ex - 1d

October 31, 2025

[ ]:
```python
from cryptography.fernet import Fernet

def generate_key():
    return Fernet.generate_key()

def encrypt_message(key: bytes, plaintext: str) -> bytes:
    f = Fernet(key)
    token = f.encrypt(plaintext.encode('utf-8'))
    return token

def decrypt_message(key: bytes, token: bytes) -> str:
    f = Fernet(key)
    plaintext = f.decrypt(token)
    return plaintext.decode('utf-8')

if _name_ == "_main_":
    key = generate_key()
    print("Generated key (store securely):", key.decode())

    secret = "MyVerySensitivePassword123!"
    token = encrypt_message(key, secret)
    print("\nEncrypted token (bytes):", token)

    recovered = decrypt_message(key, token)
    print("\nDecrypted plaintext:", recovered)

    with open('secret.key','wb') as f:
        f.write(key)
    print("\nKey saved to secret.key (handle securely)")
```