Distance Vector Routing Assignment Report

While running the program three arguments must be passed (node id, config.txt file and port number of this node).

After getting this three arguments my program will read the config.txt file and add the neighboring nodes with this newly created node. Then two thread will be created one for sending information to neighboring nodes (Send) and another for receiving information from neighboring nodes (Receive).

Using the Send thread each node will send its own distance vector as a string to its neighbors within a short time period (5 seconds).

Using Receive thread each running node will receive its neighbor's distance vector. After receiving any distance vector from its neighbor's, each node will re--compute its own distance vector via Bellman-Ford algorithm.

To detect when the distance vector of any node has stabilized I have used a counter array (cnt[]).

After receiving any distance vector I have checked this distance vector is the same that this node has previously received from the same neighbor or not. If not then I set the cnt[i] = 0 (where i = neighboring nodes id from which this distance vector is being sent). Else I have increased the cnt[i] value. If any node receives same distance vector from all of its neighbors consecutive 10 times I assumed that the distance vector of this node will not update in future (as Bellman-Ford algorithm requires n-1 iteration to compute all the shortest distance from any node to all other nodes).

When a nodes distance vector has stabilized I have printed its distance vector.