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  
|       |   | v           |    
------------->B<---------------D----
       6 [ST, -] 3 [%, -]  
```

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

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

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

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