**Questions 4 - Solutions**

1)

'End-to-end encryption' is intended to prevent data from being read or secretly modified, other than by the true sender and recipient(s). The messages are encrypted by the sender but the third party does not have the means to decrypt them. So the third party can only store the data as encrypted. The recipients retrieve the encrypted data and decrypt it themselves.

2)

Encryption is the process through which data is encoded so that it remains hidden from or inaccessible to unauthorized users. It helps protect private information, sensitive data, and can enhance the security of communication between user devices (clients) and servers. In essence, when your data is encrypted, even if an unauthorized person or entity gains access to it, they will not be able to read it.

3)

As you know, different LANs come together to create a WAN. Also, you know that millions of networks come together to create the internet. From here, we can easily understand that the Internet is the world's largest WAN.

4)

Campus Area Network (CAN) is a group of interconnected Local Area Networks (LAN) within a limited geographical area like a school campus, university campus, military bases, or organizational campuses and corporate buildings, etc. A Campus Area Network is larger than a Local Area Network but smaller than Wide Area Network (WAN).

Most CANs are comprised of several LANs connected via [switches](https://techterms.com/definition/switch). The CANs behave just like the LANs. I mean they have similar features. Hence, you can think of a CAN as a special LAN.

5)

Internet service provider (ISP), a company that provides Internet connections and services to individuals and organizations. The ISP gives us a line so that we can connect to the internet for a certain amount of money. So without an ISP, we cannot access the internet.

6)

Local ISP generally represents ISP companies connecting small districts and neighborhoods. It is the most common type of ISP in the world. Normal users usually connect to local ISPs to access the internet. But this is definitely not a must.

7)

Regional ISP usually represents ISP companies connecting cities and provinces belonging to a country. Local ISPs and Regional ISPs combine to form a country's network. If a normal user requests, they can get service from the regional ISP instead of the local ISP.

8)

Global ISPs represent ISPs connecting different countries. They form the basis of international communication.

9)

Here are 2 ways a local ISP can connect directly to the global ISP.

1) Global ISP already has infrastructure at the location of the local ISP. For this reason, if the Local ISP wants to connect to the Global ISP, this connection can be made easily.

2) The local ISP gives enough money to the global ISP. Thus, the global ISP provides the required infrastructure to the local ISP and the connection is established.

\*\*Connecting directly to the Global ISP can increase the speed noticeably.