Practical 3:

Title: To perform encryption & decryption of a given message using Ceaser Cipher

Code:

```c
#include <stdio.h>
#include <string.h>

int main(){
    char str[20];
    printf("Enter a message\n");
    gets(str); // stores the whole string including space character

    char *ptr = str; // *ptr stores addresses of str
                     // *ptr ="Hello World"
    int len = strlen(str);
    while (*ptr != '\0') // runs until it encounters '\0'
    {
        *ptr += 1;
        ptr++;
    }
    printf("The encrypted message is: %s\n", str);
    char str2[len];
    for (int i = 0; i < len; i++)
    {
        str2[i] = str[i]; // stores the encrypted message into new string
    }

    char *ptr2 = str2; // *ptr2 will work the same for str2
                       // * ptr= *********
    while (*ptr2 != '\0')
    {
        *ptr2 -= 1; // this time the message is converted back into original
        *ptr2++;
    }
    printf("The decrypted message is: %s\n", str2);
    return 0;
}
```

Output:

```
Enter a message
Hello World
The encrypted message is: Ifmmp!Xpsme
The decrypted message is: Hello World
```