Dijkstra’s Algorithm with simple buckets
(also known as Dial’s algorithm)
An Example

Initialize distance labels

Initialize buckets.

Select the node with the minimum temporary distance label.
Update Step
Choose Minimum Temporary Label

Find Min by starting at the leftmost bucket and scanning right till there is a non-empty bucket.
Update Step
Choose Minimum Temporary Label

Find Min by starting at the leftmost bucket and scanning right till there is a non-empty bucket.
Update
Choose Minimum Temporary Label
Update
Choose Minimum Temporary Label
Update
Choose Minimum Temporary Label

There is nothing to update
All nodes are now permanent.
The predecessors form a tree.
The shortest path from node 1 to node 6 can be found by tracing back predecessors.