206} \\ 0.064837 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9018 & \mathbf{3.1157} & 8.6597 \\ 0.3446 & 1 & \mathbf{1.0737} & 2.9842 \\ \mathbf{0.3210} & \mathbf{0.9314} & 1 & \mathbf{2.7794} \\ 0.1155 & 0.3351 & \mathbf{0.3598} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.557593 \\ 0.192153 \\ 0.185864 \\ 0.064390 \end{pmatrix} = 0.993098 \cdot \begin{pmatrix} 0.561468 \\ 0.193489 \\ \mathbf{0.187156} \\ 0.064837 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9018 & \mathbf{3} & 8.6597 \\ 0.3446 & 1 & \mathbf{1.0338} & 2.9842 \\ \mathbf{1/3} & \mathbf{0.9673} & 1 & \mathbf{2.8866} \\ 0.1155 & 0.3351 & \mathbf{0.3464} & 1 \end{pmatrix},$$

Example C.281.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 7 \\ 1/6 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/7 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1889, \quad CR = 0.0712$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.574955 \\ 0.187463 \\ \mathbf{0.177235} \\ 0.060347 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0670 & \mathbf{3.2440} & 9.5275 \\ 0.3260 & 1 & \mathbf{1.0577} & 3.1064 \\ \mathbf{0.3083} & \mathbf{0.9454} & 1 & \mathbf{2.9369} \\ 0.1050 & 0.3219 & \mathbf{0.3405} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.572775 \\ 0.186753 \\ 0.180354 \\ 0.060118 \end{pmatrix} = 0.996209 \cdot \begin{pmatrix} 0.574955 \\ 0.187463 \\ \mathbf{0.181041} \\ 0.060347 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0670 & \mathbf{3.1758} & 9.5275 \\ 0.3260 & 1 & \mathbf{1.0355} & 3.1064 \\ \mathbf{0.3149} & \mathbf{0.9657} & 1 & \mathbf{3} \\ 0.1050 & 0.3219 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.282.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 7 \\ 1/6 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 3 \\ 1/7 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2416, \quad CR = 0.0911$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.568250 \\ 0.198980 \\ \mathbf{0.174280} \\ 0.058490 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8558 & \mathbf{3.2606} & 9.7153 \\ 0.3502 & 1 & \mathbf{1.1417} & 3.4020 \\ \mathbf{0.3067} & \mathbf{0.8759} & 1 & \mathbf{2.9797} \\ 0.1029 & 0.2939 & \mathbf{0.3356} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567575 \\ 0.198743 \\ 0.175261 \\ 0.058420 \end{pmatrix} = 0.998811 \cdot \begin{pmatrix} 0.568250 \\ 0.198980 \\ \mathbf{0.175470} \\ 0.058490 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8558 & \mathbf{3.2384} & 9.7153 \\ 0.3502 & 1 & \mathbf{1.1340} & 3.4020 \\ \mathbf{0.3088} & \mathbf{0.8818} & 1 & \mathbf{3} \\ 0.1029 & 0.2939 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.283.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 8 \\ 1/6 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.574434 \\ 0.190002 \\ \mathbf{0.185176} \\ 0.050388 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0233 & \mathbf{3.1021} & 11.4003 \\ 0.3308 & 1 & \mathbf{1.0261} & 3.7708 \\ \mathbf{0.3224} & \mathbf{0.9746} & 1 & \mathbf{3.6750} \\ 0.0877 & 0.2652 & \mathbf{0.2721} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571675 \\ 0.189090 \\ 0.189090 \\ 0.050146 \end{pmatrix} = 0.995197 \cdot \begin{pmatrix} 0.574434 \\ 0.190002 \\ \mathbf{0.190002} \\ 0.050388 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0233 & \mathbf{3.0233} & 11.4003 \\ 0.3308 & 1 & \mathbf{1} & 3.7708 \\ \mathbf{0.3308} & \mathbf{1} & 1 & \mathbf{3.7708} \\ 0.0877 & 0.2652 & \mathbf{0.2652} & 1 \end{pmatrix},$$

Example C.284.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 8 \\ 1/6 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.568868 \\ 0.199803 \\ \mathbf{0.182286} \\ 0.049043 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8471 & \mathbf{3.1208} & 11.5995 \\ 0.3512 & 1 & \mathbf{1.0961} & 4.0741 \\ \mathbf{0.3204} & \mathbf{0.9123} & 1 & \mathbf{3.7169} \\ 0.0862 & 0.2455 & \mathbf{0.2690} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.564725 \\ 0.198348 \\ 0.188242 \\ 0.048685 \end{pmatrix} = 0.992716 \cdot \begin{pmatrix} 0.568868 \\ 0.199803 \\ \mathbf{0.189623} \\ 0.049043 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8471 & \mathbf{3} & 11.5995 \\ 0.3512 & 1 & \mathbf{1.0537} & 4.0741 \\ \mathbf{1/3} & \mathbf{0.9490} & 1 & \mathbf{3.8665} \\ 0.0862 & 0.2455 & \mathbf{0.2586} & 1 \end{pmatrix},$$

Example C.285.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 9 \\ 1/6 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.584538 \\ 0.185333 \\ \mathbf{0.182489} \\ 0.047640 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1540 & \mathbf{3.2031} & 12.2698 \\ 0.3171 & 1 & \mathbf{1.0156} & 3.8902 \\ \mathbf{0.3122} & \mathbf{0.9847} & 1 & \mathbf{3.8306} \\ 0.0815 & 0.2571 & \mathbf{0.2611} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.582880 \\ 0.184807 \\ 0.184807 \\ 0.047505 \end{pmatrix} = 0.997164 \cdot \begin{pmatrix} 0.584538 \\ 0.185333 \\ \mathbf{0.185333} \\ 0.047640 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1540 & \mathbf{3.1540} & 12.2698 \\ 0.3171 & 1 & \mathbf{1} & 3.8902 \\ \mathbf{0.3171} & \mathbf{1} & 1 & \mathbf{3.8902} \\ 0.0815 & 0.2571 & \mathbf{0.2571} & 1 \end{pmatrix},$$

Example C.286.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 9 \\ 1/6 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.578762 \\ 0.194943 \\ \mathbf{0.179925} \\ 0.046369 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9689 & \mathbf{3.2167} & 12.4816 \\ 0.3368 & 1 & \mathbf{1.0835} & 4.2041 \\ \mathbf{0.3109} & \mathbf{0.9230} & 1 & \mathbf{3.8803} \\ 0.0801 & 0.2379 & \mathbf{0.2577} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.575567 \\ 0.193867 \\ 0.184453 \\ 0.046113 \end{pmatrix} = 0.994478 \cdot \begin{pmatrix} 0.578762 \\ 0.194943 \\ \mathbf{0.185477} \\ 0.046369 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9689 & \mathbf{3.1204} & 12.4816 \\ 0.3368 & 1 & \mathbf{1.0510} & 4.2041 \\ \mathbf{0.3205} & \mathbf{0.9514} & 1 & \mathbf{4} \\ 0.0801 & 0.2379 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.287.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 9 \\ 1/6 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 5 \\ 1/9 & 1/7 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2095, \quad CR = 0.0790$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.573879 \\ 0.191739 \\ \mathbf{0.190960} \\ 0.043422 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9930 & \mathbf{3.0052} & 13.2164 \\ 0.3341 & 1 & \mathbf{1.0041} & 4.4158 \\ \mathbf{0.3328} & \mathbf{0.9959} & 1 & \mathbf{4.3978} \\ 0.0757 & 0.2265 & \mathbf{0.2274} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.573688 \\ 0.191676 \\ 0.191229 \\ 0.043407 \end{pmatrix} = 0.999667 \cdot \begin{pmatrix} 0.573879 \\ 0.191739 \\ \mathbf{0.191293} \\ 0.043422 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9930 & \mathbf{3} & 13.2164 \\ 0.3341 & 1 & \mathbf{1.0023} & 4.4158 \\ \mathbf{1/3} & \mathbf{0.9977} & 1 & \mathbf{4.4055} \\ 0.0757 & 0.2265 & \mathbf{0.2270} & 1 \end{pmatrix},$$

Example C.288.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 9 \\ 1/6 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/8 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.573629 \\ 0.203504 \\ \mathbf{0.177560} \\ 0.045307 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8188 & \mathbf{3.2306} & 12.6610 \\ 0.3548 & 1 & \mathbf{1.1461} & 4.4917 \\ \mathbf{0.3095} & \mathbf{0.8725} & 1 & \mathbf{3.9191} \\ 0.0790 & 0.2226 & \mathbf{0.2552} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571534 \\ 0.202760 \\ 0.180565 \\ 0.045141 \end{pmatrix} = 0.996347 \cdot \begin{pmatrix} 0.573629 \\ 0.203504 \\ \mathbf{0.181227} \\ 0.045307 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8188 & \mathbf{3.1653} & 12.6610 \\ 0.3548 & 1 & \mathbf{1.1229} & 4.4917 \\ \mathbf{0.3159} & \mathbf{0.8905} & 1 & \mathbf{4} \\ 0.0790 & 0.2226 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.289.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 3 & 9 \\ 1/6 & 1 & 1 & 8 \\ 1/3 & 1 & 1 & 5 \\ 1/9 & 1/8 & 1/5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.569128 \\ 0.200264 \\ \mathbf{0.188205} \\ 0.042404 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8419 & \mathbf{3.0240} & 13.4217 \\ 0.3519 & 1 & \mathbf{1.0641} & 4.7228 \\ \mathbf{0.3307} & \mathbf{0.9398} & 1 & \mathbf{4.4384} \\ 0.0745 & 0.2117 & \mathbf{0.2253} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568273 \\ 0.199963 \\ 0.189424 \\ 0.042340 \end{pmatrix} = 0.998497 \cdot \begin{pmatrix} 0.569128 \\ 0.200264 \\ \mathbf{0.189709} \\ 0.042404 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8419 & \mathbf{3} & 13.4217 \\ 0.3519 & 1 & \mathbf{1.0556} & 4.7228 \\ \mathbf{1/3} & \mathbf{0.9473} & 1 & \mathbf{4.4739} \\ 0.0745 & 0.2117 & \mathbf{0.2235} & 1 \end{pmatrix},$$

Example C.290.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 6 \\ 1/6 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.610382 \\ 0.161222 \\ \mathbf{0.150900} \\ 0.077496 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.7860 & \mathbf{4.0449} & 7.8763 \\ 0.2641 & 1 & \mathbf{1.0684} & 2.0804 \\ \mathbf{0.2472} & \mathbf{0.9360} & 1 & \mathbf{1.9472} \\ 0.1270 & 0.4807 & \mathbf{0.5136} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.609349 \\ 0.160949 \\ 0.152337 \\ 0.077365 \end{pmatrix} = 0.998308 \cdot \begin{pmatrix} 0.610382 \\ 0.161222 \\ \mathbf{0.152595} \\ 0.077496 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.7860 & \mathbf{4} & 7.8763 \\ 0.2641 & 1 & \mathbf{1.0565} & 2.0804 \\ \mathbf{1/4} & \mathbf{0.9465} & 1 & \mathbf{1.9691} \\ 0.1270 & 0.4807 & \mathbf{0.5079} & 1 \end{pmatrix},$$

Example C.291.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 6 \\ 1/6 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.598437 \\ 0.199401 \\ 0.105338 \\ \mathbf{0.096824} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0012 & 5.6811 & \mathbf{6.1807} \\ 0.3332 & 1 & 1.8930 & \mathbf{2.0594} \\ 0.1760 & 0.5283 & 1 & \mathbf{1.0879} \\ \mathbf{0.1618} & \mathbf{0.4856} & \mathbf{0.9192} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.596721 \\ 0.198829 \\ 0.105036 \\ 0.099414 \end{pmatrix} = 0.997132 \cdot \begin{pmatrix} 0.598437 \\ 0.199401 \\ 0.105338 \\ \mathbf{0.099700} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0012 & 5.6811 & \mathbf{6.0024} \\ 0.3332 & 1 & 1.8930 & \mathbf{2} \\ 0.1760 & 0.5283 & 1 & \mathbf{1.0565} \\ \mathbf{0.1666} & \mathbf{1/2} & \mathbf{0.9465} & 1 \end{pmatrix},$$

Example C.292.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 9 \\ 1/6 & 1 & 1 & 4 \\ 1/4 & 1 & 1 & 3 \\ 1/9 & 1/4 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.630477 \\ 0.159100 \\ \mathbf{0.156178} \\ 0.054245 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9628 & \mathbf{4.0369} & 11.6228 \\ 0.2523 & 1 & \mathbf{1.0187} & 2.9330 \\ \mathbf{0.2477} & \mathbf{0.9816} & 1 & \mathbf{2.8791} \\ 0.0860 & 0.3409 & \mathbf{0.3473} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.629570 \\ 0.158871 \\ 0.157392 \\ 0.054167 \end{pmatrix} = 0.998561 \cdot \begin{pmatrix} 0.630477 \\ 0.159100 \\ \mathbf{0.157619} \\ 0.054245 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9628 & \mathbf{4} & 11.6228 \\ 0.2523 & 1 & \mathbf{1.0094} & 2.9330 \\ \mathbf{1/4} & \mathbf{0.9907} & 1 & \mathbf{2.9057} \\ 0.0860 & 0.3409 & \mathbf{0.3442} & 1 \end{pmatrix},$$

Example C.293.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 4 & 9 \\ 1/6 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/9 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.622601 \\ 0.171617 \\ \mathbf{0.153727} \\ 0.052056 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.6279 & \mathbf{4.0500} & 11.9603 \\ 0.2756 & 1 & \mathbf{1.1164} & 3.2968 \\ \mathbf{0.2469} & \mathbf{0.8958} & 1 & \mathbf{2.9531} \\ 0.0836 & 0.3033 & \mathbf{0.3386} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.621406 \\ 0.171287 \\ 0.155351 \\ 0.051956 \end{pmatrix} = 0.998080 \cdot \begin{pmatrix} 0.622601 \\ 0.171617 \\ \mathbf{0.155650} \\ 0.052056 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6279 & \mathbf{4} & 11.9603 \\ 0.2756 & 1 & \mathbf{1.1026} & 3.2968 \\ \mathbf{1/4} & \mathbf{0.9070} & 1 & \mathbf{2.9901} \\ 0.0836 & 0.3033 & \mathbf{0.3344} & 1 \end{pmatrix},$$

Example C.294.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 5 & 6 \\ 1/6 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1488, \quad CR = 0.0561$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.620558 \\ 0.189961 \\ 0.095125 \\ \mathbf{0.094356} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.2668 & 6.5236 & \mathbf{6.5768} \\ 0.3061 & 1 & 1.9970 & \mathbf{2.0132} \\ 0.1533 & 0.5008 & 1 & \mathbf{1.0081} \\ \mathbf{0.1521} & \mathbf{0.4967} & \mathbf{0.9919} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.620171 \\ 0.189842 \\ 0.095066 \\ 0.094921 \end{pmatrix} = 0.999376 \cdot \begin{pmatrix} 0.620558 \\ 0.189961 \\ 0.095125 \\ \mathbf{0.094980} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.2668 & 6.5236 & \mathbf{6.5335} \\ 0.3061 & 1 & 1.9970 & \mathbf{2} \\ 0.1533 & 0.5008 & 1 & \mathbf{1.0015} \\ \mathbf{0.1531} & \mathbf{1/2} & \mathbf{0.9985} & 1 \end{pmatrix},$$

Example C.295.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 5 & 7 \\ 1/6 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1417, \quad CR = 0.0534$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.632378 \\ 0.185940 \\ 0.093181 \\ \mathbf{0.088501} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.4010 & 6.7866 & \mathbf{7.1455} \\ 0.2940 & 1 & 1.9955 & \mathbf{2.1010} \\ 0.1473 & 0.5011 & 1 & \mathbf{1.0529} \\ \mathbf{0.1399} & \mathbf{0.4760} & \mathbf{0.9498} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.631218 \\ 0.185599 \\ 0.093010 \\ 0.090174 \end{pmatrix} = 0.998164 \cdot \begin{pmatrix} 0.632378 \\ 0.185940 \\ 0.093181 \\ \mathbf{0.090340} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.4010 & 6.7866 & \mathbf{7} \\ 0.2940 & 1 & 1.9955 & \mathbf{2.0582} \\ 0.1473 & 0.5011 & 1 & \mathbf{1.0314} \\ \mathbf{1/7} & \mathbf{0.4859} & \mathbf{0.9695} & 1 \end{pmatrix},$$

Example C.296.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 5 & 7 \\ 1/6 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.620647 \\ 0.204739 \\ 0.088486 \\ \mathbf{0.086129} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0314 & 7.0141 & \mathbf{7.2060} \\ 0.3299 & 1 & 2.3138 & \mathbf{2.3771} \\ 0.1426 & 0.4322 & 1 & \mathbf{1.0274} \\ \mathbf{0.1388} & \mathbf{0.4207} & \mathbf{0.9734} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.619187 \\ 0.204257 \\ 0.088278 \\ 0.088278 \end{pmatrix} = 0.997648 \cdot \begin{pmatrix} 0.620647 \\ 0.204739 \\ 0.088486 \\ \mathbf{0.088486} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0314 & 7.0141 & \mathbf{7.0141} \\ 0.3299 & 1 & 2.3138 & \mathbf{2.3138} \\ 0.1426 & 0.4322 & 1 & \mathbf{1} \\ \mathbf{0.1426} & \mathbf{0.4322} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.297.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 5 & 8 \\ 1/6 & 1 & 2 & 7 \\ 1/5 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2531, \quad CR = 0.0954$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.609613 \\ 0.226236 \\ \mathbf{0.108702} \\ 0.055450 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.6946 & \mathbf{5.6081} & 10.9940 \\ 0.3711 & 1 & \mathbf{2.0813} & 4.0800 \\ \mathbf{0.1783} & \mathbf{0.4805} & 1 & \mathbf{1.9604} \\ 0.0910 & 0.2451 & \mathbf{0.5101} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.608277 \\ 0.225740 \\ 0.110656 \\ 0.055328 \end{pmatrix} = 0.997808 \cdot \begin{pmatrix} 0.609613 \\ 0.226236 \\ \mathbf{0.110899} \\ 0.055450 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.6946 & \mathbf{5.4970} & 10.9940 \\ 0.3711 & 1 & \mathbf{2.0400} & 4.0800 \\ \mathbf{0.1819} & \mathbf{0.4902} & 1 & \mathbf{2} \\ 0.0910 & 0.2451 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.298.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 8 \\ 1/6 & 1 & 2 & 6 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.631379 \\ 0.210542 \\ \mathbf{0.102329} \\ 0.055750 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9988 & \mathbf{6.1701} & 11.3252 \\ 0.3335 & 1 & \mathbf{2.0575} & 3.7765 \\ \mathbf{0.1621} & \mathbf{0.4860} & 1 & \mathbf{1.8355} \\ 0.0883 & 0.2648 & \mathbf{0.5448} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.629552 \\ 0.209933 \\ 0.104925 \\ 0.055589 \end{pmatrix} = 0.997108 \cdot \begin{pmatrix} 0.631379 \\ 0.210542 \\ \mathbf{0.105230} \\ 0.055750 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9988 & \mathbf{6} & 11.3252 \\ 0.3335 & 1 & \mathbf{2.0008} & 3.7765 \\ \mathbf{1/6} & \mathbf{0.4998} & 1 & \mathbf{1.8875} \\ 0.0883 & 0.2648 & \mathbf{0.5298} & 1 \end{pmatrix},$$

Example C.299.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 8 \\ 1/6 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.624389 \\ 0.220908 \\ \mathbf{0.100524} \\ 0.054179 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8265 & \mathbf{6.2114} & 11.5246 \\ 0.3538 & 1 & \mathbf{2.1976} & 4.0774 \\ \mathbf{0.1610} & \mathbf{0.4550} & 1 & \mathbf{1.8554} \\ 0.0868 & 0.2453 & \mathbf{0.5390} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.622186 \\ 0.220129 \\ 0.103698 \\ 0.053988 \end{pmatrix} = 0.996471 \cdot \begin{pmatrix} 0.624389 \\ 0.220908 \\ \mathbf{0.104065} \\ 0.054179 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8265 & \mathbf{6} & 11.5246 \\ 0.3538 & 1 & \mathbf{2.1228} & 4.0774 \\ \mathbf{1/6} & \mathbf{0.4711} & 1 & \mathbf{1.9208} \\ 0.0868 & 0.2453 & \mathbf{0.5206} & 1 \end{pmatrix},$$

Example C.300.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 8 \\ 1/6 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.659615 \\ 0.174762 \\ 0.083945 \\ \mathbf{0.081678} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.7744 & 7.8577 & \mathbf{8.0758} \\ 0.2649 & 1 & 2.0818 & \mathbf{2.1396} \\ 0.1273 & 0.4803 & 1 & \mathbf{1.0278} \\ \mathbf{0.1238} & \mathbf{0.4674} & \mathbf{0.9730} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.659105 \\ 0.174626 \\ 0.083880 \\ 0.082388 \end{pmatrix} = 0.999227 \cdot \begin{pmatrix} 0.659615 \\ 0.174762 \\ 0.083945 \\ \mathbf{0.082452} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.7744 & 7.8577 & \mathbf{8} \\ 0.2649 & 1 & 2.0818 & \mathbf{2.1196} \\ 0.1273 & 0.4803 & 1 & \mathbf{1.0181} \\ \mathbf{1/8} & \mathbf{0.4718} & \mathbf{0.9822} & 1 \end{pmatrix},$$

Example C.301.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 8 \\ 1/6 & 1 & 5 & 3 \\ 1/6 & 1/5 & 1 & 1 \\ 1/8 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2339, \quad CR = 0.0882$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.627646 \\ 0.225010 \\ 0.075261 \\ \mathbf{0.072082} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.7894 & 8.3396 & \mathbf{8.7073} \\ 0.3585 & 1 & 2.9897 & \mathbf{3.1216} \\ 0.1199 & 0.3345 & 1 & \mathbf{1.0441} \\ \mathbf{0.1148} & \mathbf{0.3204} & \mathbf{0.9578} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.625818 \\ 0.224355 \\ 0.075042 \\ 0.074785 \end{pmatrix} = 0.997088 \cdot \begin{pmatrix} 0.627646 \\ 0.225010 \\ 0.075261 \\ \mathbf{0.075003} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.7894 & 8.3396 & \mathbf{8.3682} \\ 0.3585 & 1 & 2.9897 & \mathbf{3} \\ 0.1199 & 0.3345 & 1 & \mathbf{1.0034} \\ \mathbf{0.1195} & \mathbf{1/3} & \mathbf{0.9966} & 1 \end{pmatrix},$$

Example C.302.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 9 \\ 1/6 & 1 & 2 & 6 \\ 1/6 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.642010 \\ 0.204726 \\ \mathbf{0.100646} \\ 0.052619 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1359 & \mathbf{6.3789} & 12.2011 \\ 0.3189 & 1 & \mathbf{2.0341} & 3.8907 \\ \mathbf{0.1568} & \mathbf{0.4916} & 1 & \mathbf{1.9127} \\ 0.0820 & 0.2570 & \mathbf{0.5228} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.640909 \\ 0.204375 \\ 0.102187 \\ 0.052529 \end{pmatrix} = 0.998286 \cdot \begin{pmatrix} 0.642010 \\ 0.204726 \\ \mathbf{0.102363} \\ 0.052619 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1359 & \mathbf{6.2719} & 12.2011 \\ 0.3189 & 1 & \mathbf{2} & 3.8907 \\ \mathbf{0.1594} & \mathbf{1/2} & 1 & \mathbf{1.9454} \\ 0.0820 & 0.2570 & \mathbf{0.5140} & 1 \end{pmatrix},$$

Example C.303.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 9 \\ 1/6 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.634843 \\ 0.214942 \\ \mathbf{0.099064} \\ 0.051151 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9536 & \mathbf{6.4084} & 12.4112 \\ 0.3386 & 1 & \mathbf{2.1697} & 4.2021 \\ \mathbf{0.1560} & \mathbf{0.4609} & 1 & \mathbf{1.9367} \\ 0.0806 & 0.2380 & \mathbf{0.5163} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.632794 \\ 0.214249 \\ 0.101971 \\ 0.050986 \end{pmatrix} = 0.996773 \cdot \begin{pmatrix} 0.634843 \\ 0.214942 \\ \mathbf{0.102301} \\ 0.051151 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9536 & \mathbf{6.2056} & 12.4112 \\ 0.3386 & 1 & \mathbf{2.1011} & 4.2021 \\ \mathbf{0.1611} & \mathbf{0.4759} & 1 & \mathbf{2} \\ 0.0806 & 0.2380 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.304.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 9 \\ 1/6 & 1 & 2 & 8 \\ 1/6 & 1/2 & 1 & 2 \\ 1/9 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.628515 \\ 0.223944 \\ \mathbf{0.097619} \\ 0.049921 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8066 & \mathbf{6.4384} & 12.5901 \\ 0.3563 & 1 & \mathbf{2.2941} & 4.4859 \\ \mathbf{0.1553} & \mathbf{0.4359} & 1 & \mathbf{1.9555} \\ 0.0794 & 0.2229 & \mathbf{0.5114} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.627120 \\ 0.223447 \\ 0.099621 \\ 0.049811 \end{pmatrix} = 0.997781 \cdot \begin{pmatrix} 0.628515 \\ 0.223944 \\ \mathbf{0.099843} \\ 0.049921 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8066 & \mathbf{6.2950} & 12.5901 \\ 0.3563 & 1 & \mathbf{2.2430} & 4.4859 \\ \mathbf{0.1589} & \mathbf{0.4458} & 1 & \mathbf{2} \\ 0.0794 & 0.2229 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.305.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 6 & 9 \\ 1/6 & 1 & 5 & 3 \\ 1/6 & 1/5 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.636226 \\ 0.221256 \\ 0.074041 \\ 0.068477 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8755 & 8.5929 & 9.2911 \\ 0.3478 & 1 & 2.9883 & 3.2311 \\ 0.1164 & 0.3346 & 1 & 1.0812 \\ 0.1076 & 0.3095 & 0.9249 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.634820 \\ 0.220768 \\ 0.073877 \\ 0.070536 \end{pmatrix} = 0.997790 \cdot \begin{pmatrix} 0.636226 \\ 0.221256 \\ 0.074041 \\ 0.070692 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8755 & 8.5929 & 9 \\ 0.3478 & 1 & 2.9883 & 3.1299 \\ 0.1164 & 0.3346 & 1 & 1.0474 \\ 1/9 & 0.3195 & 0.9548 & 1 \end{pmatrix},$$

Example C.306.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 7 & 9 \\ 1/6 & 1 & 2 & 8 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/8 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2463, \quad CR = 0.0929$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.639891 \\ 0.219863 \\ \mathbf{0.091381} \\ 0.048865 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9104 & \mathbf{7.0025} & 13.0950 \\ 0.3436 & 1 & \mathbf{2.4060} & 4.4993 \\ \mathbf{0.1428} & \mathbf{0.4156} & 1 & \mathbf{1.8700} \\ 0.0764 & 0.2223 & \mathbf{0.5347} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.639870 \\ 0.219856 \\ 0.091410 \\ 0.048864 \end{pmatrix} = 0.999968 \cdot \begin{pmatrix} 0.639891 \\ 0.219863 \\ \mathbf{0.091413} \\ 0.048865 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.9104 & \mathbf{7} & 13.0950 \\ 0.3436 & 1 & \mathbf{2.4052} & 4.4993 \\ \mathbf{1/7} & \mathbf{0.4158} & 1 & \mathbf{1.8707} \\ 0.0764 & 0.2223 & \mathbf{0.5346} & 1 \end{pmatrix},$$

Example C.307.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 7 & 9 \\ 1/6 & 1 & 5 & 3 \\ 1/7 & 1/5 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1889, \quad CR = 0.0712$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.650717 \\ 0.213382 \\ 0.068738 \\ \mathbf{0.067162} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0495 & 9.4666 & \mathbf{9.6887} \\ 0.3279 & 1 & 3.1043 & \mathbf{3.1771} \\ 0.1056 & 0.3221 & 1 & \mathbf{1.0235} \\ \mathbf{0.1032} & \mathbf{0.3148} & \mathbf{0.9771} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.649694 \\ 0.213047 \\ 0.068630 \\ 0.068630 \end{pmatrix} = 0.998427 \cdot \begin{pmatrix} 0.650717 \\ 0.213382 \\ 0.068738 \\ \mathbf{0.068738} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0495 & 9.4666 & \mathbf{9.4666} \\ 0.3279 & 1 & 3.1043 & \mathbf{3.1043} \\ 0.1056 & 0.3221 & 1 & \mathbf{1} \\ \mathbf{0.1056} & \mathbf{0.3221} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.308.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 7 & 9 \\ 1/6 & 1 & 6 & 3 \\ 1/7 & 1/6 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2416, \quad CR = 0.0911$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.641848 \\ 0.225781 \\ 0.066492 \\ \mathbf{0.065879} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8428 & 9.6530 & \mathbf{9.7428} \\ 0.3518 & 1 & 3.3956 & \mathbf{3.4272} \\ 0.1036 & 0.2945 & 1 & \mathbf{1.0093} \\ \mathbf{0.1026} & \mathbf{0.2918} & \mathbf{0.9908} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.641455 \\ 0.225642 \\ 0.066451 \\ 0.066451 \end{pmatrix} = 0.999388 \cdot \begin{pmatrix} 0.641848 \\ 0.225781 \\ 0.066492 \\ \mathbf{0.066492} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8428 & 9.6530 & \mathbf{9.6530} \\ 0.3518 & 1 & 3.3956 & \mathbf{3.3956} \\ 0.1036 & 0.2945 & 1 & \mathbf{1} \\ \mathbf{0.1036} & \mathbf{0.2945} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.309.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 3 & 4 \\ 1/7 & 1 & 1 & 3 \\ 1/3 & 1 & 1 & 2 \\ 1/4 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2478, \quad CR = 0.0935$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.554108 \\ 0.175802 \\ \mathbf{0.174502} \\ 0.095588 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1519 & \mathbf{3.1754} & 5.7968 \\ 0.3173 & 1 & \mathbf{1.0075} & 1.8392 \\ \mathbf{0.3149} & \mathbf{0.9926} & 1 & \mathbf{1.8256} \\ 0.1725 & 0.5437 & \mathbf{0.5478} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553388 \\ 0.175574 \\ 0.175574 \\ 0.095464 \end{pmatrix} = 0.998701 \cdot \begin{pmatrix} 0.554108 \\ 0.175802 \\ \mathbf{0.175802} \\ 0.095588 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1519 & \mathbf{3.1519} & 5.7968 \\ 0.3173 & 1 & \mathbf{1} & 1.8392 \\ \mathbf{0.3173} & \mathbf{1} & 1 & \mathbf{1.8392} \\ 0.1725 & 0.5437 & \mathbf{0.5437} & 1 \end{pmatrix},$$

Example C.310.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 3 & 7 \\ 1/7 & 1 & 1 & 5 \\ 1/3 & 1 & 1 & 3 \\ 1/7 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2365, \quad CR = 0.0892$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.582106 \\ 0.182127 \\ \mathbf{0.175492} \\ 0.060275 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1962 & \mathbf{3.3170} & 9.6576 \\ 0.3129 & 1 & \mathbf{1.0378} & 3.0216 \\ \mathbf{0.3015} & \mathbf{0.9636} & 1 & \mathbf{2.9115} \\ 0.1035 & 0.3309 & \mathbf{0.3435} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.579019 \\ 0.181161 \\ 0.179865 \\ 0.059955 \end{pmatrix} = 0.994697 \cdot \begin{pmatrix} 0.582106 \\ 0.182127 \\ \mathbf{0.180824} \\ 0.060275 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1962 & \mathbf{3.2192} & 9.6576 \\ 0.3129 & 1 & \mathbf{1.0072} & 3.0216 \\ \mathbf{0.3106} & \mathbf{0.9928} & 1 & \mathbf{3} \\ 0.1035 & 0.3309 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.311.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 3 & 8 \\ 1/7 & 1 & 1 & 6 \\ 1/3 & 1 & 1 & 4 \\ 1/8 & 1/6 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2478, \quad CR = 0.0935$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.581554 \\ 0.184637 \\ \mathbf{0.183483} \\ 0.050326 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1497 & \mathbf{3.1695} & 11.5557 \\ 0.3175 & 1 & \mathbf{1.0063} & 3.6688 \\ \mathbf{0.3155} & \mathbf{0.9937} & 1 & \mathbf{3.6459} \\ 0.0865 & 0.2726 & \mathbf{0.2743} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.580883 \\ 0.184424 \\ 0.184424 \\ 0.050268 \end{pmatrix} = 0.998847 \cdot \begin{pmatrix} 0.581554 \\ 0.184637 \\ \mathbf{0.184637} \\ 0.050326 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1497 & \mathbf{3.1497} & 11.5557 \\ 0.3175 & 1 & \mathbf{1} & 3.6688 \\ \mathbf{0.3175} & \mathbf{1} & 1 & \mathbf{3.6688} \\ 0.0865 & 0.2726 & \mathbf{0.2726} & 1 \end{pmatrix},$$

Example C.312.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 3 & 8 \\ 1/7 & 1 & 2 & 2 \\ 1/3 & 1/2 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.607798 \\ 0.172859 \\ 0.146642 \\ \mathbf{0.072701} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.5162 & 4.1448 & \mathbf{8.3602} \\ 0.2844 & 1 & 1.1788 & \mathbf{2.3777} \\ 0.2413 & 0.8483 & 1 & \mathbf{2.0171} \\ \mathbf{0.1196} & \mathbf{0.4206} & \mathbf{0.4958} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.607421 \\ 0.172752 \\ 0.146552 \\ 0.073276 \end{pmatrix} = 0.999380 \cdot \begin{pmatrix} 0.607798 \\ 0.172859 \\ 0.146642 \\ \mathbf{0.073321} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5162 & 4.1448 & \mathbf{8.2895} \\ 0.2844 & 1 & 1.1788 & \mathbf{2.3576} \\ 0.2413 & 0.8483 & 1 & \mathbf{2} \\ \mathbf{0.1206} & \mathbf{0.4242} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.313.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 3 & 9 \\ 1/7 & 1 & 1 & 7 \\ 1/3 & 1 & 1 & 4 \\ 1/9 & 1/7 & 1/4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2606, \quad CR = 0.0983$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.585925 \\ 0.189572 \\ \mathbf{0.178157} \\ 0.046346 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0908 & \mathbf{3.2888} & 12.6425 \\ 0.3235 & 1 & \mathbf{1.0641} & 4.0904 \\ \mathbf{0.3041} & \mathbf{0.9398} & 1 & \mathbf{3.8441} \\ 0.0791 & 0.2445 & \mathbf{0.2601} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.581723 \\ 0.188212 \\ 0.184052 \\ 0.046013 \end{pmatrix} = 0.992827 \cdot \begin{pmatrix} 0.585925 \\ 0.189572 \\ \mathbf{0.185382} \\ 0.046346 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0908 & \mathbf{3.1606} & 12.6425 \\ 0.3235 & 1 & \mathbf{1.0226} & 4.0904 \\ \mathbf{0.3164} & \mathbf{0.9779} & 1 & \mathbf{4} \\ 0.0791 & 0.2445 & \mathbf{1/4} & 1 \end{pmatrix},$$

Example C.314.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 6 \\ 1/7 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.618409 \\ 0.155529 \\ \mathbf{0.148907} \\ 0.077155 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9762 & \mathbf{4.1530} & 8.0151 \\ 0.2515 & 1 & \mathbf{1.0445} & 2.0158 \\ \mathbf{0.2408} & \mathbf{0.9574} & 1 & \mathbf{1.9300} \\ 0.1248 & 0.4961 & \mathbf{0.5181} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.615085 \\ 0.154693 \\ 0.153482 \\ 0.076741 \end{pmatrix} = 0.994625 \cdot \begin{pmatrix} 0.618409 \\ 0.155529 \\ \mathbf{0.154311} \\ 0.077155 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9762 & \mathbf{4.0076} & 8.0151 \\ 0.2515 & 1 & \mathbf{1.0079} & 2.0158 \\ \mathbf{0.2495} & \mathbf{0.9922} & 1 & \mathbf{2} \\ 0.1248 & 0.4961 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.315.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 6 \\ 1/7 & 1 & 1 & 4 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.608127 \\ 0.172723 \\ \mathbf{0.145596} \\ 0.073554 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.5208 & \mathbf{4.1768} & 8.2678 \\ 0.2840 & 1 & \mathbf{1.1863} & 2.3482 \\ \mathbf{0.2394} & \mathbf{0.8429} & 1 & \mathbf{1.9794} \\ 0.1210 & 0.4259 & \mathbf{0.5052} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.607209 \\ 0.172462 \\ 0.146886 \\ 0.073443 \end{pmatrix} = 0.998490 \cdot \begin{pmatrix} 0.608127 \\ 0.172723 \\ \mathbf{0.147108} \\ 0.073554 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5208 & \mathbf{4.1339} & 8.2678 \\ 0.2840 & 1 & \mathbf{1.1741} & 2.3482 \\ \mathbf{0.2419} & \mathbf{0.8517} & 1 & \mathbf{2} \\ 0.1210 & 0.4259 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.316.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 6 \\ 1/7 & 1 & 3 & 2 \\ 1/4 & 1/3 & 1 & 1 \\ 1/6 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2478, \quad CR = 0.0935$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.605187 \\ 0.193750 \\ 0.105164 \\ \mathbf{0.095899} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1235 & 5.7547 & \mathbf{6.3107} \\ 0.3201 & 1 & 1.8424 & \mathbf{2.0204} \\ 0.1738 & 0.5428 & 1 & \mathbf{1.0966} \\ \mathbf{0.1585} & \mathbf{0.4950} & \mathbf{0.9119} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.604597 \\ 0.193561 \\ 0.105061 \\ 0.096781 \end{pmatrix} = 0.999025 \cdot \begin{pmatrix} 0.605187 \\ 0.193750 \\ 0.105164 \\ \mathbf{0.096875} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1235 & 5.7547 & \mathbf{6.2471} \\ 0.3201 & 1 & 1.8424 & \mathbf{2} \\ 0.1738 & 0.5428 & 1 & \mathbf{1.0856} \\ \mathbf{0.1601} & \mathbf{1/2} & \mathbf{0.9212} & 1 \end{pmatrix},$$

Example C.317.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 8 \\ 1/7 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1888, \quad CR = 0.0712$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.619929 \\ 0.170878 \\ \mathbf{0.154228} \\ 0.054964 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.6279 & \mathbf{4.0196} & 11.2788 \\ 0.2756 & 1 & \mathbf{1.1080} & 3.1089 \\ \mathbf{0.2488} & \mathbf{0.9026} & 1 & \mathbf{2.8060} \\ 0.0887 & 0.3217 & \mathbf{0.3564} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.619462 \\ 0.170750 \\ 0.154866 \\ 0.054923 \end{pmatrix} = 0.999246 \cdot \begin{pmatrix} 0.619929 \\ 0.170878 \\ \mathbf{0.154982} \\ 0.054964 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6279 & \mathbf{4} & 11.2788 \\ 0.2756 & 1 & \mathbf{1.1026} & 3.1089 \\ \mathbf{1/4} & \mathbf{0.9070} & 1 & \mathbf{2.8197} \\ 0.0887 & 0.3217 & \mathbf{0.3546} & 1 \end{pmatrix},$$

Example C.318.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 8 \\ 1/7 & 1 & 1 & 6 \\ 1/4 & 1 & 1 & 3 \\ 1/8 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.612668 \\ 0.182509 \\ \mathbf{0.151542} \\ 0.053281 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.3569 & \mathbf{4.0429} & 11.4989 \\ 0.2979 & 1 & \mathbf{1.2043} & 3.4254 \\ \mathbf{0.2473} & \mathbf{0.8303} & 1 & \mathbf{2.8442} \\ 0.0870 & 0.2919 & \mathbf{0.3516} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.611674 \\ 0.182213 \\ 0.152919 \\ 0.053194 \end{pmatrix} = 0.998378 \cdot \begin{pmatrix} 0.612668 \\ 0.182509 \\ \mathbf{0.153167} \\ 0.053281 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.3569 & \mathbf{4} & 11.4989 \\ 0.2979 & 1 & \mathbf{1.1916} & 3.4254 \\ \mathbf{1/4} & \mathbf{0.8392} & 1 & \mathbf{2.8747} \\ 0.0870 & 0.2919 & \mathbf{0.3479} & 1 \end{pmatrix},$$

Example C.319.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 9 \\ 1/7 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/9 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1610, \quad CR = 0.0607$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.630642 \\ 0.165813 \\ \mathbf{0.151654} \\ 0.051890 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.8033 & \mathbf{4.1584} & 12.1534 \\ 0.2629 & 1 & \mathbf{1.0934} & 3.1955 \\ \mathbf{0.2405} & \mathbf{0.9146} & 1 & \mathbf{2.9226} \\ 0.0823 & 0.3129 & \mathbf{0.3422} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.628119 \\ 0.165150 \\ 0.155048 \\ 0.051683 \end{pmatrix} = 0.995999 \cdot \begin{pmatrix} 0.630642 \\ 0.165813 \\ \mathbf{0.155671} \\ 0.051890 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8033 & \mathbf{4.0511} & 12.1534 \\ 0.2629 & 1 & \mathbf{1.0652} & 3.1955 \\ \mathbf{0.2468} & \mathbf{0.9388} & 1 & \mathbf{3} \\ 0.0823 & 0.3129 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.320.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 4 & 9 \\ 1/7 & 1 & 1 & 6 \\ 1/4 & 1 & 1 & 3 \\ 1/9 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.623292 \\ 0.177095 \\ \mathbf{0.149301} \\ 0.050312 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.5195 & \mathbf{4.1747} & 12.3886 \\ 0.2841 & 1 & \mathbf{1.1862} & 3.5199 \\ \mathbf{0.2395} & \mathbf{0.8431} & 1 & \mathbf{2.9675} \\ 0.0807 & 0.2841 & \mathbf{0.3370} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.622275 \\ 0.176806 \\ 0.150689 \\ 0.050230 \end{pmatrix} = 0.998369 \cdot \begin{pmatrix} 0.623292 \\ 0.177095 \\ \mathbf{0.150936} \\ 0.050312 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5195 & \mathbf{4.1295} & 12.3886 \\ 0.2841 & 1 & \mathbf{1.1733} & 3.5199 \\ \mathbf{0.2422} & \mathbf{0.8523} & 1 & \mathbf{3} \\ 0.0807 & 0.2841 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.321.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 7 \\ 1/7 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1820, \quad CR = 0.0686$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.639709 \\ 0.179954 \\ 0.092871 \\ \mathbf{0.087466} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.5548 & 6.8882 & \mathbf{7.3138} \\ 0.2813 & 1 & 1.9377 & \mathbf{2.0574} \\ 0.1452 & 0.5161 & 1 & \mathbf{1.0618} \\ \mathbf{0.1367} & \mathbf{0.4860} & \mathbf{0.9418} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.638106 \\ 0.179504 \\ 0.092638 \\ 0.089752 \end{pmatrix} = 0.997495 \cdot \begin{pmatrix} 0.639709 \\ 0.179954 \\ 0.092871 \\ \mathbf{0.089977} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5548 & 6.8882 & \mathbf{7.1097} \\ 0.2813 & 1 & 1.9377 & \mathbf{2} \\ 0.1452 & 0.5161 & 1 & \mathbf{1.0322} \\ \mathbf{0.1407} & \mathbf{1/2} & \mathbf{0.9688} & 1 \end{pmatrix},$$

Example C.322.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 7 \\ 1/7 & 1 & 4 & 2 \\ 1/5 & 1/4 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2648, \quad CR = 0.0998$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.627662 \\ 0.198865 \\ 0.088430 \\ \mathbf{0.085043} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1562 & 7.0979 & \mathbf{7.3805} \\ 0.3168 & 1 & 2.2488 & \mathbf{2.3384} \\ 0.1409 & 0.4447 & 1 & \mathbf{1.0398} \\ \mathbf{0.1355} & \mathbf{0.4276} & \mathbf{0.9617} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.625544 \\ 0.198193 \\ 0.088131 \\ 0.088131 \end{pmatrix} = 0.996625 \cdot \begin{pmatrix} 0.627662 \\ 0.198865 \\ 0.088430 \\ \mathbf{0.088430} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1562 & 7.0979 & \mathbf{7.0979} \\ 0.3168 & 1 & 2.2488 & \mathbf{2.2488} \\ 0.1409 & 0.4447 & 1 & \mathbf{1} \\ \mathbf{0.1409} & \mathbf{0.4447} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.323.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 5 & 8 \\ 1/7 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0799, \quad CR = 0.0301$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.662919 \\ 0.140852 \\ \mathbf{0.130728} \\ 0.065501 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.7065 & \mathbf{5.0710} & 10.1207 \\ 0.2125 & 1 & \mathbf{1.0774} & 2.1504 \\ \mathbf{0.1972} & \mathbf{0.9281} & 1 & \mathbf{1.9958} \\ 0.0988 & 0.4650 & \mathbf{0.5010} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.662737 \\ 0.140814 \\ 0.130966 \\ 0.065483 \end{pmatrix} = 0.999726 \cdot \begin{pmatrix} 0.662919 \\ 0.140852 \\ \mathbf{0.131002} \\ 0.065501 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.7065 & \mathbf{5.0604} & 10.1207 \\ 0.2125 & 1 & \mathbf{1.0752} & 2.1504 \\ \mathbf{0.1976} & \mathbf{0.9301} & 1 & \mathbf{2} \\ 0.0988 & 0.4650 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.324.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 6 & 8 \\ 1/7 & 1 & 2 & 6 \\ 1/6 & 1/2 & 1 & 2 \\ 1/8 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2478, \quad CR = 0.0935$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.638411 \\ 0.204559 \\ \mathbf{0.101366} \\ 0.055664 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1209 & \mathbf{6.2981} & 11.4690 \\ 0.3204 & 1 & \mathbf{2.0180} & 3.6749 \\ \mathbf{0.1588} & \mathbf{0.4955} & 1 & \mathbf{1.8210} \\ 0.0872 & 0.2721 & \mathbf{0.5491} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.637828 \\ 0.204373 \\ 0.102186 \\ 0.055613 \end{pmatrix} = 0.999088 \cdot \begin{pmatrix} 0.638411 \\ 0.204559 \\ \mathbf{0.102280} \\ 0.055664 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1209 & \mathbf{6.2418} & 11.4690 \\ 0.3204 & 1 & \mathbf{2} & 3.6749 \\ \mathbf{0.1602} & \mathbf{1/2} & 1 & \mathbf{1.8375} \\ 0.0872 & 0.2721 & \mathbf{0.5442} & 1 \end{pmatrix},$$

Example C.325.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 6 & 8 \\ 1/7 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.667443 \\ 0.168488 \\ 0.083525 \\ \mathbf{0.080544} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9614 & 7.9910 & \mathbf{8.2867} \\ 0.2524 & 1 & 2.0172 & \mathbf{2.0919} \\ 0.1251 & 0.4957 & 1 & \mathbf{1.0370} \\ \mathbf{0.1207} & \mathbf{0.4780} & \mathbf{0.9643} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.665522 \\ 0.168003 \\ 0.083284 \\ 0.083190 \end{pmatrix} = 0.997122 \cdot \begin{pmatrix} 0.667443 \\ 0.168488 \\ 0.083525 \\ \mathbf{0.083430} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9614 & 7.9910 & \mathbf{8} \\ 0.2524 & 1 & 2.0172 & \mathbf{2.0195} \\ 0.1251 & 0.4957 & 1 & \mathbf{1.0011} \\ \mathbf{1/8} & \mathbf{0.4952} & \mathbf{0.9989} & 1 \end{pmatrix},$$

Example C.326.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 6 & 8 \\ 1/7 & 1 & 4 & 2 \\ 1/6 & 1/4 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.655182 \\ 0.186740 \\ 0.079492 \\ \mathbf{0.078586} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.5085 & 8.2422 & \mathbf{8.3371} \\ 0.2850 & 1 & 2.3492 & \mathbf{2.3762} \\ 0.1213 & 0.4257 & 1 & \mathbf{1.0115} \\ \mathbf{0.1199} & \mathbf{0.4208} & \mathbf{0.9886} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.654590 \\ 0.186571 \\ 0.079420 \\ 0.079420 \end{pmatrix} = 0.999096 \cdot \begin{pmatrix} 0.655182 \\ 0.186740 \\ 0.079492 \\ \mathbf{0.079492} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5085 & 8.2422 & \mathbf{8.2422} \\ 0.2850 & 1 & 2.3492 & \mathbf{2.3492} \\ 0.1213 & 0.4257 & 1 & \mathbf{1} \\ \mathbf{0.1213} & \mathbf{0.4257} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.327.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 6 & 9 \\ 1/7 & 1 & 2 & 7 \\ 1/6 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2606, \quad CR = 0.0983$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.641902 \\ 0.208935 \\ \mathbf{0.098058} \\ 0.051105 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0723 & \mathbf{6.5462} & 12.5604 \\ 0.3255 & 1 & \mathbf{2.1307} & 4.0883 \\ \mathbf{0.1528} & \mathbf{0.4693} & 1 & \mathbf{1.9187} \\ 0.0796 & 0.2446 & \mathbf{0.5212} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.639248 \\ 0.208071 \\ 0.101788 \\ 0.050894 \end{pmatrix} = 0.995864 \cdot \begin{pmatrix} 0.641902 \\ 0.208935 \\ \mathbf{0.102210} \\ 0.051105 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.0723 & \mathbf{6.2802} & 12.5604 \\ 0.3255 & 1 & \mathbf{2.0442} & 4.0883 \\ \mathbf{0.1592} & \mathbf{0.4892} & 1 & \mathbf{2} \\ 0.0796 & 0.2446 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.328.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 7 & 9 \\ 1/7 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.660954 \\ 0.194195 \\ \mathbf{0.093385} \\ 0.051466 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.4036 & \mathbf{7.0777} & 12.8425 \\ 0.2938 & 1 & \mathbf{2.0795} & 3.7733 \\ \mathbf{0.1413} & \mathbf{0.4809} & 1 & \mathbf{1.8145} \\ 0.0779 & 0.2650 & \mathbf{0.5511} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.660269 \\ 0.193994 \\ 0.094324 \\ 0.051413 \end{pmatrix} = 0.998964 \cdot \begin{pmatrix} 0.660954 \\ 0.194195 \\ \mathbf{0.094422} \\ 0.051466 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.4036 & \mathbf{7} & 12.8425 \\ 0.2938 & 1 & \mathbf{2.0567} & 3.7733 \\ \mathbf{1/7} & \mathbf{0.4862} & 1 & \mathbf{1.8346} \\ 0.0779 & 0.2650 & \mathbf{0.5451} & 1 \end{pmatrix},$$

Example C.329.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 7 & 9 \\ 1/7 & 1 & 2 & 7 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/7 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2526, \quad CR = 0.0952$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.653561 \\ 0.204620 \\ \mathbf{0.091762} \\ 0.050057 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1940 & \mathbf{7.1223} & 13.0563 \\ 0.3131 & 1 & \mathbf{2.2299} & 4.0877 \\ \mathbf{0.1404} & \mathbf{0.4485} & 1 & \mathbf{1.8332} \\ 0.0766 & 0.2446 & \mathbf{0.5455} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.652514 \\ 0.204292 \\ 0.093216 \\ 0.049977 \end{pmatrix} = 0.998399 \cdot \begin{pmatrix} 0.653561 \\ 0.204620 \\ \mathbf{0.093366} \\ 0.050057 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1940 & \mathbf{7} & 13.0563 \\ 0.3131 & 1 & \mathbf{2.1916} & 4.0877 \\ \mathbf{1/7} & \mathbf{0.4563} & 1 & \mathbf{1.8652} \\ 0.0766 & 0.2446 & \mathbf{0.5361} & 1 \end{pmatrix},$$

Example C.330.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 7 & 9 \\ 1/7 & 1 & 3 & 2 \\ 1/7 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1039, \quad CR = 0.0392$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.690137 \\ 0.158925 \\ 0.076140 \\ \mathbf{0.074798} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.3425 & 9.0640 & \mathbf{9.2267} \\ 0.2303 & 1 & 2.0873 & \mathbf{2.1247} \\ 0.1103 & 0.4791 & 1 & \mathbf{1.0179} \\ \mathbf{0.1084} & \mathbf{0.4707} & \mathbf{0.9824} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.689212 \\ 0.158712 \\ 0.076038 \\ 0.076038 \end{pmatrix} = 0.998659 \cdot \begin{pmatrix} 0.690137 \\ 0.158925 \\ 0.076140 \\ \mathbf{0.076140} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.3425 & 9.0640 & \mathbf{9.0640} \\ 0.2303 & 1 & 2.0873 & \mathbf{2.0873} \\ 0.1103 & 0.4791 & 1 & \mathbf{1} \\ \mathbf{0.1103} & \mathbf{0.4791} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.331.

$$\mathbf{A} = \begin{pmatrix} 1 & 7 & 7 & 9 \\ 1/7 & 1 & 5 & 3 \\ 1/7 & 1/5 & 1 & 1 \\ 1/9 & 1/3 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2365, \quad CR = 0.0892$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.657746 \\ 0.207174 \\ 0.068615 \\ \mathbf{0.066465} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.1748 & 9.5861 & \mathbf{9.8961} \\ 0.3150 & 1 & 3.0194 & \mathbf{3.1170} \\ 0.1043 & 0.3312 & 1 & \mathbf{1.0323} \\ \mathbf{0.1010} & \mathbf{0.3208} & \mathbf{0.9687} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.656335 \\ 0.206730 \\ 0.068468 \\ 0.068468 \end{pmatrix} = 0.997855 \cdot \begin{pmatrix} 0.657746 \\ 0.207174 \\ 0.068615 \\ \mathbf{0.068615} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.1748 & 9.5861 & \mathbf{9.5861} \\ 0.3150 & 1 & 3.0194 & \mathbf{3.0194} \\ 0.1043 & 0.3312 & 1 & \mathbf{1} \\ \mathbf{0.1043} & \mathbf{0.3312} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.332.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 3 & 8 \\ 1/8 & 1 & 2 & 2 \\ 1/3 & 1/2 & 1 & 2 \\ 1/8 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.613236 \\ 0.168513 \\ 0.146406 \\ \mathbf{0.071845} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.6391 & 4.1886 & \mathbf{8.5355} \\ 0.2748 & 1 & 1.1510 & \mathbf{2.3455} \\ 0.2387 & 0.8688 & 1 & \mathbf{2.0378} \\ \mathbf{0.1172} & \mathbf{0.4263} & \mathbf{0.4907} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.612405 \\ 0.168284 \\ 0.146207 \\ 0.073104 \end{pmatrix} = 0.998644 \cdot \begin{pmatrix} 0.613236 \\ 0.168513 \\ 0.146406 \\ \mathbf{0.073203} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6391 & 4.1886 & \mathbf{8.3772} \\ 0.2748 & 1 & 1.1510 & \mathbf{2.3020} \\ 0.2387 & 0.8688 & 1 & \mathbf{2} \\ \mathbf{0.1194} & \mathbf{0.4344} & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.333.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 3 & 9 \\ 1/8 & 1 & 2 & 2 \\ 1/3 & 1/2 & 1 & 2 \\ 1/9 & 1/2 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.621445 \\ 0.166219 \\ 0.143947 \\ \mathbf{0.068389} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.7387 & 4.3172 & \mathbf{9.0869} \\ 0.2675 & 1 & 1.1547 & \mathbf{2.4305} \\ 0.2316 & 0.8660 & 1 & \mathbf{2.1048} \\ \mathbf{0.1100} & \mathbf{0.4114} & \mathbf{0.4751} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.621035 \\ 0.166109 \\ 0.143852 \\ 0.069004 \end{pmatrix} = 0.999340 \cdot \begin{pmatrix} 0.621445 \\ 0.166219 \\ 0.143947 \\ \mathbf{0.069049} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.7387 & 4.3172 & \mathbf{9} \\ 0.2675 & 1 & 1.1547 & \mathbf{2.4072} \\ 0.2316 & 0.8660 & 1 & \mathbf{2.0847} \\ \mathbf{1/9} & \mathbf{0.4154} & \mathbf{0.4797} & 1 \end{pmatrix},$$

Example C.334.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 4 & 5 \\ 1/8 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/5 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.606717 \\ 0.158137 \\ \mathbf{0.151201} \\ 0.083945 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.8367 & \mathbf{4.0127} & 7.2275 \\ 0.2606 & 1 & \mathbf{1.0459} & 1.8838 \\ \mathbf{0.2492} & \mathbf{0.9561} & 1 & \mathbf{1.8012} \\ 0.1384 & 0.5308 & \mathbf{0.5552} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.606427 \\ 0.158061 \\ 0.151607 \\ 0.083905 \end{pmatrix} = 0.999522 \cdot \begin{pmatrix} 0.606717 \\ 0.158137 \\ \mathbf{0.151679} \\ 0.083945 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8367 & \mathbf{4} & 7.2275 \\ 0.2606 & 1 & \mathbf{1.0426} & 1.8838 \\ \mathbf{1/4} & \mathbf{0.9592} & 1 & \mathbf{1.8069} \\ 0.1384 & 0.5308 & \mathbf{0.5534} & 1 \end{pmatrix},$$

Example C.335.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 4 & 6 \\ 1/8 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.624582 \\ 0.151155 \\ \mathbf{0.147368} \\ 0.076895 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.1321 & \mathbf{4.2383} & 8.1226 \\ 0.2420 & 1 & \mathbf{1.0257} & 1.9657 \\ \mathbf{0.2359} & \mathbf{0.9749} & 1 & \mathbf{1.9165} \\ 0.1231 & 0.5087 & \mathbf{0.5218} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.622226 \\ 0.150585 \\ 0.150585 \\ 0.076605 \end{pmatrix} = 0.996227 \cdot \begin{pmatrix} 0.624582 \\ 0.151155 \\ \mathbf{0.151155} \\ 0.076895 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.1321 & \mathbf{4.1321} & 8.1226 \\ 0.2420 & 1 & \mathbf{1} & 1.9657 \\ \mathbf{0.2420} & \mathbf{1} & 1 & \mathbf{1.9657} \\ 0.1231 & 0.5087 & \mathbf{0.5087} & 1 \end{pmatrix},$$

Example C.336.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 4 & 6 \\ 1/8 & 1 & 1 & 4 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.614056 \\ 0.168460 \\ \mathbf{0.144000} \\ 0.073484 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.6451 & \mathbf{4.2643} & 8.3563 \\ 0.2743 & 1 & \mathbf{1.1699} & 2.2925 \\ \mathbf{0.2345} & \mathbf{0.8548} & 1 & \mathbf{1.9596} \\ 0.1197 & 0.4362 & \mathbf{0.5103} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.612238 \\ 0.167961 \\ 0.146533 \\ 0.073267 \end{pmatrix} = 0.997040 \cdot \begin{pmatrix} 0.614056 \\ 0.168460 \\ \mathbf{0.146968} \\ 0.073484 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6451 & \mathbf{4.1781} & 8.3563 \\ 0.2743 & 1 & \mathbf{1.1462} & 2.2925 \\ \mathbf{0.2393} & \mathbf{0.8724} & 1 & \mathbf{2} \\ 0.1197 & 0.4362 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.337.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 4 & 8 \\ 1/8 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/8 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.625967 \\ 0.166504 \\ \mathbf{0.152661} \\ 0.054868 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.7595 & \mathbf{4.1004} & 11.4086 \\ 0.2660 & 1 & \mathbf{1.0907} & 3.0346 \\ \mathbf{0.2439} & \mathbf{0.9169} & 1 & \mathbf{2.7823} \\ 0.0877 & 0.3295 & \mathbf{0.3594} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.623578 \\ 0.165869 \\ 0.155895 \\ 0.054659 \end{pmatrix} = 0.996184 \cdot \begin{pmatrix} 0.625967 \\ 0.166504 \\ \mathbf{0.156492} \\ 0.054868 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.7595 & \mathbf{4} & 11.4086 \\ 0.2660 & 1 & \mathbf{1.0640} & 3.0346 \\ \mathbf{1/4} & \mathbf{0.9399} & 1 & \mathbf{2.8521} \\ 0.0877 & 0.3295 & \mathbf{0.3506} & 1 \end{pmatrix},$$

Example C.338.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 4 & 9 \\ 1/8 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/9 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1974, \quad CR = 0.0744$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.636821 \\ 0.161359 \\ \mathbf{0.150055} \\ 0.051764 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9466 & \mathbf{4.2439} & 12.3023 \\ 0.2534 & 1 & \mathbf{1.0753} & 3.1172 \\ \mathbf{0.2356} & \mathbf{0.9299} & 1 & \mathbf{2.8988} \\ 0.0813 & 0.3208 & \mathbf{0.3450} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.633503 \\ 0.160519 \\ 0.154484 \\ 0.051495 \end{pmatrix} = 0.994789 \cdot \begin{pmatrix} 0.636821 \\ 0.161359 \\ \mathbf{0.155293} \\ 0.051764 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9466 & \mathbf{4.1008} & 12.3023 \\ 0.2534 & 1 & \mathbf{1.0391} & 3.1172 \\ \mathbf{0.2439} & \mathbf{0.9624} & 1 & \mathbf{3} \\ 0.0813 & 0.3208 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.339.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 4 & 9 \\ 1/8 & 1 & 1 & 6 \\ 1/4 & 1 & 1 & 3 \\ 1/9 & 1/6 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.629340 \\ 0.172722 \\ \mathbf{0.147672} \\ 0.050265 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.6437 & \mathbf{4.2617} & 12.5204 \\ 0.2744 & 1 & \mathbf{1.1696} & 3.4362 \\ \mathbf{0.2346} & \mathbf{0.8550} & 1 & \mathbf{2.9379} \\ 0.0799 & 0.2910 & \mathbf{0.3404} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.627381 \\ 0.172184 \\ 0.150326 \\ 0.050109 \end{pmatrix} = 0.996886 \cdot \begin{pmatrix} 0.629340 \\ 0.172722 \\ \mathbf{0.150796} \\ 0.050265 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6437 & \mathbf{4.1735} & 12.5204 \\ 0.2744 & 1 & \mathbf{1.1454} & 3.4362 \\ \mathbf{0.2396} & \mathbf{0.8731} & 1 & \mathbf{3} \\ 0.0799 & 0.2910 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.340.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 7 \\ 1/8 & 1 & 1 & 4 \\ 1/5 & 1 & 1 & 2 \\ 1/7 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2035, \quad CR = 0.0767$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.646845 \\ 0.157823 \\ \mathbf{0.129005} \\ 0.066327 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.0986 & \mathbf{5.0141} & 9.7524 \\ 0.2440 & 1 & \mathbf{1.2234} & 2.3795 \\ \mathbf{0.1994} & \mathbf{0.8174} & 1 & \mathbf{1.9450} \\ 0.1025 & 0.4203 & \mathbf{0.5141} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.646610 \\ 0.157765 \\ 0.129322 \\ 0.066303 \end{pmatrix} = 0.999636 \cdot \begin{pmatrix} 0.646845 \\ 0.157823 \\ \mathbf{0.129369} \\ 0.066327 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0986 & \mathbf{5} & 9.7524 \\ 0.2440 & 1 & \mathbf{1.2199} & 2.3795 \\ \mathbf{1/5} & \mathbf{0.8197} & 1 & \mathbf{1.9505} \\ 0.1025 & 0.4203 & \mathbf{0.5127} & 1 \end{pmatrix},$$

Example C.341.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 7 \\ 1/8 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/7 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2224, \quad CR = 0.0838$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.645322 \\ 0.175373 \\ 0.092634 \\ \mathbf{0.086671} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.6797 & 6.9663 & \mathbf{7.4456} \\ 0.2718 & 1 & 1.8932 & \mathbf{2.0234} \\ 0.1435 & 0.5282 & 1 & \mathbf{1.0688} \\ \mathbf{0.1343} & \mathbf{0.4942} & \mathbf{0.9356} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.644667 \\ 0.175195 \\ 0.092540 \\ 0.087597 \end{pmatrix} = 0.998986 \cdot \begin{pmatrix} 0.645322 \\ 0.175373 \\ 0.092634 \\ \mathbf{0.087686} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6797 & 6.9663 & \mathbf{7.3594} \\ 0.2718 & 1 & 1.8932 & \mathbf{2} \\ 0.1435 & 0.5282 & 1 & \mathbf{1.0564} \\ \mathbf{0.1359} & \mathbf{1/2} & \mathbf{0.9466} & 1 \end{pmatrix},$$

Example C.342.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 5 & 8 \\ 1/8 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1046, \quad CR = 0.0395$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.669808 \\ 0.136115 \\ \mathbf{0.128956} \\ 0.065120 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.9209 & \mathbf{5.1941} & 10.2857 \\ 0.2032 & 1 & \mathbf{1.0555} & 2.0902 \\ \mathbf{0.1925} & \mathbf{0.9474} & 1 & \mathbf{1.9803} \\ 0.0972 & 0.4784 & \mathbf{0.5050} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.668949 \\ 0.135941 \\ 0.130073 \\ 0.065037 \end{pmatrix} = 0.998717 \cdot \begin{pmatrix} 0.669808 \\ 0.136115 \\ \mathbf{0.130240} \\ 0.065120 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.9209 & \mathbf{5.1429} & 10.2857 \\ 0.2032 & 1 & \mathbf{1.0451} & 2.0902 \\ \mathbf{0.1944} & \mathbf{0.9568} & 1 & \mathbf{2} \\ 0.0972 & 0.4784 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.343.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 6 & 8 \\ 1/8 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.673443 \\ 0.163680 \\ 0.083203 \\ 0.079674 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.1144 & 8.0940 & 8.4525 \\ 0.2430 & 1 & 1.9672 & 2.0544 \\ 0.1235 & 0.5083 & 1 & 1.0443 \\ 0.1183 & 0.4868 & 0.9576 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.671988 \\ 0.163326 \\ 0.083023 \\ 0.081663 \end{pmatrix} = 0.997839 \cdot \begin{pmatrix} 0.673443 \\ 0.163680 \\ 0.083203 \\ 0.081840 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.1144 & 8.0940 & 8.2288 \\ 0.2430 & 1 & 1.9672 & 2 \\ 0.1235 & 0.5083 & 1 & 1.0167 \\ 0.1215 & 1/2 & 0.9836 & 1 \end{pmatrix},$$

Example C.344.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 6 & 8 \\ 1/8 & 1 & 4 & 2 \\ 1/6 & 1/4 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.660902 \\ 0.182039 \\ 0.079375 \\ 0.077684 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.6305 & 8.3263 & 8.5076 \\ 0.2754 & 1 & 2.2934 & 2.3433 \\ 0.1201 & 0.4360 & 1 & 1.0218 \\ 0.1175 & 0.4267 & 0.9787 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.659786 \\ 0.181732 \\ 0.079241 \\ 0.079241 \end{pmatrix} = 0.998312 \cdot \begin{pmatrix} 0.660902 \\ 0.182039 \\ 0.079375 \\ 0.079375 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.6305 & 8.3263 & 8.3263 \\ 0.2754 & 1 & 2.2934 & 2.2934 \\ 0.1201 & 0.4360 & 1 & 1 \\ 0.1201 & 0.4360 & 1 & 1 \end{pmatrix},$$

Example C.345.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 6 & 9 \\ 1/8 & 1 & 4 & 2 \\ 1/6 & 1/4 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.668856 \\ 0.179362 \\ 0.077957 \\ \mathbf{0.073824} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.7291 & 8.5798 & \mathbf{9.0601} \\ 0.2682 & 1 & 2.3008 & \mathbf{2.4296} \\ 0.1166 & 0.4346 & 1 & \mathbf{1.0560} \\ \mathbf{0.1104} & \mathbf{0.4116} & \mathbf{0.9470} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.668527 \\ 0.179274 \\ 0.077918 \\ 0.074281 \end{pmatrix} = 0.999507 \cdot \begin{pmatrix} 0.668856 \\ 0.179362 \\ 0.077957 \\ \mathbf{0.074317} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.7291 & 8.5798 & \mathbf{9} \\ 0.2682 & 1 & 2.3008 & \mathbf{2.4135} \\ 0.1166 & 0.4346 & 1 & \mathbf{1.0490} \\ \mathbf{1/9} & \mathbf{0.4143} & \mathbf{0.9533} & 1 \end{pmatrix},$$

Example C.346.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 7 & 9 \\ 1/8 & 1 & 2 & 6 \\ 1/7 & 1/2 & 1 & 2 \\ 1/9 & 1/6 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.666618 \\ 0.189446 \\ \mathbf{0.092570} \\ 0.051365 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.5188 & \mathbf{7.2012} & 12.9780 \\ 0.2842 & 1 & \mathbf{2.0465} & 3.6882 \\ \mathbf{0.1389} & \mathbf{0.4886} & 1 & \mathbf{1.8022} \\ 0.0771 & 0.2711 & \mathbf{0.5549} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.665186 \\ 0.189039 \\ 0.094520 \\ 0.051255 \end{pmatrix} = 0.997851 \cdot \begin{pmatrix} 0.666618 \\ 0.189446 \\ \mathbf{0.094723} \\ 0.051365 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.5188 & \mathbf{7.0375} & 12.9780 \\ 0.2842 & 1 & \mathbf{2} & 3.6882 \\ \mathbf{0.1421} & \mathbf{1/2} & 1 & \mathbf{1.8441} \\ 0.0771 & 0.2711 & \mathbf{0.5423} & 1 \end{pmatrix},$$

Example C.347.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 7 & 9 \\ 1/8 & 1 & 3 & 2 \\ 1/7 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1330, \quad CR = 0.0501$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.696472 \\ 0.153922 \\ 0.075747 \\ \mathbf{0.073860} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.5249 & 9.1947 & \mathbf{9.4296} \\ 0.2210 & 1 & 2.0321 & \mathbf{2.0840} \\ 0.1088 & 0.4921 & 1 & \mathbf{1.0255} \\ \mathbf{0.1060} & \mathbf{0.4799} & \mathbf{0.9751} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.695160 \\ 0.153632 \\ 0.075604 \\ 0.075604 \end{pmatrix} = 0.998117 \cdot \begin{pmatrix} 0.696472 \\ 0.153922 \\ 0.075747 \\ \mathbf{0.075747} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5249 & 9.1947 & \mathbf{9.1947} \\ 0.2210 & 1 & 2.0321 & \mathbf{2.0321} \\ 0.1088 & 0.4921 & 1 & \mathbf{1} \\ \mathbf{0.1088} & \mathbf{0.4921} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.348.

$$\mathbf{A} = \begin{pmatrix} 1 & 8 & 7 & 9 \\ 1/8 & 1 & 4 & 2 \\ 1/7 & 1/4 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2064, \quad CR = 0.0778$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.684106 \\ 0.171435 \\ 0.072236 \\ \mathbf{0.072223} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9905 & 9.4705 & \mathbf{9.4721} \\ 0.2506 & 1 & 2.3733 & \mathbf{2.3737} \\ 0.1056 & 0.4214 & 1 & \mathbf{1.0002} \\ \mathbf{0.1056} & \mathbf{0.4213} & \mathbf{0.9998} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.684098 \\ 0.171433 \\ 0.072235 \\ 0.072235 \end{pmatrix} = 0.999987 \cdot \begin{pmatrix} 0.684106 \\ 0.171435 \\ 0.072236 \\ \mathbf{0.072236} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9905 & 9.4705 & \mathbf{9.4705} \\ 0.2506 & 1 & 2.3733 & \mathbf{2.3733} \\ 0.1056 & 0.4214 & 1 & \mathbf{1} \\ \mathbf{0.1056} & \mathbf{0.4214} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.349.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 4 & 5 \\ 1/9 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/5 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2541, \quad CR = 0.0958$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.611409 \\ 0.154779 \\ \mathbf{0.150018} \\ 0.083794 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9502 & \mathbf{4.0756} & 7.2966 \\ 0.2532 & 1 & \mathbf{1.0317} & 1.8471 \\ \mathbf{0.2454} & \mathbf{0.9692} & 1 & \mathbf{1.7903} \\ 0.1371 & 0.5414 & \mathbf{0.5586} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.609681 \\ 0.154342 \\ 0.152420 \\ 0.083557 \end{pmatrix} = 0.997174 \cdot \begin{pmatrix} 0.611409 \\ 0.154779 \\ \mathbf{0.152852} \\ 0.083794 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9502 & \mathbf{4} & 7.2966 \\ 0.2532 & 1 & \mathbf{1.0126} & 1.8471 \\ \mathbf{1/4} & \mathbf{0.9876} & 1 & \mathbf{1.8241} \\ 0.1371 & 0.5414 & \mathbf{0.5482} & 1 \end{pmatrix},$$

Example C.350.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 4 & 6 \\ 1/9 & 1 & 1 & 3 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2052, \quad CR = 0.0774$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.629473 \\ 0.147692 \\ \mathbf{0.146145} \\ 0.076689 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.2621 & \mathbf{4.3072} & 8.2081 \\ 0.2346 & 1 & \mathbf{1.0106} & 1.9259 \\ \mathbf{0.2322} & \mathbf{0.9895} & 1 & \mathbf{1.9057} \\ 0.1218 & 0.5193 & \mathbf{0.5247} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.628501 \\ 0.147464 \\ 0.147464 \\ 0.076571 \end{pmatrix} = 0.998455 \cdot \begin{pmatrix} 0.629473 \\ 0.147692 \\ \mathbf{0.147692} \\ 0.076689 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.2621 & \mathbf{4.2621} & 8.2081 \\ 0.2346 & 1 & \mathbf{1} & 1.9259 \\ \mathbf{0.2346} & \mathbf{1} & 1 & \mathbf{1.9259} \\ 0.1218 & 0.5193 & \mathbf{0.5193} & 1 \end{pmatrix},$$

Example C.351.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 4 & 9 \\ 1/9 & 1 & 1 & 5 \\ 1/4 & 1 & 1 & 3 \\ 1/9 & 1/5 & 1/3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2339, \quad CR = 0.0882$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.641714 \\ 0.157835 \\ \mathbf{0.148785} \\ 0.051665 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.0657 & \mathbf{4.3130} & 12.4206 \\ 0.2460 & 1 & \mathbf{1.0608} & 3.0549 \\ \mathbf{0.2319} & \mathbf{0.9427} & 1 & \mathbf{2.8798} \\ 0.0805 & 0.3273 & \mathbf{0.3472} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.637753 \\ 0.156861 \\ 0.154040 \\ 0.051347 \end{pmatrix} = 0.993827 \cdot \begin{pmatrix} 0.641714 \\ 0.157835 \\ \mathbf{0.154996} \\ 0.051665 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.0657 & \mathbf{4.1402} & 12.4206 \\ 0.2460 & 1 & \mathbf{1.0183} & 3.0549 \\ \mathbf{0.2415} & \mathbf{0.9820} & 1 & \mathbf{3} \\ 0.0805 & 0.3273 & \mathbf{1/3} & 1 \end{pmatrix},$$

Example C.352.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 7 \\ 1/9 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/7 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1583, \quad CR = 0.0597$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.662837 \\ 0.137462 \\ \mathbf{0.130442} \\ 0.069258 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.8220 & \mathbf{5.0815} & 9.5706 \\ 0.2074 & 1 & \mathbf{1.0538} & 1.9848 \\ \mathbf{0.1968} & \mathbf{0.9489} & 1 & \mathbf{1.8834} \\ 0.1045 & 0.5038 & \mathbf{0.5309} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.661432 \\ 0.137171 \\ 0.132286 \\ 0.069111 \end{pmatrix} = 0.997879 \cdot \begin{pmatrix} 0.662837 \\ 0.137462 \\ \mathbf{0.132567} \\ 0.069258 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8220 & \mathbf{5} & 9.5706 \\ 0.2074 & 1 & \mathbf{1.0369} & 1.9848 \\ \mathbf{1/5} & \mathbf{0.9644} & 1 & \mathbf{1.9141} \\ 0.1045 & 0.5038 & \mathbf{0.5224} & 1 \end{pmatrix},$$

Example C.353.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 7 \\ 1/9 & 1 & 1 & 4 \\ 1/5 & 1 & 1 & 2 \\ 1/7 & 1/4 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2371, \quad CR = 0.0894$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.651936 \\ 0.154248 \\ \mathbf{0.127593} \\ 0.066223 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.2265 & \mathbf{5.1095} & 9.8446 \\ 0.2366 & 1 & \mathbf{1.2089} & 2.3292 \\ \mathbf{0.1957} & \mathbf{0.8272} & 1 & \mathbf{1.9267} \\ 0.1016 & 0.4293 & \mathbf{0.5190} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.650119 \\ 0.153818 \\ 0.130024 \\ 0.066038 \end{pmatrix} = 0.997213 \cdot \begin{pmatrix} 0.651936 \\ 0.154248 \\ \mathbf{0.130387} \\ 0.066223 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.2265 & \mathbf{5} & 9.8446 \\ 0.2366 & 1 & \mathbf{1.1830} & 2.3292 \\ \mathbf{1/5} & \mathbf{0.8453} & 1 & \mathbf{1.9689} \\ 0.1016 & 0.4293 & \mathbf{0.5079} & 1 \end{pmatrix},$$

Example C.354.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 8 \\ 1/9 & 1 & 1 & 3 \\ 1/5 & 1 & 1 & 2 \\ 1/8 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1305, \quad CR = 0.0492$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.675277 \\ 0.132359 \\ \mathbf{0.127546} \\ 0.064818 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 5.1019 & \mathbf{5.2944} & 10.4180 \\ 0.1960 & 1 & \mathbf{1.0377} & 2.0420 \\ \mathbf{0.1889} & \mathbf{0.9636} & 1 & \mathbf{1.9678} \\ 0.0960 & 0.4897 & \mathbf{0.5082} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.673868 \\ 0.132083 \\ 0.129366 \\ 0.064683 \end{pmatrix} = 0.997914 \cdot \begin{pmatrix} 0.675277 \\ 0.132359 \\ \mathbf{0.129636} \\ 0.064818 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.1019 & \mathbf{5.2090} & 10.4180 \\ 0.1960 & 1 & \mathbf{1.0210} & 2.0420 \\ \mathbf{0.1920} & \mathbf{0.9794} & 1 & \mathbf{2} \\ 0.0960 & 0.4897 & \mathbf{1/2} & 1 \end{pmatrix},$$

Example C.355.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 5 & 8 \\ 1/9 & 1 & 3 & 2 \\ 1/5 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2541, \quad CR = 0.0958$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.659512 \\ 0.168314 \\ 0.090855 \\ \mathbf{0.081319} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9183 & 7.2589 & \mathbf{8.1102} \\ 0.2552 & 1 & 1.8526 & \mathbf{2.0698} \\ 0.1378 & 0.5398 & 1 & \mathbf{1.1173} \\ \mathbf{0.1233} & \mathbf{0.4831} & \mathbf{0.8950} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.658774 \\ 0.168126 \\ 0.090754 \\ 0.082347 \end{pmatrix} = 0.998881 \cdot \begin{pmatrix} 0.659512 \\ 0.168314 \\ 0.090855 \\ \mathbf{0.082439} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9183 & 7.2589 & \mathbf{8} \\ 0.2552 & 1 & 1.8526 & \mathbf{2.0417} \\ 0.1378 & 0.5398 & 1 & \mathbf{1.1021} \\ \mathbf{1/8} & \mathbf{0.4898} & \mathbf{0.9074} & 1 \end{pmatrix},$$

Example C.356.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 6 & 8 \\ 1/9 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/8 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2052, \quad CR = 0.0774$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.678187 \\ 0.159880 \\ 0.082948 \\ \mathbf{0.078985} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.2418 & 8.1760 & \mathbf{8.5863} \\ 0.2357 & 1 & 1.9275 & \mathbf{2.0242} \\ 0.1223 & 0.5188 & 1 & \mathbf{1.0502} \\ \mathbf{0.1165} & \mathbf{0.4940} & \mathbf{0.9522} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.677539 \\ 0.159727 \\ 0.082869 \\ 0.079864 \end{pmatrix} = 0.999046 \cdot \begin{pmatrix} 0.678187 \\ 0.159880 \\ 0.082948 \\ \mathbf{0.079940} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.2418 & 8.1760 & \mathbf{8.4837} \\ 0.2357 & 1 & 1.9275 & \mathbf{2} \\ 0.1223 & 0.5188 & 1 & \mathbf{1.0376} \\ \mathbf{0.1179} & \mathbf{1/2} & \mathbf{0.9637} & 1 \end{pmatrix},$$

Example C.357.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 6 & 9 \\ 1/9 & 1 & 1 & 3 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1/3 & 1/2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.699686 \\ 0.124762 \\ \mathbf{0.115971} \\ 0.059581 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 5.6081 & \mathbf{6.0333} & 11.7434 \\ 0.1783 & 1 & \mathbf{1.0758} & 2.0940 \\ \mathbf{0.1657} & \mathbf{0.9295} & 1 & \mathbf{1.9464} \\ 0.0852 & 0.4776 & \mathbf{0.5138} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.699236 \\ 0.124682 \\ 0.116539 \\ 0.059543 \end{pmatrix} = 0.999357 \cdot \begin{pmatrix} 0.699686 \\ 0.124762 \\ \mathbf{0.116614} \\ 0.059581 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.6081 & \mathbf{6} & 11.7434 \\ 0.1783 & 1 & \mathbf{1.0699} & 2.0940 \\ \mathbf{1/6} & \mathbf{0.9347} & 1 & \mathbf{1.9572} \\ 0.0852 & 0.4776 & \mathbf{0.5109} & 1 \end{pmatrix},$$

Example C.358.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 6 & 9 \\ 1/9 & 1 & 3 & 2 \\ 1/6 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.686384 \\ 0.156968 \\ 0.081551 \\ \mathbf{0.075098} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.3728 & 8.4166 & \mathbf{9.1399} \\ 0.2287 & 1 & 1.9248 & \mathbf{2.0902} \\ 0.1188 & 0.5195 & 1 & \mathbf{1.0859} \\ \mathbf{0.1094} & \mathbf{0.4784} & \mathbf{0.9209} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.685583 \\ 0.156785 \\ 0.081456 \\ 0.076176 \end{pmatrix} = 0.998834 \cdot \begin{pmatrix} 0.686384 \\ 0.156968 \\ 0.081551 \\ \mathbf{0.076265} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.3728 & 8.4166 & \mathbf{9} \\ 0.2287 & 1 & 1.9248 & \mathbf{2.0582} \\ 0.1188 & 0.5195 & 1 & \mathbf{1.0693} \\ \mathbf{1/9} & \mathbf{0.4859} & \mathbf{0.9352} & 1 \end{pmatrix},$$

Example C.359.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 7 & 9 \\ 1/9 & 1 & 3 & 2 \\ 1/7 & 1/3 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1628, \quad CR = 0.0614$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.701483 \\ 0.149964 \\ 0.075436 \\ \mathbf{0.073117} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.6777 & 9.2991 & \mathbf{9.5940} \\ 0.2138 & 1 & 1.9880 & \mathbf{2.0510} \\ 0.1075 & 0.5030 & 1 & \mathbf{1.0317} \\ \mathbf{0.1042} & \mathbf{0.4876} & \mathbf{0.9693} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.700177 \\ 0.149685 \\ 0.075295 \\ 0.074842 \end{pmatrix} = 0.998138 \cdot \begin{pmatrix} 0.701483 \\ 0.149964 \\ 0.075436 \\ \mathbf{0.074982} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.6777 & 9.2991 & \mathbf{9.3553} \\ 0.2138 & 1 & 1.9880 & \mathbf{2} \\ 0.1075 & 0.5030 & 1 & \mathbf{1.0061} \\ \mathbf{0.1069} & \mathbf{1/2} & \mathbf{0.9940} & 1 \end{pmatrix},$$

Example C.360.

$$\mathbf{A} = \begin{pmatrix} 1 & 9 & 7 & 9 \\ 1/9 & 1 & 4 & 2 \\ 1/7 & 1/4 & 1 & 1 \\ 1/9 & 1/2 & 1 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2416, \quad CR = 0.0911$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.688872 \\ 0.167573 \\ 0.072095 \\ \mathbf{0.071459} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.1109 & 9.5551 & \mathbf{9.6401} \\ 0.2433 & 1 & 2.3243 & \mathbf{2.3450} \\ 0.1047 & 0.4302 & 1 & \mathbf{1.0089} \\ \mathbf{0.1037} & \mathbf{0.4264} & \mathbf{0.9912} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.688435 \\ 0.167467 \\ 0.072049 \\ 0.072049 \end{pmatrix} = 0.999365 \cdot \begin{pmatrix} 0.688872 \\ 0.167573 \\ 0.072095 \\ \mathbf{0.072095} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.1109 & 9.5551 & \mathbf{9.5551} \\ 0.2433 & 1 & 2.3243 & \mathbf{2.3243} \\ 0.1047 & 0.4302 & 1 & \mathbf{1} \\ \mathbf{0.1047} & \mathbf{0.4302} & \mathbf{1} & 1 \end{pmatrix},$$

Example C.361.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 2 & 3 \\ 1 & 1 & 3 & 2 \\ 1/2 & 1/3 & 1 & 1/2 \\ 1/3 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.351966 \\ 0.347963 \\ 0.124803 \\ 0.175268 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0115 & 2.8202 & 2.0082 \\ 0.9886 & 1 & 2.7881 & 1.9853 \\ 0.3546 & 0.3587 & 1 & 0.7121 \\ 0.4980 & 0.5037 & 1.4044 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.351063 \\ 0.349636 \\ 0.124483 \\ 0.174818 \end{pmatrix} = 0.997433 \cdot \begin{pmatrix} 0.351966 \\ 0.350536 \\ 0.124803 \\ 0.175268 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0041 & 2.8202 & 2.0082 \\ 0.9959 & 1 & 2.8087 & 2 \\ 0.3546 & 0.3560 & 1 & 0.7121 \\ 0.4980 & 1/2 & 1.4044 & 1 \end{pmatrix},$$

Example C.362.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 2 & 3 \\ 1 & 1 & 3 & 2 \\ 1/2 & 1/3 & 1 & 1/3 \\ 1/3 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.347184 \\ 0.339227 \\ 0.115797 \\ 0.197792 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0235 & 2.9982 & 1.7553 \\ 0.9771 & 1 & 2.9295 & 1.7151 \\ 0.3335 & 0.3414 & 1 & 0.5854 \\ 0.5697 & 0.5831 & 1.7081 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.344443 \\ 0.344443 \\ 0.114883 \\ 0.196231 \end{pmatrix} = 0.992106 \cdot \begin{pmatrix} 0.347184 \\ 0.347184 \\ 0.115797 \\ 0.197792 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 2.9982 & 1.7553 \\ 1 & 1 & 2.9982 & 1.7553 \\ 0.3335 & 0.3335 & 1 & 0.5854 \\ 0.5697 & 0.5697 & 1.7081 & 1 \end{pmatrix},$$

Example C.363.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 3 \\ 1 & 1 & 4 & 2 \\ 1/3 & 1/4 & 1 & 1/3 \\ 1/3 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.368794 \\ 0.355188 \\ 0.090412 \\ 0.185606 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0383 & 4.0790 & 1.9870 \\ 0.9631 & 1 & 3.9286 & 1.9137 \\ 0.2452 & 0.2545 & 1 & 0.4871 \\ 0.5033 & 0.5226 & 2.0529 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.366427 \\ 0.359327 \\ 0.089832 \\ 0.184415 \end{pmatrix} = 0.993582 \cdot \begin{pmatrix} 0.368794 \\ 0.361648 \\ 0.090412 \\ 0.185606 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0198 & 4.0790 & 1.9870 \\ 0.9806 & 1 & 4 & 1.9485 \\ 0.2452 & 1/4 & 1 & 0.4871 \\ 0.5033 & 0.5132 & 2.0529 & 1 \end{pmatrix},$$

Example C.364.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 3 \\ 1 & 1 & 5 & 2 \\ 1/3 & 1/5 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.358143 \\ 0.356909 \\ 0.076508 \\ 0.208439 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0035 & 4.6811 & 1.7182 \\ 0.9966 & 1 & 4.6650 & 1.7123 \\ 0.2136 & 0.2144 & 1 & 0.3671 \\ 0.5820 & 0.5840 & 2.7244 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.357702 \\ 0.357702 \\ 0.076414 \\ 0.208182 \end{pmatrix} = 0.998768 \cdot \begin{pmatrix} 0.358143 \\ 0.358143 \\ 0.076508 \\ 0.208439 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.6811 & 1.7182 \\ 1 & 1 & 4.6811 & 1.7182 \\ 0.2136 & 0.2136 & 1 & 0.3671 \\ 0.5820 & 0.5820 & 2.7244 & 1 \end{pmatrix},$$

Example C.365.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 4 \\ 1 & 1 & 4 & 2 \\ 1/3 & 1/4 & 1 & 1/4 \\ 1/4 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.381918 \\ 0.341659 \\ 0.085708 \\ 0.190715 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1178 & 4.4560 & 2.0026 \\ 0.8946 & 1 & 3.9863 & 1.7915 \\ 0.2244 & 0.2509 & 1 & 0.4494 \\ 0.4994 & 0.5582 & 2.2252 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.381470 \\ 0.342431 \\ 0.085608 \\ 0.190491 \end{pmatrix} = 0.998829 \cdot \begin{pmatrix} 0.381918 \\ 0.342832 \\ 0.085708 \\ 0.190715 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1140 & 4.4560 & 2.0026 \\ 0.8977 & 1 & 4 & 1.7976 \\ 0.2244 & 1/4 & 1 & 0.4494 \\ 0.4994 & 0.5563 & 2.2252 & 1 \end{pmatrix},$$

Example C.366.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 4 \\ 1 & 1 & 4 & 3 \\ 1/3 & 1/4 & 1 & 1/2 \\ 1/4 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.384163 \\ 0.382360 \\ 0.096696 \\ 0.136781 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0047 & 3.9729 & 2.8086 \\ 0.9953 & 1 & 3.9543 & 2.7954 \\ 0.2517 & 0.2529 & 1 & 0.7069 \\ 0.3560 & 0.3577 & 1.4145 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.383472 \\ 0.383472 \\ 0.096522 \\ 0.136535 \end{pmatrix} = 0.998200 \cdot \begin{pmatrix} 0.384163 \\ 0.384163 \\ 0.096696 \\ 0.136781 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 3.9729 & 2.8086 \\ 1 & 1 & 3.9729 & 2.8086 \\ 0.2517 & 0.2517 & 1 & 0.7069 \\ 0.3560 & 0.3560 & 1.4145 & 1 \end{pmatrix},$$

Example C.367.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 4 \\ 1 & 1 & 5 & 2 \\ 1/3 & 1/5 & 1 & 1/4 \\ 1/4 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2460, \quad CR = 0.0928$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.379262 \\ 0.356811 \\ 0.079688 \\ 0.184240 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0629 & 4.7593 & 2.0585 \\ 0.9408 & 1 & 4.4776 & 1.9367 \\ 0.2101 & 0.2233 & 1 & 0.4325 \\ 0.4858 & 0.5164 & 2.3120 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.374887 \\ 0.364229 \\ 0.078769 \\ 0.182115 \end{pmatrix} = 0.988465 \cdot \begin{pmatrix} 0.379262 \\ 0.368480 \\ 0.079688 \\ 0.184240 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0293 & 4.7593 & 2.0585 \\ 0.9716 & 1 & 4.6240 & 2 \\ 0.2101 & 0.2163 & 1 & 0.4325 \\ 0.4858 & 1/2 & 2.3120 & 1 \end{pmatrix},$$

Example C.368.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 5 \\ 1 & 1 & 4 & 3 \\ 1/3 & 1/4 & 1 & 1/2 \\ 1/5 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.398239 \\ 0.375896 \\ 0.096104 \\ 0.129760 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0594 & 4.1438 & 3.0690 \\ 0.9439 & 1 & 3.9113 & 2.8969 \\ 0.2413 & 0.2557 & 1 & 0.7406 \\ 0.3258 & 0.3452 & 1.3502 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.394874 \\ 0.381169 \\ 0.095292 \\ 0.128664 \end{pmatrix} = 0.991551 \cdot \begin{pmatrix} 0.398239 \\ 0.384418 \\ 0.096104 \\ 0.129760 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0360 & 4.1438 & 3.0690 \\ 0.9653 & 1 & 4 & 2.9625 \\ 0.2413 & 1/4 & 1 & 0.7406 \\ 0.3258 & 0.3375 & 1.3502 & 1 \end{pmatrix},$$

Example C.369.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 5 \\ 1 & 1 & 5 & 3 \\ 1/3 & 1/5 & 1 & 1/3 \\ 1/5 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.388920 \\ 0.383653 \\ 0.083443 \\ 0.143984 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0137 & 4.6609 & 2.7011 \\ 0.9865 & 1 & 4.5978 & 2.6646 \\ 0.2146 & 0.2175 & 1 & 0.5795 \\ 0.3702 & 0.3753 & 1.7255 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.386882 \\ 0.386882 \\ 0.083006 \\ 0.143229 \end{pmatrix} = 0.994761 \cdot \begin{pmatrix} 0.388920 \\ 0.388920 \\ 0.083443 \\ 0.143984 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 4.6609 & 2.7011 \\ 1 & 1 & 4.6609 & 2.7011 \\ 0.2146 & 0.2146 & 1 & 0.5795 \\ 0.3702 & 0.3702 & 1.7255 & 1 \end{pmatrix},$$

Example C.370.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 3 & 6 \\ 1 & 1 & 4 & 3 \\ 1/3 & 1/4 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.408709 \\ 0.370861 \\ 0.095675 \\ 0.124755 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1021 & 4.2718 & 3.2761 \\ 0.9074 & 1 & 3.8763 & 2.9727 \\ 0.2341 & 0.2580 & 1 & 0.7669 \\ 0.3052 & 0.3364 & 1.3040 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.407322 \\ 0.372996 \\ 0.095350 \\ 0.124332 \end{pmatrix} = 0.996606 \cdot \begin{pmatrix} 0.408709 \\ 0.374266 \\ 0.095675 \\ 0.124755 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0920 & 4.2718 & 3.2761 \\ 0.9157 & 1 & 3.9119 & 3 \\ 0.2341 & 0.2556 & 1 & 0.7669 \\ 0.3052 & 1/3 & 1.3040 & 1 \end{pmatrix},$$

Example C.371.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/4 \\ 1/3 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.375081 \\ 0.371378 \\ 0.066802 \\ 0.186739 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0100 & 5.6148 & 2.0086 \\ 0.9901 & 1 & 5.5594 & 1.9888 \\ 0.1781 & 0.1799 & 1 & 0.3577 \\ 0.4979 & 0.5028 & 2.7954 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.374296 \\ 0.372695 \\ 0.066662 \\ 0.186347 \end{pmatrix} = 0.997905 \cdot \begin{pmatrix} 0.375081 \\ 0.373477 \\ 0.066802 \\ 0.186739 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0043 & 5.6148 & 2.0086 \\ 0.9957 & 1 & 5.5908 & 2 \\ 0.1781 & 0.1789 & 1 & 0.3577 \\ 0.4979 & 1/2 & 2.7954 & 1 \end{pmatrix},$$

Example C.372.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.371405 \\ 0.365618 \\ 0.063934 \\ 0.199044 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0158 & 5.8092 & 1.8659 \\ 0.9844 & 1 & 5.7187 & 1.8369 \\ 0.1721 & 0.1749 & 1 & 0.3212 \\ 0.5359 & 0.5444 & 3.1133 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.369268 \\ 0.369268 \\ 0.063566 \\ 0.197899 \end{pmatrix} = 0.994246 \cdot \begin{pmatrix} 0.371405 \\ 0.371405 \\ 0.063934 \\ 0.199044 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.8092 & 1.8659 \\ 1 & 1 & 5.8092 & 1.8659 \\ 0.1721 & 0.1721 & 1 & 0.3212 \\ 0.5359 & 0.5359 & 3.1133 & 1 \end{pmatrix},$$

Example C.373.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.368255 \\ 0.360362 \\ 0.061786 \\ 0.209596 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0219 & 5.9602 & 1.7570 \\ 0.9786 & 1 & 5.8324 & 1.7193 \\ 0.1678 & 0.1715 & 1 & 0.2948 \\ 0.5692 & 0.5816 & 3.3923 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.365372 \\ 0.365372 \\ 0.061302 \\ 0.207955 \end{pmatrix} = 0.992169 \cdot \begin{pmatrix} 0.368255 \\ 0.368255 \\ 0.061786 \\ 0.209596 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.9602 & 1.7570 \\ 1 & 1 & 5.9602 & 1.7570 \\ 0.1678 & 0.1678 & 1 & 0.2948 \\ 0.5692 & 0.5692 & 3.3923 & 1 \end{pmatrix},$$

Example C.374.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 3 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2478, \quad CR = 0.0935$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.365622 \\ 0.355677 \\ 0.060094 \\ 0.218607 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0280 & 6.0842 & 1.6725 \\ 0.9728 & 1 & 5.9187 & 1.6270 \\ 0.1644 & 0.1690 & 1 & 0.2749 \\ 0.5979 & 0.6146 & 3.6378 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.363844 \\ 0.358810 \\ 0.059802 \\ 0.217544 \end{pmatrix} = 0.995137 \cdot \begin{pmatrix} 0.365622 \\ 0.360563 \\ 0.060094 \\ 0.218607 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0140 & 6.0842 & 1.6725 \\ 0.9862 & 1 & 6 & 1.6494 \\ 0.1644 & 1/6 & 1 & 0.2749 \\ 0.5979 & 0.6063 & 3.6378 & 1 \end{pmatrix},$$

Example C.375.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 4 \\ 1 & 1 & 5 & 2 \\ 1/4 & 1/5 & 1 & 1/4 \\ 1/4 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1722, \quad CR = 0.0649$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.396636 \\ 0.352618 \\ 0.070757 \\ 0.179990 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1248 & 5.6056 & 2.2037 \\ 0.8890 & 1 & 4.9835 & 1.9591 \\ 0.1784 & 0.2007 & 1 & 0.3931 \\ 0.4538 & 0.5104 & 2.5438 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.396173 \\ 0.353373 \\ 0.070675 \\ 0.179780 \end{pmatrix} = 0.998834 \cdot \begin{pmatrix} 0.396636 \\ 0.353786 \\ 0.070757 \\ 0.179990 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1211 & 5.6056 & 2.2037 \\ 0.8920 & 1 & 5 & 1.9656 \\ 0.1784 & 1/5 & 1 & 0.3931 \\ 0.4538 & 0.5088 & 2.5438 & 1 \end{pmatrix},$$

Example C.376.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 4 \\ 1 & 1 & 6 & 2 \\ 1/4 & 1/6 & 1 & 1/5 \\ 1/4 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.389546 \\ 0.359011 \\ 0.063929 \\ 0.187513 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0851 & 6.0934 & 2.0774 \\ 0.9216 & 1 & 5.6158 & 1.9146 \\ 0.1641 & 0.1781 & 1 & 0.3409 \\ 0.4814 & 0.5223 & 2.9331 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.383406 \\ 0.369115 \\ 0.062922 \\ 0.184558 \end{pmatrix} = 0.984238 \cdot \begin{pmatrix} 0.389546 \\ 0.375026 \\ 0.063929 \\ 0.187513 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0387 & 6.0934 & 2.0774 \\ 0.9627 & 1 & 5.8663 & 2 \\ 0.1641 & 0.1705 & 1 & 0.3409 \\ 0.4814 & 1/2 & 2.9331 & 1 \end{pmatrix},$$

Example C.377.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 5 \\ 1 & 1 & 6 & 3 \\ 1/4 & 1/6 & 1 & 1/3 \\ 1/5 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1502, \quad CR = 0.0566$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.403608 \\ 0.391237 \\ 0.069552 \\ 0.135603 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0316 & 5.8030 & 2.9764 \\ 0.9694 & 1 & 5.6251 & 2.8852 \\ 0.1723 & 0.1778 & 1 & 0.5129 \\ 0.3360 & 0.3466 & 1.9497 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.398676 \\ 0.398676 \\ 0.068702 \\ 0.133946 \end{pmatrix} = 0.987781 \cdot \begin{pmatrix} 0.403608 \\ 0.403608 \\ 0.069552 \\ 0.135603 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.8030 & 2.9764 \\ 1 & 1 & 5.8030 & 2.9764 \\ 0.1723 & 0.1723 & 1 & 0.5129 \\ 0.3360 & 0.3360 & 1.9497 & 1 \end{pmatrix},$$

Example C.378.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 5 \\ 1 & 1 & 6 & 3 \\ 1/4 & 1/6 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.398901 \\ 0.384569 \\ 0.066349 \\ 0.150181 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0373 & 6.0122 & 2.6561 \\ 0.9641 & 1 & 5.7962 & 2.5607 \\ 0.1663 & 0.1725 & 1 & 0.4418 \\ 0.3765 & 0.3905 & 2.2635 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.393579 \\ 0.392780 \\ 0.065463 \\ 0.148178 \end{pmatrix} = 0.986658 \cdot \begin{pmatrix} 0.398901 \\ 0.398091 \\ 0.066349 \\ 0.150181 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0020 & 6.0122 & 2.6561 \\ 0.9980 & 1 & 6 & 2.6507 \\ 0.1663 & 1/6 & 1 & 0.4418 \\ 0.3765 & 0.3773 & 2.2635 & 1 \end{pmatrix},$$

Example C.379.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 5 \\ 1 & 1 & 7 & 3 \\ 1/4 & 1/7 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.396251 \\ 0.395288 \\ 0.062983 \\ 0.145478 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0024 & 6.2914 & 2.7238 \\ 0.9976 & 1 & 6.2761 & 2.7172 \\ 0.1589 & 0.1593 & 1 & 0.4329 \\ 0.3671 & 0.3680 & 2.3098 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.395870 \\ 0.395870 \\ 0.062922 \\ 0.145339 \end{pmatrix} = 0.999038 \cdot \begin{pmatrix} 0.396251 \\ 0.396251 \\ 0.062983 \\ 0.145478 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 6.2914 & 2.7238 \\ 1 & 1 & 6.2914 & 2.7238 \\ 0.1589 & 0.1589 & 1 & 0.4329 \\ 0.3671 & 0.3671 & 2.3098 & 1 \end{pmatrix},$$

Example C.380.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 6 \\ 1 & 1 & 6 & 3 \\ 1/4 & 1/6 & 1 & 1/3 \\ 1/6 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.414182 \\ 0.386073 \\ 0.069299 \\ 0.130446 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0728 & 5.9767 & 3.1751 \\ 0.9321 & 1 & 5.5711 & 2.9596 \\ 0.1673 & 0.1795 & 1 & 0.5313 \\ 0.3149 & 0.3379 & 1.8823 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.412014 \\ 0.389287 \\ 0.068936 \\ 0.129762 \end{pmatrix} = 0.994764 \cdot \begin{pmatrix} 0.414182 \\ 0.391337 \\ 0.069299 \\ 0.130446 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0584 & 5.9767 & 3.1751 \\ 0.9448 & 1 & 5.6470 & 3 \\ 0.1673 & 0.1771 & 1 & 0.5313 \\ 0.3149 & 1/3 & 1.8823 & 1 \end{pmatrix},$$

Example C.381.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 6 \\ 1 & 1 & 6 & 4 \\ 1/4 & 1/6 & 1 & 1/2 \\ 1/6 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.411899 \\ \mathbf{0.410518} \\ 0.073660 \\ 0.103923 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & \mathbf{1.0034} & 5.5919 & 3.9635 \\ \mathbf{0.9966} & 1 & \mathbf{5.5732} & \mathbf{3.9502} \\ 0.1788 & \mathbf{0.1794} & 1 & 0.7088 \\ 0.2523 & \mathbf{0.2532} & 1.4108 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.411331 \\ 0.411331 \\ 0.073558 \\ 0.103779 \end{pmatrix} = 0.998621 \cdot \begin{pmatrix} 0.411899 \\ \mathbf{0.411899} \\ 0.073660 \\ 0.103923 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1} & 5.5919 & 3.9635 \\ \mathbf{1} & 1 & \mathbf{5.5919} & \mathbf{3.9635} \\ 0.1788 & \mathbf{0.1788} & 1 & 0.7088 \\ 0.2523 & \mathbf{0.2523} & 1.4108 & 1 \end{pmatrix},$$

Example C.382.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 6 \\ 1 & 1 & 6 & 4 \\ 1/4 & 1/6 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.406615 \\ 0.403554 \\ 0.069042 \\ 0.120789 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0076 & 5.8894 & 3.3663 \\ 0.9925 & 1 & 5.8451 & 3.3410 \\ 0.1698 & 0.1711 & 1 & 0.5716 \\ 0.2971 & 0.2993 & 1.7495 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.405374 \\ 0.405374 \\ 0.068831 \\ 0.120421 \end{pmatrix} = 0.996949 \cdot \begin{pmatrix} 0.406615 \\ 0.406615 \\ 0.069042 \\ 0.120789 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 5.8894 & 3.3663 \\ 1 & 1 & 5.8894 & 3.3663 \\ 0.1698 & 0.1698 & 1 & 0.5716 \\ 0.2971 & 0.2971 & 1.7495 & 1 \end{pmatrix},$$

Example C.383.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 7 \\ 1 & 1 & 6 & 4 \\ 1/4 & 1/6 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2421, \quad CR = 0.0913$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.415658 \\ 0.398304 \\ 0.068912 \\ 0.117127 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0436 & 6.0318 & 3.5488 \\ 0.9582 & 1 & 5.7799 & 3.4006 \\ 0.1658 & 0.1730 & 1 & 0.5884 \\ 0.2818 & 0.2941 & 1.6997 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.409448 \\ 0.407293 \\ 0.067882 \\ 0.115377 \end{pmatrix} = 0.985060 \cdot \begin{pmatrix} 0.415658 \\ 0.413470 \\ 0.068912 \\ 0.117127 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0053 & 6.0318 & 3.5488 \\ 0.9947 & 1 & 6 & 3.5301 \\ 0.1658 & 1/6 & 1 & 0.5884 \\ 0.2818 & 0.2833 & 1.6997 & 1 \end{pmatrix},$$

Example C.384.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 7 \\ 1 & 1 & 7 & 4 \\ 1/4 & 1/7 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2395, \quad CR = 0.0903$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.412586 \\ 0.409150 \\ 0.065298 \\ 0.112966 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0084 & 6.3185 & 3.6523 \\ 0.9917 & 1 & 6.2659 & 3.6219 \\ 0.1583 & 0.1596 & 1 & 0.5780 \\ 0.2738 & 0.2761 & 1.7300 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.411173 \\ 0.411173 \\ 0.065074 \\ 0.112579 \end{pmatrix} = 0.996576 \cdot \begin{pmatrix} 0.412586 \\ 0.412586 \\ 0.065298 \\ 0.112966 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 6.3185 & 3.6523 \\ 1 & 1 & 6.3185 & 3.6523 \\ 0.1583 & 0.1583 & 1 & 0.5780 \\ 0.2738 & 0.2738 & 1.7300 & 1 \end{pmatrix},$$

Example C.385.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 8 \\ 1 & 1 & 5 & 4 \\ 1/4 & 1/5 & 1 & 1/2 \\ 1/8 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1722, \quad CR = 0.0649$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.433156 \\ 0.388288 \\ 0.077870 \\ 0.100686 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1156 & 5.5626 & 4.3020 \\ 0.8964 & 1 & 4.9864 & 3.8564 \\ 0.1798 & 0.2005 & 1 & 0.7734 \\ 0.2324 & 0.2593 & 1.2930 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.432697 \\ 0.388936 \\ 0.077787 \\ 0.100580 \end{pmatrix} = 0.998939 \cdot \begin{pmatrix} 0.433156 \\ 0.389349 \\ 0.077870 \\ 0.100686 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1125 & 5.5626 & 4.3020 \\ 0.8989 & 1 & 5 & 3.8670 \\ 0.1798 & 1/5 & 1 & 0.7734 \\ 0.2324 & 0.2586 & 1.2930 & 1 \end{pmatrix},$$

Example C.386.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 4 & 9 \\ 1 & 1 & 5 & 4 \\ 1/4 & 1/5 & 1 & 1/2 \\ 1/9 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2067, \quad CR = 0.0779$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.439208 \\ 0.384797 \\ 0.077637 \\ 0.098357 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1414 & 5.6572 & 4.4654 \\ 0.8761 & 1 & 4.9564 & 3.9122 \\ 0.1768 & 0.2018 & 1 & 0.7893 \\ 0.2239 & 0.2556 & 1.2669 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.437725 \\ 0.386874 \\ 0.077375 \\ 0.098025 \end{pmatrix} = 0.996623 \cdot \begin{pmatrix} 0.439208 \\ 0.388185 \\ 0.077637 \\ 0.098357 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1314 & 5.6572 & 4.4654 \\ 0.8838 & 1 & 5 & 3.9467 \\ 0.1768 & 1/5 & 1 & 0.7893 \\ 0.2239 & 0.2534 & 1.2669 & 1 \end{pmatrix},$$

Example C.387.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 7 & 2 \\ 1/5 & 1/7 & 1 & 1/5 \\ 1/3 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1027, \quad CR = 0.0387$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.381511 \\ 0.371869 \\ 0.055443 \\ 0.191177 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0259 & 6.8811 & 1.9956 \\ 0.9747 & 1 & 6.7072 & 1.9452 \\ 0.1453 & 0.1491 & 1 & 0.2900 \\ 0.5011 & 0.5141 & 3.4482 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.377868 \\ 0.377868 \\ 0.054914 \\ 0.189351 \end{pmatrix} = 0.990449 \cdot \begin{pmatrix} 0.381511 \\ 0.381511 \\ 0.055443 \\ 0.191177 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 6.8811 & 1.9956 \\ 1 & 1 & 6.8811 & 1.9956 \\ 0.1453 & 0.1453 & 1 & 0.2900 \\ 0.5011 & 0.5011 & 3.4482 & 1 \end{pmatrix},$$

Example C.388.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 7 & 2 \\ 1/5 & 1/7 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1417, \quad CR = 0.0534$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.378157 \\ 0.367024 \\ 0.053467 \\ 0.201352 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0303 & 7.0727 & 1.8781 \\ 0.9706 & 1 & 6.8645 & 1.8228 \\ 0.1414 & 0.1457 & 1 & 0.2655 \\ 0.5325 & 0.5486 & 3.7659 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.375436 \\ 0.371578 \\ 0.053083 \\ 0.199903 \end{pmatrix} = 0.992805 \cdot \begin{pmatrix} 0.378157 \\ 0.374271 \\ 0.053467 \\ 0.201352 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0104 & 7.0727 & 1.8781 \\ 0.9897 & 1 & 7 & 1.8588 \\ 0.1414 & 1/7 & 1 & 0.2655 \\ 0.5325 & 0.5380 & 3.7659 & 1 \end{pmatrix},$$

Example C.389.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 7 & 2 \\ 1/5 & 1/7 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1820, \quad CR = 0.0686$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.375217 \\ 0.362574 \\ 0.051913 \\ 0.210295 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0349 & 7.2278 & 1.7842 \\ 0.9663 & 1 & 6.9842 & 1.7241 \\ 0.1384 & 0.1432 & 1 & 0.2469 \\ 0.5605 & 0.5800 & 4.0509 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.374910 \\ 0.363096 \\ 0.051871 \\ 0.210123 \end{pmatrix} = 0.999182 \cdot \begin{pmatrix} 0.375217 \\ 0.363393 \\ 0.051913 \\ 0.210295 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0325 & 7.2278 & 1.7842 \\ 0.9685 & 1 & 7 & 1.7280 \\ 0.1384 & 1/7 & 1 & 0.2469 \\ 0.5605 & 0.5787 & 4.0509 & 1 \end{pmatrix},$$

Example C.390.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.373057 \\ 0.371228 \\ 0.049671 \\ 0.206044 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0049 & 7.5106 & 1.8106 \\ 0.9951 & 1 & 7.4738 & 1.8017 \\ 0.1331 & 0.1338 & 1 & 0.2411 \\ 0.5523 & 0.5550 & 4.1482 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.372376 \\ 0.372376 \\ 0.049580 \\ 0.205667 \end{pmatrix} = 0.998174 \cdot \begin{pmatrix} 0.373057 \\ 0.373057 \\ 0.049671 \\ 0.206044 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.5106 & 1.8106 \\ 1 & 1 & 7.5106 & 1.8106 \\ 0.1331 & 0.1331 & 1 & 0.2411 \\ 0.5523 & 0.5523 & 4.1482 & 1 \end{pmatrix},$$

Example C.391.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/8 \\ 1/3 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.370697 \\ 0.367010 \\ 0.048456 \\ 0.213838 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0100 & 7.6502 & 1.7335 \\ 0.9901 & 1 & 7.5741 & 1.7163 \\ 0.1307 & 0.1320 & 1 & 0.2266 \\ 0.5769 & 0.5826 & 4.4131 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.369335 \\ 0.369335 \\ 0.048278 \\ 0.213052 \end{pmatrix} = 0.996327 \cdot \begin{pmatrix} 0.370697 \\ 0.370697 \\ 0.048456 \\ 0.213838 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.6502 & 1.7335 \\ 1 & 1 & 7.6502 & 1.7335 \\ 0.1307 & 0.1307 & 1 & 0.2266 \\ 0.5769 & 0.5769 & 4.4131 & 1 \end{pmatrix},$$

Example C.392.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 3 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/9 \\ 1/3 & 1/2 & 9 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2541, \quad CR = 0.0958$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.368660 \\ 0.363162 \\ 0.047440 \\ 0.220738 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0151 & 7.7711 & 1.6701 \\ 0.9851 & 1 & 7.6552 & 1.6452 \\ 0.1287 & 0.1306 & 1 & 0.2149 \\ 0.5988 & 0.6078 & 4.6530 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.366644 \\ 0.366644 \\ 0.047181 \\ 0.219532 \end{pmatrix} = 0.994532 \cdot \begin{pmatrix} 0.368660 \\ 0.368660 \\ 0.047440 \\ 0.220738 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.7711 & 1.6701 \\ 1 & 1 & 7.7711 & 1.6701 \\ 0.1287 & 0.1287 & 1 & 0.2149 \\ 0.5988 & 0.5988 & 4.6530 & 1 \end{pmatrix},$$

Example C.393.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 7 & 2 \\ 1/5 & 1/7 & 1 & 1/6 \\ 1/4 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.396511 \\ 0.360340 \\ 0.053452 \\ 0.189697 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1004 & 7.4181 & 2.0902 \\ 0.9088 & 1 & 6.7414 & 1.8996 \\ 0.1348 & 0.1483 & 1 & 0.2818 \\ 0.4784 & 0.5264 & 3.5489 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.391104 \\ 0.369062 \\ 0.052723 \\ 0.187110 \end{pmatrix} = 0.986365 \cdot \begin{pmatrix} 0.396511 \\ 0.374164 \\ 0.053452 \\ 0.189697 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0597 & 7.4181 & 2.0902 \\ 0.9436 & 1 & 7 & 1.9724 \\ 0.1348 & 1/7 & 1 & 0.2818 \\ 0.4784 & 0.5070 & 3.5489 & 1 \end{pmatrix},$$

Example C.394.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 7 & 2 \\ 1/5 & 1/7 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2648, \quad CR = 0.0998$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.393488 \\ 0.355737 \\ 0.052033 \\ 0.198743 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1061 & 7.5622 & 1.9799 \\ 0.9041 & 1 & 6.8367 & 1.7899 \\ 0.1322 & 0.1463 & 1 & 0.2618 \\ 0.5051 & 0.5587 & 3.8195 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.390173 \\ 0.361164 \\ 0.051595 \\ 0.197068 \end{pmatrix} = 0.991576 \cdot \begin{pmatrix} 0.393488 \\ 0.364232 \\ 0.052033 \\ 0.198743 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0803 & 7.5622 & 1.9799 \\ 0.9257 & 1 & 7 & 1.8327 \\ 0.1322 & 1/7 & 1 & 0.2618 \\ 0.5051 & 0.5456 & 3.8195 & 1 \end{pmatrix},$$

Example C.395.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/6 \\ 1/4 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.394167 \\ 0.369251 \\ 0.051106 \\ 0.185475 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0675 & 7.7127 & 2.1252 \\ 0.9368 & 1 & 7.2252 & 1.9908 \\ 0.1297 & 0.1384 & 1 & 0.2755 \\ 0.4706 & 0.5023 & 3.6292 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.393498 \\ 0.370321 \\ 0.051020 \\ 0.185161 \end{pmatrix} = 0.998303 \cdot \begin{pmatrix} 0.394167 \\ 0.370951 \\ 0.051106 \\ 0.185475 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0626 & 7.7127 & 2.1252 \\ 0.9411 & 1 & 7.2584 & 2 \\ 0.1297 & 0.1378 & 1 & 0.2755 \\ 0.4706 & 1/2 & 3.6292 & 1 \end{pmatrix},$$

Example C.396.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 8 & 2 \\ 1/5 & 1/8 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.391357 \\ \mathbf{0.364519} \\ 0.049751 \\ 0.194373 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & \mathbf{1.0736} & 7.8662 & 2.0134 \\ \mathbf{0.9314} & 1 & \mathbf{7.3268} & \mathbf{1.8754} \\ 0.1271 & \mathbf{0.1365} & 1 & 0.2560 \\ 0.4967 & \mathbf{0.5332} & 3.9069 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.382099 \\ 0.379551 \\ 0.048575 \\ 0.189775 \end{pmatrix} = 0.976346 \cdot \begin{pmatrix} 0.391357 \\ \mathbf{0.388746} \\ 0.049751 \\ 0.194373 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & \mathbf{1.0067} & 7.8662 & 2.0134 \\ \mathbf{0.9933} & 1 & \mathbf{7.8138} & \mathbf{2} \\ 0.1271 & \mathbf{0.1280} & 1 & 0.2560 \\ 0.4967 & \mathbf{1/2} & 3.9069 & 1 \end{pmatrix},$$

Example C.397.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 4 \\ 1 & 1 & 9 & 2 \\ 1/5 & 1/9 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2614, \quad CR = 0.0986$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.389514 \\ 0.372321 \\ 0.047891 \\ 0.190274 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0462 & 8.1333 & 2.0471 \\ 0.9559 & 1 & 7.7743 & 1.9568 \\ 0.1230 & 0.1286 & 1 & 0.2517 \\ 0.4885 & 0.5110 & 3.9730 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.386335 \\ 0.377443 \\ 0.047500 \\ 0.188721 \end{pmatrix} = 0.991840 \cdot \begin{pmatrix} 0.389514 \\ 0.380548 \\ 0.047891 \\ 0.190274 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0236 & 8.1333 & 2.0471 \\ 0.9770 & 1 & 7.9461 & 2 \\ 0.1230 & 0.1258 & 1 & 0.2517 \\ 0.4885 & 1/2 & 3.9730 & 1 \end{pmatrix},$$

Example C.398.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 7 & 3 \\ 1/5 & 1/7 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.409712 \\ 0.390604 \\ 0.057212 \\ 0.142472 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0489 & 7.1613 & 2.8757 \\ 0.9534 & 1 & 6.8273 & 2.7416 \\ 0.1396 & 0.1465 & 1 & 0.4016 \\ 0.3477 & 0.3647 & 2.4902 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.405703 \\ 0.396567 \\ 0.056652 \\ 0.141078 \end{pmatrix} = 0.990215 \cdot \begin{pmatrix} 0.409712 \\ 0.400486 \\ 0.057212 \\ 0.142472 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0230 & 7.1613 & 2.8757 \\ 0.9775 & 1 & 7 & 2.8110 \\ 0.1396 & 1/7 & 1 & 0.4016 \\ 0.3477 & 0.3557 & 2.4902 & 1 \end{pmatrix},$$

Example C.399.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 7 & 3 \\ 1/5 & 1/7 & 1 & 1/5 \\ 1/5 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2309, \quad CR = 0.0871$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.405548 \\ 0.385015 \\ 0.055152 \\ 0.154285 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0533 & 7.3533 & 2.6286 \\ 0.9494 & 1 & 6.9809 & 2.4955 \\ 0.1360 & 0.1432 & 1 & 0.3575 \\ 0.3804 & 0.4007 & 2.7974 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.405122 \\ 0.385660 \\ 0.055094 \\ 0.154123 \end{pmatrix} = 0.998950 \cdot \begin{pmatrix} 0.405548 \\ 0.386065 \\ 0.055152 \\ 0.154285 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0505 & 7.3533 & 2.6286 \\ 0.9520 & 1 & 7 & 2.5023 \\ 0.1360 & 1/7 & 1 & 0.3575 \\ 0.3804 & 0.3996 & 2.7974 & 1 \end{pmatrix},$$

Example C.400.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 8 & 3 \\ 1/5 & 1/8 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.406760 \\ 0.399797 \\ 0.054613 \\ 0.138829 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0174 & 7.4480 & 2.9299 \\ 0.9829 & 1 & 7.3205 & 2.8798 \\ 0.1343 & 0.1366 & 1 & 0.3934 \\ 0.3413 & 0.3472 & 2.5421 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.403948 \\ 0.403948 \\ 0.054235 \\ 0.137869 \end{pmatrix} = 0.993085 \cdot \begin{pmatrix} 0.406760 \\ 0.406760 \\ 0.054613 \\ 0.138829 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.4480 & 2.9299 \\ 1 & 1 & 7.4480 & 2.9299 \\ 0.1343 & 0.1343 & 1 & 0.3934 \\ 0.3413 & 0.3413 & 2.5421 & 1 \end{pmatrix},$$

Example C.401.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 5 \\ 1 & 1 & 8 & 3 \\ 1/5 & 1/8 & 1 & 1/5 \\ 1/5 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.402952 \\ 0.394246 \\ 0.052642 \\ 0.150160 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0221 & 7.6546 & 2.6835 \\ 0.9784 & 1 & 7.4892 & 2.6255 \\ 0.1306 & 0.1335 & 1 & 0.3506 \\ 0.3726 & 0.3809 & 2.8525 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.399474 \\ 0.399474 \\ 0.052188 \\ 0.148864 \end{pmatrix} = 0.991369 \cdot \begin{pmatrix} 0.402952 \\ 0.402952 \\ 0.052642 \\ 0.150160 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.6546 & 2.6835 \\ 1 & 1 & 7.6546 & 2.6835 \\ 0.1306 & 0.1306 & 1 & 0.3506 \\ 0.3726 & 0.3726 & 2.8525 & 1 \end{pmatrix},$$

Example C.402.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 6 & 4 \\ 1/5 & 1/6 & 1 & 1/2 \\ 1/6 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0662, \quad CR = 0.0250$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.426924 \\ 0.404105 \\ 0.067402 \\ 0.101569 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0565 & 6.3340 & 4.2033 \\ 0.9466 & 1 & 5.9954 & 3.9786 \\ 0.1579 & 0.1668 & 1 & 0.6636 \\ 0.2379 & 0.2513 & 1.5069 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.426792 \\ 0.404289 \\ 0.067381 \\ 0.101538 \end{pmatrix} = 0.999691 \cdot \begin{pmatrix} 0.426924 \\ 0.404414 \\ 0.067402 \\ 0.101569 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0557 & 6.3340 & 4.2033 \\ 0.9473 & 1 & 6 & 3.9817 \\ 0.1579 & 1/6 & 1 & 0.6636 \\ 0.2379 & 0.2512 & 1.5069 & 1 \end{pmatrix},$$

Example C.403.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 7 & 3 \\ 1/5 & 1/7 & 1 & 1/4 \\ 1/6 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.420330 \\ 0.385304 \\ 0.057067 \\ 0.137299 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0909 & 7.3655 & 3.0614 \\ 0.9167 & 1 & 6.7517 & 2.8063 \\ 0.1358 & 0.1481 & 1 & 0.4156 \\ 0.3266 & 0.3563 & 2.4059 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.414458 \\ 0.393891 \\ 0.056270 \\ 0.135381 \end{pmatrix} = 0.986030 \cdot \begin{pmatrix} 0.420330 \\ 0.399471 \\ 0.057067 \\ 0.137299 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0522 & 7.3655 & 3.0614 \\ 0.9504 & 1 & 7 & 2.9095 \\ 0.1358 & 1/7 & 1 & 0.4156 \\ 0.3266 & 0.3437 & 2.4059 & 1 \end{pmatrix},$$

Example C.404.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1417, \quad CR = 0.0534$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.417455 \\ 0.408943 \\ 0.059491 \\ 0.114111 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0208 & 7.0172 & 3.6583 \\ 0.9796 & 1 & 6.8741 & 3.5837 \\ 0.1425 & 0.1455 & 1 & 0.5213 \\ 0.2734 & 0.2790 & 1.9181 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.414351 \\ 0.413338 \\ 0.059048 \\ 0.113263 \end{pmatrix} = 0.992565 \cdot \begin{pmatrix} 0.417455 \\ 0.416434 \\ 0.059491 \\ 0.114111 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0025 & 7.0172 & 3.6583 \\ 0.9976 & 1 & 7 & 3.6494 \\ 0.1425 & 1/7 & 1 & 0.5213 \\ 0.2734 & 0.2740 & 1.9181 & 1 \end{pmatrix},$$

Example C.405.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 6 \\ 1 & 1 & 8 & 3 \\ 1/5 & 1/8 & 1 & 1/4 \\ 1/6 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.417418 \\ 0.394559 \\ 0.054440 \\ 0.133584 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0579 & 7.6675 & 3.1248 \\ 0.9452 & 1 & 7.2477 & 2.9536 \\ 0.1304 & 0.1380 & 1 & 0.4075 \\ 0.3200 & 0.3386 & 2.4538 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.414849 \\ 0.398285 \\ 0.054105 \\ 0.132762 \end{pmatrix} = 0.993846 \cdot \begin{pmatrix} 0.417418 \\ 0.400751 \\ 0.054440 \\ 0.133584 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0416 & 7.6675 & 3.1248 \\ 0.9601 & 1 & 7.3614 & 3 \\ 0.1304 & 0.1358 & 1 & 0.4075 \\ 0.3200 & 1/3 & 2.4538 & 1 \end{pmatrix},$$

Example C.406.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1793, \quad CR = 0.0676$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.426692 \\ 0.403687 \\ 0.059276 \\ 0.110344 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0570 & 7.1984 & 3.8669 \\ 0.9461 & 1 & 6.8103 & 3.6584 \\ 0.1389 & 0.1468 & 1 & 0.5372 \\ 0.2586 & 0.2733 & 1.8615 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.421947 \\ 0.410318 \\ 0.058617 \\ 0.109117 \end{pmatrix} = 0.988880 \cdot \begin{pmatrix} 0.426692 \\ 0.414932 \\ 0.059276 \\ 0.110344 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0283 & 7.1984 & 3.8669 \\ 0.9724 & 1 & 7 & 3.7603 \\ 0.1389 & 1/7 & 1 & 0.5372 \\ 0.2586 & 0.2659 & 1.8615 & 1 \end{pmatrix},$$

Example C.407.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 7 & 5 \\ 1/5 & 1/7 & 1 & 1/2 \\ 1/7 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0899, \quad CR = 0.0339$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.424510 \\ 0.423659 \\ 0.062844 \\ 0.088987 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0020 & 6.7550 & 4.7705 \\ 0.9980 & 1 & 6.7414 & 4.7609 \\ 0.1480 & 0.1483 & 1 & 0.7062 \\ 0.2096 & 0.2100 & 1.4160 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.424149 \\ 0.424149 \\ 0.062790 \\ 0.088912 \end{pmatrix} = 0.999150 \cdot \begin{pmatrix} 0.424510 \\ 0.424510 \\ 0.062844 \\ 0.088987 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 6.7550 & 4.7705 \\ 1 & 1 & 6.7550 & 4.7705 \\ 0.1480 & 0.1480 & 1 & 0.7062 \\ 0.2096 & 0.2096 & 1.4160 & 1 \end{pmatrix},$$

Example C.408.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1782, \quad CR = 0.0672$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.423327 \\ 0.412958 \\ 0.056501 \\ 0.107215 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0251 & 7.4924 & 3.9484 \\ 0.9755 & 1 & 7.3089 & 3.8517 \\ 0.1335 & 0.1368 & 1 & 0.5270 \\ 0.2533 & 0.2596 & 1.8976 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.418982 \\ 0.418982 \\ 0.055921 \\ 0.106115 \end{pmatrix} = 0.989737 \cdot \begin{pmatrix} 0.423327 \\ 0.423327 \\ 0.056501 \\ 0.107215 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.4924 & 3.9484 \\ 1 & 1 & 7.4924 & 3.9484 \\ 0.1335 & 0.1335 & 1 & 0.5270 \\ 0.2533 & 0.2533 & 1.8976 & 1 \end{pmatrix},$$

Example C.409.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/4 \\ 1/7 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2610, \quad CR = 0.0984$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.418846 \\ 0.406954 \\ 0.054158 \\ 0.120042 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0292 & 7.7338 & 3.4892 \\ 0.9716 & 1 & 7.5142 & 3.3901 \\ 0.1293 & 0.1331 & 1 & 0.4512 \\ 0.2866 & 0.2950 & 2.2165 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.413924 \\ 0.413924 \\ 0.053521 \\ 0.118631 \end{pmatrix} = 0.988248 \cdot \begin{pmatrix} 0.418846 \\ 0.418846 \\ 0.054158 \\ 0.120042 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.7338 & 3.4892 \\ 1 & 1 & 7.7338 & 3.4892 \\ 0.1293 & 0.1293 & 1 & 0.4512 \\ 0.2866 & 0.2866 & 2.2165 & 1 \end{pmatrix},$$

Example C.410.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 7 \\ 1 & 1 & 9 & 4 \\ 1/5 & 1/9 & 1 & 1/4 \\ 1/7 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2594, \quad CR = 0.0978$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.416374 \\ 0.415075 \\ 0.051973 \\ 0.116577 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0031 & 8.0113 & 3.5717 \\ 0.9969 & 1 & 7.9863 & 3.5605 \\ 0.1248 & 0.1252 & 1 & 0.4458 \\ 0.2800 & 0.2809 & 2.2430 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.415834 \\ 0.415834 \\ 0.051906 \\ 0.116426 \end{pmatrix} = 0.998703 \cdot \begin{pmatrix} 0.416374 \\ 0.416374 \\ 0.051973 \\ 0.116577 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.0113 & 3.5717 \\ 1 & 1 & 8.0113 & 3.5717 \\ 0.1248 & 0.1248 & 1 & 0.4458 \\ 0.2800 & 0.2800 & 2.2430 & 1 \end{pmatrix},$$

Example C.411.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/8 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2174, \quad CR = 0.0820$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.434102 \\ 0.399376 \\ 0.059116 \\ 0.107407 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0870 & 7.3432 & 4.0417 \\ 0.9200 & 1 & 6.7558 & 3.7184 \\ 0.1362 & 0.1480 & 1 & 0.5504 \\ 0.2474 & 0.2689 & 1.8169 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427923 \\ 0.407924 \\ 0.058275 \\ 0.105878 \end{pmatrix} = 0.985767 \cdot \begin{pmatrix} 0.434102 \\ 0.413814 \\ 0.059116 \\ 0.107407 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0490 & 7.3432 & 4.0417 \\ 0.9533 & 1 & 7 & 3.8528 \\ 0.1362 & 1/7 & 1 & 0.5504 \\ 0.2474 & 0.2596 & 1.8169 & 1 \end{pmatrix},$$

Example C.412.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 7 & 5 \\ 1/5 & 1/7 & 1 & 1/2 \\ 1/8 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1159, \quad CR = 0.0437$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.432729 \\ 0.418695 \\ 0.062488 \\ 0.086088 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0335 & 6.9250 & 5.0266 \\ 0.9676 & 1 & 6.7004 & 4.8636 \\ 0.1444 & 0.1492 & 1 & 0.7259 \\ 0.1989 & 0.2056 & 1.3777 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427705 \\ 0.425444 \\ 0.061763 \\ 0.085089 \end{pmatrix} = 0.988390 \cdot \begin{pmatrix} 0.432729 \\ 0.430441 \\ 0.062488 \\ 0.086088 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0053 & 6.9250 & 5.0266 \\ 0.9947 & 1 & 6.8884 & 5 \\ 0.1444 & 0.1452 & 1 & 0.7259 \\ 0.1989 & 1/5 & 1.3777 & 1 \end{pmatrix},$$

Example C.413.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/8 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2162, \quad CR = 0.0815$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.430766 \\ 0.408681 \\ 0.056320 \\ 0.104233 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0540 & 7.6486 & 4.1327 \\ 0.9487 & 1 & 7.2565 & 3.9209 \\ 0.1307 & 0.1378 & 1 & 0.5403 \\ 0.2420 & 0.2550 & 1.8507 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427242 \\ 0.413520 \\ 0.055859 \\ 0.103380 \end{pmatrix} = 0.991818 \cdot \begin{pmatrix} 0.430766 \\ 0.416931 \\ 0.056320 \\ 0.104233 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0332 & 7.6486 & 4.1327 \\ 0.9679 & 1 & 7.4030 & 4 \\ 0.1307 & 0.1351 & 1 & 0.5403 \\ 0.2420 & 1/4 & 1.8507 & 1 \end{pmatrix},$$

Example C.414.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 8 \\ 1 & 1 & 8 & 5 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/8 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2144, \quad CR = 0.0808$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.424068 \\ 0.421820 \\ 0.056068 \\ 0.098044 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0053 & 7.5635 & 4.3253 \\ 0.9947 & 1 & 7.5234 & 4.3024 \\ 0.1322 & 0.1329 & 1 & 0.5719 \\ 0.2312 & 0.2324 & 1.7487 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.423117 \\ 0.423117 \\ 0.055942 \\ 0.097824 \end{pmatrix} = 0.997758 \cdot \begin{pmatrix} 0.424068 \\ 0.424068 \\ 0.056068 \\ 0.098044 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.5635 & 4.3253 \\ 1 & 1 & 7.5635 & 4.3253 \\ 0.1322 & 0.1322 & 1 & 0.5719 \\ 0.2312 & 0.2312 & 1.7487 & 1 \end{pmatrix},$$

Example C.415.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 7 & 4 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/9 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2553, \quad CR = 0.0963$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.440142 \\ 0.395809 \\ 0.058996 \\ 0.105053 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1120 & 7.4605 & 4.1897 \\ 0.8993 & 1 & 6.7091 & 3.7677 \\ 0.1340 & 0.1491 & 1 & 0.5616 \\ 0.2387 & 0.2654 & 1.7807 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.432715 \\ 0.406004 \\ 0.058001 \\ 0.103281 \end{pmatrix} = 0.983126 \cdot \begin{pmatrix} 0.440142 \\ 0.412973 \\ 0.058996 \\ 0.105053 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0658 & 7.4605 & 4.1897 \\ 0.9383 & 1 & 7 & 3.9311 \\ 0.1340 & 1/7 & 1 & 0.5616 \\ 0.2387 & 0.2544 & 1.7807 & 1 \end{pmatrix},$$

Example C.416.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 7 & 5 \\ 1/5 & 1/7 & 1 & 1/2 \\ 1/9 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1429, \quad CR = 0.0539$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.439565 \\ 0.414490 \\ 0.062198 \\ 0.083747 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0605 & 7.0672 & 5.2487 \\ 0.9430 & 1 & 6.6640 & 4.9493 \\ 0.1415 & 0.1501 & 1 & 0.7427 \\ 0.1905 & 0.2020 & 1.3464 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.437707 \\ 0.416965 \\ 0.061935 \\ 0.083393 \end{pmatrix} = 0.995774 \cdot \begin{pmatrix} 0.439565 \\ 0.418734 \\ 0.062198 \\ 0.083747 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0497 & 7.0672 & 5.2487 \\ 0.9526 & 1 & 6.7322 & 5 \\ 0.1415 & 0.1485 & 1 & 0.7427 \\ 0.1905 & 1/5 & 1.3464 & 1 \end{pmatrix},$$

Example C.417.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 7 & 5 \\ 1/5 & 1/7 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2539, \quad CR = 0.0957$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.434107 \\ 0.408109 \\ 0.058777 \\ 0.099007 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0637 & 7.3857 & 4.3846 \\ 0.9401 & 1 & 6.9434 & 4.1220 \\ 0.1354 & 0.1440 & 1 & 0.5937 \\ 0.2281 & 0.2426 & 1.6844 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.432667 \\ 0.410073 \\ 0.058582 \\ 0.098678 \end{pmatrix} = 0.996682 \cdot \begin{pmatrix} 0.434107 \\ 0.411439 \\ 0.058777 \\ 0.099007 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0551 & 7.3857 & 4.3846 \\ 0.9478 & 1 & 7 & 4.1557 \\ 0.1354 & 1/7 & 1 & 0.5937 \\ 0.2281 & 0.2406 & 1.6844 & 1 \end{pmatrix},$$

Example C.418.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 8 & 4 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/9 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2541, \quad CR = 0.0958$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.436830 \\ 0.405149 \\ 0.056180 \\ 0.101841 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0782 & 7.7755 & 4.2893 \\ 0.9275 & 1 & 7.2116 & 3.9782 \\ 0.1286 & 0.1387 & 1 & 0.5516 \\ 0.2331 & 0.2514 & 1.8128 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.435864 \\ 0.406464 \\ 0.056056 \\ 0.101616 \end{pmatrix} = 0.997789 \cdot \begin{pmatrix} 0.436830 \\ 0.407365 \\ 0.056180 \\ 0.101841 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0723 & 7.7755 & 4.2893 \\ 0.9325 & 1 & 7.2510 & 4 \\ 0.1286 & 0.1379 & 1 & 0.5516 \\ 0.2331 & 1/4 & 1.8128 & 1 \end{pmatrix},$$

Example C.419.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 8 & 5 \\ 1/5 & 1/8 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2489, \quad CR = 0.0939$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.430762 \\ 0.417535 \\ 0.055954 \\ 0.095750 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0317 & 7.6985 & 4.4988 \\ 0.9693 & 1 & 7.4621 & 4.3607 \\ 0.1299 & 0.1340 & 1 & 0.5844 \\ 0.2223 & 0.2293 & 1.7112 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.425139 \\ 0.425139 \\ 0.055223 \\ 0.094500 \end{pmatrix} = 0.986946 \cdot \begin{pmatrix} 0.430762 \\ 0.430762 \\ 0.055954 \\ 0.095750 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.6985 & 4.4988 \\ 1 & 1 & 7.6985 & 4.4988 \\ 0.1299 & 0.1299 & 1 & 0.5844 \\ 0.2223 & 0.2223 & 1.7112 & 1 \end{pmatrix},$$

Example C.420.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 5 & 9 \\ 1 & 1 & 9 & 5 \\ 1/5 & 1/9 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2483, \quad CR = 0.0936$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.427935 \\ 0.425567 \\ 0.053646 \\ 0.092853 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0056 & 7.9771 & 4.6088 \\ 0.9945 & 1 & 7.9329 & 4.5833 \\ 0.1254 & 0.1261 & 1 & 0.5778 \\ 0.2170 & 0.2182 & 1.7308 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.426924 \\ 0.426924 \\ 0.053519 \\ 0.092633 \end{pmatrix} = 0.997638 \cdot \begin{pmatrix} 0.427935 \\ 0.427935 \\ 0.053646 \\ 0.092853 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.9771 & 4.6088 \\ 1 & 1 & 7.9771 & 4.6088 \\ 0.1254 & 0.1254 & 1 & 0.5778 \\ 0.2170 & 0.2170 & 1.7308 & 1 \end{pmatrix},$$

Example C.421.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 8 & 2 \\ 1/6 & 1/8 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.386094 \\ 0.372151 \\ 0.047424 \\ 0.194331 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0375 & 8.1413 & 1.9868 \\ 0.9639 & 1 & 7.8473 & 1.9150 \\ 0.1228 & 0.1274 & 1 & 0.2440 \\ 0.5033 & 0.5222 & 4.0977 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.383318 \\ 0.376665 \\ 0.047083 \\ 0.192934 \end{pmatrix} = 0.992810 \cdot \begin{pmatrix} 0.386094 \\ 0.379393 \\ 0.047424 \\ 0.194331 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0177 & 8.1413 & 1.9868 \\ 0.9826 & 1 & 8 & 1.9523 \\ 0.1228 & 1/8 & 1 & 0.2440 \\ 0.5033 & 0.5122 & 4.0977 & 1 \end{pmatrix},$$

Example C.422.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.383571 \\ 0.379893 \\ 0.045583 \\ 0.190953 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0097 & 8.4147 & 2.0087 \\ 0.9904 & 1 & 8.3341 & 1.9895 \\ 0.1188 & 0.1200 & 1 & 0.2387 \\ 0.4978 & 0.5027 & 4.1891 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.382800 \\ 0.381139 \\ 0.045492 \\ 0.190570 \end{pmatrix} = 0.997990 \cdot \begin{pmatrix} 0.383571 \\ 0.381907 \\ 0.045583 \\ 0.190953 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0044 & 8.4147 & 2.0087 \\ 0.9957 & 1 & 8.3782 & 2 \\ 0.1188 & 0.1194 & 1 & 0.2387 \\ 0.4978 & 1/2 & 4.1891 & 1 \end{pmatrix},$$

Example C.423.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.380746 \\ 0.375660 \\ 0.044186 \\ 0.199408 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0135 & 8.6170 & 1.9094 \\ 0.9866 & 1 & 8.5019 & 1.8839 \\ 0.1161 & 0.1176 & 1 & 0.2216 \\ 0.5237 & 0.5308 & 4.5130 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.378819 \\ 0.378819 \\ 0.043962 \\ 0.198399 \end{pmatrix} = 0.994940 \cdot \begin{pmatrix} 0.380746 \\ 0.380746 \\ 0.044186 \\ 0.199408 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.6170 & 1.9094 \\ 1 & 1 & 8.6170 & 1.9094 \\ 0.1161 & 0.1161 & 1 & 0.2216 \\ 0.5237 & 0.5237 & 4.5130 & 1 \end{pmatrix},$$

Example C.424.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/8 \\ 1/3 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.378210 \\ 0.371689 \\ 0.043051 \\ 0.207050 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0175 & 8.7853 & 1.8267 \\ 0.9828 & 1 & 8.6338 & 1.7952 \\ 0.1138 & 0.1158 & 1 & 0.2079 \\ 0.5474 & 0.5571 & 4.8095 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.375760 \\ 0.375760 \\ 0.042772 \\ 0.205708 \end{pmatrix} = 0.993521 \cdot \begin{pmatrix} 0.378210 \\ 0.378210 \\ 0.043051 \\ 0.207050 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.7853 & 1.8267 \\ 1 & 1 & 8.7853 & 1.8267 \\ 0.1138 & 0.1138 & 1 & 0.2079 \\ 0.5474 & 0.5474 & 4.8095 & 1 \end{pmatrix},$$

Example C.425.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 3 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/9 \\ 1/3 & 1/2 & 9 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.375958 \\ 0.368005 \\ 0.042102 \\ 0.213934 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0216 & 8.9298 & 1.7574 \\ 0.9788 & 1 & 8.7409 & 1.7202 \\ 0.1120 & 0.1144 & 1 & 0.1968 \\ 0.5690 & 0.5813 & 5.0814 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.372992 \\ 0.372992 \\ 0.041770 \\ 0.212246 \end{pmatrix} = 0.992110 \cdot \begin{pmatrix} 0.375958 \\ 0.375958 \\ 0.042102 \\ 0.213934 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9298 & 1.7574 \\ 1 & 1 & 8.9298 & 1.7574 \\ 0.1120 & 0.1120 & 1 & 0.1968 \\ 0.5690 & 0.5690 & 5.0814 & 1 \end{pmatrix},$$

Example C.426.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 5 & 2 \\ 1/6 & 1/5 & 1 & 1/2 \\ 1/4 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0407, \quad CR = 0.0153$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.434728 \\ 0.352895 \\ \mathbf{0.070379} \\ 0.141998 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2319 & \mathbf{6.1770} & 3.0615 \\ 0.8118 & 1 & \mathbf{5.0142} & 2.4852 \\ \mathbf{0.1619} & \mathbf{0.1994} & 1 & \mathbf{0.4956} \\ 0.3266 & 0.4024 & \mathbf{2.0176} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.434641 \\ 0.352825 \\ 0.070565 \\ 0.141970 \end{pmatrix} = 0.999800 \cdot \begin{pmatrix} 0.434728 \\ 0.352895 \\ \mathbf{0.070579} \\ 0.141998 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2319 & \mathbf{6.1594} & 3.0615 \\ 0.8118 & 1 & \mathbf{5} & 2.4852 \\ \mathbf{0.1624} & \mathbf{1/5} & 1 & \mathbf{0.4970} \\ 0.3266 & 0.4024 & \mathbf{2.0119} & 1 \end{pmatrix},$$

Example C.427.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 8 & 2 \\ 1/6 & 1/8 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.401549 \\ 0.361234 \\ 0.045959 \\ 0.191257 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1116 & 8.7371 & 2.0995 \\ 0.8996 & 1 & 7.8599 & 1.8887 \\ 0.1145 & 0.1272 & 1 & 0.2403 \\ 0.4763 & 0.5295 & 4.1614 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.398980 \\ 0.365322 \\ 0.045665 \\ 0.190033 \end{pmatrix} = 0.993600 \cdot \begin{pmatrix} 0.401549 \\ 0.367675 \\ 0.045959 \\ 0.191257 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0921 & 8.7371 & 2.0995 \\ 0.9156 & 1 & 8 & 1.9224 \\ 0.1145 & 1/8 & 1 & 0.2403 \\ 0.4763 & 0.5202 & 4.1614 & 1 \end{pmatrix},$$

Example C.428.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 8 & 2 \\ 1/6 & 1/8 & 1 & 1/8 \\ 1/4 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.398754 \\ 0.357250 \\ 0.044886 \\ 0.199110 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1162 & 8.8837 & 2.0027 \\ 0.8959 & 1 & 7.9591 & 1.7942 \\ 0.1126 & 0.1256 & 1 & 0.2254 \\ 0.4993 & 0.5573 & 4.4359 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.398023 \\ 0.358429 \\ 0.044804 \\ 0.198745 \end{pmatrix} = 0.998166 \cdot \begin{pmatrix} 0.398754 \\ 0.359087 \\ 0.044886 \\ 0.199110 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1105 & 8.8837 & 2.0027 \\ 0.9005 & 1 & 8 & 1.8035 \\ 0.1126 & 1/8 & 1 & 0.2254 \\ 0.4993 & 0.5545 & 4.4359 & 1 \end{pmatrix},$$

Example C.429.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 8 & 3 \\ 1/6 & 1/8 & 1 & 1/4 \\ 1/4 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.403519 \\ 0.401887 \\ 0.050880 \\ 0.143714 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0041 & 7.9308 & 2.8078 \\ 0.9960 & 1 & 7.8987 & 2.7964 \\ 0.1261 & 0.1266 & 1 & 0.3540 \\ 0.3562 & 0.3576 & 2.8246 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.402861 \\ 0.402861 \\ 0.050797 \\ 0.143480 \end{pmatrix} = 0.998371 \cdot \begin{pmatrix} 0.403519 \\ 0.403519 \\ 0.050880 \\ 0.143714 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.9308 & 2.8078 \\ 1 & 1 & 7.9308 & 2.8078 \\ 0.1261 & 0.1261 & 1 & 0.3540 \\ 0.3562 & 0.3562 & 2.8246 & 1 \end{pmatrix},$$

Example C.430.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.399282 \\ 0.369027 \\ 0.044133 \\ 0.187558 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0820 & 9.0472 & 2.1288 \\ 0.9242 & 1 & 8.3616 & 1.9675 \\ 0.1105 & 0.1196 & 1 & 0.2353 \\ 0.4697 & 0.5083 & 4.2498 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.396865 \\ 0.372846 \\ 0.043866 \\ 0.186423 \end{pmatrix} = 0.993947 \cdot \begin{pmatrix} 0.399282 \\ 0.375117 \\ 0.044133 \\ 0.187558 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0644 & 9.0472 & 2.1288 \\ 0.9395 & 1 & 8.4996 & 2 \\ 0.1105 & 0.1177 & 1 & 0.2353 \\ 0.4697 & 1/2 & 4.2498 & 1 \end{pmatrix},$$

Example C.431.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 4 \\ 1 & 1 & 9 & 2 \\ 1/6 & 1/9 & 1 & 1/8 \\ 1/4 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.396664 \\ 0.364932 \\ 0.043102 \\ 0.195301 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0870 & 9.2028 & 2.0310 \\ 0.9200 & 1 & 8.4666 & 1.8686 \\ 0.1087 & 0.1181 & 1 & 0.2207 \\ 0.4924 & 0.5352 & 4.5311 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.387750 \\ 0.379204 \\ 0.042134 \\ 0.190912 \end{pmatrix} = 0.977527 \cdot \begin{pmatrix} 0.396664 \\ 0.387921 \\ 0.043102 \\ 0.195301 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0225 & 9.2028 & 2.0310 \\ 0.9780 & 1 & 9 & 1.9863 \\ 0.1087 & 1/9 & 1 & 0.2207 \\ 0.4924 & 0.5035 & 4.5311 & 1 \end{pmatrix},$$

Example C.432.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 5 \\ 1 & 1 & 8 & 3 \\ 1/6 & 1/8 & 1 & 1/4 \\ 1/5 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.418066 \\ 0.395080 \\ 0.050568 \\ 0.136286 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0582 & 8.2674 & 3.0676 \\ 0.9450 & 1 & 7.8129 & 2.8989 \\ 0.1210 & 0.1280 & 1 & 0.3710 \\ 0.3260 & 0.3450 & 2.6951 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.414147 \\ 0.400750 \\ 0.050094 \\ 0.135009 \end{pmatrix} = 0.990626 \cdot \begin{pmatrix} 0.418066 \\ 0.404542 \\ 0.050568 \\ 0.136286 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0334 & 8.2674 & 3.0676 \\ 0.9677 & 1 & 8 & 2.9683 \\ 0.1210 & 1/8 & 1 & 0.3710 \\ 0.3260 & 0.3369 & 2.6951 & 1 \end{pmatrix},$$

Example C.433.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 5 \\ 1 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/5 \\ 1/5 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1758, \quad CR = 0.0663$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.411251 \\ 0.398136 \\ 0.046666 \\ 0.143947 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0329 & 8.8127 & 2.8570 \\ 0.9681 & 1 & 8.5316 & 2.7659 \\ 0.1135 & 0.1172 & 1 & 0.3242 \\ 0.3500 & 0.3616 & 3.0846 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.405927 \\ 0.405927 \\ 0.046062 \\ 0.142083 \end{pmatrix} = 0.987055 \cdot \begin{pmatrix} 0.411251 \\ 0.411251 \\ 0.046666 \\ 0.143947 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.8127 & 2.8570 \\ 1 & 1 & 8.8127 & 2.8570 \\ 0.1135 & 0.1135 & 1 & 0.3242 \\ 0.3500 & 0.3500 & 3.0846 & 1 \end{pmatrix},$$

Example C.434.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 5 \\ 1 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/6 \\ 1/5 & 1/3 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.407825 \\ 0.393350 \\ 0.045282 \\ 0.153543 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0368 & 9.0064 & 2.6561 \\ 0.9645 & 1 & 8.6867 & 2.5618 \\ 0.1110 & 0.1151 & 1 & 0.2949 \\ 0.3765 & 0.3903 & 3.3908 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.402120 \\ 0.401836 \\ 0.044648 \\ 0.151396 \end{pmatrix} = 0.986012 \cdot \begin{pmatrix} 0.407825 \\ 0.407536 \\ 0.045282 \\ 0.153543 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0007 & 9.0064 & 2.6561 \\ 0.9993 & 1 & 9 & 2.6542 \\ 0.1110 & 1/9 & 1 & 0.2949 \\ 0.3765 & 0.3768 & 3.3908 & 1 \end{pmatrix},$$

Example C.435.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 8 & 3 \\ 1/6 & 1/8 & 1 & 1/4 \\ 1/6 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.428869 \\ 0.389792 \\ 0.050342 \\ 0.130997 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1003 & 8.5192 & 3.2739 \\ 0.9089 & 1 & 7.7429 & 2.9756 \\ 0.1174 & 0.1292 & 1 & 0.3843 \\ 0.3054 & 0.3361 & 2.6022 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427501 \\ 0.391739 \\ 0.050181 \\ 0.130580 \end{pmatrix} = 0.996810 \cdot \begin{pmatrix} 0.428869 \\ 0.392992 \\ 0.050342 \\ 0.130997 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0913 & 8.5192 & 3.2739 \\ 0.9163 & 1 & 7.8065 & 3 \\ 0.1174 & 0.1281 & 1 & 0.3843 \\ 0.3054 & 1/3 & 2.6022 & 1 \end{pmatrix},$$

Example C.436.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 8 & 3 \\ 1/6 & 1/8 & 1 & 1/5 \\ 1/6 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2311, \quad CR = 0.0871$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.424661 \\ 0.384656 \\ 0.048578 \\ 0.142105 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1040 & 8.7419 & 2.9884 \\ 0.9058 & 1 & 7.9184 & 2.7069 \\ 0.1144 & 0.1263 & 1 & 0.3418 \\ 0.3346 & 0.3694 & 2.9253 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.422984 \\ 0.387087 \\ 0.048386 \\ 0.141543 \end{pmatrix} = 0.996050 \cdot \begin{pmatrix} 0.424661 \\ 0.388622 \\ 0.048578 \\ 0.142105 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0927 & 8.7419 & 2.9884 \\ 0.9151 & 1 & 8 & 2.7348 \\ 0.1144 & 1/8 & 1 & 0.3418 \\ 0.3346 & 0.3657 & 2.9253 & 1 \end{pmatrix},$$

Example C.437.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.425666 \\ 0.412874 \\ 0.052555 \\ 0.108905 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0310 & 8.0994 & 3.9086 \\ 0.9699 & 1 & 7.8560 & 3.7912 \\ 0.1235 & 0.1273 & 1 & 0.4826 \\ 0.2558 & 0.2638 & 2.0722 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.422469 \\ 0.417284 \\ 0.052160 \\ 0.108087 \end{pmatrix} = 0.992489 \cdot \begin{pmatrix} 0.425666 \\ 0.420442 \\ 0.052555 \\ 0.108905 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0124 & 8.0994 & 3.9086 \\ 0.9877 & 1 & 8 & 3.8606 \\ 0.1235 & 1/8 & 1 & 0.4826 \\ 0.2558 & 0.2590 & 2.0722 & 1 \end{pmatrix},$$

Example C.438.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/5 \\ 1/6 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.421939 \\ 0.392803 \\ 0.046554 \\ 0.138704 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0742 & 9.0634 & 3.0420 \\ 0.9309 & 1 & 8.4375 & 2.8320 \\ 0.1103 & 0.1185 & 1 & 0.3356 \\ 0.3287 & 0.3531 & 2.9794 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.412329 \\ 0.406633 \\ 0.045494 \\ 0.135544 \end{pmatrix} = 0.977223 \cdot \begin{pmatrix} 0.421939 \\ 0.416111 \\ 0.046554 \\ 0.138704 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0140 & 9.0634 & 3.0420 \\ 0.9862 & 1 & 8.9382 & 3 \\ 0.1103 & 0.1119 & 1 & 0.3356 \\ 0.3287 & 1/3 & 2.9794 & 1 \end{pmatrix},$$

Example C.439.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.422180 \\ 0.420916 \\ 0.050380 \\ 0.106524 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0030 & 8.3799 & 3.9632 \\ 0.9970 & 1 & 8.3548 & 3.9514 \\ 0.1193 & 0.1197 & 1 & 0.4729 \\ 0.2523 & 0.2531 & 2.1144 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.421647 \\ 0.421647 \\ 0.050316 \\ 0.106390 \end{pmatrix} = 0.998737 \cdot \begin{pmatrix} 0.422180 \\ 0.422180 \\ 0.050380 \\ 0.106524 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.3799 & 3.9632 \\ 1 & 1 & 8.3799 & 3.9632 \\ 0.1193 & 0.1193 & 1 & 0.4729 \\ 0.2523 & 0.2523 & 2.1144 & 1 \end{pmatrix},$$

Example C.440.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/6 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.418079 \\ 0.415724 \\ 0.048035 \\ 0.118162 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0057 & 8.7036 & 3.5382 \\ 0.9944 & 1 & 8.6545 & 3.5183 \\ 0.1149 & 0.1155 & 1 & 0.4065 \\ 0.2826 & 0.2842 & 2.4599 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.417097 \\ 0.417097 \\ 0.047922 \\ 0.117884 \end{pmatrix} = 0.997651 \cdot \begin{pmatrix} 0.418079 \\ 0.418079 \\ 0.048035 \\ 0.118162 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.7036 & 3.5382 \\ 1 & 1 & 8.7036 & 3.5382 \\ 0.1149 & 0.1149 & 1 & 0.4065 \\ 0.2826 & 0.2826 & 2.4599 & 1 \end{pmatrix},$$

Example C.441.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 6 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/5 \\ 1/6 & 1/4 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2316, \quad CR = 0.0873$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.414188 \\ 0.410568 \\ 0.046409 \\ 0.128835 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0088 & 8.9247 & 3.2149 \\ 0.9913 & 1 & 8.8467 & 3.1868 \\ 0.1120 & 0.1130 & 1 & 0.3602 \\ 0.3111 & 0.3138 & 2.7761 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.412694 \\ 0.412694 \\ 0.046242 \\ 0.128371 \end{pmatrix} = 0.996394 \cdot \begin{pmatrix} 0.414188 \\ 0.414188 \\ 0.046409 \\ 0.128835 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9247 & 3.2149 \\ 1 & 1 & 8.9247 & 3.2149 \\ 0.1120 & 0.1120 & 1 & 0.3602 \\ 0.3111 & 0.3111 & 2.7761 & 1 \end{pmatrix},$$

Example C.442.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 7 \\ 1 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1/3 \\ 1/7 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.435058 \\ 0.407608 \\ 0.052278 \\ 0.105056 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0673 & 8.3221 & 4.1412 \\ 0.9369 & 1 & 7.7970 & 3.8799 \\ 0.1202 & 0.1283 & 1 & 0.4976 \\ 0.2415 & 0.2577 & 2.0096 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.430489 \\ 0.413830 \\ 0.051729 \\ 0.103952 \end{pmatrix} = 0.989498 \cdot \begin{pmatrix} 0.435058 \\ 0.418222 \\ 0.052278 \\ 0.105056 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0403 & 8.3221 & 4.1412 \\ 0.9613 & 1 & 8 & 3.9810 \\ 0.1202 & 1/8 & 1 & 0.4976 \\ 0.2415 & 0.2512 & 2.0096 & 1 \end{pmatrix},$$

Example C.443.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 7 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/7 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.427344 \\ 0.410398 \\ 0.047896 \\ 0.114362 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0413 & 8.9224 & 3.7368 \\ 0.9603 & 1 & 8.5686 & 3.5886 \\ 0.1121 & 0.1167 & 1 & 0.4188 \\ 0.2676 & 0.2787 & 2.3877 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.420223 \\ 0.420223 \\ 0.047098 \\ 0.112456 \end{pmatrix} = 0.983337 \cdot \begin{pmatrix} 0.427344 \\ 0.427344 \\ 0.047896 \\ 0.114362 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9224 & 3.7368 \\ 1 & 1 & 8.9224 & 3.7368 \\ 0.1121 & 0.1121 & 1 & 0.4188 \\ 0.2676 & 0.2676 & 2.3877 & 1 \end{pmatrix},$$

Example C.444.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1/3 \\ 1/8 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.442600 \\ 0.403290 \\ 0.052062 \\ 0.102048 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0975 & 8.5014 & 4.3372 \\ 0.9112 & 1 & 7.7464 & 3.9520 \\ 0.1176 & 0.1291 & 1 & 0.5102 \\ 0.2306 & 0.2530 & 1.9601 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.440441 \\ 0.406201 \\ 0.051808 \\ 0.101550 \end{pmatrix} = 0.995122 \cdot \begin{pmatrix} 0.442600 \\ 0.408192 \\ 0.052062 \\ 0.102048 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0843 & 8.5014 & 4.3372 \\ 0.9223 & 1 & 7.8405 & 4 \\ 0.1176 & 0.1275 & 1 & 0.5102 \\ 0.2306 & 1/4 & 1.9601 & 1 \end{pmatrix},$$

Example C.445.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 8 & 4 \\ 1/6 & 1/8 & 1 & 1/4 \\ 1/8 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.437807 \\ 0.397773 \\ 0.049935 \\ 0.114485 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1006 & 8.7676 & 3.8241 \\ 0.9086 & 1 & 7.9658 & 3.4744 \\ 0.1141 & 0.1255 & 1 & 0.4362 \\ 0.2615 & 0.2878 & 2.2927 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.437061 \\ 0.398798 \\ 0.049850 \\ 0.114290 \end{pmatrix} = 0.998298 \cdot \begin{pmatrix} 0.437807 \\ 0.399478 \\ 0.049935 \\ 0.114485 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0959 & 8.7676 & 3.8241 \\ 0.9125 & 1 & 8 & 3.4893 \\ 0.1141 & 1/8 & 1 & 0.4362 \\ 0.2615 & 0.2866 & 2.2927 & 1 \end{pmatrix},$$

Example C.446.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 8 & 6 \\ 1/6 & 1/8 & 1 & 1/2 \\ 1/8 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.433939 \\ 0.433380 \\ 0.054844 \\ 0.077836 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0013 & 7.9122 & 5.5750 \\ 0.9987 & 1 & 7.9020 & 5.5678 \\ 0.1264 & 0.1266 & 1 & 0.7046 \\ 0.1794 & 0.1796 & 1.4192 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.433697 \\ 0.433697 \\ 0.054814 \\ 0.077793 \end{pmatrix} = 0.999441 \cdot \begin{pmatrix} 0.433939 \\ 0.433939 \\ 0.054844 \\ 0.077836 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 7.9122 & 5.5750 \\ 1 & 1 & 7.9122 & 5.5750 \\ 0.1264 & 0.1264 & 1 & 0.7046 \\ 0.1794 & 0.1794 & 1.4192 & 1 \end{pmatrix},$$

Example C.447.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 9 & 4 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/8 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.434770 \\ 0.406033 \\ 0.047795 \\ 0.111402 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0708 & 9.0965 & 3.9027 \\ 0.9339 & 1 & 8.4952 & 3.6448 \\ 0.1099 & 0.1177 & 1 & 0.4290 \\ 0.2562 & 0.2744 & 2.3308 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.424528 \\ 0.420025 \\ 0.046669 \\ 0.108778 \end{pmatrix} = 0.976443 \cdot \begin{pmatrix} 0.434770 \\ 0.430158 \\ 0.047795 \\ 0.111402 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0107 & 9.0965 & 3.9027 \\ 0.9894 & 1 & 9 & 3.8613 \\ 0.1099 & 1/9 & 1 & 0.4290 \\ 0.2562 & 0.2590 & 2.3308 & 1 \end{pmatrix},$$

Example C.448.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/8 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.432413 \\ 0.424642 \\ 0.049593 \\ 0.093352 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0183 & 8.7193 & 4.6321 \\ 0.9820 & 1 & 8.5626 & 4.5488 \\ 0.1147 & 0.1168 & 1 & 0.5312 \\ 0.2159 & 0.2198 & 1.8824 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.429079 \\ 0.429079 \\ 0.049210 \\ 0.092633 \end{pmatrix} = 0.992290 \cdot \begin{pmatrix} 0.432413 \\ 0.432413 \\ 0.049593 \\ 0.093352 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.7193 & 4.6321 \\ 1 & 1 & 8.7193 & 4.6321 \\ 0.1147 & 0.1147 & 1 & 0.5312 \\ 0.2159 & 0.2159 & 1.8824 & 1 \end{pmatrix},$$

Example C.449.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 8 \\ 1 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1/4 \\ 1/8 & 1/5 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2500, \quad CR = 0.0942$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.428022 \\ 0.419185 \\ 0.047610 \\ 0.105182 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0211 & 8.9901 & 4.0693 \\ 0.9794 & 1 & 8.8045 & 3.9853 \\ 0.1112 & 0.1136 & 1 & 0.4526 \\ 0.2457 & 0.2509 & 2.2092 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.424273 \\ 0.424273 \\ 0.047193 \\ 0.104261 \end{pmatrix} = 0.991241 \cdot \begin{pmatrix} 0.428022 \\ 0.428022 \\ 0.047610 \\ 0.105182 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9901 & 4.0693 \\ 1 & 1 & 8.9901 & 4.0693 \\ 0.1112 & 0.1112 & 1 & 0.4526 \\ 0.2457 & 0.2457 & 2.2092 & 1 \end{pmatrix},$$

Example C.450.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 8 & 5 \\ 1/6 & 1/8 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1999, \quad CR = 0.0754$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.442660 \\ 0.412134 \\ 0.051671 \\ 0.093535 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0741 & 8.5669 & 4.7325 \\ 0.9310 & 1 & 7.9761 & 4.4062 \\ 0.1167 & 0.1254 & 1 & 0.5524 \\ 0.2113 & 0.2270 & 1.8102 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.442114 \\ 0.412858 \\ 0.051607 \\ 0.093420 \end{pmatrix} = 0.998767 \cdot \begin{pmatrix} 0.442660 \\ 0.413368 \\ 0.051671 \\ 0.093535 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0709 & 8.5669 & 4.7325 \\ 0.9338 & 1 & 8 & 4.4194 \\ 0.1167 & 1/8 & 1 & 0.5524 \\ 0.2113 & 0.2263 & 1.8102 & 1 \end{pmatrix},$$

Example C.451.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 8 & 6 \\ 1/6 & 1/8 & 1 & 1/2 \\ 1/9 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.441285 \\ 0.428625 \\ 0.054548 \\ 0.075542 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0295 & 8.0899 & 5.8416 \\ 0.9713 & 1 & 7.8578 & 5.6740 \\ 0.1236 & 0.1273 & 1 & 0.7221 \\ 0.1712 & 0.1762 & 1.3849 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.437888 \\ 0.433024 \\ 0.054128 \\ 0.074961 \end{pmatrix} = 0.992302 \cdot \begin{pmatrix} 0.441285 \\ 0.436383 \\ 0.054548 \\ 0.075542 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0112 & 8.0899 & 5.8416 \\ 0.9889 & 1 & 8 & 5.7767 \\ 0.1236 & 1/8 & 1 & 0.7221 \\ 0.1712 & 0.1731 & 1.3849 & 1 \end{pmatrix},$$

Example C.452.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 9 & 5 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.439210 \\ 0.420343 \\ 0.049438 \\ 0.091009 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0449 & 8.8841 & 4.8260 \\ 0.9570 & 1 & 8.5025 & 4.6187 \\ 0.1126 & 0.1176 & 1 & 0.5432 \\ 0.2072 & 0.2165 & 1.8409 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.431077 \\ 0.431077 \\ 0.048522 \\ 0.089324 \end{pmatrix} = 0.981482 \cdot \begin{pmatrix} 0.439210 \\ 0.439210 \\ 0.049438 \\ 0.091009 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.8841 & 4.8260 \\ 1 & 1 & 8.8841 & 4.8260 \\ 0.1126 & 0.1126 & 1 & 0.5432 \\ 0.2072 & 0.2072 & 1.8409 & 1 \end{pmatrix},$$

Example C.453.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 9 & 6 \\ 1/6 & 1/9 & 1 & 1/2 \\ 1/9 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.437328 \\ 0.436654 \\ 0.052237 \\ 0.073781 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0015 & 8.3721 & 5.9274 \\ 0.9985 & 1 & 8.3591 & 5.9182 \\ 0.1194 & 0.1196 & 1 & 0.7080 \\ 0.1687 & 0.1690 & 1.4124 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.437033 \\ 0.437033 \\ 0.052201 \\ 0.073732 \end{pmatrix} = 0.999326 \cdot \begin{pmatrix} 0.437328 \\ 0.437328 \\ 0.052237 \\ 0.073781 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.3721 & 5.9274 \\ 1 & 1 & 8.3721 & 5.9274 \\ 0.1194 & 0.1194 & 1 & 0.7080 \\ 0.1687 & 0.1687 & 1.4124 & 1 \end{pmatrix},$$

Example C.454.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 6 & 9 \\ 1 & 1 & 9 & 6 \\ 1/6 & 1/9 & 1 & 1/3 \\ 1/9 & 1/6 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.432839 \\ 0.431297 \\ 0.049211 \\ 0.086653 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0036 & 8.7955 & 4.9951 \\ 0.9964 & 1 & 8.7642 & 4.9773 \\ 0.1137 & 0.1141 & 1 & 0.5679 \\ 0.2002 & 0.2009 & 1.7608 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.432173 \\ 0.432173 \\ 0.049135 \\ 0.086519 \end{pmatrix} = 0.998460 \cdot \begin{pmatrix} 0.432839 \\ 0.432839 \\ 0.049211 \\ 0.086653 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.7955 & 4.9951 \\ 1 & 1 & 8.7955 & 4.9951 \\ 0.1137 & 0.1137 & 1 & 0.5679 \\ 0.2002 & 0.2002 & 1.7608 & 1 \end{pmatrix},$$

Example C.455.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 3 \\ 1 & 1 & 9 & 2 \\ 1/7 & 1/9 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0762, \quad CR = 0.0287$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.392583 \\ 0.376219 \\ 0.042810 \\ 0.188389 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0435 & 9.1704 & 2.0839 \\ 0.9583 & 1 & 8.7881 & 1.9970 \\ 0.1090 & 0.1138 & 1 & 0.2272 \\ 0.4799 & 0.5007 & 4.4006 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.392364 \\ 0.376567 \\ 0.042786 \\ 0.188283 \end{pmatrix} = 0.999442 \cdot \begin{pmatrix} 0.392583 \\ 0.376777 \\ 0.042810 \\ 0.188389 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0419 & 9.1704 & 2.0839 \\ 0.9597 & 1 & 8.8012 & 2 \\ 0.1090 & 0.1136 & 1 & 0.2272 \\ 0.4799 & 1/2 & 4.4006 & 1 \end{pmatrix},$$

Example C.456.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 3 \\ 1 & 1 & 9 & 2 \\ 1/7 & 1/9 & 1 & 1/7 \\ 1/3 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1039, \quad CR = 0.0392$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.389530 \\ 0.372333 \\ 0.041450 \\ 0.196686 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0462 & 9.3975 & 1.9805 \\ 0.9559 & 1 & 8.9826 & 1.8930 \\ 0.1064 & 0.1113 & 1 & 0.2107 \\ 0.5049 & 0.5283 & 4.7451 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.389250 \\ 0.372784 \\ 0.041420 \\ 0.196545 \end{pmatrix} = 0.999281 \cdot \begin{pmatrix} 0.389530 \\ 0.373053 \\ 0.041450 \\ 0.196686 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0442 & 9.3975 & 1.9805 \\ 0.9577 & 1 & 9 & 1.8967 \\ 0.1064 & 1/9 & 1 & 0.2107 \\ 0.5049 & 0.5272 & 4.7451 & 1 \end{pmatrix},$$

Example C.457.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 4 \\ 1 & 1 & 9 & 2 \\ 1/7 & 1/9 & 1 & 1/7 \\ 1/4 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1714, \quad CR = 0.0646$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.408252 \\ 0.365653 \\ 0.041323 \\ 0.184772 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1165 & 9.8795 & 2.2095 \\ 0.8957 & 1 & 8.8486 & 1.9789 \\ 0.1012 & 0.1130 & 1 & 0.2236 \\ 0.4526 & 0.5053 & 4.4714 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.406669 \\ 0.368112 \\ 0.041163 \\ 0.184056 \end{pmatrix} = 0.996123 \cdot \begin{pmatrix} 0.408252 \\ 0.369544 \\ 0.041323 \\ 0.184772 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1047 & 9.8795 & 2.2095 \\ 0.9052 & 1 & 8.9428 & 2 \\ 0.1012 & 0.1118 & 1 & 0.2236 \\ 0.4526 & 1/2 & 4.4714 & 1 \end{pmatrix},$$

Example C.458.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 4 \\ 1 & 1 & 9 & 2 \\ 1/7 & 1/9 & 1 & 1/8 \\ 1/4 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2064, \quad CR = 0.0778$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.405368 \\ 0.361879 \\ 0.040326 \\ 0.192428 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1202 & 10.0523 & 2.1066 \\ 0.8927 & 1 & 8.9739 & 1.8806 \\ 0.0995 & 0.1114 & 1 & 0.2096 \\ 0.4747 & 0.5317 & 4.7718 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.404941 \\ 0.362550 \\ 0.040283 \\ 0.192226 \end{pmatrix} = 0.998948 \cdot \begin{pmatrix} 0.405368 \\ 0.362932 \\ 0.040326 \\ 0.192428 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1169 & 10.0523 & 2.1066 \\ 0.8953 & 1 & 9 & 1.8861 \\ 0.0995 & 1/9 & 1 & 0.2096 \\ 0.4747 & 0.5302 & 4.7718 & 1 \end{pmatrix},$$

Example C.459.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 4 \\ 1 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/4 \\ 1/4 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.409964 \\ 0.405337 \\ 0.045886 \\ 0.138814 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0114 & 8.9343 & 2.9533 \\ 0.9887 & 1 & 8.8335 & 2.9200 \\ 0.1119 & 0.1132 & 1 & 0.3306 \\ 0.3386 & 0.3425 & 3.0252 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.408075 \\ 0.408075 \\ 0.045675 \\ 0.138174 \end{pmatrix} = 0.995394 \cdot \begin{pmatrix} 0.409964 \\ 0.409964 \\ 0.045886 \\ 0.138814 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9343 & 2.9533 \\ 1 & 1 & 8.9343 & 2.9533 \\ 0.1119 & 0.1119 & 1 & 0.3306 \\ 0.3386 & 0.3386 & 3.0252 & 1 \end{pmatrix},$$

Example C.460.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 5 \\ 1 & 1 & 5 & 2 \\ 1/7 & 1/5 & 1 & 1/2 \\ 1/5 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0716, \quad CR = 0.0270$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.459304 \\ 0.343435 \\ \mathbf{0.065434} \\ 0.131827 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3374 & \mathbf{7.0193} & 3.4842 \\ 0.7477 & 1 & \mathbf{5.2485} & 2.6052 \\ \mathbf{0.1425} & \mathbf{0.1905} & 1 & \mathbf{0.4964} \\ 0.2870 & 0.3838 & \mathbf{2.0146} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.459221 \\ 0.343373 \\ 0.065603 \\ 0.131803 \end{pmatrix} = 0.999820 \cdot \begin{pmatrix} 0.459304 \\ 0.343435 \\ \mathbf{0.065615} \\ 0.131827 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3374 & \mathbf{7} & 3.4842 \\ 0.7477 & 1 & \mathbf{5.2341} & 2.6052 \\ \mathbf{1/7} & \mathbf{0.1911} & 1 & \mathbf{0.4977} \\ 0.2870 & 0.3838 & \mathbf{2.0091} & 1 \end{pmatrix},$$

Example C.461.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 6 \\ 1 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/5 \\ 1/6 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1889, \quad CR = 0.0712$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.431626 \\ 0.388611 \\ 0.043565 \\ 0.136198 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1107 & 9.9076 & 3.1691 \\ 0.9003 & 1 & 8.9202 & 2.8533 \\ 0.1009 & 0.1121 & 1 & 0.3199 \\ 0.3155 & 0.3505 & 3.1263 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.430131 \\ 0.390728 \\ 0.043414 \\ 0.135727 \end{pmatrix} = 0.996536 \cdot \begin{pmatrix} 0.431626 \\ 0.392086 \\ 0.043565 \\ 0.136198 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1008 & 9.9076 & 3.1691 \\ 0.9084 & 1 & 9 & 2.8788 \\ 0.1009 & 1/9 & 1 & 0.3199 \\ 0.3155 & 0.3474 & 3.1263 & 1 \end{pmatrix},$$

Example C.462.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 6 \\ 1 & 1 & 9 & 4 \\ 1/7 & 1/9 & 1 & 1/3 \\ 1/6 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0762, \quad CR = 0.0287$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.432091 \\ 0.415872 \\ 0.047275 \\ 0.104762 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0390 & 9.1399 & 4.1245 \\ 0.9625 & 1 & 8.7968 & 3.9697 \\ 0.1094 & 0.1137 & 1 & 0.4513 \\ 0.2425 & 0.2519 & 2.2160 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.430724 \\ 0.417720 \\ 0.047126 \\ 0.104430 \end{pmatrix} = 0.996835 \cdot \begin{pmatrix} 0.432091 \\ 0.419047 \\ 0.047275 \\ 0.104762 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0311 & 9.1399 & 4.1245 \\ 0.9698 & 1 & 8.8640 & 4 \\ 0.1094 & 0.1128 & 1 & 0.4513 \\ 0.2425 & 1/4 & 2.2160 & 1 \end{pmatrix},$$

Example C.463.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 7 \\ 1 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/5 \\ 1/7 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2365, \quad CR = 0.0892$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.439883 \\ 0.384399 \\ 0.043461 \\ 0.132258 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1443 & 10.1214 & 3.3260 \\ 0.8739 & 1 & 8.8448 & 2.9064 \\ 0.0988 & 0.1131 & 1 & 0.3286 \\ 0.3007 & 0.3441 & 3.0432 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.436935 \\ 0.388524 \\ 0.043169 \\ 0.131371 \end{pmatrix} = 0.993299 \cdot \begin{pmatrix} 0.439883 \\ 0.391145 \\ 0.043461 \\ 0.132258 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1246 & 10.1214 & 3.3260 \\ 0.8892 & 1 & 9 & 2.9575 \\ 0.0988 & 1/9 & 1 & 0.3286 \\ 0.3007 & 0.3381 & 3.0432 & 1 \end{pmatrix},$$

Example C.464.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 8 \\ 1 & 1 & 9 & 4 \\ 1/7 & 1/9 & 1 & 1/4 \\ 1/8 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2064, \quad CR = 0.0778$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.444784 \\ 0.401359 \\ 0.044697 \\ 0.109160 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1082 & 9.9511 & 4.0746 \\ 0.9024 & 1 & 8.9796 & 3.6768 \\ 0.1005 & 0.1114 & 1 & 0.4095 \\ 0.2454 & 0.2720 & 2.4422 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.444378 \\ 0.401905 \\ 0.044656 \\ 0.109061 \end{pmatrix} = 0.999089 \cdot \begin{pmatrix} 0.444784 \\ 0.402271 \\ 0.044697 \\ 0.109160 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1057 & 9.9511 & 4.0746 \\ 0.9044 & 1 & 9 & 3.6851 \\ 0.1005 & 1/9 & 1 & 0.4095 \\ 0.2454 & 0.2714 & 2.4422 & 1 \end{pmatrix},$$

Example C.465.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 8 \\ 1 & 1 & 9 & 6 \\ 1/7 & 1/9 & 1 & 1/2 \\ 1/8 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.440026 \\ 0.435839 \\ 0.049320 \\ 0.074815 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0096 & 8.9218 & 5.8815 \\ 0.9905 & 1 & 8.8369 & 5.8256 \\ 0.1121 & 0.1132 & 1 & 0.6592 \\ 0.1700 & 0.1717 & 1.5169 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.438191 \\ 0.438191 \\ 0.049115 \\ 0.074503 \end{pmatrix} = 0.995830 \cdot \begin{pmatrix} 0.440026 \\ 0.440026 \\ 0.049320 \\ 0.074815 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1 & 8.9218 & 5.8815 \\ 1 & 1 & 8.9218 & 5.8815 \\ 0.1121 & 0.1121 & 1 & 0.6592 \\ 0.1700 & 0.1700 & 1.5169 & 1 \end{pmatrix},$$

Example C.466.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 9 \\ 1 & 1 & 9 & 4 \\ 1/7 & 1/9 & 1 & 1/4 \\ 1/9 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2434, \quad CR = 0.0918$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.450909 \\ 0.397717 \\ 0.044602 \\ 0.106771 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1337 & 10.1095 & 4.2231 \\ 0.8820 & 1 & 8.9169 & 3.7249 \\ 0.0989 & 0.1121 & 1 & 0.4177 \\ 0.2368 & 0.2685 & 2.3938 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.449245 \\ 0.399940 \\ 0.044438 \\ 0.106377 \end{pmatrix} = 0.996309 \cdot \begin{pmatrix} 0.450909 \\ 0.401422 \\ 0.044602 \\ 0.106771 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1233 & 10.1095 & 4.2231 \\ 0.8902 & 1 & 9 & 3.7596 \\ 0.0989 & 1/9 & 1 & 0.4177 \\ 0.2368 & 0.2660 & 2.3938 & 1 \end{pmatrix},$$

Example C.467.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 9 \\ 1 & 1 & 9 & 5 \\ 1/7 & 1/9 & 1 & 1/3 \\ 1/9 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1603, \quad CR = 0.0605$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.449362 \\ 0.415202 \\ 0.046258 \\ 0.089178 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0823 & 9.7142 & 5.0389 \\ 0.9240 & 1 & 8.9757 & 4.6559 \\ 0.1029 & 0.1114 & 1 & 0.5187 \\ 0.1985 & 0.2148 & 1.9278 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.448858 \\ 0.415858 \\ 0.046206 \\ 0.089078 \end{pmatrix} = 0.998878 \cdot \begin{pmatrix} 0.449362 \\ 0.416325 \\ 0.046258 \\ 0.089178 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0794 & 9.7142 & 5.0389 \\ 0.9265 & 1 & 9 & 4.6685 \\ 0.1029 & 1/9 & 1 & 0.5187 \\ 0.1985 & 0.2142 & 1.9278 & 1 \end{pmatrix},$$

Example C.468.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 7 & 9 \\ 1 & 1 & 9 & 6 \\ 1/7 & 1/9 & 1 & 1/2 \\ 1/9 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0762, \quad CR = 0.0287$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.447458 \\ 0.431063 \\ 0.048993 \\ 0.072487 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0380 & 9.1332 & 6.1730 \\ 0.9634 & 1 & 8.7986 & 5.9468 \\ 0.1095 & 0.1137 & 1 & 0.6759 \\ 0.1620 & 0.1682 & 1.4795 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.445739 \\ 0.433249 \\ 0.048804 \\ 0.072208 \end{pmatrix} = 0.996159 \cdot \begin{pmatrix} 0.447458 \\ 0.434919 \\ 0.048993 \\ 0.072487 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0288 & 9.1332 & 6.1730 \\ 0.9720 & 1 & 8.8773 & 6 \\ 0.1095 & 0.1126 & 1 & 0.6759 \\ 0.1620 & 1/6 & 1.4795 & 1 \end{pmatrix},$$

Example C.469.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 6 \\ 1 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1/2 \\ 1/6 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.472796 \\ 0.347112 \\ \mathbf{0.057361} \\ 0.122732 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3621 & \mathbf{8.2425} & 3.8523 \\ 0.7342 & 1 & \mathbf{6.0514} & 2.8282 \\ \mathbf{0.1213} & \mathbf{0.1653} & 1 & \mathbf{0.4674} \\ 0.2596 & 0.3536 & \mathbf{2.1397} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.472563 \\ 0.346941 \\ 0.057824 \\ 0.122672 \end{pmatrix} = 0.999509 \cdot \begin{pmatrix} 0.472796 \\ 0.347112 \\ \mathbf{0.057852} \\ 0.122732 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3621 & \mathbf{8.1725} & 3.8523 \\ 0.7342 & 1 & \mathbf{6} & 2.8282 \\ \mathbf{0.1224} & \mathbf{1/6} & 1 & \mathbf{0.4714} \\ 0.2596 & 0.3536 & \mathbf{2.1215} & 1 \end{pmatrix},$$

Example C.470.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 7 \\ 1 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1365, \quad CR = 0.0515$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.480449 \\ 0.344750 \\ 0.056438 \\ 0.118363 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3936 & 8.5129 & 4.0591 \\ 0.7176 & 1 & 6.1085 & 2.9126 \\ 0.1175 & 0.1637 & 1 & 0.4768 \\ 0.2464 & 0.3433 & 2.0972 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.479960 \\ 0.344398 \\ 0.057400 \\ 0.118242 \end{pmatrix} = 0.998981 \cdot \begin{pmatrix} 0.480449 \\ 0.344750 \\ 0.057458 \\ 0.118363 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3936 & 8.3617 & 4.0591 \\ 0.7176 & 1 & 6 & 2.9126 \\ 0.1196 & 1/6 & 1 & 0.4854 \\ 0.2464 & 0.3433 & 2.0600 & 1 \end{pmatrix},$$

Example C.471.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 8 \\ 1 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1/2 \\ 1/8 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.486380 \\ 0.342924 \\ \mathbf{0.055712} \\ 0.114983 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.4183 & \mathbf{8.7302} & 4.2300 \\ 0.7051 & 1 & \mathbf{6.1553} & 2.9824 \\ \mathbf{0.1145} & \mathbf{0.1625} & 1 & \mathbf{0.4845} \\ 0.2364 & 0.3353 & \mathbf{2.0639} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.485680 \\ 0.342431 \\ 0.057072 \\ 0.114818 \end{pmatrix} = 0.998560 \cdot \begin{pmatrix} 0.486380 \\ 0.342924 \\ \mathbf{0.057154} \\ 0.114983 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4183 & \mathbf{8.5100} & 4.2300 \\ 0.7051 & 1 & \mathbf{6} & 2.9824 \\ \mathbf{0.1175} & \mathbf{1/6} & 1 & \mathbf{0.4971} \\ 0.2364 & 0.3353 & \mathbf{2.0118} & 1 \end{pmatrix},$$

Example C.472.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 8 & 9 \\ 1 & 1 & 6 & 2 \\ 1/8 & 1/6 & 1 & 1/2 \\ 1/9 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2052, \quad CR = 0.0774$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.491099 \\ 0.341478 \\ \mathbf{0.055129} \\ 0.112293 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.4382 & \mathbf{8.9081} & 4.3734 \\ 0.6953 & 1 & \mathbf{6.1941} & 3.0410 \\ \mathbf{0.1123} & \mathbf{0.1614} & 1 & \mathbf{0.4909} \\ 0.2287 & 0.3288 & \mathbf{2.0369} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.490600 \\ 0.341131 \\ 0.056089 \\ 0.112179 \end{pmatrix} = 0.998984 \cdot \begin{pmatrix} 0.491099 \\ 0.341478 \\ \mathbf{0.056146} \\ 0.112293 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4382 & \mathbf{8.7468} & 4.3734 \\ 0.6953 & 1 & \mathbf{6.0819} & 3.0410 \\ \mathbf{0.1143} & \mathbf{0.1644} & 1 & \mathbf{1/2} \\ 0.2287 & 0.3288 & \mathbf{2} & 1 \end{pmatrix},$$

Example C.473.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 7 \\ 1 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1342, \quad CR = 0.0506$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.488703 \\ 0.340265 \\ \mathbf{0.054159} \\ 0.116872 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.4362 & \mathbf{9.0234} & 4.1815 \\ 0.6963 & 1 & \mathbf{6.2827} & 2.9114 \\ \mathbf{0.1108} & \mathbf{0.1592} & 1 & \mathbf{0.4634} \\ 0.2391 & 0.3435 & \mathbf{2.1579} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.488634 \\ 0.340217 \\ 0.054293 \\ 0.116855 \end{pmatrix} = 0.999859 \cdot \begin{pmatrix} 0.488703 \\ 0.340265 \\ \mathbf{0.054300} \\ 0.116872 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4362 & \mathbf{9} & 4.1815 \\ 0.6963 & 1 & \mathbf{6.2664} & 2.9114 \\ \mathbf{1/9} & \mathbf{0.1596} & 1 & \mathbf{0.4646} \\ 0.2391 & 0.3435 & \mathbf{2.1523} & 1 \end{pmatrix},$$

Example C.474.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 8 \\ 1 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/8 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.494742 \\ 0.338392 \\ \mathbf{0.053409} \\ 0.113458 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.4620 & \mathbf{9.2633} & 4.3606 \\ 0.6840 & 1 & \mathbf{6.3359} & 2.9825 \\ \mathbf{0.1080} & \mathbf{0.1578} & 1 & \mathbf{0.4707} \\ 0.2293 & 0.3353 & \mathbf{2.1243} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.493970 \\ 0.337864 \\ 0.054886 \\ 0.113281 \end{pmatrix} = 0.998440 \cdot \begin{pmatrix} 0.494742 \\ 0.338392 \\ \mathbf{0.054971} \\ 0.113458 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4620 & \mathbf{9} & 4.3606 \\ 0.6840 & 1 & \mathbf{6.1558} & 2.9825 \\ \mathbf{1/9} & \mathbf{0.1624} & 1 & \mathbf{0.4845} \\ 0.2293 & 0.3353 & \mathbf{2.0639} & 1 \end{pmatrix},$$

Example C.475.

$$\mathbf{A} = \begin{pmatrix} 1 & 1 & 9 & 9 \\ 1 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/9 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.499550 \\ 0.336906 \\ 0.052805 \\ 0.110740 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.4828 & 9.4604 & 4.5110 \\ 0.6744 & 1 & 6.3803 & 3.0423 \\ 0.1057 & 0.1567 & 1 & 0.4768 \\ 0.2217 & 0.3287 & 2.0972 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.498271 \\ 0.336044 \\ 0.055228 \\ 0.110456 \end{pmatrix} = 0.997441 \cdot \begin{pmatrix} 0.499550 \\ 0.336906 \\ 0.055370 \\ 0.110740 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4828 & 9.0221 & 4.5110 \\ 0.6744 & 1 & 6.0847 & 3.0423 \\ 0.1108 & 0.1643 & 1 & 1/2 \\ 0.2217 & 0.3287 & 2 & 1 \end{pmatrix},$$

Example C.476.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 2 & 1 \\ 1/2 & 1 & 5 & 1 \\ 1/2 & 1/5 & 1 & 1/3 \\ 1 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.321520 \\ 0.288074 \\ 0.102888 \\ \mathbf{0.287518} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1161 & 3.1249 & \mathbf{1.1183} \\ 0.8960 & 1 & 2.7999 & \mathbf{1.0019} \\ 0.3200 & 0.3572 & 1 & \mathbf{0.3578} \\ \mathbf{0.8942} & \mathbf{0.9981} & \mathbf{2.7945} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.321341 \\ 0.287914 \\ 0.102831 \\ 0.287914 \end{pmatrix} = 0.999445 \cdot \begin{pmatrix} 0.321520 \\ 0.288074 \\ 0.102888 \\ \mathbf{0.288074} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1161 & 3.1249 & \mathbf{1.1161} \\ 0.8960 & 1 & 2.7999 & \mathbf{1} \\ 0.3200 & 0.3572 & 1 & \mathbf{0.3572} \\ \mathbf{0.8960} & \mathbf{1} & \mathbf{2.7999} & 1 \end{pmatrix},$$

Example C.477.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 1 \\ 1/2 & 1 & 7 & 1 \\ 1/3 & 1/7 & 1 & 1/4 \\ 1 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.334722 \\ 0.296659 \\ 0.074911 \\ \mathbf{0.293708} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1283 & 4.4683 & \mathbf{1.1396} \\ 0.8863 & 1 & 3.9602 & \mathbf{1.0100} \\ 0.2238 & 0.2525 & 1 & \mathbf{0.2551} \\ \mathbf{0.8775} & \mathbf{0.9901} & \mathbf{3.9208} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.333738 \\ 0.295786 \\ 0.074690 \\ 0.295786 \end{pmatrix} = 0.997058 \cdot \begin{pmatrix} 0.334722 \\ 0.296659 \\ 0.074911 \\ \mathbf{0.296659} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1283 & 4.4683 & \mathbf{1.1283} \\ 0.8863 & 1 & 3.9602 & \mathbf{1} \\ 0.2238 & 0.2525 & 1 & \mathbf{0.2525} \\ \mathbf{0.8863} & \mathbf{1} & \mathbf{3.9602} & 1 \end{pmatrix},$$

Example C.478.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 1 \\ 1/2 & 1 & 8 & 1 \\ 1/3 & 1/8 & 1 & 1/4 \\ 1 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.332966 \\ 0.303817 \\ 0.073013 \\ \mathbf{0.290203} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.0959 & 4.5604 & \mathbf{1.1474} \\ 0.9125 & 1 & 4.1611 & \mathbf{1.0469} \\ 0.2193 & 0.2403 & 1 & \mathbf{0.2516} \\ \mathbf{0.8716} & \mathbf{0.9552} & \mathbf{3.9747} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.332352 \\ 0.303256 \\ 0.072878 \\ 0.291513 \end{pmatrix} = 0.998154 \cdot \begin{pmatrix} 0.332966 \\ 0.303817 \\ 0.073013 \\ \mathbf{0.292052} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.0959 & 4.5604 & \mathbf{1.1401} \\ 0.9125 & 1 & 4.1611 & \mathbf{1.0403} \\ 0.2193 & 0.2403 & 1 & \mathbf{1/4} \\ \mathbf{0.8771} & \mathbf{0.9613} & \mathbf{4} & 1 \end{pmatrix},$$

Example C.479.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 2 \\ 1/2 & 1 & 8 & 2 \\ 1/3 & 1/8 & 1 & 1/2 \\ 1/2 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.390025 \\ 0.351331 \\ 0.087309 \\ \mathbf{0.171335} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1101 & 4.4672 & \mathbf{2.2764} \\ 0.9008 & 1 & 4.0240 & \mathbf{2.0505} \\ 0.2239 & 0.2485 & 1 & \mathbf{0.5096} \\ \mathbf{0.4393} & \mathbf{0.4877} & \mathbf{1.9624} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.388749 \\ 0.350181 \\ 0.087023 \\ 0.174046 \end{pmatrix} = 0.996728 \cdot \begin{pmatrix} 0.390025 \\ 0.351331 \\ 0.087309 \\ \mathbf{0.174618} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1101 & 4.4672 & \mathbf{2.2336} \\ 0.9008 & 1 & 4.0240 & \mathbf{2.0120} \\ 0.2239 & 0.2485 & 1 & \mathbf{1/2} \\ \mathbf{0.4477} & \mathbf{0.4970} & \mathbf{2} & 1 \end{pmatrix},$$

Example C.480.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 3 & 3 \\ 1/2 & 1 & 1 & 2 \\ 1/3 & 1 & 1 & 1/2 \\ 1/3 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.448839 \\ 0.224891 \\ 0.149737 \\ 0.176533 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9958 & 2.9975 & 2.5425 \\ 0.5011 & 1 & 1.5019 & 1.2739 \\ 0.3336 & 0.6658 & 1 & 0.8482 \\ 0.3933 & 0.7850 & 1.1790 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.449044 \\ 0.224808 \\ 0.149681 \\ 0.176467 \end{pmatrix} = 0.999629 \cdot \begin{pmatrix} 0.449210 \\ 0.224891 \\ 0.149737 \\ 0.176533 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9975 & 3 & 2.5446 \\ 0.5006 & 1 & 1.5019 & 1.2739 \\ 1/3 & 0.6658 & 1 & 0.8482 \\ 0.3930 & 0.7850 & 1.1790 & 1 \end{pmatrix},$$

Example C.481.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 3 \\ 1/2 & 1 & 8 & 2 \\ 1/4 & 1/8 & 1 & 1/2 \\ 1/3 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.440212 \\ 0.337452 \\ 0.075647 \\ \mathbf{0.146689} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3045 & 5.8193 & \mathbf{3.0010} \\ 0.7666 & 1 & 4.4609 & \mathbf{2.3005} \\ 0.1718 & 0.2242 & 1 & \mathbf{0.5157} \\ \mathbf{0.3332} & \mathbf{0.4347} & \mathbf{1.9391} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.440191 \\ 0.337435 \\ 0.075644 \\ 0.146730 \end{pmatrix} = 0.999952 \cdot \begin{pmatrix} 0.440212 \\ 0.337452 \\ 0.075647 \\ \mathbf{0.146737} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3045 & 5.8193 & \mathbf{3} \\ 0.7666 & 1 & 4.4609 & \mathbf{2.2997} \\ 0.1718 & 0.2242 & 1 & \mathbf{0.5155} \\ \mathbf{1/3} & \mathbf{0.4348} & \mathbf{1.9398} & 1 \end{pmatrix},$$

Example C.482.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 4 & 3 \\ 1/2 & 1 & 9 & 2 \\ 1/4 & 1/9 & 1 & 1/2 \\ 1/3 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2052, \quad CR = 0.0774$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.437757 \\ 0.343465 \\ 0.073861 \\ \mathbf{0.144916} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2745 & 5.9267 & \mathbf{3.0208} \\ 0.7846 & 1 & 4.6501 & \mathbf{2.3701} \\ 0.1687 & 0.2150 & 1 & \mathbf{0.5097} \\ \mathbf{0.3310} & \mathbf{0.4219} & \mathbf{1.9620} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.437319 \\ 0.343121 \\ 0.073787 \\ 0.145773 \end{pmatrix} = 0.998998 \cdot \begin{pmatrix} 0.437757 \\ 0.343465 \\ 0.073861 \\ \mathbf{0.145919} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2745 & 5.9267 & \mathbf{3} \\ 0.7846 & 1 & 4.6501 & \mathbf{2.3538} \\ 0.1687 & 0.2150 & 1 & \mathbf{0.5062} \\ \mathbf{1/3} & \mathbf{0.4248} & \mathbf{1.9756} & 1 \end{pmatrix},$$

Example C.483.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 2 \\ 1/2 & 1 & 4 & 3 \\ 1/5 & 1/4 & 1 & 1/2 \\ 1/2 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1046, \quad CR = 0.0395$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.431637 \\ 0.325620 \\ \mathbf{0.080558} \\ 0.162185 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3256 & \mathbf{5.3581} & 2.6614 \\ 0.7544 & 1 & \mathbf{4.0420} & 2.0077 \\ \mathbf{0.1866} & \mathbf{0.2474} & 1 & \mathbf{0.4967} \\ 0.3757 & 0.4981 & \mathbf{2.0133} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.431406 \\ 0.325446 \\ 0.081049 \\ 0.162099 \end{pmatrix} = 0.999466 \cdot \begin{pmatrix} 0.431637 \\ 0.325620 \\ \mathbf{0.081093} \\ 0.162185 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3256 & \mathbf{5.3228} & 2.6614 \\ 0.7544 & 1 & \mathbf{4.0154} & 2.0077 \\ \mathbf{0.1879} & \mathbf{0.2490} & 1 & \mathbf{1/2} \\ 0.3757 & 0.4981 & \mathbf{2} & 1 \end{pmatrix},$$

Example C.484.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 5 & 4 \\ 1/2 & 1 & 9 & 3 \\ 1/5 & 1/9 & 1 & 1/2 \\ 1/4 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1406, \quad CR = 0.0530$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.463409 \\ 0.357207 \\ 0.063910 \\ \mathbf{0.115474} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2973 & 7.2509 & \mathbf{4.0131} \\ 0.7708 & 1 & 5.5892 & \mathbf{3.0934} \\ 0.1379 & 0.1789 & 1 & \mathbf{0.5535} \\ \mathbf{0.2492} & \mathbf{0.3233} & \mathbf{1.8068} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.463234 \\ 0.357072 \\ 0.063886 \\ 0.115808 \end{pmatrix} = 0.999622 \cdot \begin{pmatrix} 0.463409 \\ 0.357207 \\ 0.063910 \\ \mathbf{0.115852} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2973 & 7.2509 & \mathbf{4} \\ 0.7708 & 1 & 5.5892 & \mathbf{3.0833} \\ 0.1379 & 0.1789 & 1 & \mathbf{0.5517} \\ \mathbf{1/4} & \mathbf{0.3243} & \mathbf{1.8127} & 1 \end{pmatrix},$$

Example C.485.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 1 \\ 1/2 & 1 & 4 & 1 \\ 1/6 & 1/4 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0407, \quad CR = 0.0153$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.382043 \\ 0.247044 \\ \mathbf{0.061611} \\ 0.309302 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.5465 & \mathbf{6.2009} & 1.2352 \\ 0.6466 & 1 & \mathbf{4.0097} & 0.7987 \\ \mathbf{0.1613} & \mathbf{0.2494} & 1 & \mathbf{0.1992} \\ 0.8096 & 1.2520 & \mathbf{5.0202} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.381986 \\ 0.247007 \\ 0.061752 \\ 0.309256 \end{pmatrix} = 0.999850 \cdot \begin{pmatrix} 0.382043 \\ 0.247044 \\ \mathbf{0.061761} \\ 0.309302 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.5465 & \mathbf{6.1858} & 1.2352 \\ 0.6466 & 1 & \mathbf{4} & 0.7987 \\ \mathbf{0.1617} & \mathbf{1/4} & 1 & \mathbf{0.1997} \\ 0.8096 & 1.2520 & \mathbf{5.0081} & 1 \end{pmatrix},$$

Example C.486.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 2 & 2 \\ 1/6 & 1/2 & 1 & 1/5 \\ 1/2 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.443561 \\ 0.252094 \\ 0.077793 \\ 0.226553 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7595 & 5.7018 & 1.9579 \\ 0.5683 & 1 & 3.2406 & 1.1127 \\ 0.1754 & 0.3086 & 1 & 0.3434 \\ 0.5108 & 0.8987 & 2.9122 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.448821 \\ 0.249710 \\ 0.077058 \\ 0.224411 \end{pmatrix} = 0.990546 \cdot \begin{pmatrix} 0.453105 \\ 0.252094 \\ 0.077793 \\ 0.226553 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7974 & 5.8245 & 2 \\ 0.5564 & 1 & 3.2406 & 1.1127 \\ 0.1717 & 0.3086 & 1 & 0.3434 \\ 1/2 & 0.8987 & 2.9122 & 1 \end{pmatrix},$$

Example C.487.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 4 & 4 \\ 1/6 & 1/4 & 1 & 1/2 \\ 1/2 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.439402 \\ 0.337521 \\ \mathbf{0.073135} \\ 0.149942 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3019 & \mathbf{6.0081} & 2.9305 \\ 0.7681 & 1 & \mathbf{4.6150} & 2.2510 \\ \mathbf{0.1664} & \mathbf{0.2167} & 1 & \mathbf{0.4878} \\ 0.3412 & 0.4442 & \mathbf{2.0502} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.439359 \\ 0.337487 \\ 0.073226 \\ 0.149927 \end{pmatrix} = 0.999901 \cdot \begin{pmatrix} 0.439402 \\ 0.337521 \\ \mathbf{0.073234} \\ 0.149942 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3019 & \mathbf{6} & 2.9305 \\ 0.7681 & 1 & \mathbf{4.6088} & 2.2510 \\ \mathbf{1/6} & \mathbf{0.2170} & 1 & \mathbf{0.4884} \\ 0.3412 & 0.4442 & \mathbf{2.0474} & 1 \end{pmatrix},$$

Example C.488.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 4 & 5 \\ 1/6 & 1/4 & 1 & 1/2 \\ 1/2 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2394, \quad CR = 0.0903$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.435702 \\ 0.349155 \\ \mathbf{0.071611} \\ 0.143532 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2479 & \mathbf{6.0843} & 3.0356 \\ 0.8014 & 1 & \mathbf{4.8757} & 2.4326 \\ \mathbf{0.1644} & \mathbf{0.2051} & 1 & \mathbf{0.4989} \\ 0.3294 & 0.4111 & \mathbf{2.0043} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.435635 \\ 0.349101 \\ 0.071755 \\ 0.143509 \end{pmatrix} = 0.999845 \cdot \begin{pmatrix} 0.435702 \\ 0.349155 \\ \mathbf{0.071766} \\ 0.143532 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2479 & \mathbf{6.0712} & 3.0356 \\ 0.8014 & 1 & \mathbf{4.8652} & 2.4326 \\ \mathbf{0.1647} & \mathbf{0.2055} & 1 & \mathbf{1/2} \\ 0.3294 & 0.4111 & \mathbf{2} & 1 \end{pmatrix},$$

Example C.489.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 5 & 4 \\ 1/6 & 1/5 & 1 & 1/2 \\ 1/2 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.432373 \\ 0.351467 \\ \mathbf{0.068613} \\ 0.147547 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2302 & \mathbf{6.3016} & 2.9304 \\ 0.8129 & 1 & \mathbf{5.1225} & 2.3821 \\ \mathbf{0.1587} & \mathbf{0.1952} & 1 & \mathbf{0.4650} \\ 0.3412 & 0.4198 & \mathbf{2.1504} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.431648 \\ 0.350877 \\ 0.070175 \\ 0.147299 \end{pmatrix} = 0.998322 \cdot \begin{pmatrix} 0.432373 \\ 0.351467 \\ \mathbf{0.070293} \\ 0.147547 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2302 & \mathbf{6.1510} & 2.9304 \\ 0.8129 & 1 & \mathbf{5} & 2.3821 \\ \mathbf{0.1626} & \mathbf{1/5} & 1 & \mathbf{0.4764} \\ 0.3412 & 0.4198 & \mathbf{2.0990} & 1 \end{pmatrix},$$

Example C.490.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 2 \\ 1/2 & 1 & 5 & 5 \\ 1/6 & 1/5 & 1 & 1/2 \\ 1/2 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.428562 \\ 0.363352 \\ \mathbf{0.067008} \\ 0.141077 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1795 & \mathbf{6.3956} & 3.0378 \\ 0.8478 & 1 & \mathbf{5.4225} & 2.5756 \\ \mathbf{0.1564} & \mathbf{0.1844} & 1 & \mathbf{0.4750} \\ 0.3292 & 0.3883 & \mathbf{2.1054} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427055 \\ 0.362074 \\ 0.070290 \\ 0.140581 \end{pmatrix} = 0.996482 \cdot \begin{pmatrix} 0.428562 \\ 0.363352 \\ \mathbf{0.070539} \\ 0.141077 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1795 & \mathbf{6.0756} & 3.0378 \\ 0.8478 & 1 & \mathbf{5.1511} & 2.5756 \\ \mathbf{0.1646} & \mathbf{0.1941} & 1 & \mathbf{1/2} \\ 0.3292 & 0.3883 & \mathbf{2} & 1 \end{pmatrix},$$

Example C.491.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 4 \\ 1/2 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/2 \\ 1/4 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.474994 \\ 0.351694 \\ 0.058951 \\ \mathbf{0.114362} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3506 & 8.0574 & \mathbf{4.1534} \\ 0.7404 & 1 & 5.9658 & \mathbf{3.0753} \\ 0.1241 & 0.1676 & 1 & \mathbf{0.5155} \\ \mathbf{0.2408} & \mathbf{0.3252} & \mathbf{1.9399} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.473634 \\ 0.350687 \\ 0.058782 \\ 0.116896 \end{pmatrix} = 0.997139 \cdot \begin{pmatrix} 0.474994 \\ 0.351694 \\ 0.058951 \\ \mathbf{0.117231} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3506 & 8.0574 & \mathbf{4.0518} \\ 0.7404 & 1 & 5.9658 & \mathbf{3} \\ 0.1241 & 0.1676 & 1 & \mathbf{0.5029} \\ \mathbf{0.2468} & \mathbf{1/3} & \mathbf{1.9886} & 1 \end{pmatrix},$$

Example C.492.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 6 & 5 \\ 1/2 & 1 & 2 & 5 \\ 1/6 & 1/2 & 1 & 1/2 \\ 1/5 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.514359 \\ 0.288062 \\ 0.089723 \\ 0.107856 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7856 & 5.7327 & 4.7690 \\ 0.5600 & 1 & 3.2106 & 2.6708 \\ 0.1744 & 0.3115 & 1 & 0.8319 \\ 0.2097 & 0.3744 & 1.2021 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.525732 \\ 0.281316 \\ 0.087622 \\ 0.105330 \end{pmatrix} = 0.976582 \cdot \begin{pmatrix} 0.538339 \\ 0.288062 \\ 0.089723 \\ 0.107856 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8688 & 6 & 4.9913 \\ 0.5351 & 1 & 3.2106 & 2.6708 \\ 1/6 & 0.3115 & 1 & 0.8319 \\ 0.2003 & 0.3744 & 1.2021 & 1 \end{pmatrix},$$

Example C.493.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 2 \\ 1/2 & 1 & 6 & 5 \\ 1/7 & 1/6 & 1 & 1/2 \\ 1/2 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2251, \quad CR = 0.0849$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.433219 \\ 0.369856 \\ \mathbf{0.059735} \\ 0.137189 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1713 & \mathbf{7.2523} & 3.1578 \\ 0.8537 & 1 & \mathbf{6.1916} & 2.6960 \\ \mathbf{0.1379} & \mathbf{0.1615} & 1 & \mathbf{0.4354} \\ 0.3167 & 0.3709 & \mathbf{2.2966} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.432395 \\ 0.369152 \\ 0.061525 \\ 0.136928 \end{pmatrix} = 0.998096 \cdot \begin{pmatrix} 0.433219 \\ 0.369856 \\ \mathbf{0.061643} \\ 0.137189 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1713 & \mathbf{7.0279} & 3.1578 \\ 0.8537 & 1 & \mathbf{6} & 2.6960 \\ \mathbf{0.1423} & \mathbf{1/6} & 1 & \mathbf{0.4493} \\ 0.3167 & 0.3709 & \mathbf{2.2256} & 1 \end{pmatrix},$$

Example C.494.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 3 \\ 1/2 & 1 & 8 & 2 \\ 1/7 & 1/8 & 1 & 1/3 \\ 1/3 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0576, \quad CR = 0.0217$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.473282 \\ 0.317548 \\ 0.053289 \\ \mathbf{0.155881} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.4904 & 8.8814 & \mathbf{3.0362} \\ 0.6709 & 1 & 5.9589 & \mathbf{2.0371} \\ 0.1126 & 0.1678 & 1 & \mathbf{0.3419} \\ \mathbf{0.3294} & \mathbf{0.4909} & \mathbf{2.9252} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.472394 \\ 0.316952 \\ 0.053189 \\ 0.157465 \end{pmatrix} = 0.998124 \cdot \begin{pmatrix} 0.473282 \\ 0.317548 \\ 0.053289 \\ \mathbf{0.157761} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4904 & 8.8814 & \mathbf{3} \\ 0.6709 & 1 & 5.9589 & \mathbf{2.0128} \\ 0.1126 & 0.1678 & 1 & \mathbf{0.3378} \\ \mathbf{1/3} & \mathbf{0.4968} & \mathbf{2.9605} & 1 \end{pmatrix},$$

Example C.495.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 7 & 3 \\ 1/2 & 1 & 9 & 2 \\ 1/7 & 1/9 & 1 & 1/3 \\ 1/3 & 1/2 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0762, \quad CR = 0.0287$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.469386 \\ 0.324856 \\ 0.051755 \\ \mathbf{0.154003} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.4449 & 9.0694 & \mathbf{3.0479} \\ 0.6921 & 1 & 6.2768 & \mathbf{2.1094} \\ 0.1103 & 0.1593 & 1 & \mathbf{0.3361} \\ \mathbf{0.3281} & \mathbf{0.4741} & \mathbf{2.9756} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.468794 \\ 0.324446 \\ 0.051690 \\ 0.155070 \end{pmatrix} = 0.998739 \cdot \begin{pmatrix} 0.469386 \\ 0.324856 \\ 0.051755 \\ \mathbf{0.155265} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.4449 & 9.0694 & \mathbf{3.0231} \\ 0.6921 & 1 & 6.2768 & \mathbf{2.0923} \\ 0.1103 & 0.1593 & 1 & \mathbf{1/3} \\ \mathbf{0.3308} & \mathbf{0.4780} & \mathbf{3} & 1 \end{pmatrix},$$

Example C.496.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 2 \\ 1/2 & 1 & 3 & 2 \\ 1/8 & 1/3 & 1 & 1/7 \\ 1/2 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.450011 \\ 0.260672 \\ 0.056298 \\ 0.233020 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7263 & 7.9934 & 1.9312 \\ 0.5793 & 1 & 4.6302 & 1.1187 \\ 0.1251 & 0.2160 & 1 & 0.2416 \\ 0.5178 & 0.8939 & 4.1391 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.450215 \\ 0.260575 \\ 0.056277 \\ 0.232933 \end{pmatrix} = 0.999628 \cdot \begin{pmatrix} 0.450383 \\ 0.260672 \\ 0.056298 \\ 0.233020 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7278 & 8 & 1.9328 \\ 0.5788 & 1 & 4.6302 & 1.1187 \\ 1/8 & 0.2160 & 1 & 0.2416 \\ 0.5174 & 0.8939 & 4.1391 & 1 \end{pmatrix},$$

Example C.497.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 2 \\ 1/2 & 1 & 6 & 3 \\ 1/8 & 1/6 & 1 & 1/3 \\ 1/2 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.448083 \\ 0.332416 \\ 0.053826 \\ 0.165675 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3480 & 8.3247 & 2.7046 \\ 0.7419 & 1 & 6.1758 & 2.0064 \\ 0.1201 & 0.1619 & 1 & 0.3249 \\ 0.3697 & 0.4984 & 3.0780 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.447456 \\ 0.331952 \\ 0.055148 \\ 0.165444 \end{pmatrix} = 0.998602 \cdot \begin{pmatrix} 0.448083 \\ 0.332416 \\ 0.055225 \\ 0.165675 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3480 & 8.1137 & 2.7046 \\ 0.7419 & 1 & 6.0193 & 2.0064 \\ 0.1232 & 0.1661 & 1 & 1/3 \\ 0.3697 & 0.4984 & 3 & 1 \end{pmatrix},$$

Example C.498.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 2 \\ 1/2 & 1 & 7 & 4 \\ 1/8 & 1/7 & 1 & 1/3 \\ 1/2 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1681, \quad CR = 0.0634$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.436683 \\ 0.359534 \\ 0.050092 \\ 0.153691 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2146 & 8.7176 & 2.8413 \\ 0.8233 & 1 & 7.1774 & 2.3393 \\ 0.1147 & 0.1393 & 1 & 0.3259 \\ 0.3520 & 0.4275 & 3.0682 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.436187 \\ 0.359125 \\ 0.051172 \\ 0.153516 \end{pmatrix} = 0.998863 \cdot \begin{pmatrix} 0.436683 \\ 0.359534 \\ 0.051230 \\ 0.153691 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2146 & 8.5239 & 2.8413 \\ 0.8233 & 1 & 7.0180 & 2.3393 \\ 0.1173 & 0.1425 & 1 & 1/3 \\ 0.3520 & 0.4275 & 3 & 1 \end{pmatrix},$$

Example C.499.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 2 \\ 1/2 & 1 & 8 & 5 \\ 1/8 & 1/8 & 1 & 1/3 \\ 1/2 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2311, \quad CR = 0.0871$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.427519 \\ 0.380184 \\ \mathbf{0.047152} \\ 0.145144 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1245 & \mathbf{9.0669} & 2.9455 \\ 0.8893 & 1 & \mathbf{8.0630} & 2.6194 \\ \mathbf{0.1103} & \mathbf{0.1240} & 1 & \mathbf{0.3249} \\ 0.3395 & 0.3818 & \mathbf{3.0782} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.427361 \\ 0.380043 \\ 0.047505 \\ 0.145091 \end{pmatrix} = 0.999629 \cdot \begin{pmatrix} 0.427519 \\ 0.380184 \\ \mathbf{0.047523} \\ 0.145144 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1245 & \mathbf{8.9960} & 2.9455 \\ 0.8893 & 1 & \mathbf{8} & 2.6194 \\ \mathbf{0.1112} & \mathbf{1/8} & 1 & \mathbf{0.3274} \\ 0.3395 & 0.3818 & \mathbf{3.0542} & 1 \end{pmatrix},$$

Example C.500.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 3 \\ 1/2 & 1 & 3 & 2 \\ 1/8 & 1/3 & 1 & 1/4 \\ 1/3 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.503057 \\ 0.255710 \\ 0.063280 \\ 0.177953 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9673 & 7.9497 & 2.8269 \\ 0.5083 & 1 & 4.0409 & 1.4370 \\ 0.1258 & 0.2475 & 1 & 0.3556 \\ 0.3537 & 0.6959 & 2.8122 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.504634 \\ 0.254899 \\ 0.063079 \\ 0.177388 \end{pmatrix} = 0.996826 \cdot \begin{pmatrix} 0.506240 \\ 0.255710 \\ 0.063280 \\ 0.177953 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9797 & 8 & 2.8448 \\ 0.5051 & 1 & 4.0409 & 1.4370 \\ 1/8 & 0.2475 & 1 & 0.3556 \\ 0.3515 & 0.6959 & 2.8122 & 1 \end{pmatrix},$$

Example C.501.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 3 \\ 1/2 & 1 & 6 & 5 \\ 1/8 & 1/6 & 1 & 1/2 \\ 1/3 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.471181 \\ 0.357746 \\ \mathbf{0.056412} \\ 0.114661 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3171 & \mathbf{8.3524} & 4.1093 \\ 0.7593 & 1 & \mathbf{6.3416} & 3.1200 \\ \mathbf{0.1197} & \mathbf{0.1577} & 1 & \mathbf{0.4920} \\ 0.2433 & 0.3205 & \mathbf{2.0325} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.470749 \\ 0.357418 \\ 0.057278 \\ 0.114556 \end{pmatrix} = 0.999083 \cdot \begin{pmatrix} 0.471181 \\ 0.357746 \\ \mathbf{0.057330} \\ 0.114661 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3171 & \mathbf{8.2187} & 4.1093 \\ 0.7593 & 1 & \mathbf{6.2401} & 3.1200 \\ \mathbf{0.1217} & \mathbf{0.1603} & 1 & \mathbf{1/2} \\ 0.2433 & 0.3205 & \mathbf{2} & 1 \end{pmatrix},$$

Example C.502.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 3 \\ 1/2 & 1 & 7 & 6 \\ 1/8 & 1/7 & 1 & 1/2 \\ 1/3 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1681, \quad CR = 0.0634$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.460351 \\ 0.378034 \\ 0.052924 \\ 0.108691 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2177 & 8.6984 & 4.2354 \\ 0.8212 & 1 & 7.1430 & 3.4781 \\ 0.1150 & 0.1400 & 1 & 0.4869 \\ 0.2361 & 0.2875 & 2.0537 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.459854 \\ 0.377626 \\ 0.053947 \\ 0.108574 \end{pmatrix} = 0.998920 \cdot \begin{pmatrix} 0.460351 \\ 0.378034 \\ 0.054005 \\ 0.108691 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2177 & 8.5242 & 4.2354 \\ 0.8212 & 1 & 7 & 3.4781 \\ 0.1173 & 1/7 & 1 & 0.4969 \\ 0.2361 & 0.2875 & 2.0126 & 1 \end{pmatrix},$$

Example C.503.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 3 \\ 1/2 & 1 & 7 & 7 \\ 1/8 & 1/7 & 1 & 1/2 \\ 1/3 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.456634 \\ 0.385983 \\ \mathbf{0.052069} \\ 0.105315 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1830 & \mathbf{8.7698} & 4.3359 \\ 0.8453 & 1 & \mathbf{7.4129} & 3.6651 \\ \mathbf{0.1140} & \mathbf{0.1349} & 1 & \mathbf{0.4944} \\ 0.2306 & 0.2728 & \mathbf{2.0226} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.456365 \\ 0.385756 \\ 0.052626 \\ 0.105253 \end{pmatrix} = 0.999412 \cdot \begin{pmatrix} 0.456634 \\ 0.385983 \\ \mathbf{0.052657} \\ 0.105315 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1830 & \mathbf{8.6718} & 4.3359 \\ 0.8453 & 1 & \mathbf{7.3301} & 3.6651 \\ \mathbf{0.1153} & \mathbf{0.1364} & 1 & \mathbf{1/2} \\ 0.2306 & 0.2728 & \mathbf{2} & 1 \end{pmatrix},$$

Example C.504.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 3 \\ 1/2 & 1 & 8 & 8 \\ 1/8 & 1/8 & 1 & 1/2 \\ 1/3 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.448151 \\ 0.401226 \\ \mathbf{0.049388} \\ 0.101236 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1170 & \mathbf{9.0742} & 4.4268 \\ 0.8953 & 1 & \mathbf{8.1240} & 3.9633 \\ \mathbf{0.1102} & \mathbf{0.1231} & 1 & \mathbf{0.4878} \\ 0.2259 & 0.2523 & \mathbf{2.0498} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.447809 \\ 0.400919 \\ 0.050115 \\ 0.101158 \end{pmatrix} = 0.999235 \cdot \begin{pmatrix} 0.448151 \\ 0.401226 \\ \mathbf{0.050153} \\ 0.101236 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1170 & \mathbf{8.9357} & 4.4268 \\ 0.8953 & 1 & \mathbf{8} & 3.9633 \\ \mathbf{0.1119} & \mathbf{1/8} & 1 & \mathbf{0.4954} \\ 0.2259 & 0.2523 & \mathbf{2.0185} & 1 \end{pmatrix},$$

Example C.505.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/8 & 1/3 & 1 & 1/3 \\ 1/4 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.522958 \\ 0.274682 \\ 0.065961 \\ 0.136398 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9039 & 7.9283 & 3.8341 \\ 0.5252 & 1 & 4.1643 & 2.0138 \\ 0.1261 & 0.2401 & 1 & 0.4836 \\ 0.2608 & 0.4966 & 2.0679 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.525205 \\ 0.273388 \\ 0.065651 \\ 0.135756 \end{pmatrix} = 0.995290 \cdot \begin{pmatrix} 0.527690 \\ 0.274682 \\ 0.065961 \\ 0.136398 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9211 & 8 & 3.8687 \\ 0.5205 & 1 & 4.1643 & 2.0138 \\ 1/8 & 0.2401 & 1 & 0.4836 \\ 0.2585 & 0.4966 & 2.0679 & 1 \end{pmatrix},$$

Example C.506.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 3 & 4 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/6 & 1/4 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.552389 \\ 0.279967 \\ 0.069425 \\ 0.098219 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9731 & 7.9566 & 5.6240 \\ 0.5068 & 1 & 4.0326 & 2.8504 \\ 0.1257 & 0.2480 & 1 & 0.7068 \\ 0.1778 & 0.3508 & 1.4148 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553734 \\ 0.279125 \\ 0.069217 \\ 0.097924 \end{pmatrix} = 0.996995 \cdot \begin{pmatrix} 0.555402 \\ 0.279967 \\ 0.069425 \\ 0.098219 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9838 & 8 & 5.6547 \\ 0.5041 & 1 & 4.0326 & 2.8504 \\ 1/8 & 0.2480 & 1 & 0.7068 \\ 0.1768 & 0.3508 & 1.4148 & 1 \end{pmatrix},$$

Example C.507.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 3 & 5 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/6 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.543789 \\ 0.294152 \\ 0.068772 \\ 0.093287 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8487 & 7.9071 & 5.8292 \\ 0.5409 & 1 & 4.2772 & 3.1532 \\ 0.1265 & 0.2338 & 1 & 0.7372 \\ 0.1716 & 0.3171 & 1.3565 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.546684 \\ 0.292285 \\ 0.068335 \\ 0.092695 \end{pmatrix} = 0.993654 \cdot \begin{pmatrix} 0.550175 \\ 0.294152 \\ 0.068772 \\ 0.093287 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8704 & 8 & 5.8976 \\ 0.5347 & 1 & 4.2772 & 3.1532 \\ 1/8 & 0.2338 & 1 & 0.7372 \\ 0.1696 & 0.3171 & 1.3565 & 1 \end{pmatrix},$$

Example C.508.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 6 \\ 1/2 & 1 & 3 & 6 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/6 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.536211 \\ 0.305880 \\ 0.068228 \\ 0.089681 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7530 & 7.8591 & 5.9791 \\ 0.5704 & 1 & 4.4832 & 3.4108 \\ 0.1272 & 0.2231 & 1 & 0.7608 \\ 0.1672 & 0.2932 & 1.3144 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.537079 \\ 0.305307 \\ 0.068101 \\ 0.089513 \end{pmatrix} = 0.998128 \cdot \begin{pmatrix} 0.538086 \\ 0.305880 \\ 0.068228 \\ 0.089681 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7591 & 7.8866 & 6 \\ 0.5685 & 1 & 4.4832 & 3.4108 \\ 0.1268 & 0.2231 & 1 & 0.7608 \\ 1/6 & 0.2932 & 1.3144 & 1 \end{pmatrix},$$

Example C.509.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 8 & 7 \\ 1/2 & 1 & 3 & 8 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/7 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2536, \quad CR = 0.0956$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.535116 \\ 0.317078 \\ 0.067166 \\ 0.080640 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6876 & 7.9670 & 6.6358 \\ 0.5925 & 1 & 4.7208 & 3.9320 \\ 0.1255 & 0.2118 & 1 & 0.8329 \\ 0.1507 & 0.2543 & 1.2006 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.536143 \\ 0.316377 \\ 0.067018 \\ 0.080462 \end{pmatrix} = 0.997790 \cdot \begin{pmatrix} 0.537331 \\ 0.317078 \\ 0.067166 \\ 0.080640 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6946 & 8 & 6.6633 \\ 0.5901 & 1 & 4.7208 & 3.9320 \\ 1/8 & 0.2118 & 1 & 0.8329 \\ 0.1501 & 0.2543 & 1.2006 & 1 \end{pmatrix},$$

Example C.510.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 3 & 2 \\ 1/9 & 1/3 & 1 & 1/8 \\ 1/2 & 1/2 & 8 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.453146 \\ 0.257990 \\ 0.052657 \\ 0.236207 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7564 & 8.6057 & 1.9184 \\ 0.5693 & 1 & 4.8995 & 1.0922 \\ 0.1162 & 0.2041 & 1 & 0.2229 \\ 0.5213 & 0.9156 & 4.4858 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.463484 \\ 0.253113 \\ 0.051661 \\ 0.231742 \end{pmatrix} = 0.981096 \cdot \begin{pmatrix} 0.472414 \\ 0.257990 \\ 0.052657 \\ 0.236207 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8311 & 8.9716 & 2 \\ 0.5461 & 1 & 4.8995 & 1.0922 \\ 0.1115 & 0.2041 & 1 & 0.2229 \\ 1/2 & 0.9156 & 4.4858 & 1 \end{pmatrix},$$

Example C.511.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 6 & 4 \\ 1/9 & 1/6 & 1 & 1/3 \\ 1/2 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.450406 \\ 0.345889 \\ 0.049977 \\ 0.153727 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3022 & 9.0122 & 2.9299 \\ 0.7679 & 1 & 6.9209 & 2.2500 \\ 0.1110 & 0.1445 & 1 & 0.3251 \\ 0.3413 & 0.4444 & 3.0759 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.450376 \\ 0.345865 \\ 0.050042 \\ 0.153717 \end{pmatrix} = 0.999932 \cdot \begin{pmatrix} 0.450406 \\ 0.345889 \\ 0.050045 \\ 0.153727 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3022 & 9 & 2.9299 \\ 0.7679 & 1 & 6.9115 & 2.2500 \\ 1/9 & 0.1447 & 1 & 0.3255 \\ 0.3413 & 0.4444 & 3.0718 & 1 \end{pmatrix},$$

Example C.512.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 6 & 5 \\ 1/9 & 1/6 & 1 & 1/3 \\ 1/2 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2394, \quad CR = 0.0903$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.446434 \\ 0.357560 \\ \mathbf{0.048913} \\ 0.147093 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2486 & \mathbf{9.1270} & 3.0351 \\ 0.8009 & 1 & \mathbf{7.3101} & 2.4308 \\ \mathbf{0.1096} & \mathbf{0.1368} & 1 & \mathbf{0.3325} \\ 0.3295 & 0.4114 & \mathbf{3.0072} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.446381 \\ 0.357518 \\ 0.049025 \\ 0.147075 \end{pmatrix} = 0.999882 \cdot \begin{pmatrix} 0.446434 \\ 0.357560 \\ \mathbf{0.049031} \\ 0.147093 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2486 & \mathbf{9.1052} & 3.0351 \\ 0.8009 & 1 & \mathbf{7.2925} & 2.4308 \\ \mathbf{0.1098} & \mathbf{0.1371} & 1 & \mathbf{1/3} \\ 0.3295 & 0.4114 & \mathbf{3} & 1 \end{pmatrix},$$

Example C.513.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 7 & 4 \\ 1/9 & 1/7 & 1 & 1/3 \\ 1/2 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.445024 \\ 0.355307 \\ 0.047754 \\ 0.151916 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2525 & 9.3191 & 2.9294 \\ 0.7984 & 1 & 7.4404 & 2.3388 \\ 0.1073 & 0.1344 & 1 & 0.3143 \\ 0.3414 & 0.4276 & 3.1812 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.444272 \\ 0.354706 \\ 0.049364 \\ 0.151659 \end{pmatrix} = 0.998310 \cdot \begin{pmatrix} 0.445024 \\ 0.355307 \\ 0.049447 \\ 0.151916 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2525 & 9 & 2.9294 \\ 0.7984 & 1 & 7.1856 & 2.3388 \\ 1/9 & 0.1392 & 1 & 0.3255 \\ 0.3414 & 0.4276 & 3.0723 & 1 \end{pmatrix},$$

Example C.514.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 7 & 5 \\ 1/9 & 1/7 & 1 & 1/3 \\ 1/2 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2300, \quad CR = 0.0867$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.440970 \\ 0.367131 \\ \mathbf{0.046652} \\ 0.145247 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2011 & \mathbf{9.4523} & 3.0360 \\ 0.8326 & 1 & \mathbf{7.8695} & 2.5276 \\ \mathbf{0.1058} & \mathbf{0.1271} & 1 & \mathbf{0.3212} \\ 0.3294 & 0.3956 & \mathbf{3.1134} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.440194 \\ 0.366484 \\ 0.048330 \\ 0.144991 \end{pmatrix} = 0.998240 \cdot \begin{pmatrix} 0.440970 \\ 0.367131 \\ \mathbf{0.048416} \\ 0.145247 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2011 & \mathbf{9.1080} & 3.0360 \\ 0.8326 & 1 & \mathbf{7.5829} & 2.5276 \\ \mathbf{0.1098} & \mathbf{0.1319} & 1 & \mathbf{1/3} \\ 0.3294 & 0.3956 & \mathbf{3} & 1 \end{pmatrix},$$

Example C.515.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 2 \\ 1/2 & 1 & 8 & 5 \\ 1/9 & 1/8 & 1 & 1/3 \\ 1/2 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2267, \quad CR = 0.0855$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.435883 \\ 0.375745 \\ \mathbf{0.044840} \\ 0.143533 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1601 & \mathbf{9.7209} & 3.0368 \\ 0.8620 & 1 & \mathbf{8.3797} & 2.6178 \\ \mathbf{0.1029} & \mathbf{0.1193} & 1 & \mathbf{0.3124} \\ 0.3293 & 0.3820 & \mathbf{3.2010} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.434957 \\ 0.374947 \\ 0.046868 \\ 0.143228 \end{pmatrix} = 0.997876 \cdot \begin{pmatrix} 0.435883 \\ 0.375745 \\ \mathbf{0.046968} \\ 0.143533 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1601 & \mathbf{9.2804} & 3.0368 \\ 0.8620 & 1 & \mathbf{8} & 2.6178 \\ \mathbf{0.1078} & \mathbf{1/8} & 1 & \mathbf{0.3272} \\ 0.3293 & 0.3820 & \mathbf{3.0560} & 1 \end{pmatrix},$$

Example C.516.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 3 & 2 \\ 1/9 & 1/3 & 1 & 1/6 \\ 1/3 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.498958 \\ 0.249539 \\ 0.055965 \\ 0.195539 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9995 & 8.9156 & 2.5517 \\ 0.5001 & 1 & 4.4589 & 1.2762 \\ 0.1122 & 0.2243 & 1 & 0.2862 \\ 0.3919 & 0.7836 & 3.4940 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.499018 \\ 0.249509 \\ 0.055958 \\ 0.195515 \end{pmatrix} = 0.999881 \cdot \begin{pmatrix} 0.499077 \\ 0.249539 \\ 0.055965 \\ 0.195539 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.9177 & 2.5523 \\ 1/2 & 1 & 4.4589 & 1.2762 \\ 0.1121 & 0.2243 & 1 & 0.2862 \\ 0.3918 & 0.7836 & 3.4940 & 1 \end{pmatrix},$$

Example C.517.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/5 \\ 1/3 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.493793 \\ 0.277951 \\ 0.057609 \\ 0.170646 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7766 & 8.5714 & 2.8937 \\ 0.5629 & 1 & 4.8248 & 1.6288 \\ 0.1167 & 0.2073 & 1 & 0.3376 \\ 0.3456 & 0.6139 & 2.9621 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.502815 \\ 0.272997 \\ 0.056583 \\ 0.167605 \end{pmatrix} = 0.982177 \cdot \begin{pmatrix} 0.511939 \\ 0.277951 \\ 0.057609 \\ 0.170646 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8418 & 8.8864 & 3 \\ 0.5429 & 1 & 4.8248 & 1.6288 \\ 0.1125 & 0.2073 & 1 & 0.3376 \\ 1/3 & 0.6139 & 2.9621 & 1 \end{pmatrix},$$

Example C.518.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 6 & 6 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/3 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.474840 \\ 0.363701 \\ \mathbf{0.052728} \\ 0.108731 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3056 & \mathbf{9.0054} & 4.3671 \\ 0.7659 & 1 & \mathbf{6.8977} & 3.3449 \\ \mathbf{0.1110} & \mathbf{0.1450} & 1 & \mathbf{0.4849} \\ 0.2290 & 0.2990 & \mathbf{2.0621} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.474824 \\ 0.363689 \\ 0.052758 \\ 0.108728 \end{pmatrix} = 0.999968 \cdot \begin{pmatrix} 0.474840 \\ 0.363701 \\ \mathbf{0.052760} \\ 0.108731 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3056 & \mathbf{9} & 4.3671 \\ 0.7659 & 1 & \mathbf{6.8935} & 3.3449 \\ \mathbf{1/9} & \mathbf{0.1451} & 1 & \mathbf{0.4852} \\ 0.2290 & 0.2990 & \mathbf{2.0609} & 1 \end{pmatrix},$$

Example C.519.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 6 & 7 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/3 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2166, \quad CR = 0.0817$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.471242 \\ 0.371548 \\ \mathbf{0.051869} \\ 0.105341 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2683 & \mathbf{9.0853} & 4.4735 \\ 0.7884 & 1 & \mathbf{7.1632} & 3.5271 \\ \mathbf{0.1101} & \mathbf{0.1396} & 1 & \mathbf{0.4924} \\ 0.2235 & 0.2835 & \mathbf{2.0309} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.471010 \\ 0.371365 \\ 0.052334 \\ 0.105290 \end{pmatrix} = 0.999509 \cdot \begin{pmatrix} 0.471242 \\ 0.371548 \\ \mathbf{0.052360} \\ 0.105341 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2683 & \mathbf{9} & 4.4735 \\ 0.7884 & 1 & \mathbf{7.0960} & 3.5271 \\ \mathbf{1/9} & \mathbf{0.1409} & 1 & \mathbf{0.4971} \\ 0.2235 & 0.2835 & \mathbf{2.0119} & 1 \end{pmatrix},$$

Example C.520.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 6 & 8 \\ 1/9 & 1/6 & 1 & 1/2 \\ 1/3 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2620, \quad CR = 0.0988$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.468452 \\ 0.377677 \\ \mathbf{0.051181} \\ 0.102690 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2404 & \mathbf{9.1529} & 4.5618 \\ 0.8062 & 1 & \mathbf{7.3793} & 3.6778 \\ \mathbf{0.1093} & \mathbf{0.1355} & 1 & \mathbf{0.4984} \\ 0.2192 & 0.2719 & \mathbf{2.0064} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.468375 \\ 0.377615 \\ 0.051337 \\ 0.102673 \end{pmatrix} = 0.999836 \cdot \begin{pmatrix} 0.468452 \\ 0.377677 \\ \mathbf{0.051345} \\ 0.102690 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2404 & \mathbf{9.1236} & 4.5618 \\ 0.8062 & 1 & \mathbf{7.3557} & 3.6778 \\ \mathbf{0.1096} & \mathbf{0.1359} & 1 & \mathbf{1/2} \\ 0.2192 & 0.2719 & \mathbf{2} & 1 \end{pmatrix},$$

Example C.521.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 7 & 5 \\ 1/9 & 1/7 & 1 & 1/2 \\ 1/3 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1239, \quad CR = 0.0467$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.473666 \\ 0.362947 \\ \mathbf{0.051500} \\ 0.111887 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.3051 & \mathbf{9.1974} & 4.2334 \\ 0.7663 & 1 & \mathbf{7.0475} & 3.2439 \\ \mathbf{0.1087} & \mathbf{0.1419} & 1 & \mathbf{0.4603} \\ 0.2362 & 0.3083 & \mathbf{2.1726} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.473501 \\ 0.362820 \\ 0.051831 \\ 0.111848 \end{pmatrix} = 0.999650 \cdot \begin{pmatrix} 0.473666 \\ 0.362947 \\ \mathbf{0.051850} \\ 0.111887 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.3051 & \mathbf{9.1354} & 4.2334 \\ 0.7663 & 1 & \mathbf{7} & 3.2439 \\ \mathbf{0.1095} & \mathbf{1/7} & 1 & \mathbf{0.4634} \\ 0.2362 & 0.3083 & \mathbf{2.1579} & 1 \end{pmatrix},$$

Example C.522.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 7 & 6 \\ 1/9 & 1/7 & 1 & 1/2 \\ 1/3 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.468862 \\ 0.373365 \\ \mathbf{0.050382} \\ 0.107391 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2558 & \mathbf{9.3061} & 4.3659 \\ 0.7963 & 1 & \mathbf{7.4107} & 3.4767 \\ \mathbf{0.1075} & \mathbf{0.1349} & 1 & \mathbf{0.4691} \\ 0.2290 & 0.2876 & \mathbf{2.1315} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.468060 \\ 0.372726 \\ 0.052007 \\ 0.107207 \end{pmatrix} = 0.998289 \cdot \begin{pmatrix} 0.468862 \\ 0.373365 \\ \mathbf{0.052096} \\ 0.107391 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2558 & \mathbf{9} & 4.3659 \\ 0.7963 & 1 & \mathbf{7.1669} & 3.4767 \\ \mathbf{1/9} & \mathbf{0.1395} & 1 & \mathbf{0.4851} \\ 0.2290 & 0.2876 & \mathbf{2.0614} & 1 \end{pmatrix},$$

Example C.523.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 7 & 7 \\ 1/9 & 1/7 & 1 & 1/2 \\ 1/3 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.465207 \\ 0.381309 \\ \mathbf{0.049499} \\ 0.103985 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.2200 & \mathbf{9.3983} & 4.4738 \\ 0.8197 & 1 & \mathbf{7.7034} & 3.6670 \\ \mathbf{0.1064} & \mathbf{0.1298} & 1 & \mathbf{0.4760} \\ 0.2235 & 0.2727 & \mathbf{2.1008} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.464190 \\ 0.380476 \\ 0.051577 \\ 0.103758 \end{pmatrix} = 0.997814 \cdot \begin{pmatrix} 0.465207 \\ 0.381309 \\ \mathbf{0.051690} \\ 0.103985 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.2200 & \mathbf{9} & 4.4738 \\ 0.8197 & 1 & \mathbf{7.3769} & 3.6670 \\ \mathbf{1/9} & \mathbf{0.1356} & 1 & \mathbf{0.4971} \\ 0.2235 & 0.2727 & \mathbf{2.0117} & 1 \end{pmatrix},$$

Example C.524.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 7 & 8 \\ 1/9 & 1/7 & 1 & 1/2 \\ 1/3 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.462367 \\ 0.387523 \\ \mathbf{0.048790} \\ 0.101320 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1931 & \mathbf{9.4767} & 4.5634 \\ 0.8381 & 1 & \mathbf{7.9427} & 3.8247 \\ \mathbf{0.1055} & \mathbf{0.1259} & 1 & \mathbf{0.4815} \\ 0.2191 & 0.2615 & \mathbf{2.0767} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.461504 \\ 0.386800 \\ 0.050566 \\ 0.101131 \end{pmatrix} = 0.998133 \cdot \begin{pmatrix} 0.462367 \\ 0.387523 \\ \mathbf{0.050660} \\ 0.101320 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1931 & \mathbf{9.1268} & 4.5634 \\ 0.8381 & 1 & \mathbf{7.6495} & 3.8247 \\ \mathbf{0.1096} & \mathbf{0.1307} & 1 & \mathbf{1/2} \\ 0.2191 & 0.2615 & \mathbf{2} & 1 \end{pmatrix},$$

Example C.525.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 8 & 7 \\ 1/9 & 1/8 & 1 & 1/2 \\ 1/3 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.459617 \\ 0.390053 \\ \mathbf{0.047597} \\ 0.102734 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1783 & \mathbf{9.6564} & 4.4739 \\ 0.8486 & 1 & \mathbf{8.1949} & 3.7967 \\ \mathbf{0.1036} & \mathbf{0.1220} & 1 & \mathbf{0.4633} \\ 0.2235 & 0.2634 & \mathbf{2.1584} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.459085 \\ 0.389601 \\ 0.048700 \\ 0.102615 \end{pmatrix} = 0.998842 \cdot \begin{pmatrix} 0.459617 \\ 0.390053 \\ \mathbf{0.048757} \\ 0.102734 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1783 & \mathbf{9.4268} & 4.4739 \\ 0.8486 & 1 & \mathbf{8} & 3.7967 \\ \mathbf{0.1061} & \mathbf{1/8} & 1 & \mathbf{0.4746} \\ 0.2235 & 0.2634 & \mathbf{2.1071} & 1 \end{pmatrix},$$

Example C.526.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 3 \\ 1/2 & 1 & 8 & 8 \\ 1/9 & 1/8 & 1 & 1/2 \\ 1/3 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.456727 \\ 0.396348 \\ 0.046871 \\ 0.100054 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.1523 & 9.7443 & 4.5648 \\ 0.8678 & 1 & 8.4561 & 3.9613 \\ 0.1026 & 0.1183 & 1 & 0.4685 \\ 0.2191 & 0.2524 & 2.1347 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.455510 \\ 0.395291 \\ 0.049411 \\ 0.099787 \end{pmatrix} = 0.997335 \cdot \begin{pmatrix} 0.456727 \\ 0.396348 \\ 0.049543 \\ 0.100054 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.1523 & 9.2187 & 4.5648 \\ 0.8678 & 1 & 8 & 3.9613 \\ 0.1085 & 1/8 & 1 & 0.4952 \\ 0.2191 & 0.2524 & 2.0195 & 1 \end{pmatrix},$$

Example C.527.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/4 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.531097 \\ 0.272631 \\ 0.063176 \\ 0.133095 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9480 & 8.4066 & 3.9904 \\ 0.5133 & 1 & 4.3154 & 2.0484 \\ 0.1190 & 0.2317 & 1 & 0.4747 \\ 0.2506 & 0.4882 & 2.1067 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.531698 \\ 0.272282 \\ 0.063096 \\ 0.132924 \end{pmatrix} = 0.998720 \cdot \begin{pmatrix} 0.532379 \\ 0.272631 \\ 0.063176 \\ 0.133095 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9527 & 8.4269 & 4 \\ 0.5121 & 1 & 4.3154 & 2.0484 \\ 0.1187 & 0.2317 & 1 & 0.4747 \\ 1/4 & 0.4882 & 2.1067 & 1 \end{pmatrix},$$

Example C.528.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/4 \\ 1/4 & 1/3 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.524243 \\ 0.269971 \\ 0.059875 \\ 0.145912 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9419 & 8.7557 & 3.5929 \\ 0.5150 & 1 & 4.5089 & 1.8502 \\ 0.1142 & 0.2218 & 1 & 0.4103 \\ 0.2783 & 0.5405 & 2.4370 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.531102 \\ 0.266079 \\ 0.059011 \\ 0.143808 \end{pmatrix} = 0.985583 \cdot \begin{pmatrix} 0.538871 \\ 0.269971 \\ 0.059875 \\ 0.145912 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9960 & 9 & 3.6931 \\ 0.5010 & 1 & 4.5089 & 1.8502 \\ 1/9 & 0.2218 & 1 & 0.4103 \\ 0.2708 & 0.5405 & 2.4370 & 1 \end{pmatrix},$$

Example C.529.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/5 \\ 1/4 & 1/3 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2316, \quad CR = 0.0873$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.517489 \\ 0.267467 \\ 0.057609 \\ 0.157435 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9348 & 8.9827 & 3.2870 \\ 0.5169 & 1 & 4.6428 & 1.6989 \\ 0.1113 & 0.2154 & 1 & 0.3659 \\ 0.3042 & 0.5886 & 2.7328 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.517968 \\ 0.267201 \\ 0.057552 \\ 0.157279 \end{pmatrix} = 0.999005 \cdot \begin{pmatrix} 0.518484 \\ 0.267467 \\ 0.057609 \\ 0.157435 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9385 & 9 & 3.2933 \\ 0.5159 & 1 & 4.6428 & 1.6989 \\ 1/9 & 0.2154 & 1 & 0.3659 \\ 0.3036 & 0.5886 & 2.7328 & 1 \end{pmatrix},$$

Example C.530.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 4 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 1/4 \\ 1/4 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.514209 \\ 0.288576 \\ 0.059467 \\ 0.137749 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7819 & 8.6470 & 3.7329 \\ 0.5612 & 1 & 4.8527 & 2.0949 \\ 0.1156 & 0.2061 & 1 & 0.4317 \\ 0.2679 & 0.4773 & 2.3164 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.524198 \\ 0.282642 \\ 0.058244 \\ 0.134916 \end{pmatrix} = 0.979437 \cdot \begin{pmatrix} 0.535203 \\ 0.288576 \\ 0.059467 \\ 0.137749 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8546 & 9 & 3.8854 \\ 0.5392 & 1 & 4.8527 & 2.0949 \\ 1/9 & 0.2061 & 1 & 0.4317 \\ 0.2574 & 0.4773 & 2.3164 & 1 \end{pmatrix},$$

Example C.531.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/5 & 1/4 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.539131 \\ 0.282335 \\ 0.062202 \\ 0.116332 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9095 & 8.6675 & 4.6344 \\ 0.5237 & 1 & 4.5390 & 2.4270 \\ 0.1154 & 0.2203 & 1 & 0.5347 \\ 0.2158 & 0.4120 & 1.8702 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548471 \\ 0.276614 \\ 0.060941 \\ 0.113975 \end{pmatrix} = 0.979734 \cdot \begin{pmatrix} 0.559816 \\ 0.282335 \\ 0.062202 \\ 0.116332 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9828 & 9 & 4.8122 \\ 0.5043 & 1 & 4.5390 & 2.4270 \\ 1/9 & 0.2203 & 1 & 0.5347 \\ 0.2078 & 0.4120 & 1.8702 & 1 \end{pmatrix},$$

Example C.532.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 3 & 4 \\ 1/9 & 1/3 & 1 & 1/4 \\ 1/5 & 1/4 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2500, \quad CR = 0.0942$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.531852 \\ 0.279435 \\ 0.059367 \\ 0.129347 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9033 & 8.9588 & 4.1118 \\ 0.5254 & 1 & 4.7069 & 2.1604 \\ 0.1116 & 0.2125 & 1 & 0.4590 \\ 0.2432 & 0.4629 & 2.1788 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.532994 \\ 0.278753 \\ 0.059222 \\ 0.129031 \end{pmatrix} = 0.997559 \cdot \begin{pmatrix} 0.534299 \\ 0.279435 \\ 0.059367 \\ 0.129347 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9121 & 9 & 4.1307 \\ 0.5230 & 1 & 4.7069 & 2.1604 \\ 1/9 & 0.2125 & 1 & 0.4590 \\ 0.2421 & 0.4629 & 2.1788 & 1 \end{pmatrix},$$

Example C.533.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 5 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/5 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.530386 \\ 0.296744 \\ 0.061756 \\ 0.111114 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7874 & 8.5885 & 4.7733 \\ 0.5595 & 1 & 4.8051 & 2.6706 \\ 0.1164 & 0.2081 & 1 & 0.5558 \\ 0.2095 & 0.3744 & 1.7993 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.541923 \\ 0.289454 \\ 0.060239 \\ 0.108385 \end{pmatrix} = 0.975434 \cdot \begin{pmatrix} 0.555571 \\ 0.296744 \\ 0.061756 \\ 0.111114 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8722 & 8.9963 & 5 \\ 0.5341 & 1 & 4.8051 & 2.6706 \\ 0.1112 & 0.2081 & 1 & 0.5558 \\ 1/5 & 0.3744 & 1.7993 & 1 \end{pmatrix},$$

Example C.534.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 1/3 \\ 1/6 & 1/5 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.544455 \\ 0.288734 \\ 0.061554 \\ 0.105257 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8857 & 8.8451 & 5.1726 \\ 0.5303 & 1 & 4.6907 & 2.7431 \\ 0.1131 & 0.2132 & 1 & 0.5848 \\ 0.1933 & 0.3645 & 1.7100 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.548757 \\ 0.286007 \\ 0.060973 \\ 0.104263 \end{pmatrix} = 0.990555 \cdot \begin{pmatrix} 0.553990 \\ 0.288734 \\ 0.061554 \\ 0.105257 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9187 & 9 & 5.2632 \\ 0.5212 & 1 & 4.6907 & 2.7431 \\ 1/9 & 0.2132 & 1 & 0.5848 \\ 0.1900 & 0.3645 & 1.7100 & 1 \end{pmatrix},$$

Example C.535.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/4 \\ 1/6 & 1/2 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.547147 \\ 0.269393 \\ 0.046707 \\ 0.136752 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0310 & 11.7144 & 4.0010 \\ 0.4924 & 1 & 5.7677 & 1.9699 \\ 0.0854 & 0.1734 & 1 & 0.3415 \\ 0.2499 & 0.5076 & 2.9279 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.544907 \\ 0.272385 \\ 0.046516 \\ 0.136192 \end{pmatrix} = 0.995905 \cdot \begin{pmatrix} 0.547147 \\ 0.273505 \\ 0.046707 \\ 0.136752 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0005 & 11.7144 & 4.0010 \\ 0.4999 & 1 & 5.8557 & 2 \\ 0.0854 & 0.1708 & 1 & 0.3415 \\ 0.2499 & 1/2 & 2.9279 & 1 \end{pmatrix},$$

Example C.536.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 6 \\ 1/2 & 1 & 6 & 2 \\ 1/9 & 1/6 & 1 & 1/5 \\ 1/6 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1252, \quad CR = 0.0472$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.541469 \\ 0.265909 \\ 0.044891 \\ 0.147731 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0363 & 12.0617 & 3.6652 \\ 0.4911 & 1 & 5.9234 & 1.8000 \\ 0.0829 & 0.1688 & 1 & 0.3039 \\ 0.2728 & 0.5556 & 3.2908 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539613 \\ 0.268425 \\ 0.044738 \\ 0.147224 \end{pmatrix} = 0.996572 \cdot \begin{pmatrix} 0.541469 \\ 0.269349 \\ 0.044891 \\ 0.147731 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0103 & 12.0617 & 3.6652 \\ 0.4974 & 1 & 6 & 1.8232 \\ 0.0829 & 1/6 & 1 & 0.3039 \\ 0.2728 & 0.5485 & 3.2908 & 1 \end{pmatrix},$$

Example C.537.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 5 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/5 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1239, \quad CR = 0.0467$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.563564 \\ 0.284849 \\ 0.065349 \\ 0.086237 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9785 & 8.6239 & 6.5350 \\ 0.5054 & 1 & 4.3589 & 3.3031 \\ 0.1160 & 0.2294 & 1 & 0.7578 \\ 0.1530 & 0.3027 & 1.3196 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566225 \\ 0.283113 \\ 0.064951 \\ 0.085711 \end{pmatrix} = 0.993902 \cdot \begin{pmatrix} 0.569699 \\ 0.284849 \\ 0.065349 \\ 0.086237 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.7178 & 6.6062 \\ 1/2 & 1 & 4.3589 & 3.3031 \\ 0.1147 & 0.2294 & 1 & 0.7578 \\ 0.1514 & 0.3027 & 1.3196 & 1 \end{pmatrix},$$

Example C.538.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.555851 \\ 0.296543 \\ 0.064846 \\ 0.082761 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8744 & 8.5718 & 6.7163 \\ 0.5335 & 1 & 4.5730 & 3.5831 \\ 0.1167 & 0.2187 & 1 & 0.7835 \\ 0.1489 & 0.2791 & 1.2763 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566038 \\ 0.289741 \\ 0.063359 \\ 0.080863 \end{pmatrix} = 0.977063 \cdot \begin{pmatrix} 0.579326 \\ 0.296543 \\ 0.064846 \\ 0.082761 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9536 & 8.9339 & 7 \\ 0.5119 & 1 & 4.5730 & 3.5831 \\ 0.1119 & 0.2187 & 1 & 0.7835 \\ 1/7 & 0.2791 & 1.2763 & 1 \end{pmatrix},$$

Example C.539.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 7 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2086, \quad CR = 0.0786$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.549020 \\ 0.306466 \\ 0.064428 \\ 0.080086 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7915 & 8.5214 & 6.8554 \\ 0.5582 & 1 & 4.7567 & 3.8267 \\ 0.1174 & 0.2102 & 1 & 0.8045 \\ 0.1459 & 0.2613 & 1.2430 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.554183 \\ 0.302957 \\ 0.063691 \\ 0.079169 \end{pmatrix} = 0.988552 \cdot \begin{pmatrix} 0.560600 \\ 0.306466 \\ 0.064428 \\ 0.080086 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8292 & 8.7011 & 7 \\ 0.5467 & 1 & 4.7567 & 3.8267 \\ 0.1149 & 0.2102 & 1 & 0.8045 \\ 1/7 & 0.2613 & 1.2430 & 1 \end{pmatrix},$$

Example C.540.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 3 & 8 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/7 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.543058 \\ 0.314900 \\ 0.064088 \\ 0.077954 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7245 & 8.4736 & 6.9664 \\ 0.5799 & 1 & 4.9135 & 4.0396 \\ 0.1180 & 0.2035 & 1 & 0.8221 \\ 0.1435 & 0.2476 & 1.2164 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.544252 \\ 0.314077 \\ 0.063921 \\ 0.077750 \end{pmatrix} = 0.997388 \cdot \begin{pmatrix} 0.545677 \\ 0.314900 \\ 0.064088 \\ 0.077954 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7329 & 8.5145 & 7 \\ 0.5771 & 1 & 4.9135 & 4.0396 \\ 0.1174 & 0.2035 & 1 & 0.8221 \\ 1/7 & 0.2476 & 1.2164 & 1 \end{pmatrix},$$

Example C.541.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/5 \\ 1/7 & 1/2 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1597, \quad CR = 0.0602$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.545308 \\ 0.272035 \\ 0.042582 \\ 0.140075 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0045 & 12.8060 & 3.8930 \\ 0.4989 & 1 & 6.3885 & 1.9421 \\ 0.0781 & 0.1565 & 1 & 0.3040 \\ 0.2569 & 0.5149 & 3.2895 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.544971 \\ 0.272485 \\ 0.042556 \\ 0.139988 \end{pmatrix} = 0.999382 \cdot \begin{pmatrix} 0.545308 \\ 0.272654 \\ 0.042582 \\ 0.140075 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 12.8060 & 3.8930 \\ 1/2 & 1 & 6.4030 & 1.9465 \\ 0.0781 & 0.1562 & 1 & 0.3040 \\ 0.2569 & 0.5137 & 3.2895 & 1 \end{pmatrix},$$

Example C.542.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/6 \\ 1/7 & 1/2 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2059, \quad CR = 0.0776$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.540280 \\ 0.268455 \\ 0.041342 \\ 0.149923 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0126 & 13.0685 & 3.6037 \\ 0.4969 & 1 & 6.4935 & 1.7906 \\ 0.0765 & 0.1540 & 1 & 0.2758 \\ 0.2775 & 0.5585 & 3.6264 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.539371 \\ 0.269686 \\ 0.041273 \\ 0.149671 \end{pmatrix} = 0.998317 \cdot \begin{pmatrix} 0.540280 \\ 0.270140 \\ 0.041342 \\ 0.149923 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 13.0685 & 3.6037 \\ 1/2 & 1 & 6.5343 & 1.8019 \\ 0.0765 & 0.1530 & 1 & 0.2758 \\ 0.2775 & 0.5550 & 3.6264 & 1 \end{pmatrix},$$

Example C.543.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 7 \\ 1/2 & 1 & 7 & 2 \\ 1/9 & 1/7 & 1 & 1/7 \\ 1/7 & 1/2 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2526, \quad CR = 0.0952$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.535720 \\ 0.265045 \\ 0.040338 \\ 0.158897 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0212 & 13.2807 & 3.3715 \\ 0.4947 & 1 & 6.5706 & 1.6680 \\ 0.0753 & 0.1522 & 1 & 0.2539 \\ 0.2966 & 0.5995 & 3.9391 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.534216 \\ 0.267108 \\ 0.040225 \\ 0.158451 \end{pmatrix} = 0.997193 \cdot \begin{pmatrix} 0.535720 \\ 0.267860 \\ 0.040338 \\ 0.158897 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 13.2807 & 3.3715 \\ 1/2 & 1 & 6.6404 & 1.6857 \\ 0.0753 & 0.1506 & 1 & 0.2539 \\ 0.2966 & 0.5932 & 3.9391 & 1 \end{pmatrix},$$

Example C.544.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 6 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/8 & 1/6 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.565877 \\ 0.290223 \\ 0.064558 \\ 0.079342 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9498 & 8.7654 & 7.1321 \\ 0.5129 & 1 & 4.4955 & 3.6579 \\ 0.1141 & 0.2224 & 1 & 0.8137 \\ 0.1402 & 0.2734 & 1.2290 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.572111 \\ 0.286055 \\ 0.063631 \\ 0.078203 \end{pmatrix} = 0.985640 \cdot \begin{pmatrix} 0.580446 \\ 0.290223 \\ 0.064558 \\ 0.079342 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 8.9910 & 7.3158 \\ 1/2 & 1 & 4.4955 & 3.6579 \\ 0.1112 & 0.2224 & 1 & 0.8137 \\ 0.1367 & 0.2734 & 1.2290 & 1 \end{pmatrix},$$

Example C.545.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 7 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/8 & 1/7 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2065, \quad CR = 0.0779$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.558970 \\ 0.300089 \\ 0.064166 \\ 0.076775 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.8627 & 8.7113 & 7.2807 \\ 0.5369 & 1 & 4.6767 & 3.9087 \\ 0.1148 & 0.2138 & 1 & 0.8358 \\ 0.1373 & 0.2558 & 1.1965 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566993 \\ 0.294630 \\ 0.062999 \\ 0.075378 \end{pmatrix} = 0.981809 \cdot \begin{pmatrix} 0.577498 \\ 0.300089 \\ 0.064166 \\ 0.076775 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9244 & 9 & 7.5220 \\ 0.5196 & 1 & 4.6767 & 3.9087 \\ 1/9 & 0.2138 & 1 & 0.8358 \\ 0.1329 & 0.2558 & 1.1965 & 1 \end{pmatrix},$$

Example C.546.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 8 \\ 1/2 & 1 & 3 & 8 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/8 & 1/8 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2469, \quad CR = 0.0931$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.552799 \\ 0.308630 \\ 0.063843 \\ 0.074728 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7911 & 8.6588 & 7.3974 \\ 0.5583 & 1 & 4.8342 & 4.1300 \\ 0.1155 & 0.2069 & 1 & 0.8543 \\ 0.1352 & 0.2421 & 1.1705 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.562333 \\ 0.302050 \\ 0.062481 \\ 0.073135 \end{pmatrix} = 0.978679 \cdot \begin{pmatrix} 0.574584 \\ 0.308630 \\ 0.063843 \\ 0.074728 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.8617 & 9 & 7.6890 \\ 0.5371 & 1 & 4.8342 & 4.1300 \\ 1/9 & 0.2069 & 1 & 0.8543 \\ 0.1301 & 0.2421 & 1.1705 & 1 \end{pmatrix},$$

Example C.547.

$$\mathbf{A} = \begin{pmatrix} 1 & 2 & 9 & 9 \\ 1/2 & 1 & 6 & 3 \\ 1/9 & 1/6 & 1 & 1/3 \\ 1/9 & 1/3 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.570443 \\ 0.281314 \\ 0.048047 \\ 0.100196 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0278 & 11.8727 & 5.6933 \\ 0.4931 & 1 & 5.8550 & 2.8076 \\ 0.0842 & 0.1708 & 1 & 0.4795 \\ 0.1756 & 0.3562 & 2.0854 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568223 \\ 0.284111 \\ 0.047860 \\ 0.099806 \end{pmatrix} = 0.996107 \cdot \begin{pmatrix} 0.570443 \\ 0.285222 \\ 0.048047 \\ 0.100196 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2 & 11.8727 & 5.6933 \\ 1/2 & 1 & 5.9364 & 2.8466 \\ 0.0842 & 0.1685 & 1 & 0.4795 \\ 0.1756 & 0.3513 & 2.0854 & 1 \end{pmatrix},$$

Example C.548.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 2 & 5 \\ 1/3 & 1 & 1 & 1 \\ 1/2 & 1 & 1 & 1/2 \\ 1/5 & 1 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.486608 \\ 0.158915 \\ 0.165552 \\ 0.188925 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.0621 & 2.9393 & 2.5757 \\ 0.3266 & 1 & 0.9599 & 0.8412 \\ 0.3402 & 1.0418 & 1 & 0.8763 \\ 0.3882 & 1.1888 & 1.1412 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.485013 \\ 0.161671 \\ 0.165009 \\ 0.188306 \end{pmatrix} = 0.996723 \cdot \begin{pmatrix} 0.486608 \\ 0.162203 \\ 0.165552 \\ 0.188925 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 2.9393 & 2.5757 \\ 1/3 & 1 & 0.9798 & 0.8586 \\ 0.3402 & 1.0206 & 1 & 0.8763 \\ 0.3882 & 1.1647 & 1.1412 & 1 \end{pmatrix},$$

Example C.549.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 1 \\ 1/3 & 1 & 2 & 1 \\ 1/4 & 1/2 & 1 & 1/3 \\ 1 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.403788 \\ 0.204899 \\ \mathbf{0.097107} \\ 0.294206 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9707 & \mathbf{4.1582} & 1.3725 \\ 0.5074 & 1 & \mathbf{2.1100} & 0.6964 \\ \mathbf{0.2405} & \mathbf{0.4739} & 1 & \mathbf{0.3301} \\ 0.7286 & 1.4359 & \mathbf{3.0297} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.403400 \\ 0.204702 \\ 0.097975 \\ 0.293924 \end{pmatrix} = 0.999040 \cdot \begin{pmatrix} 0.403788 \\ 0.204899 \\ \mathbf{0.098069} \\ 0.294206 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9707 & \mathbf{4.1174} & 1.3725 \\ 0.5074 & 1 & \mathbf{2.0893} & 0.6964 \\ \mathbf{0.2429} & \mathbf{0.4786} & 1 & \mathbf{1/3} \\ 0.7286 & 1.4359 & \mathbf{3} & 1 \end{pmatrix},$$

Example C.550.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 4 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/4 & 1 & 1 & 1/3 \\ 1/2 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.471483 \\ 0.167313 \\ 0.118553 \\ 0.242651 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8180 & 3.9770 & 1.9430 \\ 0.3549 & 1 & 1.4113 & 0.6895 \\ 0.2514 & 0.7086 & 1 & 0.4886 \\ 0.5147 & 1.4503 & 2.0468 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.472921 \\ 0.166858 \\ 0.118230 \\ 0.241991 \end{pmatrix} = 0.997279 \cdot \begin{pmatrix} 0.474211 \\ 0.167313 \\ 0.118553 \\ 0.242651 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.8343 & 4 & 1.9543 \\ 0.3528 & 1 & 1.4113 & 0.6895 \\ 1/4 & 0.7086 & 1 & 0.4886 \\ 0.5117 & 1.4503 & 2.0468 & 1 \end{pmatrix},$$

Example C.551.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/5 & 1 & 1 & 1/4 \\ 1/2 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.479412 \\ 0.164723 \\ 0.103842 \\ 0.252023 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9104 & 4.6168 & 1.9023 \\ 0.3436 & 1 & 1.5863 & 0.6536 \\ 0.2166 & 0.6304 & 1 & 0.4120 \\ 0.5257 & 1.5300 & 2.4270 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.486983 \\ 0.162328 \\ 0.102332 \\ 0.248357 \end{pmatrix} = 0.985457 \cdot \begin{pmatrix} 0.494170 \\ 0.164723 \\ 0.103842 \\ 0.252023 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 4.7589 & 1.9608 \\ 1/3 & 1 & 1.5863 & 0.6536 \\ 0.2101 & 0.6304 & 1 & 0.4120 \\ 0.5100 & 1.5300 & 2.4270 & 1 \end{pmatrix},$$

Example C.552.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/5 & 1 & 1 & 1/5 \\ 1/2 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.471648 \\ 0.163545 \\ 0.099326 \\ 0.265481 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.8839 & 4.7485 & 1.7766 \\ 0.3468 & 1 & 1.6465 & 0.6160 \\ 0.2106 & 0.6073 & 1 & 0.3741 \\ 0.5629 & 1.6233 & 2.6728 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.481492 \\ 0.160497 \\ 0.097475 \\ 0.260535 \end{pmatrix} = 0.981367 \cdot \begin{pmatrix} 0.490634 \\ 0.163545 \\ 0.099326 \\ 0.265481 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 4.9396 & 1.8481 \\ 1/3 & 1 & 1.6465 & 0.6160 \\ 0.2024 & 0.6073 & 1 & 0.3741 \\ 0.5411 & 1.6233 & 2.6728 & 1 \end{pmatrix},$$

Example C.553.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 5 & 4 \\ 1/3 & 1 & 1 & 2 \\ 1/5 & 1 & 1 & 1/2 \\ 1/4 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.548740 \\ 0.186740 \\ 0.118081 \\ 0.146439 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9385 & 4.6472 & 3.7472 \\ 0.3403 & 1 & 1.5815 & 1.2752 \\ 0.2152 & 0.6323 & 1 & 0.8063 \\ 0.2669 & 0.7842 & 1.2402 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553862 \\ 0.184621 \\ 0.116740 \\ 0.144777 \end{pmatrix} = 0.988649 \cdot \begin{pmatrix} 0.560221 \\ 0.186740 \\ 0.118081 \\ 0.146439 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 4.7444 & 3.8256 \\ 1/3 & 1 & 1.5815 & 1.2752 \\ 0.2108 & 0.6323 & 1 & 0.8063 \\ 0.2614 & 0.7842 & 1.2402 & 1 \end{pmatrix},$$

Example C.554.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 1 \\ 1/3 & 1 & 3 & 1 \\ 1/6 & 1/3 & 1 & 1/4 \\ 1 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.420069 \\ 0.213167 \\ \mathbf{0.069669} \\ 0.297095 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9706 & \mathbf{6.0295} & 1.4139 \\ 0.5075 & 1 & \mathbf{3.0597} & 0.7175 \\ \mathbf{0.1659} & \mathbf{0.3268} & 1 & \mathbf{0.2345} \\ 0.7073 & 1.3937 & \mathbf{4.2644} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.419925 \\ 0.213094 \\ 0.069988 \\ 0.296993 \end{pmatrix} = 0.999657 \cdot \begin{pmatrix} 0.420069 \\ 0.213167 \\ \mathbf{0.070012} \\ 0.297095 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9706 & \mathbf{6} & 1.4139 \\ 0.5075 & 1 & \mathbf{3.0447} & 0.7175 \\ \mathbf{1/6} & \mathbf{0.3284} & 1 & \mathbf{0.2357} \\ 0.7073 & 1.3937 & \mathbf{4.2435} & 1 \end{pmatrix},$$

Example C.555.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 2 \\ 1/3 & 1 & 1 & 1 \\ 1/6 & 1 & 1 & 1/5 \\ 1/2 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.484698 \\ 0.162989 \\ 0.094078 \\ 0.258235 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.9738 & 5.1521 & 1.8770 \\ 0.3363 & 1 & 1.7325 & 0.6312 \\ 0.1941 & 0.5772 & 1 & 0.3643 \\ 0.5328 & 1.5844 & 2.7449 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.486889 \\ 0.162296 \\ 0.093678 \\ 0.257137 \end{pmatrix} = 0.995749 \cdot \begin{pmatrix} 0.488968 \\ 0.162989 \\ 0.094078 \\ 0.258235 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3 & 5.1975 & 1.8935 \\ 1/3 & 1 & 1.7325 & 0.6312 \\ 0.1924 & 0.5772 & 1 & 0.3643 \\ 0.5281 & 1.5844 & 2.7449 & 1 \end{pmatrix},$$

Example C.556.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 6 & 5 \\ 1/3 & 1 & 9 & 3 \\ 1/6 & 1/9 & 1 & 1/2 \\ 1/5 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1966, \quad CR = 0.0741$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.524725 \\ 0.313520 \\ 0.058649 \\ \mathbf{0.103107} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.6737 & 8.9468 & \mathbf{5.0891} \\ 0.5975 & 1 & 5.3457 & \mathbf{3.0407} \\ 0.1118 & 0.1871 & 1 & \mathbf{0.5688} \\ \mathbf{0.1965} & \mathbf{0.3289} & \mathbf{1.7580} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.523991 \\ 0.313081 \\ 0.058567 \\ 0.104360 \end{pmatrix} = 0.998602 \cdot \begin{pmatrix} 0.524725 \\ 0.313520 \\ 0.058649 \\ \mathbf{0.104507} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.6737 & 8.9468 & \mathbf{5.0210} \\ 0.5975 & 1 & 5.3457 & \mathbf{3} \\ 0.1118 & 0.1871 & 1 & \mathbf{0.5612} \\ \mathbf{0.1992} & \mathbf{1/3} & \mathbf{1.7819} & 1 \end{pmatrix},$$

Example C.557.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 7 & 5 \\ 1/3 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/2 \\ 1/5 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1583, \quad CR = 0.0597$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.535752 \\ 0.307749 \\ 0.054554 \\ \mathbf{0.101945} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.7409 & 9.8206 & \mathbf{5.2553} \\ 0.5744 & 1 & 5.6412 & \mathbf{3.0188} \\ 0.1018 & 0.1773 & 1 & \mathbf{0.5351} \\ \mathbf{0.1903} & \mathbf{0.3313} & \mathbf{1.8687} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.535410 \\ 0.307553 \\ 0.054519 \\ 0.102518 \end{pmatrix} = 0.999363 \cdot \begin{pmatrix} 0.535752 \\ 0.307749 \\ 0.054554 \\ \mathbf{0.102583} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.7409 & 9.8206 & \mathbf{5.2226} \\ 0.5744 & 1 & 5.6412 & \mathbf{3} \\ 0.1018 & 0.1773 & 1 & \mathbf{0.5318} \\ \mathbf{0.1915} & \mathbf{1/3} & \mathbf{1.8804} & 1 \end{pmatrix},$$

Example C.558.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 1 \\ 1/3 & 1 & 4 & 1 \\ 1/8 & 1/4 & 1 & 1/6 \\ 1 & 1 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.424230 \\ 0.215438 \\ \mathbf{0.051035} \\ 0.309296 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9691 & \mathbf{8.3125} & 1.3716 \\ 0.5078 & 1 & \mathbf{4.2214} & 0.6965 \\ \mathbf{0.1203} & \mathbf{0.2369} & 1 & \mathbf{0.1650} \\ 0.7291 & 1.4357 & \mathbf{6.0604} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.424012 \\ 0.215328 \\ 0.051523 \\ 0.309137 \end{pmatrix} = 0.999486 \cdot \begin{pmatrix} 0.424230 \\ 0.215438 \\ \mathbf{0.051549} \\ 0.309296 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9691 & \mathbf{8.2296} & 1.3716 \\ 0.5078 & 1 & \mathbf{4.1793} & 0.6965 \\ \mathbf{0.1215} & \mathbf{0.2393} & 1 & \mathbf{1/6} \\ 0.7291 & 1.4357 & \mathbf{6} & 1 \end{pmatrix},$$

Example C.559.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 8 & 3 \\ 1/3 & 1 & 4 & 3 \\ 1/8 & 1/4 & 1 & 1/2 \\ 1/3 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.531172 \\ 0.271119 \\ 0.064720 \\ 0.132989 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9592 & 8.2072 & 3.9941 \\ 0.5104 & 1 & 4.1891 & 2.0387 \\ 0.1218 & 0.2387 & 1 & 0.4867 \\ 0.2504 & 0.4905 & 2.0548 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.530283 \\ 0.270665 \\ 0.066285 \\ 0.132766 \end{pmatrix} = 0.998327 \cdot \begin{pmatrix} 0.531172 \\ 0.271119 \\ 0.066396 \\ 0.132989 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9592 & 8 & 3.9941 \\ 0.5104 & 1 & 4.0833 & 2.0387 \\ 1/8 & 0.2449 & 1 & 0.4993 \\ 0.2504 & 0.4905 & 2.0029 & 1 \end{pmatrix},$$

Example C.560.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 1 \\ 1/3 & 1 & 5 & 1 \\ 1/9 & 1/5 & 1 & 1/7 \\ 1 & 1 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1048, \quad CR = 0.0395$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.423515 \\ 0.220987 \\ 0.043848 \\ 0.311650 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9165 & 9.6587 & 1.3589 \\ 0.5218 & 1 & 5.0398 & 0.7091 \\ 0.1035 & 0.1984 & 1 & 0.1407 \\ 0.7359 & 1.4103 & 7.1075 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.423367 \\ 0.220910 \\ 0.044182 \\ 0.311541 \end{pmatrix} = 0.999651 \cdot \begin{pmatrix} 0.423515 \\ 0.220987 \\ 0.044197 \\ 0.311650 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9165 & 9.5824 & 1.3589 \\ 0.5218 & 1 & 5 & 0.7091 \\ 0.1044 & 1/5 & 1 & 0.1418 \\ 0.7359 & 1.4103 & 7.0513 & 1 \end{pmatrix},$$

Example C.561.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 6 \\ 1/3 & 1 & 8 & 3 \\ 1/9 & 1/8 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.0820, \quad CR = 0.0309$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.574362 \\ 0.282792 \\ 0.049018 \\ \mathbf{0.093827} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0310 & 11.7173 & \mathbf{6.1215} \\ 0.4924 & 1 & 5.7691 & \mathbf{3.0140} \\ 0.0853 & 0.1733 & 1 & \mathbf{0.5224} \\ \mathbf{0.1634} & \mathbf{0.3318} & \mathbf{1.9141} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.574111 \\ 0.282669 \\ 0.048997 \\ 0.094223 \end{pmatrix} = 0.999563 \cdot \begin{pmatrix} 0.574362 \\ 0.282792 \\ 0.049018 \\ \mathbf{0.094264} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0310 & 11.7173 & \mathbf{6.0931} \\ 0.4924 & 1 & 5.7691 & \mathbf{3} \\ 0.0853 & 0.1733 & 1 & \mathbf{0.5200} \\ \mathbf{0.1641} & \mathbf{1/3} & \mathbf{1.9230} & 1 \end{pmatrix},$$

Example C.562.

$$\mathbf{A} = \begin{pmatrix} 1 & 3 & 9 & 6 \\ 1/3 & 1 & 9 & 3 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.569203 \\ 0.290492 \\ 0.047694 \\ \mathbf{0.092611} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 1.9594 & 11.9344 & \mathbf{6.1462} \\ 0.5103 & 1 & 6.0907 & \mathbf{3.1367} \\ 0.0838 & 0.1642 & 1 & \mathbf{0.5150} \\ \mathbf{0.1627} & \mathbf{0.3188} & \mathbf{1.9417} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.567921 \\ 0.289838 \\ 0.047587 \\ 0.094654 \end{pmatrix} = 0.997749 \cdot \begin{pmatrix} 0.569203 \\ 0.290492 \\ 0.047694 \\ \mathbf{0.094867} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 1.9594 & 11.9344 & \mathbf{6} \\ 0.5103 & 1 & 6.0907 & \mathbf{3.0621} \\ 0.0838 & 0.1642 & 1 & \mathbf{0.5027} \\ \mathbf{1/6} & \mathbf{0.3266} & \mathbf{1.9891} & 1 \end{pmatrix},$$

Example C.563.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 7 \\ 1/4 & 1 & 1 & 1 \\ 1/3 & 1 & 1 & 1/2 \\ 1/7 & 1 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2109, \quad CR = 0.0795$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.567277 \\ 0.135456 \\ 0.136472 \\ 0.160796 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.1879 & 4.1567 & 3.5279 \\ 0.2388 & 1 & 0.9926 & 0.8424 \\ 0.2406 & 1.0075 & 1 & 0.8487 \\ 0.2835 & 1.1871 & 1.1782 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.566701 \\ 0.136333 \\ 0.136333 \\ 0.160632 \end{pmatrix} = 0.998985 \cdot \begin{pmatrix} 0.567277 \\ 0.136472 \\ 0.136472 \\ 0.160796 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.1567 & 4.1567 & 3.5279 \\ 0.2406 & 1 & 1 & 0.8487 \\ 0.2406 & 1 & 1 & 0.8487 \\ 0.2835 & 1.1782 & 1.1782 & 1 \end{pmatrix},$$

Example C.564.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 3 & 8 \\ 1/4 & 1 & 1 & 1 \\ 1/3 & 1 & 1 & 1/2 \\ 1/8 & 1 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2512, \quad CR = 0.0947$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.572920 \\ 0.133930 \\ 0.136320 \\ 0.156829 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.2778 & 4.2027 & 3.6531 \\ 0.2338 & 1 & 0.9825 & 0.8540 \\ 0.2379 & 1.0178 & 1 & 0.8692 \\ 0.2737 & 1.1710 & 1.1504 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.571554 \\ 0.135995 \\ 0.135995 \\ 0.156455 \end{pmatrix} = 0.997615 \cdot \begin{pmatrix} 0.572920 \\ 0.136320 \\ 0.136320 \\ 0.156829 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.2027 & 4.2027 & 3.6531 \\ 0.2379 & 1 & 1 & 0.8692 \\ 0.2379 & 1 & 1 & 0.8692 \\ 0.2737 & 1.1504 & 1.1504 & 1 \end{pmatrix},$$

Example C.565.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 4 & 1 \\ 1/4 & 1 & 2 & 1 \\ 1/4 & 1/2 & 1 & 1/3 \\ 1 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.419956 \\ 0.192414 \\ \mathbf{0.094949} \\ 0.292681 \end{pmatrix}$$

$$\begin{bmatrix} \frac{w_i^{cos}}{w_j^{cos}} \end{bmatrix} = \begin{pmatrix} 1 & 2.1826 & \mathbf{4.4229} & 1.4349 \\ 0.4582 & 1 & \mathbf{2.0265} & 0.6574 \\ \mathbf{0.2261} & \mathbf{0.4935} & 1 & \mathbf{0.3244} \\ 0.6969 & 1.5211 & \mathbf{3.0825} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.419428 \\ 0.192172 \\ 0.096086 \\ 0.292314 \end{pmatrix} = 0.998744 \cdot \begin{pmatrix} 0.419956 \\ 0.192414 \\ \mathbf{0.096207} \\ 0.292681 \end{pmatrix},$$

$$\begin{bmatrix} \frac{w'_i}{w'_j} \end{bmatrix} = \begin{pmatrix} 1 & 2.1826 & \mathbf{4.3651} & 1.4349 \\ 0.4582 & 1 & \mathbf{2} & 0.6574 \\ \mathbf{0.2291} & \mathbf{1/2} & 1 & \mathbf{0.3287} \\ 0.6969 & 1.5211 & \mathbf{3.0422} & 1 \end{pmatrix},$$

Example C.566.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 2 \\ 1/4 & 1 & 1 & 1 \\ 1/6 & 1 & 1 & 1/5 \\ 1/2 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.507115 \\ 0.148033 \\ 0.087881 \\ 0.256971 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.4257 & 5.7704 & 1.9734 \\ 0.2919 & 1 & 1.6845 & 0.5761 \\ 0.1733 & 0.5937 & 1 & 0.3420 \\ 0.5067 & 1.7359 & 2.9241 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.510457 \\ 0.147029 \\ 0.087285 \\ 0.255229 \end{pmatrix} = 0.993218 \cdot \begin{pmatrix} 0.513943 \\ 0.148033 \\ 0.087881 \\ 0.256971 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.4718 & 5.8481 & 2 \\ 0.2880 & 1 & 1.6845 & 0.5761 \\ 0.1710 & 0.5937 & 1 & 0.3420 \\ 1/2 & 1.7359 & 2.9241 & 1 \end{pmatrix},$$

Example C.567.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 3 \\ 1/4 & 1 & 1 & 1 \\ 1/6 & 1 & 1 & 1/3 \\ 1/3 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.562694 \\ 0.140996 \\ 0.097914 \\ 0.198396 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9908 & 5.7468 & 2.8362 \\ 0.2506 & 1 & 1.4400 & 0.7107 \\ 0.1740 & 0.6944 & 1 & 0.4935 \\ 0.3526 & 1.4071 & 2.0262 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.563258 \\ 0.140814 \\ 0.097788 \\ 0.198140 \end{pmatrix} = 0.998711 \cdot \begin{pmatrix} 0.563985 \\ 0.140996 \\ 0.097914 \\ 0.198396 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4 & 5.7600 & 2.8427 \\ 1/4 & 1 & 1.4400 & 0.7107 \\ 0.1736 & 0.6944 & 1 & 0.4935 \\ 0.3518 & 1.4071 & 2.0262 & 1 \end{pmatrix},$$

Example C.568.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 3 \\ 1/4 & 1 & 1 & 1 \\ 1/6 & 1 & 1 & 1/4 \\ 1/3 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.553243 \\ 0.139421 \\ 0.092411 \\ 0.214925 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9681 & 5.9868 & 2.5741 \\ 0.2520 & 1 & 1.5087 & 0.6487 \\ 0.1670 & 0.6628 & 1 & 0.4300 \\ 0.3885 & 1.5415 & 2.3258 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.553789 \\ 0.139251 \\ 0.092298 \\ 0.214662 \end{pmatrix} = 0.998779 \cdot \begin{pmatrix} 0.554466 \\ 0.139421 \\ 0.092411 \\ 0.214925 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9769 & 6 & 2.5798 \\ 0.2515 & 1 & 1.5087 & 0.6487 \\ 1/6 & 0.6628 & 1 & 0.4300 \\ 0.3876 & 1.5415 & 2.3258 & 1 \end{pmatrix},$$

Example C.569.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 5 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1 & 1 & 1/2 \\ 1/5 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.605455 \\ 0.161022 \\ 0.103751 \\ 0.129772 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.7601 & 5.8357 & 4.6655 \\ 0.2660 & 1 & 1.5520 & 1.2408 \\ 0.1714 & 0.6443 & 1 & 0.7995 \\ 0.2143 & 0.8059 & 1.2508 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.612070 \\ 0.158323 \\ 0.102012 \\ 0.127596 \end{pmatrix} = 0.983236 \cdot \begin{pmatrix} 0.622505 \\ 0.161022 \\ 0.103751 \\ 0.129772 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.8660 & 6 & 4.7969 \\ 0.2587 & 1 & 1.5520 & 1.2408 \\ 1/6 & 0.6443 & 1 & 0.7995 \\ 0.2085 & 0.8059 & 1.2508 & 1 \end{pmatrix},$$

Example C.570.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 6 & 6 \\ 1/4 & 1 & 1 & 2 \\ 1/6 & 1 & 1 & 1/2 \\ 1/6 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.619434 \\ 0.154974 \\ 0.103268 \\ 0.122323 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.9970 & 5.9983 & 5.0639 \\ 0.2502 & 1 & 1.5007 & 1.2669 \\ 0.1667 & 0.6664 & 1 & 0.8442 \\ 0.1975 & 0.7893 & 1.1845 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.619501 \\ 0.154947 \\ 0.103250 \\ 0.122302 \end{pmatrix} = 0.999824 \cdot \begin{pmatrix} 0.619611 \\ 0.154974 \\ 0.103268 \\ 0.122323 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9982 & 6 & 5.0654 \\ 0.2501 & 1 & 1.5007 & 1.2669 \\ 1/6 & 0.6664 & 1 & 0.8442 \\ 0.1974 & 0.7893 & 1.1845 & 1 \end{pmatrix},$$

Example C.571.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 1 \\ 1/4 & 1 & 3 & 1 \\ 1/7 & 1/3 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.441503 \\ 0.194592 \\ \mathbf{0.059627} \\ 0.304278 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2689 & \mathbf{7.4044} & 1.4510 \\ 0.4407 & 1 & \mathbf{3.2635} & 0.6395 \\ \mathbf{0.1351} & \mathbf{0.3064} & 1 & \mathbf{0.1960} \\ 0.6892 & 1.5637 & \mathbf{5.1030} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.440962 \\ 0.194353 \\ 0.060781 \\ 0.303904 \end{pmatrix} = 0.998773 \cdot \begin{pmatrix} 0.441503 \\ 0.194592 \\ \mathbf{0.060856} \\ 0.304278 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2689 & \mathbf{7.2549} & 1.4510 \\ 0.4407 & 1 & \mathbf{3.1976} & 0.6395 \\ \mathbf{0.1378} & \mathbf{0.3127} & 1 & \mathbf{1/5} \\ 0.6892 & 1.5637 & \mathbf{5} & 1 \end{pmatrix},$$

Example C.572.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 5 \\ 1/4 & 1 & 1 & 2 \\ 1/7 & 1 & 1 & 1/2 \\ 1/5 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.616677 \\ 0.159990 \\ 0.098233 \\ 0.125100 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 3.8545 & 6.2777 & 4.9295 \\ 0.2594 & 1 & 1.6287 & 1.2789 \\ 0.1593 & 0.6140 & 1 & 0.7852 \\ 0.2029 & 0.7819 & 1.2735 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.620029 \\ 0.158591 \\ 0.097374 \\ 0.124006 \end{pmatrix} = 0.991256 \cdot \begin{pmatrix} 0.625498 \\ 0.159990 \\ 0.098233 \\ 0.125100 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 3.9096 & 6.3675 & 5 \\ 0.2558 & 1 & 1.6287 & 1.2789 \\ 0.1570 & 0.6140 & 1 & 0.7852 \\ 1/5 & 0.7819 & 1.2735 & 1 \end{pmatrix},$$

Example C.573.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 7 & 6 \\ 1/4 & 1 & 9 & 3 \\ 1/7 & 1/9 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2359, \quad CR = 0.0890$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.569105 \\ 0.283630 \\ 0.053892 \\ \mathbf{0.093373} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0065 & 10.5600 & \mathbf{6.0950} \\ 0.4984 & 1 & 5.2629 & \mathbf{3.0376} \\ 0.0947 & 0.1900 & 1 & \mathbf{0.5772} \\ \mathbf{0.1641} & \mathbf{0.3292} & \mathbf{1.7326} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568439 \\ 0.283298 \\ 0.053829 \\ 0.094433 \end{pmatrix} = 0.998831 \cdot \begin{pmatrix} 0.569105 \\ 0.283630 \\ 0.053892 \\ \mathbf{0.094543} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0065 & 10.5600 & \mathbf{6.0195} \\ 0.4984 & 1 & 5.2629 & \mathbf{3} \\ 0.0947 & 0.1900 & 1 & \mathbf{0.5700} \\ \mathbf{0.1661} & \mathbf{1/3} & \mathbf{1.7543} & 1 \end{pmatrix},$$

Example C.574.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 8 & 1 \\ 1/4 & 1 & 4 & 1 \\ 1/8 & 1/4 & 1 & 1/6 \\ 1 & 1 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.440534 \\ 0.202137 \\ 0.049857 \\ 0.307472 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.1794 & 8.8360 & 1.4328 \\ 0.4588 & 1 & 4.0544 & 0.6574 \\ 0.1132 & 0.2466 & 1 & 0.1622 \\ 0.6980 & 1.5211 & 6.1671 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.440235 \\ 0.202000 \\ 0.050500 \\ 0.307264 \end{pmatrix} = 0.999323 \cdot \begin{pmatrix} 0.440534 \\ 0.202137 \\ 0.050534 \\ 0.307472 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.1794 & 8.7175 & 1.4328 \\ 0.4588 & 1 & 4 & 0.6574 \\ 0.1147 & 1/4 & 1 & 0.1644 \\ 0.6980 & 1.5211 & 6.0844 & 1 \end{pmatrix},$$

Example C.575.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 8 & 6 \\ 1/4 & 1 & 9 & 3 \\ 1/8 & 1/9 & 1 & 1/2 \\ 1/6 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1990, \quad CR = 0.0750$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.579496 \\ 0.277809 \\ 0.050496 \\ \mathbf{0.092199} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.0860 & 11.4761 & \mathbf{6.2853} \\ 0.4794 & 1 & 5.5016 & \mathbf{3.0131} \\ 0.0871 & 0.1818 & 1 & \mathbf{0.5477} \\ \mathbf{0.1591} & \mathbf{0.3319} & \mathbf{1.8259} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.579262 \\ 0.277697 \\ 0.050475 \\ 0.092566 \end{pmatrix} = 0.999596 \cdot \begin{pmatrix} 0.579496 \\ 0.277809 \\ 0.050496 \\ \mathbf{0.092603} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.0860 & 11.4761 & \mathbf{6.2579} \\ 0.4794 & 1 & 5.5016 & \mathbf{3} \\ 0.0871 & 0.1818 & 1 & \mathbf{0.5453} \\ \mathbf{0.1598} & \mathbf{1/3} & \mathbf{1.8339} & 1 \end{pmatrix},$$

Example C.576.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 9 & 1 \\ 1/4 & 1 & 4 & 1 \\ 1/9 & 1/4 & 1 & 1/6 \\ 1 & 1 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.448765 \\ 0.199643 \\ \mathbf{0.047786} \\ 0.303806 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2478 & \mathbf{9.3911} & 1.4771 \\ 0.4449 & 1 & \mathbf{4.1778} & 0.6571 \\ \mathbf{0.1065} & \mathbf{0.2394} & 1 & \mathbf{0.1573} \\ 0.6770 & 1.5217 & \mathbf{6.3576} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.447835 \\ 0.199229 \\ 0.049759 \\ 0.303176 \end{pmatrix} = 0.997928 \cdot \begin{pmatrix} 0.448765 \\ 0.199643 \\ \mathbf{0.049863} \\ 0.303806 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2478 & \mathbf{9} & 1.4771 \\ 0.4449 & 1 & \mathbf{4.0039} & 0.6571 \\ \mathbf{1/9} & \mathbf{0.2498} & 1 & \mathbf{0.1641} \\ 0.6770 & 1.5217 & \mathbf{6.0928} & 1 \end{pmatrix},$$

Example C.577.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 9 & 3 \\ 1/4 & 1 & 4 & 3 \\ 1/9 & 1/4 & 1 & 1/2 \\ 1/3 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.558084 \\ 0.250238 \\ \mathbf{0.060568} \\ 0.131110 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2302 & \mathbf{9.2142} & 4.2566 \\ 0.4484 & 1 & \mathbf{4.1315} & 1.9086 \\ \mathbf{0.1085} & \mathbf{0.2420} & 1 & \mathbf{0.4620} \\ 0.2349 & 0.5239 & \mathbf{2.1647} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.557281 \\ 0.249878 \\ 0.061920 \\ 0.130921 \end{pmatrix} = 0.998560 \cdot \begin{pmatrix} 0.558084 \\ 0.250238 \\ \mathbf{0.062009} \\ 0.131110 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2302 & \mathbf{9} & 4.2566 \\ 0.4484 & 1 & \mathbf{4.0355} & 1.9086 \\ \mathbf{1/9} & \mathbf{0.2478} & 1 & \mathbf{0.4730} \\ 0.2349 & 0.5239 & \mathbf{2.1144} & 1 \end{pmatrix},$$

Example C.578.

$$\mathbf{A} = \begin{pmatrix} 1 & 4 & 9 & 7 \\ 1/4 & 1 & 9 & 3 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/7 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.600836 \\ 0.266821 \\ 0.046895 \\ \textcolor{red}{0.085448} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.2518 & 12.8123 & \textcolor{red}{7.0316} \\ 0.4441 & 1 & 5.6897 & \textcolor{red}{3.1226} \\ 0.0780 & 0.1758 & 1 & \textcolor{red}{0.5488} \\ \textcolor{red}{0.1422} & \textcolor{red}{0.3202} & \textcolor{red}{1.8221} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.600604 \\ 0.266718 \\ 0.046877 \\ 0.085801 \end{pmatrix} = 0.999614 \cdot \begin{pmatrix} 0.600836 \\ 0.266821 \\ 0.046895 \\ \textcolor{green}{0.085834} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.2518 & 12.8123 & \textcolor{blue}{7} \\ 0.4441 & 1 & 5.6897 & \textcolor{green}{3.1086} \\ 0.0780 & 0.1758 & 1 & \textcolor{green}{0.5463} \\ \textcolor{blue}{1/7} & \textcolor{green}{0.3217} & \textcolor{green}{1.8303} & 1 \end{pmatrix},$$

Example C.579.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 5 & 1 \\ 1/5 & 1 & 2 & 1 \\ 1/5 & 1/2 & 1 & 1/3 \\ 1 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.447091 \\ 0.180307 \\ \mathbf{0.086428} \\ 0.286175 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4796 & \mathbf{5.1730} & 1.5623 \\ 0.4033 & 1 & \mathbf{2.0862} & 0.6301 \\ \mathbf{0.1933} & \mathbf{0.4793} & 1 & \mathbf{0.3020} \\ 0.6401 & 1.5872 & \mathbf{3.3111} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.445758 \\ 0.179769 \\ 0.089152 \\ 0.285321 \end{pmatrix} = 0.997019 \cdot \begin{pmatrix} 0.447091 \\ 0.180307 \\ \mathbf{0.089418} \\ 0.286175 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4796 & \mathbf{5} & 1.5623 \\ 0.4033 & 1 & \mathbf{2.0164} & 0.6301 \\ \mathbf{1/5} & \mathbf{0.4959} & 1 & \mathbf{0.3125} \\ 0.6401 & 1.5872 & \mathbf{3.2004} & 1 \end{pmatrix},$$

Example C.580.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 6 & 1 \\ 1/5 & 1 & 2 & 1 \\ 1/6 & 1/2 & 1 & 1/4 \\ 1 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.453253 \\ 0.175181 \\ \mathbf{0.073105} \\ 0.298461 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5873 & \mathbf{6.2000} & 1.5186 \\ 0.3865 & 1 & \mathbf{2.3963} & 0.5869 \\ \mathbf{0.1613} & \mathbf{0.4173} & 1 & \mathbf{0.2449} \\ 0.6585 & 1.7037 & \mathbf{4.0826} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.452570 \\ 0.174917 \\ 0.074503 \\ 0.298011 \end{pmatrix} = 0.998492 \cdot \begin{pmatrix} 0.453253 \\ 0.175181 \\ \mathbf{0.074615} \\ 0.298461 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5873 & \mathbf{6.0745} & 1.5186 \\ 0.3865 & 1 & \mathbf{2.3478} & 0.5869 \\ \mathbf{0.1646} & \mathbf{0.4259} & 1 & \mathbf{1/4} \\ 0.6585 & 1.7037 & \mathbf{4} & 1 \end{pmatrix},$$

Example C.581.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 1 \\ 1/5 & 1 & 3 & 1 \\ 1/7 & 1/3 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2309, \quad CR = 0.0871$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.452189 \\ 0.186094 \\ \mathbf{0.058499} \\ 0.303218 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4299 & \mathbf{7.7299} & 1.4913 \\ 0.4115 & 1 & \mathbf{3.1812} & 0.6137 \\ \mathbf{0.1294} & \mathbf{0.3143} & 1 & \mathbf{0.1929} \\ 0.6706 & 1.6294 & \mathbf{5.1833} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.451221 \\ 0.185696 \\ 0.060514 \\ 0.302569 \end{pmatrix} = 0.997860 \cdot \begin{pmatrix} 0.452189 \\ 0.186094 \\ \mathbf{0.060644} \\ 0.303218 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4299 & \mathbf{7.4565} & 1.4913 \\ 0.4115 & 1 & \mathbf{3.0687} & 0.6137 \\ \mathbf{0.1341} & \mathbf{0.3259} & 1 & \mathbf{1/5} \\ 0.6706 & 1.6294 & \mathbf{5} & 1 \end{pmatrix},$$

Example C.582.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 7 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/7 & 1 & 1 & 1/4 \\ 1/3 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1667, \quad CR = 0.0629$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.582284 \\ 0.127922 \\ 0.083233 \\ 0.206561 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.5519 & 6.9959 & 2.8189 \\ 0.2197 & 1 & 1.5369 & 0.6193 \\ 0.1429 & 0.6507 & 1 & 0.4029 \\ 0.3547 & 1.6147 & 2.4817 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.582428 \\ 0.127878 \\ 0.083204 \\ 0.206490 \end{pmatrix} = 0.999656 \cdot \begin{pmatrix} 0.582628 \\ 0.127922 \\ 0.083233 \\ 0.206561 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.5546 & 7 & 2.8206 \\ 0.2196 & 1 & 1.5369 & 0.6193 \\ 1/7 & 0.6507 & 1 & 0.4029 \\ 0.3545 & 1.6147 & 2.4817 & 1 \end{pmatrix},$$

Example C.583.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 1 \\ 1/5 & 1 & 3 & 1 \\ 1/8 & 1/3 & 1 & 1/5 \\ 1 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.461721 \\ 0.183543 \\ \mathbf{0.055738} \\ 0.298998 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5156 & \mathbf{8.2838} & 1.5442 \\ 0.3975 & 1 & \mathbf{3.2930} & 0.6139 \\ \mathbf{0.1207} & \mathbf{0.3037} & 1 & \mathbf{0.1864} \\ 0.6476 & 1.6290 & \mathbf{5.3644} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.460810 \\ 0.183181 \\ 0.057601 \\ 0.298408 \end{pmatrix} = 0.998026 \cdot \begin{pmatrix} 0.461721 \\ 0.183543 \\ \mathbf{0.057715} \\ 0.298998 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5156 & \mathbf{8} & 1.5442 \\ 0.3975 & 1 & \mathbf{3.1802} & 0.6139 \\ \mathbf{1/8} & \mathbf{0.3144} & 1 & \mathbf{0.1930} \\ 0.6476 & 1.6290 & \mathbf{5.1806} & 1 \end{pmatrix},$$

Example C.584.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/8 & 1 & 1 & 1/4 \\ 1/3 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.592409 \\ 0.127232 \\ 0.079445 \\ 0.200914 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.6561 & 7.4569 & 2.9486 \\ 0.2148 & 1 & 1.6015 & 0.6333 \\ 0.1341 & 0.6244 & 1 & 0.3954 \\ 0.3391 & 1.5791 & 2.5290 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.596577 \\ 0.125931 \\ 0.078632 \\ 0.198859 \end{pmatrix} = 0.989774 \cdot \begin{pmatrix} 0.602741 \\ 0.127232 \\ 0.079445 \\ 0.200914 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.7373 & 7.5869 & 3 \\ 0.2111 & 1 & 1.6015 & 0.6333 \\ 0.1318 & 0.6244 & 1 & 0.3954 \\ 1/3 & 1.5791 & 2.5290 & 1 \end{pmatrix},$$

Example C.585.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/8 & 1 & 1 & 1/5 \\ 1/3 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2259, \quad CR = 0.0852$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.584070 \\ 0.126110 \\ 0.075952 \\ 0.213869 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.6315 & 7.6900 & 2.7310 \\ 0.2159 & 1 & 1.6604 & 0.5897 \\ 0.1300 & 0.6023 & 1 & 0.3551 \\ 0.3662 & 1.6959 & 2.8159 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.593637 \\ 0.123209 \\ 0.074205 \\ 0.208950 \end{pmatrix} = 0.977000 \cdot \begin{pmatrix} 0.607612 \\ 0.126110 \\ 0.075952 \\ 0.213869 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.8181 & 8 & 2.8411 \\ 0.2075 & 1 & 1.6604 & 0.5897 \\ 1/8 & 0.6023 & 1 & 0.3551 \\ 0.3520 & 1.6959 & 2.8159 & 1 \end{pmatrix},$$

Example C.586.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 3 \\ 1/5 & 1 & 3 & 3 \\ 1/8 & 1/3 & 1 & 1/2 \\ 1/3 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2311, \quad CR = 0.0871$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.569461 \\ 0.228954 \\ \mathbf{0.066540} \\ 0.135046 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4872 & \mathbf{8.5582} & 4.2168 \\ 0.4021 & 1 & \mathbf{3.4408} & 1.6954 \\ \mathbf{0.1168} & \mathbf{0.2906} & 1 & \mathbf{0.4927} \\ 0.2371 & 0.5898 & \mathbf{2.0295} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.568901 \\ 0.228729 \\ 0.067457 \\ 0.134913 \end{pmatrix} = 0.999018 \cdot \begin{pmatrix} 0.569461 \\ 0.228954 \\ \mathbf{0.067523} \\ 0.135046 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4872 & \mathbf{8.4336} & 4.2168 \\ 0.4021 & 1 & \mathbf{3.3908} & 1.6954 \\ \mathbf{0.1186} & \mathbf{0.2949} & 1 & \mathbf{1/2} \\ 0.2371 & 0.5898 & \mathbf{2} & 1 \end{pmatrix},$$

Example C.587.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 6 \\ 1/5 & 1 & 1 & 2 \\ 1/8 & 1 & 1 & 1/2 \\ 1/6 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1655, \quad CR = 0.0624$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.658615 \\ 0.140861 \\ 0.088018 \\ 0.112506 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.6756 & 7.4827 & 5.8541 \\ 0.2139 & 1 & 1.6004 & 1.2520 \\ 0.1336 & 0.6249 & 1 & 0.7823 \\ 0.1708 & 0.7987 & 1.2782 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.664130 \\ 0.138585 \\ 0.086596 \\ 0.110688 \end{pmatrix} = 0.983845 \cdot \begin{pmatrix} 0.675035 \\ 0.140861 \\ 0.088018 \\ 0.112506 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.7922 & 7.6693 & 6 \\ 0.2087 & 1 & 1.6004 & 1.2520 \\ 0.1304 & 0.6249 & 1 & 0.7823 \\ 1/6 & 0.7987 & 1.2782 & 1 \end{pmatrix},$$

Example C.588.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 7 \\ 1/5 & 1 & 1 & 2 \\ 1/8 & 1 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1665, \quad CR = 0.0628$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.670283 \\ 0.135763 \\ 0.087449 \\ 0.106504 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.9371 & 7.6649 & 6.2935 \\ 0.2025 & 1 & 1.5525 & 1.2747 \\ 0.1305 & 0.6441 & 1 & 0.8211 \\ 0.1589 & 0.7845 & 1.2179 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.673073 \\ 0.134615 \\ 0.086709 \\ 0.105603 \end{pmatrix} = 0.991539 \cdot \begin{pmatrix} 0.678817 \\ 0.135763 \\ 0.087449 \\ 0.106504 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5 & 7.7624 & 6.3736 \\ 1/5 & 1 & 1.5525 & 1.2747 \\ 0.1288 & 0.6441 & 1 & 0.8211 \\ 0.1569 & 0.7845 & 1.2179 & 1 \end{pmatrix},$$

Example C.589.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 8 & 7 \\ 1/5 & 1 & 9 & 3 \\ 1/8 & 1/9 & 1 & 1/2 \\ 1/7 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2649, \quad CR = 0.0999$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.603985 \\ 0.260739 \\ 0.049776 \\ \textcolor{red}{0.085500} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.3164 & 12.1340 & \textcolor{red}{7.0642} \\ 0.4317 & 1 & 5.2382 & \textcolor{red}{3.0496} \\ 0.0824 & 0.1909 & 1 & \textcolor{red}{0.5822} \\ \textcolor{red}{0.1416} & \textcolor{red}{0.3279} & \textcolor{red}{1.7177} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.603512 \\ 0.260534 \\ 0.049737 \\ 0.086216 \end{pmatrix} = 0.999217 \cdot \begin{pmatrix} 0.603985 \\ 0.260739 \\ 0.049776 \\ \textcolor{green}{0.086284} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3164 & 12.1340 & \textcolor{blue}{7} \\ 0.4317 & 1 & 5.2382 & \textcolor{green}{3.0219} \\ 0.0824 & 0.1909 & 1 & \textcolor{green}{0.5769} \\ \textcolor{blue}{1/7} & \textcolor{green}{0.3309} & \textcolor{green}{1.7334} & 1 \end{pmatrix},$$

Example C.590.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 1 \\ 1/5 & 1 & 3 & 1 \\ 1/9 & 1/3 & 1 & 1/6 \\ 1 & 1 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.464440 \\ 0.179635 \\ 0.049957 \\ 0.305967 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5855 & 9.2967 & 1.5179 \\ 0.3868 & 1 & 3.5958 & 0.5871 \\ 0.1076 & 0.2781 & 1 & 0.1633 \\ 0.6588 & 1.7033 & 6.1246 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.463959 \\ 0.179449 \\ 0.050942 \\ 0.305650 \end{pmatrix} = 0.998964 \cdot \begin{pmatrix} 0.464440 \\ 0.179635 \\ 0.050995 \\ 0.305967 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5855 & 9.1076 & 1.5179 \\ 0.3868 & 1 & 3.5226 & 0.5871 \\ 0.1098 & 0.2839 & 1 & 1/6 \\ 0.6588 & 1.7033 & 6 & 1 \end{pmatrix},$$

Example C.591.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 1 \\ 1/5 & 1 & 4 & 1 \\ 1/9 & 1/4 & 1 & 1/6 \\ 1 & 1 & 6 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2316, \quad CR = 0.0873$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.459433 \\ 0.191026 \\ \mathbf{0.046958} \\ 0.302583 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4051 & \mathbf{9.7839} & 1.5184 \\ 0.4158 & 1 & \mathbf{4.0680} & 0.6313 \\ \mathbf{0.1022} & \mathbf{0.2458} & 1 & \mathbf{0.1552} \\ 0.6586 & 1.5840 & \mathbf{6.4437} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.459066 \\ 0.190874 \\ 0.047718 \\ 0.302342 \end{pmatrix} = 0.999202 \cdot \begin{pmatrix} 0.459433 \\ 0.191026 \\ \mathbf{0.047756} \\ 0.302583 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4051 & \mathbf{9.6203} & 1.5184 \\ 0.4158 & 1 & \mathbf{4} & 0.6313 \\ \mathbf{0.1039} & \mathbf{1/4} & 1 & \mathbf{0.1578} \\ 0.6586 & 1.5840 & \mathbf{6.3360} & 1 \end{pmatrix},$$

Example C.592.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 1 \\ 1/5 & 1 & 4 & 1 \\ 1/9 & 1/4 & 1 & 1/7 \\ 1 & 1 & 7 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2346, \quad CR = 0.0885$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.454671 \\ 0.188954 \\ \mathbf{0.044338} \\ 0.312037 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4062 & \mathbf{10.2547} & 1.4571 \\ 0.4156 & 1 & \mathbf{4.2617} & 0.6056 \\ \mathbf{0.0975} & \mathbf{0.2346} & 1 & \mathbf{0.1421} \\ 0.6863 & 1.6514 & \mathbf{7.0377} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.454562 \\ 0.188909 \\ 0.044566 \\ 0.311962 \end{pmatrix} = 0.999761 \cdot \begin{pmatrix} 0.454671 \\ 0.188954 \\ \mathbf{0.044577} \\ 0.312037 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4062 & \mathbf{10.1997} & 1.4571 \\ 0.4156 & 1 & \mathbf{4.2389} & 0.6056 \\ \mathbf{0.0980} & \mathbf{0.2359} & 1 & \mathbf{1/7} \\ 0.6863 & 1.6514 & \mathbf{7} & 1 \end{pmatrix},$$

Example C.593.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 3 \\ 1/5 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/5 \\ 1/3 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2253, \quad CR = 0.0849$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.592885 \\ 0.125645 \\ 0.073019 \\ 0.208451 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 4.7187 & 8.1196 & 2.8442 \\ 0.2119 & 1 & 1.7207 & 0.6028 \\ 0.1232 & 0.5812 & 1 & 0.3503 \\ 0.3516 & 1.6590 & 2.8548 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.605688 \\ 0.121694 \\ 0.070723 \\ 0.201896 \end{pmatrix} = 0.968553 \cdot \begin{pmatrix} 0.625353 \\ 0.125645 \\ 0.073019 \\ 0.208451 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 4.9771 & 8.5643 & 3 \\ 0.2009 & 1 & 1.7207 & 0.6028 \\ 0.1168 & 0.5812 & 1 & 0.3503 \\ 1/3 & 1.6590 & 2.8548 & 1 \end{pmatrix},$$

Example C.594.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 3 \\ 1/5 & 1 & 3 & 3 \\ 1/9 & 1/3 & 1 & 1/2 \\ 1/3 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.577903 \\ 0.225893 \\ \mathbf{0.063321} \\ 0.132883 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.5583 & \mathbf{9.1266} & 4.3489 \\ 0.3909 & 1 & \mathbf{3.5674} & 1.6999 \\ \mathbf{0.1096} & \mathbf{0.2803} & 1 & \mathbf{0.4765} \\ 0.2299 & 0.5883 & \mathbf{2.0986} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.577389 \\ 0.225692 \\ 0.064154 \\ 0.132765 \end{pmatrix} = 0.999110 \cdot \begin{pmatrix} 0.577903 \\ 0.225893 \\ \mathbf{0.064211} \\ 0.132883 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.5583 & \mathbf{9} & 4.3489 \\ 0.3909 & 1 & \mathbf{3.5180} & 1.6999 \\ \mathbf{1/9} & \mathbf{0.2843} & 1 & \mathbf{0.4832} \\ 0.2299 & 0.5883 & \mathbf{2.0695} & 1 \end{pmatrix},$$

Example C.595.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 3 \\ 1/5 & 1 & 4 & 3 \\ 1/9 & 1/4 & 1 & 1/2 \\ 1/3 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2316, \quad CR = 0.0873$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.569911 \\ 0.239263 \\ \mathbf{0.059763} \\ 0.131062 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.3819 & \mathbf{9.5362} & 4.3484 \\ 0.4198 & 1 & \mathbf{4.0036} & 1.8256 \\ \mathbf{0.1049} & \mathbf{0.2498} & 1 & \mathbf{0.4560} \\ 0.2300 & 0.5478 & \mathbf{2.1930} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.569881 \\ 0.239251 \\ 0.059813 \\ 0.131055 \end{pmatrix} = 0.999947 \cdot \begin{pmatrix} 0.569911 \\ 0.239263 \\ \mathbf{0.059816} \\ 0.131062 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.3819 & \mathbf{9.5278} & 4.3484 \\ 0.4198 & 1 & \mathbf{4} & 1.8256 \\ \mathbf{0.1050} & \mathbf{1/4} & 1 & \mathbf{0.4564} \\ 0.2300 & 0.5478 & \mathbf{2.1911} & 1 \end{pmatrix},$$

Example C.596.

$$\mathbf{A} = \begin{pmatrix} 1 & 5 & 9 & 7 \\ 1/5 & 1 & 9 & 3 \\ 1/9 & 1/9 & 1 & 1/2 \\ 1/7 & 1/3 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2300, \quad CR = 0.0867$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.613723 \\ 0.255015 \\ 0.046917 \\ \mathbf{0.084344} \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 2.4066 & 13.0810 & \mathbf{7.2764} \\ 0.4155 & 1 & 5.4354 & \mathbf{3.0235} \\ 0.0764 & 0.1840 & 1 & \mathbf{0.5563} \\ \mathbf{0.1374} & \mathbf{0.3307} & \mathbf{1.7977} & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.613318 \\ 0.254847 \\ 0.046886 \\ 0.084949 \end{pmatrix} = 0.999340 \cdot \begin{pmatrix} 0.613723 \\ 0.255015 \\ 0.046917 \\ \mathbf{0.085005} \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 2.4066 & 13.0810 & \mathbf{7.2198} \\ 0.4155 & 1 & 5.4354 & \mathbf{3} \\ 0.0764 & 0.1840 & 1 & \mathbf{0.5519} \\ \mathbf{0.1385} & \mathbf{1/3} & \mathbf{1.8118} & 1 \end{pmatrix},$$

Example C.597.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 8 & 4 \\ 1/6 & 1 & 1 & 1 \\ 1/8 & 1 & 1 & 1/3 \\ 1/4 & 1 & 3 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1031, \quad CR = 0.0389$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.640276 \\ 0.113469 \\ 0.080182 \\ 0.166074 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 5.6428 & 7.9853 & 3.8554 \\ 0.1772 & 1 & 1.4151 & 0.6832 \\ 0.1252 & 0.7066 & 1 & 0.4828 \\ 0.2594 & 1.4636 & 2.0712 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.640700 \\ 0.113335 \\ 0.080087 \\ 0.165878 \end{pmatrix} = 0.998822 \cdot \begin{pmatrix} 0.641455 \\ 0.113469 \\ 0.080182 \\ 0.166074 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.6532 & 8 & 3.8625 \\ 0.1769 & 1 & 1.4151 & 0.6832 \\ 1/8 & 0.7066 & 1 & 0.4828 \\ 0.2589 & 1.4636 & 2.0712 & 1 \end{pmatrix},$$

Example C.598.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 3 \\ 1/6 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/5 \\ 1/3 & 1 & 5 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.2277, \quad CR = 0.0859$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.605505 \\ 0.117846 \\ 0.069469 \\ 0.207180 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 5.1381 & 8.7162 & 2.9226 \\ 0.1946 & 1 & 1.6964 & 0.5688 \\ 0.1147 & 0.5895 & 1 & 0.3353 \\ 0.3422 & 1.7581 & 2.9823 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.611731 \\ 0.115986 \\ 0.068373 \\ 0.203910 \end{pmatrix} = 0.984219 \cdot \begin{pmatrix} 0.621540 \\ 0.117846 \\ 0.069469 \\ 0.207180 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.2742 & 8.9470 & 3 \\ 0.1896 & 1 & 1.6964 & 0.5688 \\ 0.1118 & 0.5895 & 1 & 0.3353 \\ 1/3 & 1.7581 & 2.9823 & 1 \end{pmatrix},$$

Example C.599.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 4 \\ 1/6 & 1 & 1 & 1 \\ 1/9 & 1 & 1 & 1/4 \\ 1/4 & 1 & 4 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.639879 \\ 0.111444 \\ 0.072396 \\ 0.176281 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 5.7417 & 8.8386 & 3.6299 \\ 0.1742 & 1 & 1.5394 & 0.6322 \\ 0.1131 & 0.6496 & 1 & 0.4107 \\ 0.2755 & 1.5818 & 2.4350 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.644038 \\ 0.110157 \\ 0.071560 \\ 0.174246 \end{pmatrix} = 0.988453 \cdot \begin{pmatrix} 0.651561 \\ 0.111444 \\ 0.072396 \\ 0.176281 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.8465 & 9 & 3.6961 \\ 0.1710 & 1 & 1.5394 & 0.6322 \\ 1/9 & 0.6496 & 1 & 0.4107 \\ 0.2706 & 1.5818 & 2.4350 & 1 \end{pmatrix},$$

Example C.600.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 7 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/7 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1658, \quad CR = 0.0625$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.691969 \\ 0.126011 \\ 0.079789 \\ 0.102232 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 5.4914 & 8.6725 & 6.7686 \\ 0.1821 & 1 & 1.5793 & 1.2326 \\ 0.1153 & 0.6332 & 1 & 0.7805 \\ 0.1477 & 0.8113 & 1.2813 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.699086 \\ 0.123099 \\ 0.077945 \\ 0.099869 \end{pmatrix} = 0.976892 \cdot \begin{pmatrix} 0.715623 \\ 0.126011 \\ 0.079789 \\ 0.102232 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.6791 & 8.9689 & 7 \\ 0.1761 & 1 & 1.5793 & 1.2326 \\ 0.1115 & 0.6332 & 1 & 0.7805 \\ 1/7 & 0.8113 & 1.2813 & 1 \end{pmatrix},$$

Example C.601.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 8 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/8 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1664, \quad CR = 0.0627$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.701619 \\ 0.121742 \\ 0.079257 \\ 0.097382 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 5.7631 & 8.8525 & 7.2048 \\ 0.1735 & 1 & 1.5361 & 1.2502 \\ 0.1130 & 0.6510 & 1 & 0.8139 \\ 0.1388 & 0.7999 & 1.2287 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.705067 \\ 0.120336 \\ 0.078341 \\ 0.096257 \end{pmatrix} = 0.988444 \cdot \begin{pmatrix} 0.713310 \\ 0.121742 \\ 0.079257 \\ 0.097382 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.8592 & 9 & 7.3249 \\ 0.1707 & 1 & 1.5361 & 1.2502 \\ 1/9 & 0.6510 & 1 & 0.8139 \\ 0.1365 & 0.7999 & 1.2287 & 1 \end{pmatrix},$$

Example C.602.

$$\mathbf{A} = \begin{pmatrix} 1 & 6 & 9 & 9 \\ 1/6 & 1 & 1 & 2 \\ 1/9 & 1 & 1 & 1/2 \\ 1/9 & 1/2 & 2 & 1 \end{pmatrix}, \quad \lambda_{\max} = 4.1707, \quad CR = 0.0644$$

$$\mathbf{w}^{cos} = \begin{pmatrix} 0.709393 \\ 0.118275 \\ 0.078832 \\ 0.093500 \end{pmatrix}$$

$$\left[\frac{w_i^{cos}}{w_j^{cos}} \right] = \begin{pmatrix} 1 & 5.9978 & 8.9988 & 7.5871 \\ 0.1667 & 1 & 1.5003 & 1.2650 \\ 0.1111 & 0.6665 & 1 & 0.8431 \\ 0.1318 & 0.7905 & 1.1861 & 1 \end{pmatrix},$$

$$\mathbf{w}' = \begin{pmatrix} 0.709421 \\ 0.118263 \\ 0.078825 \\ 0.093491 \end{pmatrix} = 0.999904 \cdot \begin{pmatrix} 0.709489 \\ 0.118275 \\ 0.078832 \\ 0.093500 \end{pmatrix},$$

$$\left[\frac{w'_i}{w'_j} \right] = \begin{pmatrix} 1 & 5.9987 & 9 & 7.5881 \\ 0.1667 & 1 & 1.5003 & 1.2650 \\ 1/9 & 0.6665 & 1 & 0.8431 \\ 0.1318 & 0.7905 & 1.1861 & 1 \end{pmatrix},$$