1.Encryption and Decryption

Encryption is the process of converting plain text into ciphertext to protect data from unauthorized access. Decryption is the reverse process of converting ciphertext back into plain text.

How to Secure Our Data?

- **Symmetric Key Encryption**:
  - The same key is used for both encryption and decryption.
  - Examples: AES (Advanced Encryption Standard), DES (Data Encryption Standard).
  - *Note*: The key must be shared securely before communication.
- **Asymmetric Key Encryption**:
  - A pair of keys is used: Public Key and Private Key.
  - Public Key is used for encryption, and Private Key is used for decryption (or vice versa).
  - Examples: RSA (Rivest-Shamir-Adleman), ECC (Elliptic Curve Cryptography).