

Errata for *An Introduction to Information Retrieval*, Example 18.4

Example 18.4 in Chapter 18 of *Introduction to Information Retrieval* contains significant errors. The matrix that is labeled C_2 is actually $\Sigma_2 * V^T$, and the matrix that is labeled "truncated $(V)^T$ " is actually $\Sigma_2 * (V'_2)^T$ - the truncated version of $\Sigma_2 * V^T$. There could be other problems I haven't discovered.

The actual C_2 is:

Input:	(U'_2)	*	Σ_2	*	$(V'_2)^T$	=
	$\begin{pmatrix} -0.44 & -0.3 \\ -0.13 & -0.33 \\ -0.48 & -0.51 \\ -0.7 & 0.35 \\ -0.26 & 0.65 \end{pmatrix}$		$\begin{pmatrix} 2.16 & 0. \\ 0. & 1.59 \end{pmatrix}$		$\begin{pmatrix} -0.75 & -0.28 & -0.2 & -0.45 & -0.33 & -0.12 \\ -0.29 & -0.53 & -0.19 & 0.63 & 0.22 & 0.41 \end{pmatrix}$	
Result:	C_2					
	$\begin{pmatrix} 0.85113 & 0.518922 & 0.28071 & 0.12717 & 0.208692 & -0.081522 \\ 0.362763 & 0.356715 & 0.155853 & -0.204201 & -0.02277 & -0.181431 \\ 1.01276 & 0.720081 & 0.361431 & -0.044307 & 0.163746 & -0.208053 \\ 0.972615 & 0.128415 & 0.196665 & 1.03099 & 0.62139 & 0.409605 \\ 0.121485 & -0.390507 & -0.084045 & 0.903825 & 0.412698 & 0.491127 \end{pmatrix}$					

Result from WolframAlpha Computational Engine