Exercises lab 1
Computer Networking I (DVGB02)
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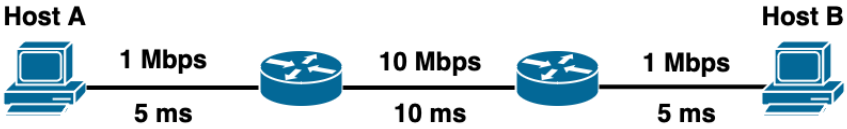
1. Suppose a data stream goes through a fiber of 1000 km, with a bandwidth of 1 Mbps and a signal propagation delay in the fiber of 2×10^5 km/s. If the data set consists of 1 Mbytes, calculate the time to transmit the data set. You can ignore the processing and queuing delays.

2. Compute the time to transmit a packet of size 2 kbytes on a link with a bandwidth of 10 Mbps. The link propagation delay is 20 ms.

3. Consider the network scenario in the figure below, and assume there are no queueing delays in hosts and routers, and the processing delays at hosts and routers are negligible.

   a) What is the capacity of the network path between hosts A and B?
   b) Compute the bandwidth-delay product of the network path between hosts A and B.
   c) Explain how the bandwidth-delay product of the network path between hosts A and B would change if the link between the two routers was upgraded to 1 Gbps.



4. HTTP is a stateless protocol. Still, both a web browser and a server need to keep track of session states. e.g., goods in your cart on an e-commerce site. How is that possible?

5. What is the difference between a domain name and an email address?

6. Why does not HTTP include any mechanism for retransmission of requests and responses?

7. When a person sends an email to another person, the email is not directly sent between the persons' mail clients. Why?

8. Is it true that a web server must have a domain name that begins with "www". Explain.

End of Exercises