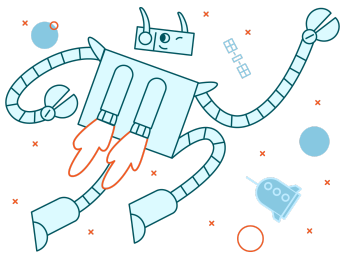
RadioACKtive



Background

TCP (Transmission Control Protocol) is designed to provide a reliable, ordered, and error-checked delivery of data between applications. The main mechanism to ensure all that is the ACK mechanism.

Tasks

- Determine and describe the TCP response to each presented scenario.
- Focus on:
  - Whether an acknowledgment (ACK) will be sent by the server.
  - Whether the client will send the original packet again (re-tranmission).
- Explain your answers.

The scenarios

- **Scenario 1: Everything is OK** - A packet is sent by the client and the server receives it.
- **Scenario 2: Packet Loss** - A packet is sent by the client and lost on its way.
- **Scenario 3: Packet Duplication** - A packet sent by the client. The server sends an ACK, but it's lost on its way.
- **Scenario 4: Packet Corruption** - A packet from the client arrives at the server with errors (corrupted data).
- **Scenario 5: Out-of-Order Packet Delivery** - Packets from the client arrive at the server out of order.

To submit

- A detailed report for each scenario, describing the expected TCP behavior in response to the event, including:
  - Whether an ACK is sent by the server and the reasoning behind it.
  - Wether the client will send again the original packet (re-transmission).
  - Any further actions taken by the client or server.