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Assignment No 1

Study and implementation of Caesar Cipher Technique

Code:

```
def encrypt(text,s):
    result = ""
    for i in range(len(text)):
        ch = text[i]
        if (ch.isupper()):
            result += chr((ord(ch) + s - 65) % 26 + 65)
        else:
            result += chr((ord(ch) + s - 97) % 26 + 97
    return result

def decrypt(text,s):
    result = ""
    for i in range(len(text)):
        ch = text[i]
        if (ch.isupper()):
            result += chr((ord(ch) - s - 65) % 26 + 65)
        else:
            result += chr((ord(ch) - s - 97) % 26 + 97)
    return result


text = "nikita"
s = 3
print ("Plain Text : " + text)
print ("Shift : " + str(s))
cipher = encrypt(text,s)
print ("Encrypted Cipher Text: " + cipher)
plain = decrypt(cipher,s)
print ("Decrypted Text : " + plain)
```

Output:

```
Plain Text : nikita
Shift : 3
Encrypted Cipher Text: qlnlwd
Decrypted Text : nikita
```

Caesar Cipher:

The Caesar Cipher technique is one of the earliest and simplest methods of encryption technique. It's simply a type of substitution cipher, i.e., each letter of a given text is replaced by a letter with a fixed number of positions down the alphabet. For example with a shift of 1, A would be replaced by B, B would become C, and so on.

Example:
Caesar cipher to encrypt the message "nikita" with a shift of 3:
Write down the plaintext message: nikita
Choose a shift value. In this case, we will use a shift of 3.
Replace each letter in the plaintext message with the letter that is three positions to the right in the alphabet.

n	i	k	i	t	a
q	l	n	l	w	d

The encrypted message is now "qlnlwd".

To decrypt the message, we simply need to shift each letter back by the same number of positions. In this case, you would shift each letter in "qlnlwd" back by 3 positions to get the original message, "nikita".