

SANJANA S  
NNM22IS139

## MONOALPHABETIC CIPHER

```
#include <stdio.h>
#include <stdlib.h>

int main()
{
    char original[26] = "abcdefghijklmnopqrstuvwxyz"; // Original alphabet
    char cipher[26] = "qwertyuioplkjhgfdsazxcvbnm"; // Cipher alphabet
    int n;

    // Encrypting part
    printf("Enter the length of string to be encrypted: ");
    scanf("%d", &n);

    char input[n + 1]; // Input string
    printf("Enter the string to encrypt: ");
    scanf("%s", input);

    char encrypt[30]; // Encrypted string
    for (int i = 0; i < n; i++)
    {
        char current = input[i];
        if (current >= 'a' && current <= 'z')
        {
            int index = current - 'a';
            encrypt[i] = cipher[index]; // Encrypt the character using the cipher
        }
        else
        {
            encrypt[i] = current; // Keep non-alphabet characters unchanged
        }
    }
    encrypt[n] = '\0'; // Null-terminate the encrypted string
    printf("Encrypted string: %s\n", encrypt);

    // Decrypting part
    char result[30];
    int no;
    printf("Enter the length of string to be decrypted: ");
    scanf("%d", &no);

    printf("Enter the string to decrypt: ");
    scanf("%s", result);
```

```

char decrypt[30]; // Decrypted string
for (int i = 0; i < no; i++)
{
    char c = result[i];
    if (c >= 'a' && c <= 'z') // Check if the character is lowercase
    {
        // Reverse the cipher: find the corresponding letter in 'cipher' and map back to
        'original'
        int j;
        for (j = 0; j < 26; j++) {
            if (cipher[j] == c) {
                break; // Found the character in the cipher string
            }
        }
        decrypt[i] = original[j]; // Map it back to the original alphabet
    }
    else
    {
        decrypt[i] = c; // Keep non-alphabet characters unchanged
    }
}
decrypt[no] = '\0'; // Null-terminate the decrypted string

printf("The decrypted string: %s\n", decrypt); // Print the decrypted string

return 0;
}

```

OUTPUT:

```

c:\Users\user\Desktop\output>.\"sanjana.exe"
Enter the length of string to be encrypted: 3
Enter the string to encrypt: abc
Encrypted string: qwe
Enter the length of string to be decrypted: 3
Enter the string to decrypt: qwe
The decrypted string: abc

```