

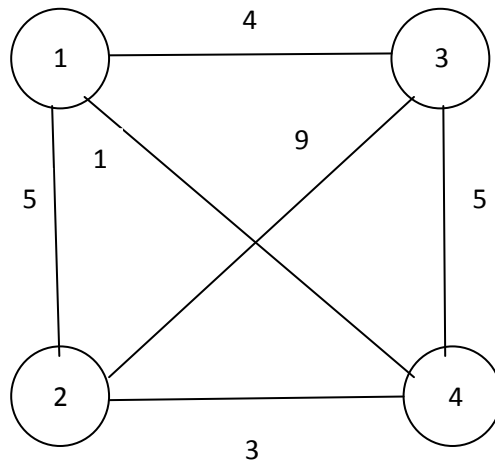
IP Extra Credit

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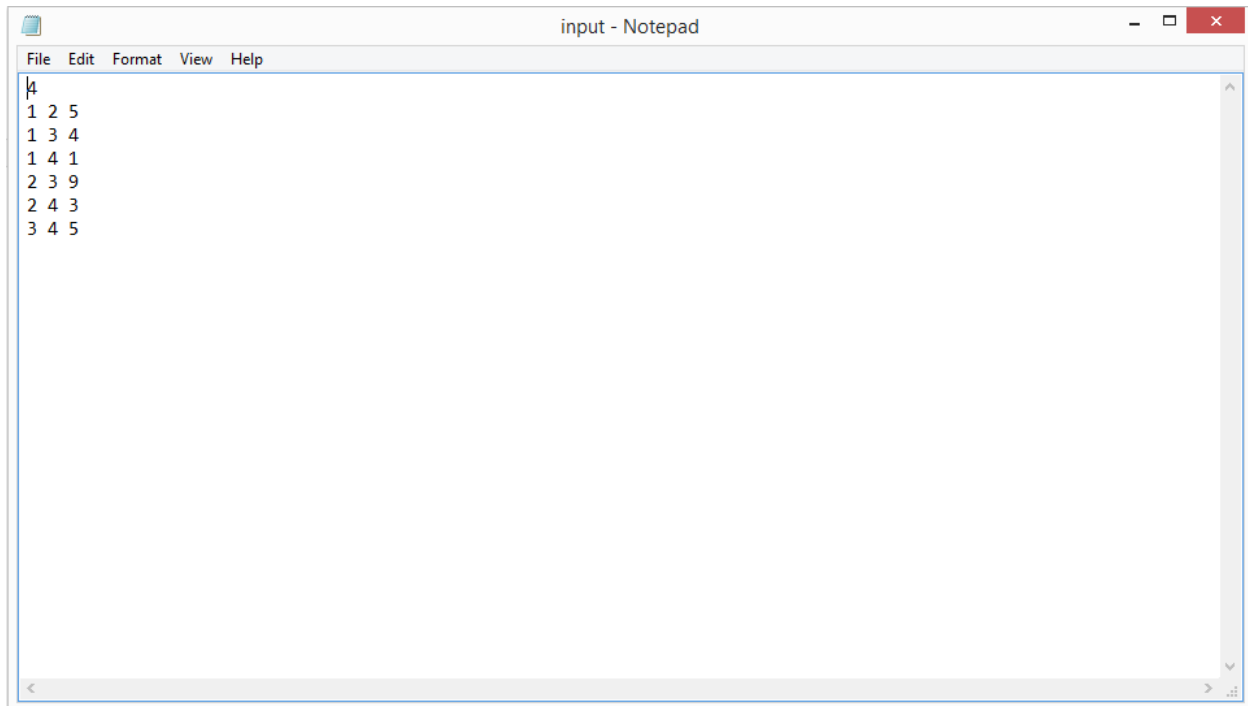
Topology of network used for testing:



IP address and the port numbers used for each node:

Node[1]	10.139.60.23	7000
Node[2]	10.139.58.246	8000
Node[3]	10.139.58.132	9000
Node[4]	10.139.57.233	10000

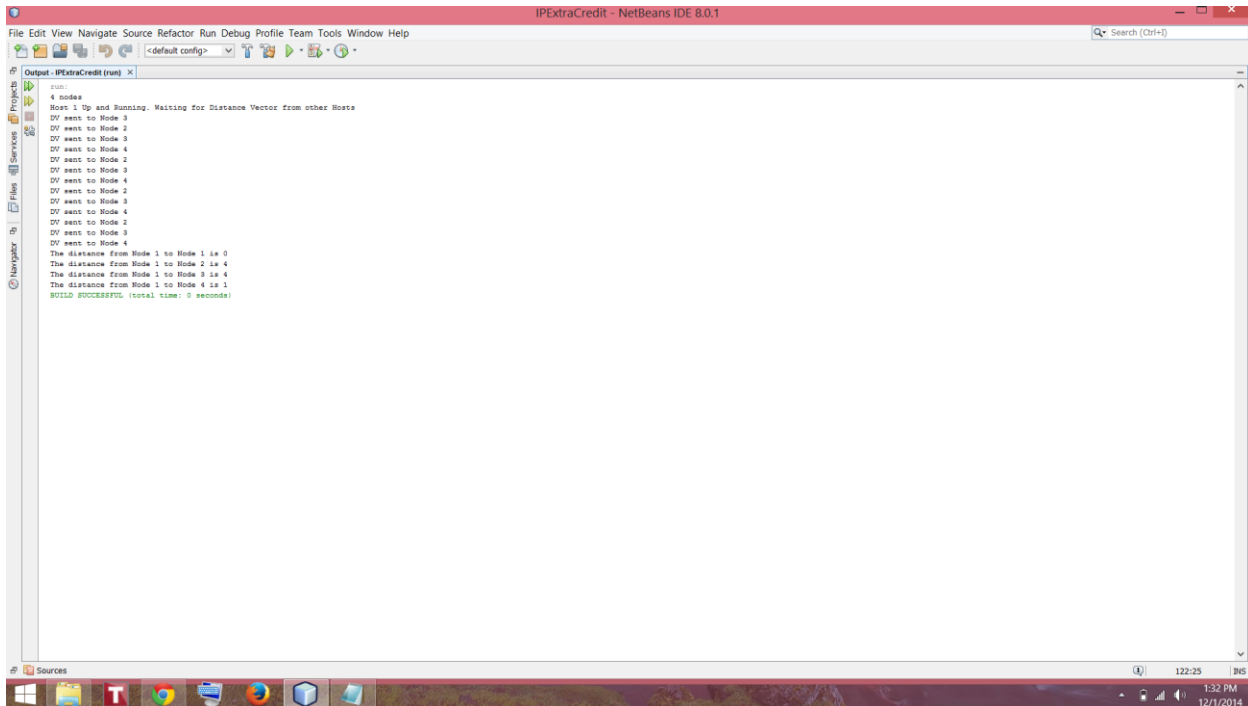
Input file:



```
4
1 2 5
1 3 4
1 4 1
2 3 9
2 4 3
3 4 5
```

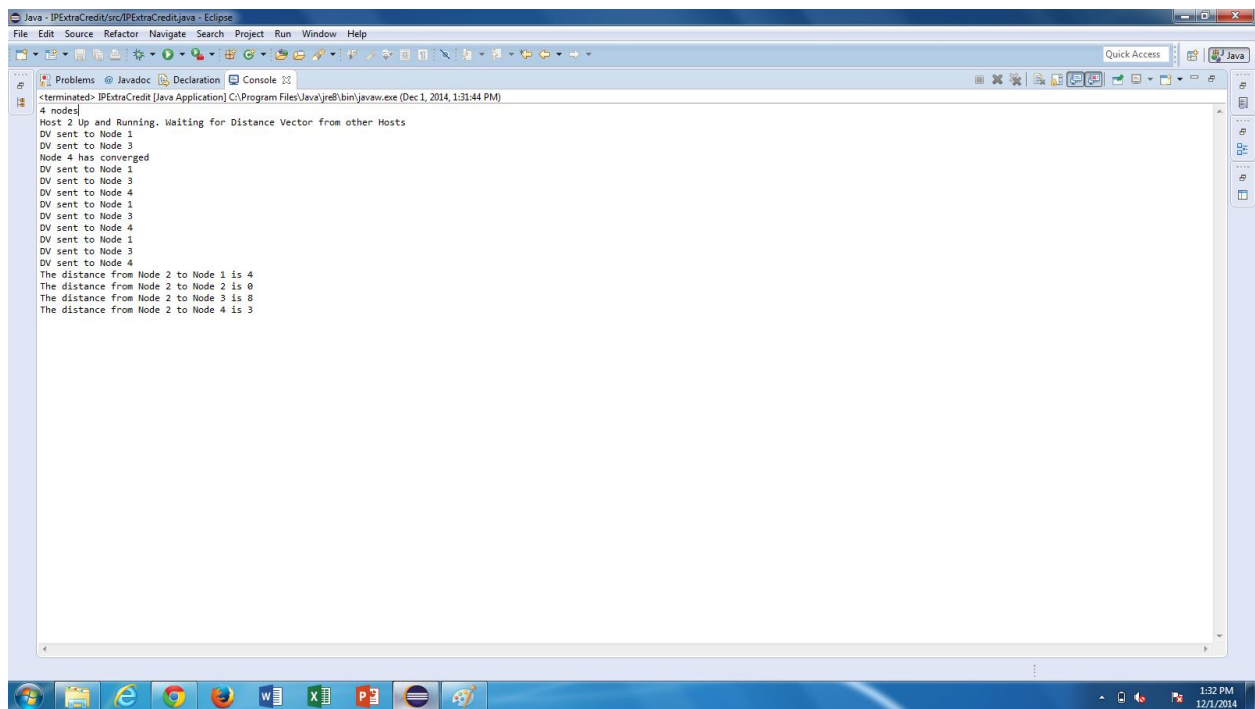
Output at each node after implementing DV algorithm over UDP:

Node 1:



```
4 nodes
Host 1 Up and Running. Waiting for Distance Vector from other Routs
DV sent to Node 3
DV sent to Node 2
DV sent to Node 3
DV sent to Node 4
DV sent to Node 2
DV sent to Node 3
DV sent to Node 4
DV sent to Node 2
DV sent to Node 3
DV sent to Node 4
DV sent to Node 2
DV sent to Node 3
DV sent to Node 4
DV sent to Node 2
DV sent to Node 3
DV sent to Node 4
The distance from Node 1 to Node 1 is 0
The distance from Node 1 to Node 2 is 4
The distance from Node 1 to Node 3 is 4
The distance from Node 1 to Node 4 is 1
BUILD SUCCESSFUL (total time: 0 seconds)
```

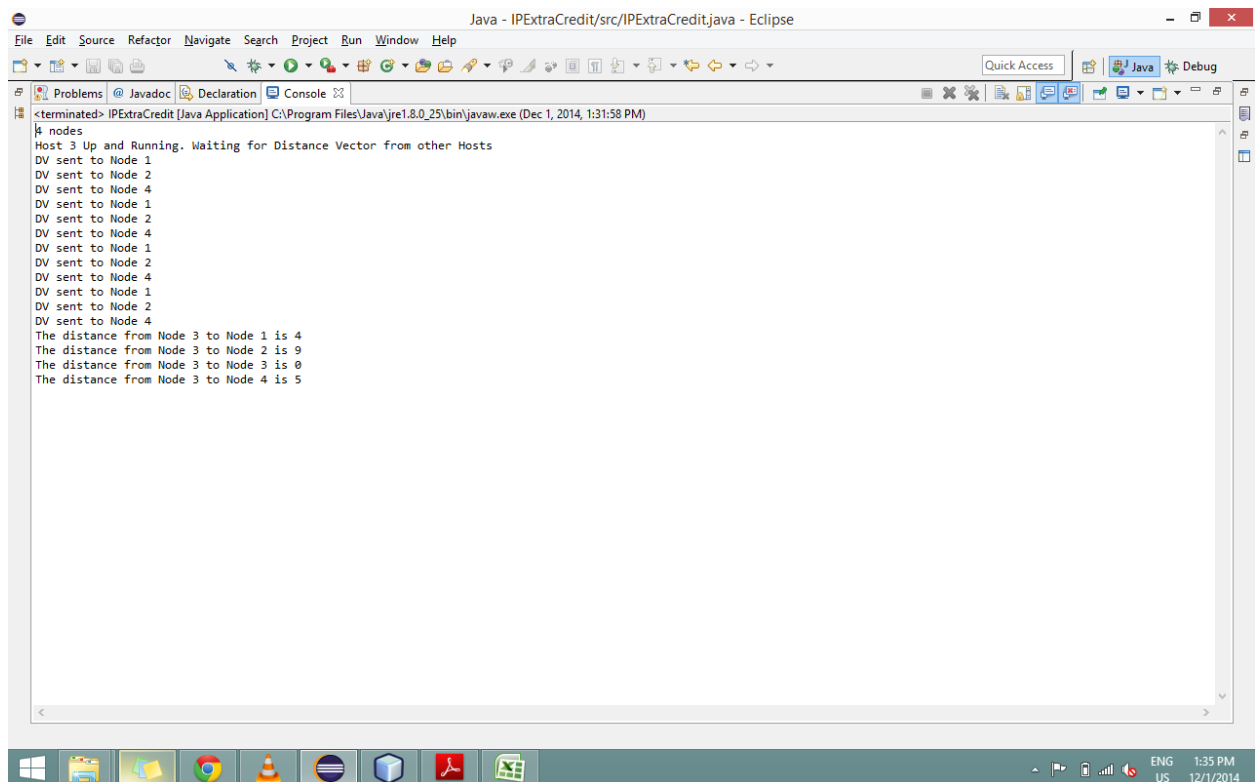
Node 2:



The screenshot shows the Eclipse IDE with the console window open. The output text is as follows:

```
<terminated> IPExtraCredit [Java Application] C:\Program Files\Java\jre8\bin\javaw.exe (Dec 1, 2014, 1:31:44 PM)
4 nodes
Host 2 Up and Running. Waiting for Distance Vector from other Hosts
DV sent to Node 1
DV sent to Node 3
Node 4 has converged
DV sent to Node 1
DV sent to Node 3
DV sent to Node 4
DV sent to Node 1
DV sent to Node 3
DV sent to Node 4
DV sent to Node 1
DV sent to Node 3
DV sent to Node 4
The distance from Node 2 to Node 1 is 4
The distance from Node 2 to Node 2 is 0
The distance from Node 2 to Node 3 is 0
The distance from Node 2 to Node 4 is 3
```

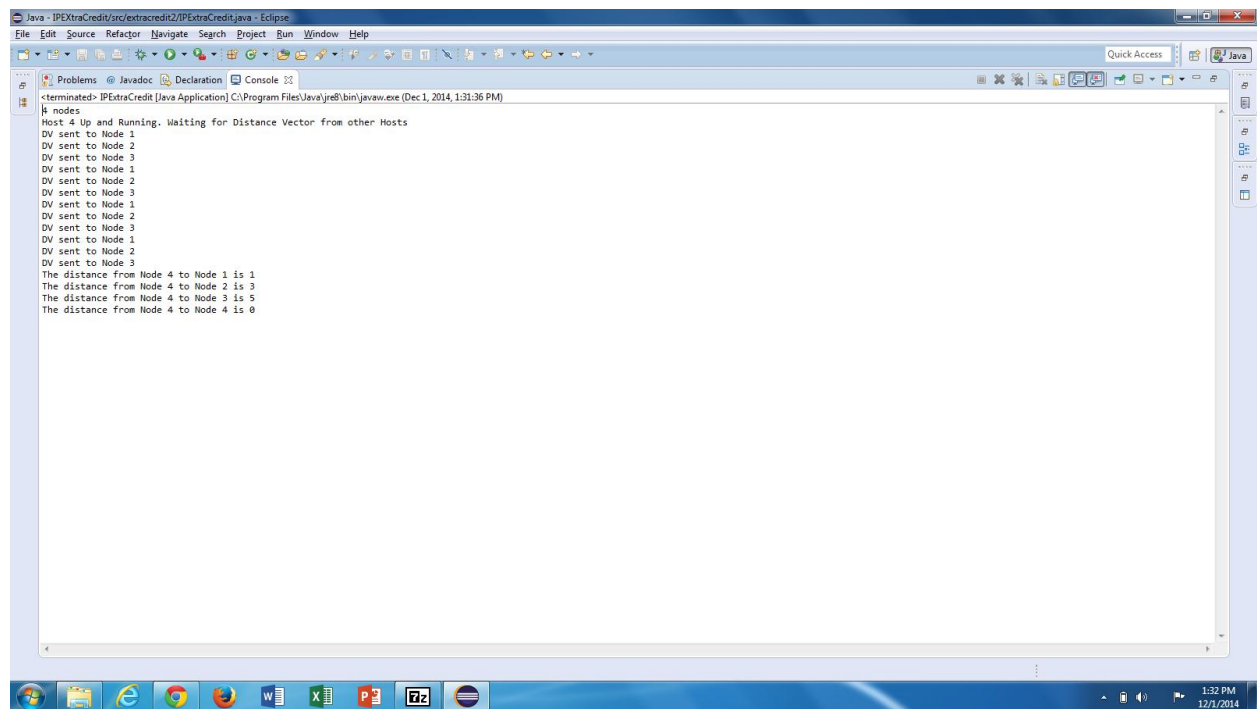
Node 3:



The screenshot shows the Eclipse IDE with the console window open. The output text is as follows:

```
Java - IPExtraCredit/src/IPExtraCredit.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Quick Access
Problems Javadoc Declaration Console
<terminated> IPExtraCredit [Java Application] C:\Program Files\Java\jre1.8.0_25\bin\javaw.exe (Dec 1, 2014, 1:31:58 PM)
4 nodes
Host 3 Up and Running. Waiting for Distance Vector from other Hosts
DV sent to Node 1
DV sent to Node 2
DV sent to Node 4
DV sent to Node 1
DV sent to Node 2
DV sent to Node 4
DV sent to Node 1
DV sent to Node 2
DV sent to Node 4
DV sent to Node 1
DV sent to Node 2
DV sent to Node 4
The distance from Node 3 to Node 1 is 4
The distance from Node 3 to Node 2 is 9
The distance from Node 3 to Node 3 is 0
The distance from Node 3 to Node 4 is 5
```

Node 4:



```
Java - IPExtraCredit/src/extraCredit2/IPExtraCredit.java - Eclipse
File Edit Source Refactor Navigate Search Project Run Window Help
Problems Javadoc Declaration Console
<terminated> IPExtraCredit [Java Application] C:\Program Files\Java\jre8\bin\javaw.exe (Dec 1, 2014, 1:31:36 PM)
k nodes
Host 4 Up and Running. Waiting for Distance Vector from other Hosts
DV sent to Node 1
DV sent to Node 2
DV sent to Node 3
DV sent to Node 1
DV sent to Node 2
DV sent to Node 3
DV sent to Node 1
DV sent to Node 2
DV sent to Node 3
DV sent to Node 1
DV sent to Node 2
DV sent to Node 3
The distance from Node 4 to Node 1 is 1
The distance from Node 4 to Node 2 is 3
The distance from Node 4 to Node 3 is 5
The distance from Node 4 to Node 4 is 0
```

The DV algorithm was implemented over UDP using 4 nodes (peers 1,2,3 and 4). Node[1] initiates the transfer of distance vector to Node[2].