ASSIGNMENT-2

PIN NO : 2303A51LA4

NAME : NADDUNURI SANJAY

QUESTION:

Implement traditional Monoalphabetic (Caesar Cipher) and Polyalphabetic (Vigenère Cipher) encryption techniques in Python to secure sections of a personal portfolio landing page, such as the user's name, profession, or bio description.

```
# Caesar Cipher
def caesar(text, shift):
    return ''.join(
        chr((ord(c) - b + shift) % 26 + b) if c.isalpha() else c
        for c in text
        for b in [ord('A') if c.isupper() else ord('a')]
    )

# Vigenère Cipher
def vigenere(text, key, enc=True):
    key = key.lower()
    res, k = '', 0
    for c in text:
        if c.isalpha():
            s = ord(key[k % len(key)]) - ord('a')
            if not enc: s = -s
            b = ord('A') if c.isupper() else ord('a')
            res += chr((ord(c) - b + s) % 26 + b)
            k += 1
        else: res += c
    return res

name = input("Enter Name: ")
prof = input("Enter Profession: ")
bio  = input("Enter Bio: ")

# Keys
shift = int(input("Enter Caesar shift: "))
vig_key = input("Enter Vigenere key: ")

# Encrypt
ne, pe, be = caesar(name, shift), caesar(prof, shift), vigenere(bio, vig_key)
print("\nEncrypted:", ne, pe, be, sep="\n")

# Decrypt
print("\nDecrypted:",
      caesar(ne, -shift),
      caesar(pe, -shift),
      vigenere(be, vig_key, False), sep="\n")
```

```
Enter Name: Sanjay
Enter Profession: Computer Science Engineer
Enter Bio: I am a passionate developer who loves AI, cloud computing, and creating innovative solutions.
Enter Caesar shift: 3
Enter Vigenere key: portfolio

Encrypted:
Vdqmdb
Frpsxwhu Vflhqfh Hqjlqhhu
X od t uodawdbrmj rpdsacgxw ksw zdjvl FW, ntcjr thrdfbwcu, rgi qcmoiwez nbywjphzoj gztiiwfgx.

Decrypted:
Sanjay
Computer Science Engineer
I am a passionate developer who loves AI, cloud computing, and creating innovative solutions.
```

```
Enter Name: Alex Johnson
Enter Profession: Web Developer
Enter Bio: Passionate about building fast, secure, and scalable web applications for global clients.
Enter Caesar shift: 5
Enter Vigenere key: security

Encrypted:
Fqjc Otmsxts
Bjg Ijajqtujw
Heumzwgyli cvfcm zmmnxzvz dswv, mvknpw, epx jktjsfny nmu yhtnctimggru zfz zjgfcf ttbcfxu.

Decrypted:
Alex Johnson
Web Developer
Passionate about building fast, secure, and scalable web applications for global clients.
```