**Part-C**

**C1)**

1. Routing protocol code is present in routing.py file in Part-C folder. Commands to execute
2. python start.py
3. Mininext> source bash.sh
4. Time taken for the protocol to find the shortest path is 0.478270053864 seconds. This is the time difference between the start of the execution of the protocol and last updated routing table which means table is stabilized. The time to stabilize varies for each node. The time present here is for the node H1 which took more time to stabilize. Thus, this is the time taken for whole network to stabilize on a whole.
5. Routing tables at each node is present in respective nodes log file.

**C2)**

1. Time taken to converge from the time the R1-R3 edge weight changed from 6 to 1 is 0.469200611115 seconds.
2. Routing tables at each node is present in respective nodes log file.

**C3)**

In case of negative weight, we check for negative-weight cycles. A negative cycle in a weighted graph is a cycle whose total weight is negative.

We find the negative cycle by following algorithm step: If dist[v] > dist[u] + weight of edge uv, then return. If we detect negative cycle, we return from the protocol and terminate the algorithm.