**Network Technology:**

**The Internet** is a global network of interconnected computers and servers that communicate with each other using a set of rules, or **protocols**.

**Protocols** are the rules or "languages" that devices use to communicate over this network.

**TCP (Transmission Control Protocol)** is one of the **protocols** used on the internet, specifically designed to **reliably transfer data** between devices (like your computer or phone) over the network.

Other **protocols** include:

* **IP (Internet Protocol)**
* **HTTP/HTTPS (Hypertext Transfer Protocol / Secure)**
* **FTP (File Transfer Protocol)**
* **SMTP (Simple Mail Transfer Protocol)**
* **POP3 (Post Office Protocol) / IMAP (Internet Message Access Protocol)**

A **socket** is like a phone line that connects two programs (one on your computer and one on another computer). Once connected, they can exchange data.

**Ports:**

* Each application (like a web server) has its own **port** (similar to an extension on a phone), which helps direct communication to the right program.
* **Port 80** is used for regular websites, and **Port 443** is used for secure websites.

The **socket library** in Python is a tool that lets your program interact with these layers. Specifically, it helps you:

* Create **sockets** to establish a communication link.
* **Connect** your program to a remote machine (through its IP address and port).
* Send and receive data across this connection.

You can think of it as the interface between your program and the internet, simplifying the process of sending and receiving data across networks.