Dijkstra’s Algorithm Example:

The following example shows how we can run Dijkstra’s algorithm over a graph. The start vertex is ST.

- → stands for infinity
- → stands for no predecessor
(→) → represents the order the vertices are being processed.
[x,y] → x represents the cost of reaching the node and y the predecessor.

[0, -] 11 [%,-] 2 [%,-]  
ST-------->A------------->C<----
|      ^4      |    | 7
|      |        |    |
|      |        5|    |
|      |          v |
----------->B<-------->D----
  6 [%,-] 3 [%,-]

[0, -] 11 [11,ST] 2 [%,-]  
(1)ST-------->A------------->C<----
|      ^4      |    | 7
|      |        |    |
|      |        5|    | After selecting 1st Node
|      |          v |
----------->B<-------->D----
  6 [6,ST] 3 [%,-]

[0, -] 11 [10,B] 2 [%,-]  
(1)ST-------->A------------->C<----
|      ^4      |    | 7
|      |        |    |
|      |        5|    | After selecting 2nd Node
|      (2)      v |
----------->B<-------->D----
  6 [6,ST] 3 [9,B]

[0, -] 11 [10,B] 2 [16,D]  
(1)ST-------->A------------->C<----
|      ^4      |    | 7
|      |        |    |
|      |        5|    | After selecting 3rd Node
|      (2)      (3)v |
----------->B<-------->D----
  6 [6,ST] 3 [9,B]

[0, -] 11 [10,B] 2 [12,A]  
(1)ST-------->A------------->C<----
|      (4)^4      |    | 7
|      |        |    |
|      |        5|    | After selecting 4th Node
|      (2)      (3)v |
----------->B<-------->D----
  6 [6,ST] 3 [9,B]

[0, -] 11 [10,B] 2 [12,A]  
(1)ST-------->A------------->C<----
|      (4)^4      |    | 7
|      |        |    |
|      |        5|    | After selecting 5th Node
|      (2)      (3)v |
----------->B<-------->D----
  6 [6,ST] 3 [9,B]