Frederick Wittman
Lars Kotthoff
Rajiv Khadka
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We discount the cost of getting G = (V, E), with weighted edges. The following costs apply in the worst, average, and best cases.

- To initialize a $|V| \times |V|$ matrix to ∞, the cost is $|V|^2$.
- For each vertex $v \in V$, to assign matrix[v][v] = 0, the cost is $|V|$.
- For each edge $(u, v) = e \in E$, dist[u][v] = weight((u,v)), the cost is $|E|$. This cost is $O(|V|^2)$.
- For the algorithm itself, the cost is $|V|^3$.

The time-complexity of Floyd-Warshall is therefore $\Theta(|V| + |V|^2 + |V|^3) = \Theta(|V|^3)$ in the worst case.