

## Assignment 2: Routing

### A) BGP routing protocol

Router 1 would have sent 4 messages containing updates. One Message to advertise N1 to R2 and indicating the path attributes and the learned route. Another message to R2 advertising the route to N2 (path and learned route). A third message to R3 with the route to N3. A fourth message to R3 directed to N4 with the path attribute learned from R2.

### B) Dijkstra's algorithm

Routing table of R5 to different parts of the network:

Destination	Next hop	Cost
N1	R2, R1	10
N2	R2	6
N3	R3	11
N4	eth0	1
N5	eth 3	4
N6	R4	4
R1	R2	11
R2	eth 1	6
R3	eth 2	7
R4	N5	4
R5	-	1

#### Decision-tree

```

R5 -- N4 (eth0)
|
|-- R2 (eth1)
|   |
|   |-- N2
|   |-- N3
|   |-- R1
|       |
|       |-- N1
|
|-- R3 (eth 2)
|   |
|   |-- N3
|   |-- N5
|
|-- N5 (eth 3)
|   |
|   |-- R4
|   |-- N6
    
```