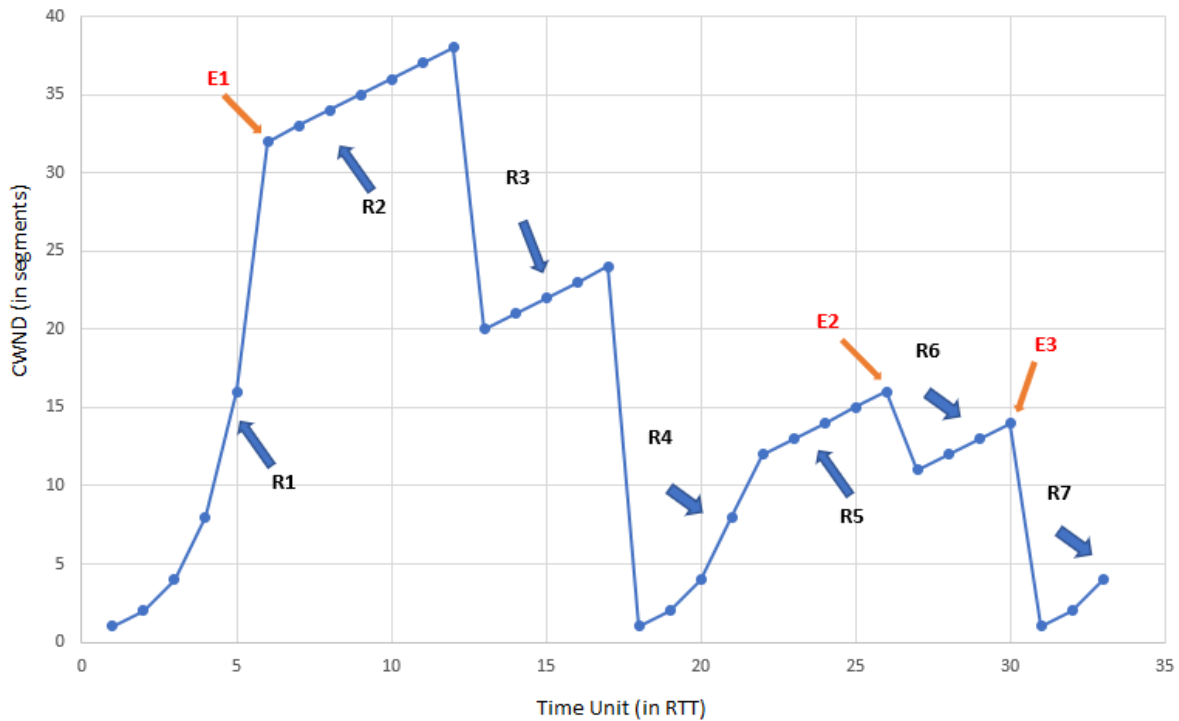


CSCI 379- Homework 4
Due Nov 22nd 11:59 PM
Based on Week 8,9 and 10 material

Answer any 2 questions (each worth 5 points) for the purpose of the submission.

Question 1: TCP Congestion



Part 1: Which congestion state are the seven regions (R1 - R7) in?

Part 2: What is the event at E1, E2, E3?

Part 3: What is the value of the initial ssthresh and final ssthresh (i.e, after event E3)?

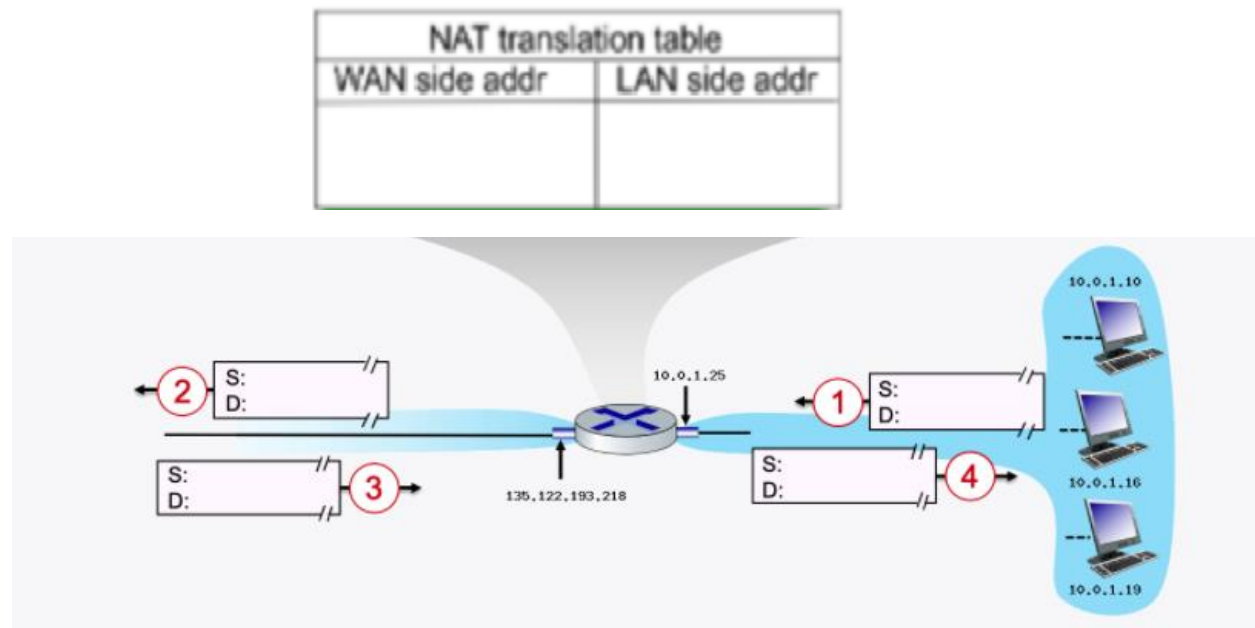
Question 2: Datagram Fragmentation

The maximum transmission unit on an Ethernet link is 1500 bytes. This means that the IP packets sent over Ethernet cannot be larger than 1500 bytes including the IP header. Suppose original datagram, is 10000-byte. Obviously, the IP layer will have to fragment the data.

Provide the length of new datagrams (after fragmentation). Provide the Flag and offset of each of the new datagrams

Question 3: NAT Router

Consider the scenario below in which three hosts, with private IP addresses 10.0.1.10, 10.0.1.16, 10.0.1.19 are in a local network behind a NAT'd router that sits between these three hosts and the larger Internet. IP datagrams being sent from, or destined to, these three hosts must pass through this NAT router. The router's interface on the LAN side has IP address 10.0.1.25, while the router's address on the Internet side has IP address 135.122.193.218



Suppose that the host with IP address 10.0.1.19 sends an IP datagram destined to host 128.119.176.188. The source port is 3367, and the destination port is 80.

Part 1: What is the IP Address and Port number at Step 1, Step 2, Step 3 and Step 4 in the above diagram?

Part 2: Show the entries made in the NAT translation table