First week's assignment
Instructions

- **Assignment for Module 1 : What is Encryption?**

1. Where do you know that you use encryption in your daily life?
   - Web browsing
   - Messaging apps
   - Wi-Fi hotspots
   - Payment systems
   - Online services

2. What are the consequences if you are not using encryption?
   - Unencrypted data can be intercepted by cybercriminals, leading to theft of sensitive information like banking details or personal data.
   - Without encryption, personal identifiers can be stolen and misused.
   - Lack of encryption in payment systems can lead to unauthorized transactions or financial loss

3. What are the advantages of symmetric encryption?
   - fast and can quickly encrypt and decrypt large volumes of data.

4. What are the advantages of asymmetric encryption?
   - Public and private keys eliminate the need for direct sharing of a secret key, overcoming the challenge of secure key distribution
   - The private key never needs to be shared, making it harder for unauthorized parties to compromise the encryption.

5. How does end-to-end encryption work and why is it a safe method for security and privacy?
   End-to-end encryption ensures that only the sender and recipient can read the content of a message. it works like this :
   - Data is encrypted on the sender's device before being sent
   - The encrypted message travels through intermediaries like ISPs or mail servers without being decrypted.
   - The recipient's device decrypts the data using a private key.

   Why is it safe
   - only the sender and recipient have access to decryption keys.

- Messages cannot be altered during transit without detection.
- service providers cannot view the encrypted content.