

Floyd-Warshall Algorithm, $k=0$

When $k = 0$ we are asking about the lengths of paths that have no internal nodes.

Case: $i = j$: Set $M[i, i, 0] = 0$

Case: $i \neq j$: $M[i, j, 0]$ is the length of the shortest path P from v_i to v_j with $MAX(P) = 0$, or ∞ if no such path exists.

If the path P exists, it is a single edge e , and its weight is $w(e)$.

Hence, $M[i, j, 0] = w(v_i, v_j)$ if $(v_i, v_j) \in E$, and otherwise $M[i, j, 0] = \infty$.