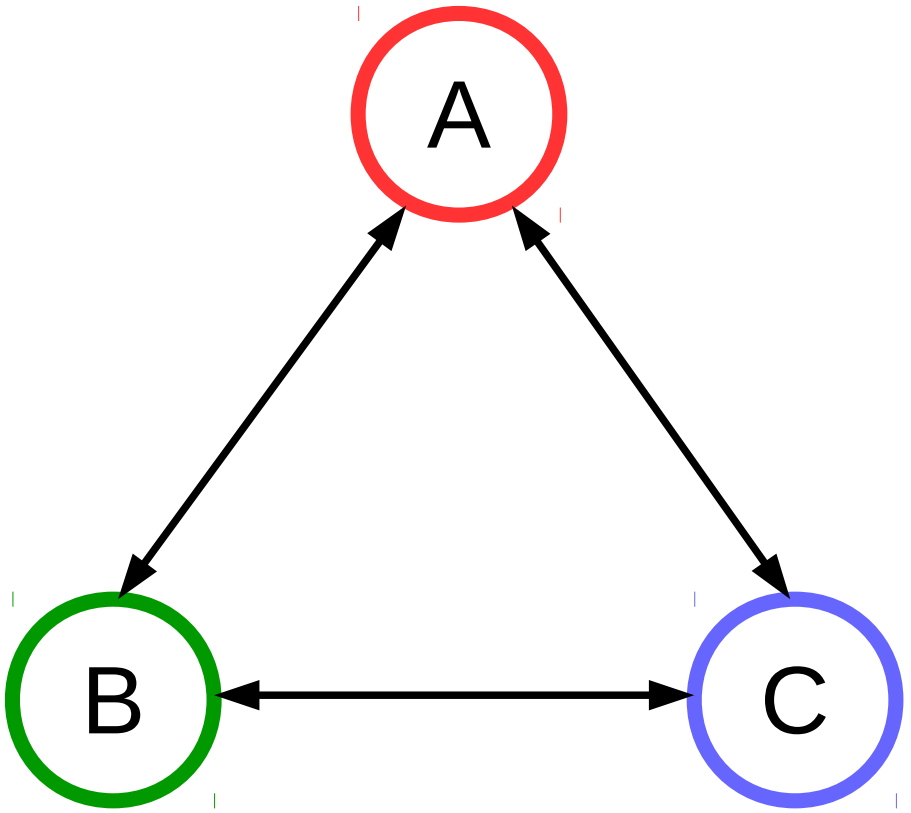
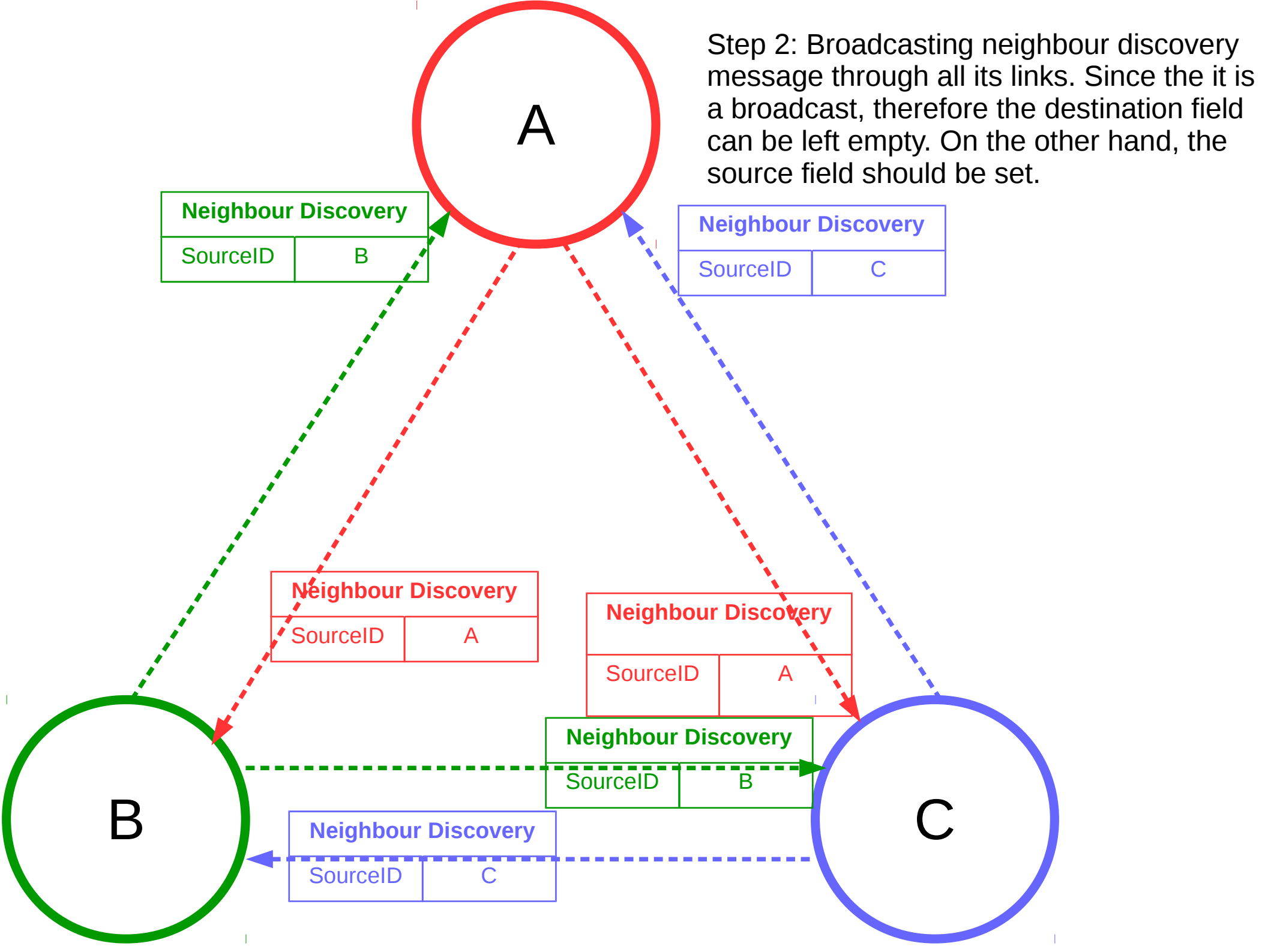
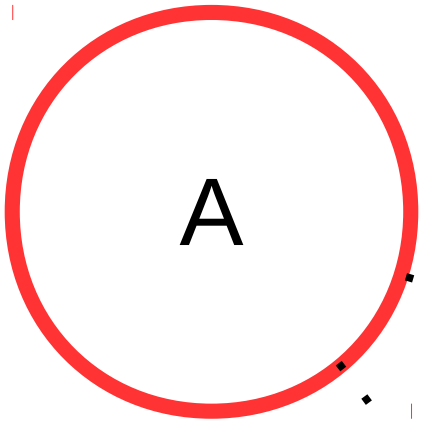


Step 1: Initial condition.
The topology is drawn.


Step 2: Broadcasting neighbour discovery message through all its links. Since the it is a broadcast, therefore the destination field can be left empty. On the other hand, the source field should be set.
A
B
C
Neighbour Discovery
SourceID
B
Neighbour Discovery
SourceID
C
Neighbour Discovery
SourceID
A
Neighbour Discovery
SourceID
A
Neighbour Discovery
SourceID
B
Neighbour Discovery
SourceID
C

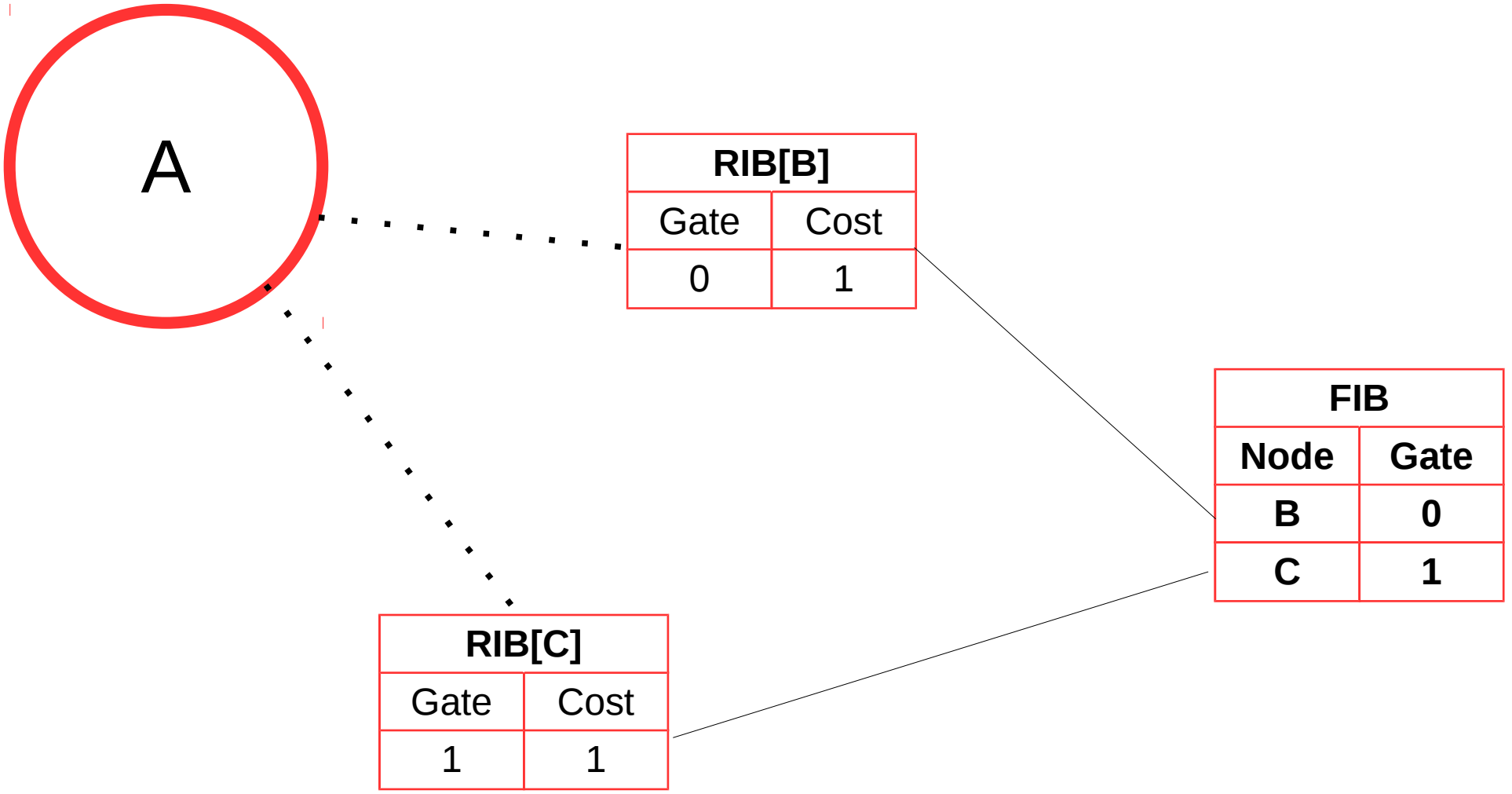
Step 3: Upon receiving the discovery packet, each node now knows its neighbours. Since the neighbours are directly connected, then the cost (metric) to reach them is 1.
Every node maintain separate table for each other node and costs to reach them. In this step of current case, node A has 2 tables, one for B and one for C, respectively.
The contents of the tables are known gate to the node and the cost of the respective gate.



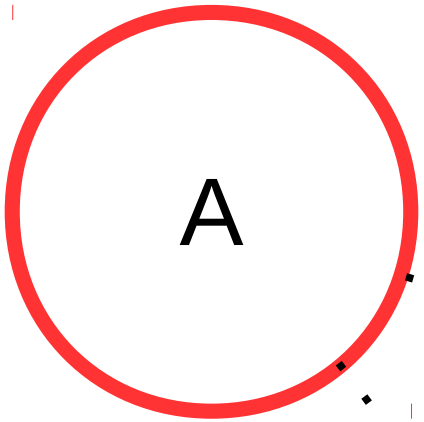
RIB[B]	
Gate	Cost
0	1

RIB[C]	
Gate	Cost
1	1

Step 4: After creating RIB for the neighbours, the node now should form its initial FIB, based on current RIB. If the RIB contains cost information, FIB on the other hand only contains the pair of node and the gate with the least cost to reach it. At the current step, the FIB only holds the information of the neighbours.



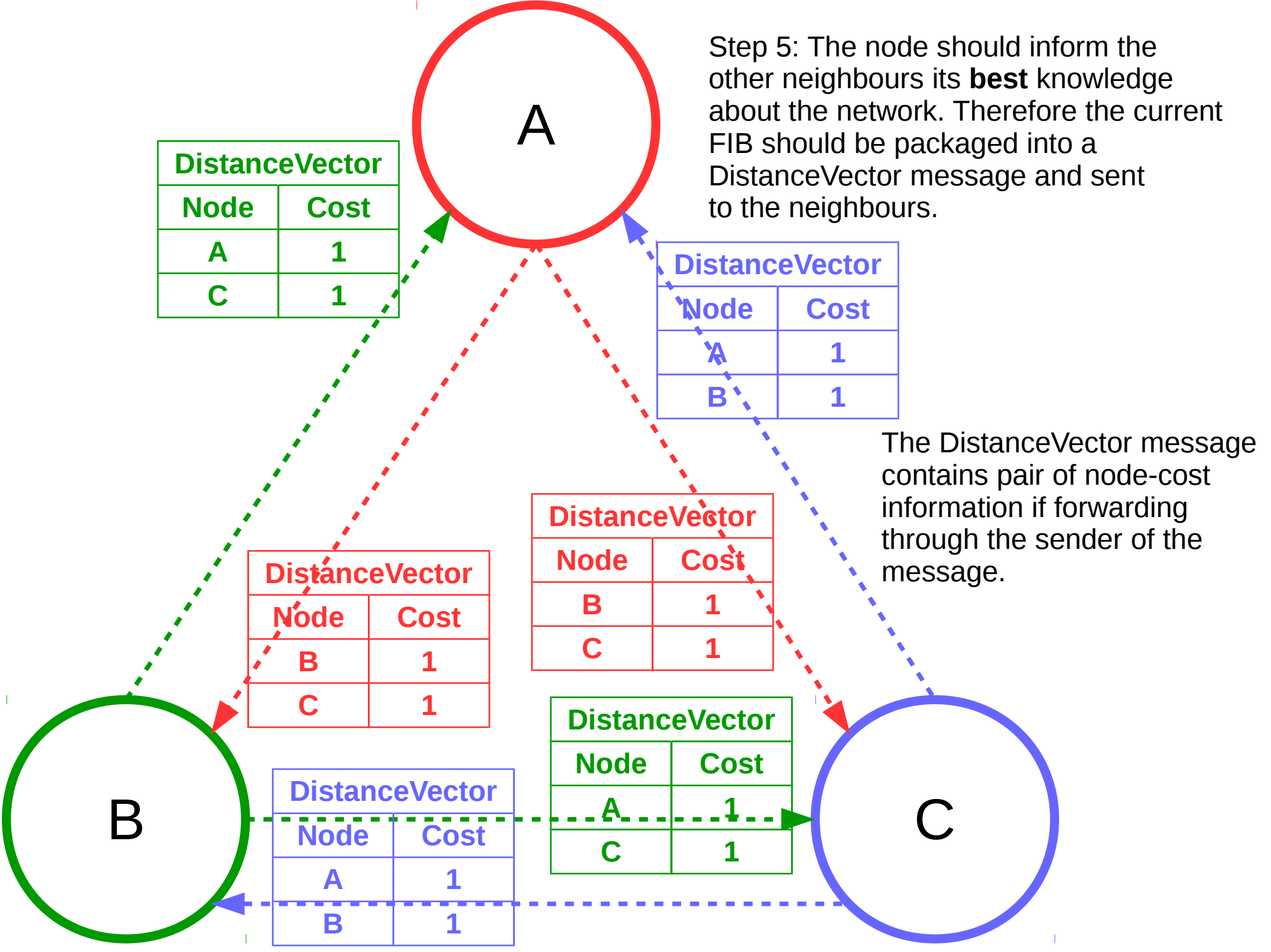
Step 4: The least cost selection run again.
The description similar with ones in step 6



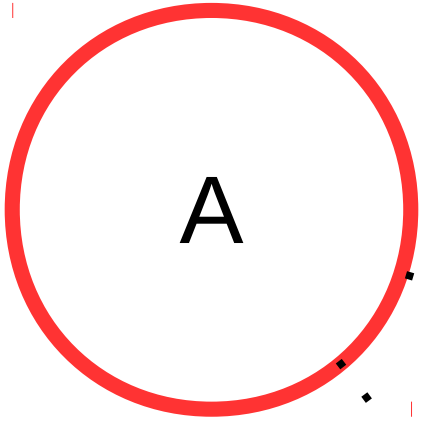
RIB[B]	
Gate	Cost
0	1
1	2

RIB[C]	
Gate	Cost
1	1
0	2

FIB	
Node	**Gate**
B	**0**
C	**1**


A
B
C
Step 5: The node should inform the other neighbours its **best** knowledge about the network. Therefore the current FIB should be packaged into a DistanceVector message and sent to the neighbours.
The DistanceVector message contains pair of node-cost information if forwarding through the sender of the message.
DistanceVector
Node Cost
A 1
C 1
DistanceVector
Node Cost
A 1
B 1
DistanceVector
Node Cost
B 1
C 1
DistanceVector
Node Cost
B 1
C 1
DistanceVector
Node Cost
A 1
C 1
DistanceVector
Node Cost
A 1
B 1

Step 6: When a node receive a DistanceVector message then it will append the information into the RIB of every node, respectively.
If it found its own address then only that entry omitted.



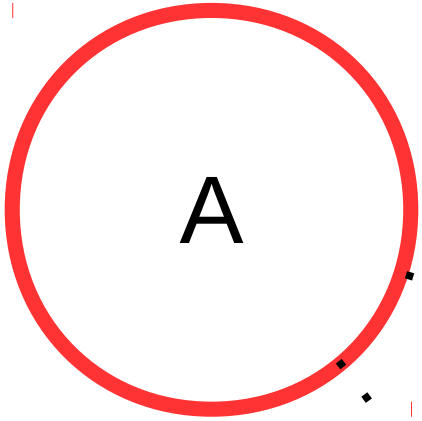
RIB[B]

Gate	Cost
0	1
1	2

RIB[C]

Gate	Cost
1	1
0	2

Step 7: The least cost selection run again. The description similar with ones in step 4. When there is a change in FIB (which means new information of better path is available) then step 5-7 should be executed again.



RIB[B]

Gate	Cost
0	1
1	2

RIB[C]

Gate	Cost
1	1
0	2

FIB

Node	**Gate**
B	**0**
C	**1**