**In TCP, we have two consecutive segments. Assume that the sequence number of the first segment is 101. What is the sequence number of the next segment in each of the following cases?**

**a. The first segment does not consume any sequence numbers.**

**b. The first segment consumes 10 sequence numbers.**

Step 1: Sequence number

A host uses a sequence number as a counter to record each byte that is transferred outside of the system. The sequence number will be raised by 1400 once a TCP packet is transmitted if it has 1400 bytes of data.

Step 2: Answer with detailed explanation

Given that the first segment's sequence number is 101.

• No data is delivered using the first segment, as it does not consume any sequence numbers. Data delivered in bytes totaled 0 in total.

• Sequence number = Previous sequence number Plus the number of bytes sent by the preceding segment, which equals 101 + 0 = 101, determines the sequence number of the subsequent segment or the second segment.

The first segment does not consume any sequence numbers.

sequence number is 101

. The first segment consumes 10 sequence numbers.

101+10=110