Assignment

Only for course Teacher					
	Needs Improvement	Fair	Good	Excellent	Total Mark
Level of Content					
Content Development					
Spelling & Grammar					
Format					
Comments					

Semester: Fall-2023

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Student ID: 211-35-712

Batch: 34th **Section: A**

Course Code: SE332 **Course Name: Information System Security**

Course Teacher Name: Md. Maruf Hassan

Designation: Associate Professor, Department of Software Engineering

Submission Date: 01/12/2023

Caesar Cipher

My Id is 211-35-712 and my assignment topic is **Caesar Cipher**. Now write the full code of Caesar Cipher using python programming language.

```
#Encryption section code
def encrypt(plaintext, key):
    ciphertext = ""
    for char in plaintext:
        if char == ' ':  #Leave spaces unchanged
            ciphertext += char
        else:
            #Shift the character by the key value
            shifted_char = chr((ord(char) - ord('A') + key) % 26 +
ord('A'))
            ciphertext += shifted_char
    return ciphertext



#Decryption section code
def decrypt(ciphertext, key):
    decrypted_text = ""
    for char in ciphertext:
        if char == ' ':  #Leave spaces unchanged
            decrypted_text += char
        else:
            #Shift the character back by the key value
            shifted_char = chr((ord(char) - ord('A') - key) % 26 +
ord('A'))
            decrypted_text += shifted_char
    return decrypted_text
```

```
def get_user_choice():
    print("Choose an option:")
    print("1. Encryption")
    print("2. Decryption")
    choice = input("Enter the option number (1 or 2): ")
    return choice


#Get user choice
choice = get_user_choice()

if choice == '1':  #Encryption
    plaintext_message = input("Enter the plaintext message: ")
    plaintext_message = plaintext_message.upper()  #Convert to uppercase
    key_value = int(input("Enter the key value (an integer): "))
    encrypted_message = encrypt(plaintext_message, key_value)
    print("Encrypted:", encrypted_message)
elif choice == '2':  #Decryption
    plaintext_message = input("Enter the ciphertext message: ")
    plaintext_message = plaintext_message.upper() # Convert to uppercase
    key_value = int(input("Enter the key value used for encryption (an
integer): "))
    decrypted_message = decrypt(plaintext_message, key_value)
    print("Decrypted:", decrypted_message)
else:
    print("Invalid choice. Please enter 1 or 2.")
```

Output

Encryption:

Plaintext: **MD EYASHIN**

Key: **2455**

```
PS E:\Class Documents\8th\Information System Security\Caesar Cipher> python caesar_cipher.py
Choose an option:
1. Encryption
2. Decryption
Enter the option number (1 or 2): 1
Enter the plaintext message: MD EYASHIN
Enter the key value (an integer): 2455
Encrypted: XO PJLDSTY
```

Here Encrypted message is: **XO PJLDSTY**

Decryption:

Ciphertext: **XO PJLDSTY**

Key: 2455

```
PS E:\Class Documents\8th\Information System Security\Caesar Cipher> python caesar_cipher.py
Choose an option:
1. Encryption
2. Decryption
Enter the option number (1 or 2): 2
Enter the ciphertext message: XO PJLDSTY
Enter the key value used for encryption (an integer): 2455
Decrypted: MD EYASHIN
```

Here Decrypted message: **MD EYASHIN**

So, My code executes successfully, And Both sections(Encryption and Decryption) show the right answer.

Code explanation

YouTube link: https://youtu.be/QEXuRODUwPQ