

ISE 435: Distributed Algorithms in Network Communication

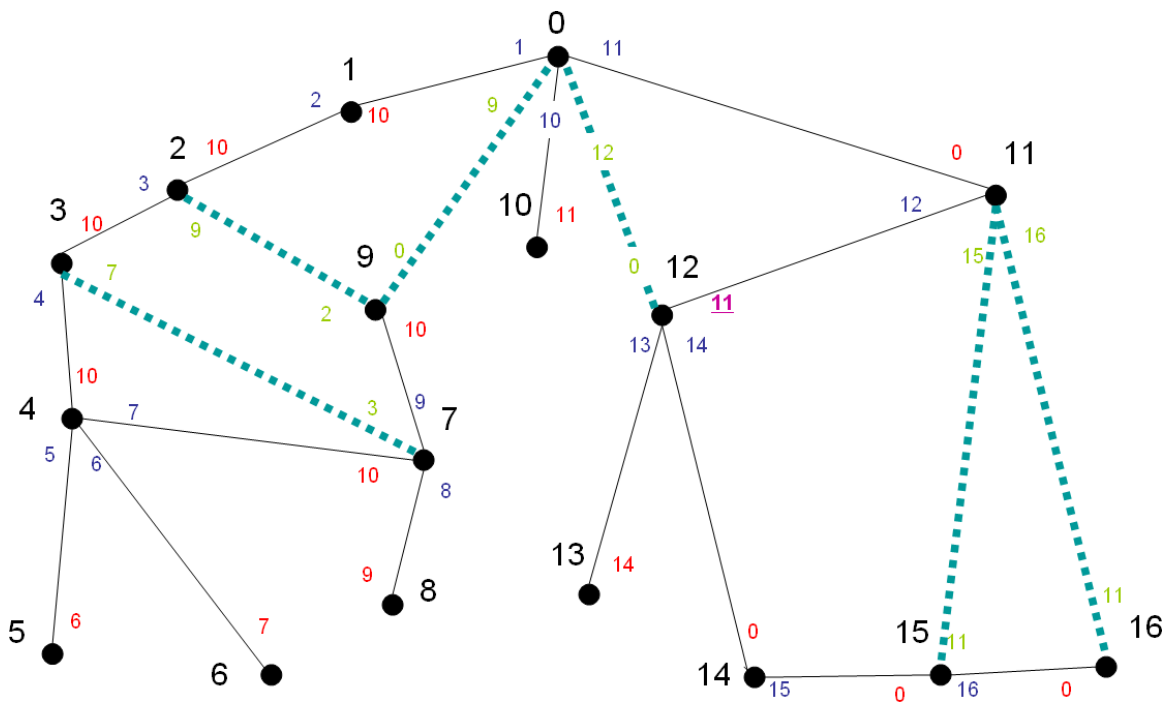
Recitation 12 Exercise

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1 Interval Labeling Scheme

The task today is to use the modified Interval Labeling Scheme graph from last week to calculate the routing tables for the nodes. The graph developed last week is:



Let us construct routing tables for the above labeling of the graph. We will construct the routing tables for all 17 nodes since they are not that large. I will distribute a printout which you can use to fill in and place an Excel file on the course web page which you can fill in digitally.

I recommend that you begin with the nodes: 0, 1, 2, 3, 9, 11, 12 and fill the rest in if you have time.

2 Routing Paths

Now based on the graph and routing tables which you have calculated, trace the routing paths for the following sending events:

1. Node 9 sends to Node 3
2. Node 9 sends to Node 5
3. Node 9 sends to Node 12
4. Node 7 sends to Node 12
5. Node 7 sends to Node 4
6. Node 5 sends to Node 15
7. Node 5 sends to Node 16

What is the overall efficiency of the graph? Compare the paths taken to ones that would be taken using the Santoro and Khatib labeling graph from last week. Which routing tree uses shorter paths for each of the above sending events?

For your recollection, the graph from last week is shown below:

