

33 Lecture - CS501

Important Subjective

1. **What is the purpose of error control?**

Answer: The purpose of error control is to detect and correct errors that occur during the transmission or storage of digital data.

What are the two main categories of error control techniques?

Answer: The two main categories of error control techniques are error detection codes and error correction codes.

How does a checksum work for error detection?

Answer: A checksum works by adding up all the bytes in a message and sending the sum along with the message. The receiver calculates the sum of the received bytes and compares it to the checksum. If the sums match, the message is assumed to be error-free.

What is the difference between parity bits and checksums?

Answer: Parity bits add a single bit to a message to detect errors, while checksums add up all the bytes in a message to detect errors.

What is the advantage of error correction codes over error detection codes?

Answer: Error correction codes can not only detect errors but also correct them, while error detection codes can only detect errors.

What is the most commonly used error correction code?

Answer: Reed-Solomon codes are the most commonly used error correction code.

What is the most commonly used error detection code in computer networking?

Answer: CRC is the most commonly used error detection code in computer networking.

What is the disadvantage of using error control techniques?

Answer: The disadvantage of using error control techniques is that they increase the complexity of data transmission and may result in reduced data throughput and increased delay.

Why are error control techniques important in wireless communication systems?

Answer: Error control techniques are important in wireless communication systems because wireless communication channels are prone to interference and noise, which can result in errors.

What is the main difference between error detection and error correction codes?

Answer: The main difference between error detection and error correction codes is that error correction codes can correct errors, while error detection codes can only detect errors.