

## **Traceroute Lab Solution**

The solution is based on the traces that I provided along with the assignment.

Trace 1 (traceroute to iitkgp.ac.in)

1. What is the IP address of the destination?
    - 203.110.242.36
  2. Did the trace reach the destination? (This is a tricky question. Think through it)
    - Although these are valid and live sites, by just looking at the trace we actually don't know if it reached the destination or not. As you have learned, traceroute works by increasing the TTL (hops). If traceroute does not get any response from the destination, it would not know that the destination has been reached and it will continue increasing the TTL till the maximum number of hops is reached (default it is 30 hops)
  3. Is the destination located in US or outside?
    - Outside US
  4. How many router(s) did not respond?
    - 21 (number of rows with 3 \*\*\*).
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Trace 2 (traceroute to tamu.edu)

- 1) What is the IP address of the destination?
  - 165.91.22.70
- 2) Did the trace reach the destination? (This is a tricky question. Think through it)
  - Although these are valid and live sites, by just looking at the trace we actually don't know if it reached the destination or not. As you have learned, traceroute works by increasing the TTL (hops). If traceroute does not get any response from the destination, it would not know that the destination has been reached and it will continue increasing the TTL till the maximum number of hops is reached (default it is 30 hops)
- 3) Is the destination located in US or outside?
  - In US
- 4) How many router(s) did not respond?
  - 22