Example (continued)

By Gauss-Jordan elimination we have the new system

$$0 = \begin{bmatrix} 1 & 0 & 0 & -\frac{3}{4} \\ 0 & 1 & 0 & -\frac{1}{3} \\ 0 & 0 & 1 & -\frac{1}{2} \\ 0 & 0 & 0 & 0 \end{bmatrix} x$$

Then $x_1 = \frac{3}{4}t, x_2 = \frac{1}{3}t, x_3 = \frac{1}{2}t, x_4 = t$ for some t. These entries sum to $\frac{31}{12}t$, so set $t = \frac{12}{31}$. This gives us the importance values

$$x_1 = \frac{9}{31} \approx .29, x_2 = \frac{4}{31} \approx .13, x_3 = \frac{6}{31} \approx .19, x_4 = \frac{12}{31} \approx .39$$

Looking at our web, do you think these are reasonable? Our calculation has verified, in this example, that 1 is indeed an eigenvalue, and that there is an eigenvector with all positive entries! Does this happen more generally?