**Assignment no 7 (Group B)**

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Roll no: 31 Subject: Risk Assesment Laboratory

**Title :** Design and implement the program to protect the data stored at IoT device

**Code :**

**import os**

**from cryptography.fernet import Fernet**

**def encrypt\_data(data):**

**# Generate a Fernet key**

**key = Fernet.generate\_key()**

**# Encrypt the data**

**fernet = Fernet(key)**

**encrypted\_data = fernet.encrypt(data)**

**# Save the encrypted data to a file**

**with open("encrypted\_data.txt", "wb") as f:**

**f.write(encrypted\_data)**

**# Return the key**

**return key**

**def decrypt\_data(key):**

**# Load the encrypted data from the file**

**with open("encrypted\_data.txt", "rb") as f:**

**encrypted\_data = f.read()**

**# Decrypt the data**

**fernet = Fernet(key)**

**decrypted\_data = fernet.decrypt(encrypted\_data)**

**# Return the decrypted data**

**return decrypted\_data**

**def main():**

**# Encrypt the data**

**key = encrypt\_data(b"Hello, world!")**

**# Decrypt the data**

**decrypted\_data = decrypt\_data(key)**

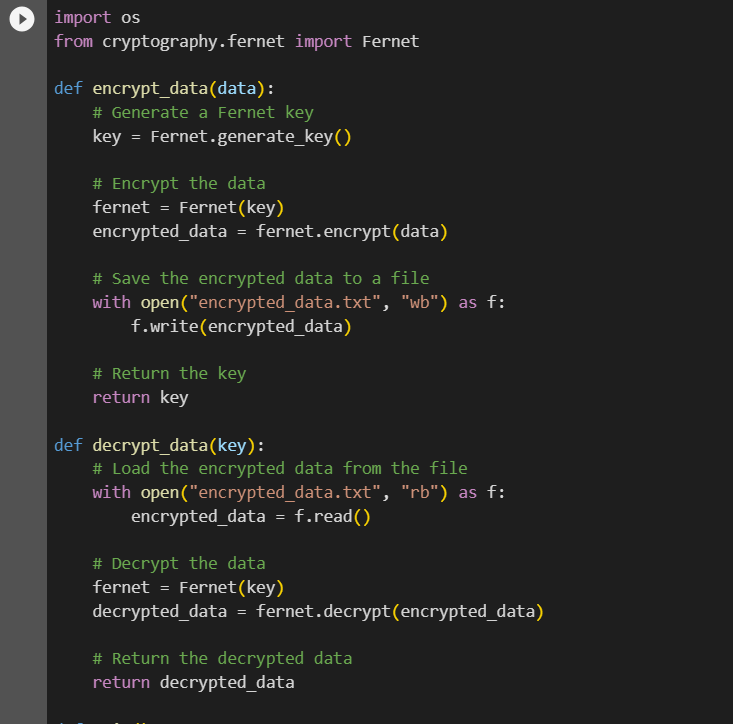
**# Print the decrypted data**

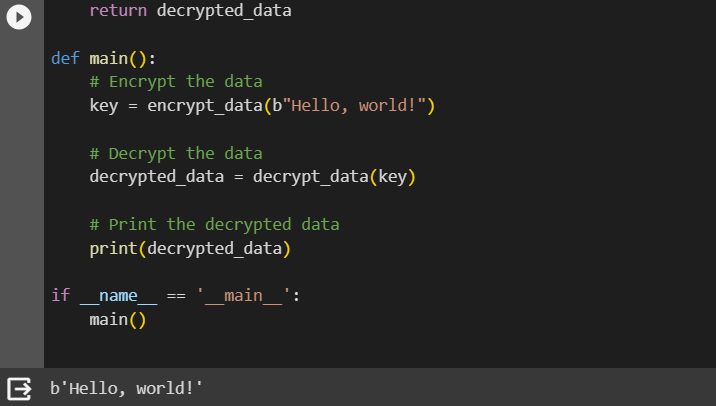
**print(decrypted\_data)**

**if \_\_name\_\_ == '\_\_main\_\_':**

**main()**

**Output :**

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