Q1: Unreliable transport protocol
In the lecture, you have learned how a reliable transport protocol can be built on top of a best-effort delivery network. However, some applications still use an unreliable transport protocol.

1. What are the characteristics of best-effort and of reliable transport?
2. What could be advantages of using an unreliable transport protocol?
3. What type of applications are suitable to use unreliable transport protocols?
4. As we will later see, the User Datagram Protocol (UDP) only provides unreliable transport. Assume you are forced to use a network which only supports UDP as a transport protocol. You must transmit an important document which eventually should be correctly transmitted. Do you see a way to implement some of the reliable transport mechanisms despite using UDP?

Q2. Network unreliability: Name five undesirable effects the network can have on individual packets and a stream of packets when attempting to deliver them to the destination.

Q3: Timeouts
1. In reliable transmission, what is the effect of setting a too short timeout, and conversely what is the effect of setting a too long timeout?
2. RTT is a higher-level network property that is mainly used to decide what the re-transmission timeout should be set to. Which four network delays determine the RTT?
3. Of these four network delays, what changes in the network can you do to reduce the RTT?

Q4: Video Streaming: TRUE or FALSE?
- Video resolution is a synonym of video bitrate.
- In video streaming, the entire content is usually provided as a continuous flow of bytes.
- Adaptation algorithms may vary depending on users’ devices.
- Usually, a particular video content is stored on an single server.
- Video chunks duration is typically in the order of seconds.

**Q5:** How does Buffer Based Adaptation work? What is its main weakness and how could it be solved?