For this problem, there's also a possibility that j = k. In this case, according to the recurrence, $\pi_{ij}^{(k)} = \pi_{kj}^{(k-1)}\ if\ d_{ij}^{(k-1)} \geq d_{ik}^{(k-1)} + d_{kj}^{(k-1)}$. But when j = k, $\pi_{ij}^{(k)} = \pi_{jj}^{(k-1)}\ if\ d_{ij}^{(k-1)} \geq d_{ij}^{(k-1)} + d_{jj}^{(k-1)} = d_{ij}^{(k-1)}$, which means that $\pi_{ij}^{(k)} = \pi_{jj}^{(k-1)}$, but $\pi_{jj}^{(k-1)} = NIL\ and\ \pi_{ij}^{(k)} \neq NIL$ in the following graph. Hence, the recurrence is not correct.