**Assignment – 6**

**Write a short summary on Common protocols: HTTP/s, FTP, TCP, UDP.**

In computer networking, a protocol is a standardized set of rules that governs how data is transmitted and received between devices. These rules dictate how data is formatted, packaged, sent, and interpreted, allowing different devices to communicate effectively, regardless of their underlying hardware or software. Think of it as a common language for computers to understand each other.

Types of Protocols:

**HTTP Protocol:**

The Hypertext Transfer Protocol is an application protocol for distributed, collaborative, hypermedia information systems that allows users to communicate data on the World Wide Web.

Example: A client (browser) sends an HTTP request to the server; then the server returns a response to the client.

**HTTPS Protocol:**

Hypertext transfer protocol secure (HTTPS) is the secure version of [HTTP](https://www.cloudflare.com/learning/ddos/glossary/hypertext-transfer-protocol-http/), which is the primary protocol used to send data between a web browser and a website. HTTPS is encrypted in order to increase security of data transfer. This is particularly important when users transmit sensitive data, such as by logging into a bank account, email service, or health insurance provider.

**FTP Protocol:**

FTP (File Transfer Protocol) is a way to move files between computers over a network, like the internet. It's a set of rules that allows computers to communicate and exchange files, much like how email allows communication through messages.

**TCP Protocol:** TCP (Transmission Control Protocol) is like a reliable delivery service for data on the internet. It ensures that data sent between computers is received in the correct order and without any loss, much like making sure a package arrives intact and at the right address.

**UDP Protocol:**

UDP is a way to send data packets between devices over a network without guaranteed delivery or order. It's like throwing a handful of messages over a wall, hoping some of them reach their destination. It's faster and more efficient than protocols like TCP because it doesn't establish a formal connection before sending data. This makes it suitable for real-time applications where speed is more important than absolute reliability, like online gaming or streaming.