Shortest Path Algorithm Decision Table

Graph Criteria	BFS $O(V + E)$	Dijkstra's $O((V+E)\log V)$	Bellman-Ford $O(VE)$	Floyd-Warshall $O(V^3)$
Max Size	$V + E \leq 100M$	$V + E \leq 1M$	$VE \leq 100M$	$V \leq 450$
Unweighted	Best	Ok	Bad	Bad in general
Weighted	WA	Best	Ok	Bad in general
Negative weight	WA	Modified Ok	Ok	Bad in general
Negative cycle	Cannot detect	Cannot detect	Can detect	Can detect
Small graph	WA if weighted	Overkill	Overkill	Best

Table 4.4: Shortest Paths Algorithm Decision Table