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Project 1: Discussion Questions

1. **Describe a pro and a con of using event driven programing.**
   One of the pros is it permits a lot of interactive programs to work together while a con is it's more difficult to code and trace because of the complexity of the events.

2. **Flooding includes a mechanism to prevent packets from circulating indefinitely, and the TTL field provides another mechanism. What is the benefit of having both? What would happen if we only had flooding checks? What would happen if we had only TTL checks?**
   With both mechanism we are able to insure packets do not go down incorrect pathways as well as stop unnecessary pinging. If we only had flooding checks, then there could be a case when packets could go down a path that has no end and as a result it would create unnecessary flooding. If we only had TTL checks then nodes could circulate indefinitely resulting in unnecessary transmissions.

3. **When using the flooding protocol, what would be the total number of packets sent/received by all the nodes in the best case situation? Worse case situation? Explain the topology and the reasoning behind each case.**
   The number of packets would depend on the number of nodes the protocol will take to reach its goal destination. The best case would be if the goal destination is connected next to it(shortest path) 0(1), while the worse case would be the longest path or the maximum nodes possible the protocol will have to traverse.

4. **Using the information gathered from neighbor discovery, what would be a better way of accomplishing multi- hop communication?**
   We could potentially used the gathered information and put it into a search algorithm like Dijkstra's shortest path algorithm.

5. **Describe a design decision you could have made differently given that you can change the provided skeleton code and the pros and cons compared to the decision you made?**

If we probably had a different data type or structure for the neighbor it would of made things easier by not having to use the same kind of list for packet stored and those for neighbors.