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Course: BCA 6A

Ans 5.)

```
def encryption (plain-text, key):
```

```
    encrypted=""
```

```
    for c in plain-text:
```

```
        if c.isupper():
```

```
            c_index = ord(c) - ord('A')
```

```
            c_shifted = (c_index + key) % 26 + ord('A')
```

```
            c_new = chr(c_shifted)
```

```
            encrypted += c_new
```

```
        elif c.islower():
```

```
            c_index = ord(c) - ord('a')
```

```
            c_shifted = (c_index + key) % 26 + ord('a')
```

```
            c_new = chr(c_shifted)
```

```
            encrypted += c_new
```

```
        elif c.isdigit():
```

```
            c_new = (int(c) + key) % 10
```

```
            encrypted += str(c_new)
```

```
        else:
```

```
            encrypted += c
```

```
    return encrypted
```

```
def decryption(ciphertext, key):
```

```
    decrypted = ""
```

```
    for c in ciphertext:
```

```
        if c.isupper():
```

```
            c_index = ord(c) - ord('A')
```

```
            c_index = (c_index - key) % 26 + ord('A')
```

```
            c = chr(c_index)
```

```
            decrypted += c
```

```
        elif c.islower():
```

```
            c_index = ord(c) - ord('a')
```

```
            c_index = (c_index - key) % 26 + ord('a')
```

```
            c = chr(c_index)
```

```
            decrypted += c
```

```
        elif c.isdigit():
```

```
            c_index = int(c) - key
```

```
            decrypted += str(c_index % 10)
```

```
        else:
```

```
            decrypted += c
```

```
    return decrypted
```

```
plain_text = "Attack from North"
```

```
ciphertext = encryption(plain_text, 4)
```

```
print("Plaintext message:\n", plain_text)
```

```
print("Encrypted ciphertext:\n", ciphertext)
```

```
decrypted_msg = decryption(ciphertext, 4)
```

```
print("The decrypted message is:\n", decrypted_msg)
```