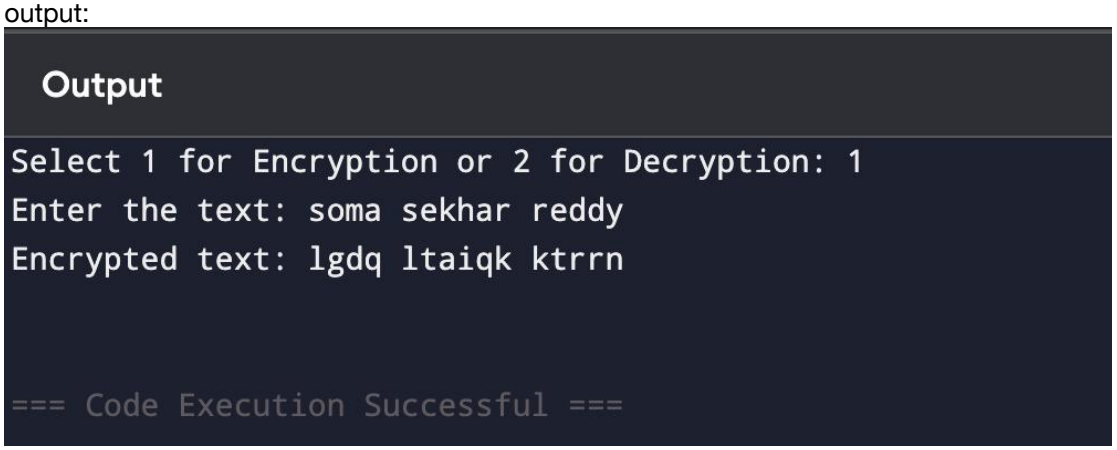
EXPERIMENT- 02: MONOALPHABETIC CIPHER

PROGRAM:

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

void encrypt(char *text, char *key) {
    for (int i = 0; text[i] != '\0'; i++) {
        if (text[i] >= 'a' && text[i] <= 'z') {
            text[i] = key[text[i] - 'a'];
        } else if (text[i] >= 'A' && text[i] <= 'Z') {
            text[i] = key[text[i] - 'A'] - 32; // Convert to uppercase
        }
    }
}

void decrypt(char *text, char *key) {
    char reverseKey[26];
    for (int i = 0; i < 26; i++) {
        reverseKey[key[i] - 'a'] = 'a' + i;
    }
    for (int i = 0; text[i] != '\0'; i++) {
        if (text[i] >= 'a' && text[i] <= 'z') {
            text[i] = reverseKey[text[i] - 'a'];
        } else if (text[i] >= 'A' && text[i] <= 'Z') {
            text[i] = reverseKey[text[i] - 'A'] - 32; // Convert to uppercase
        }
    }
}

int main() {
    char text[100];
    char key[26] = "qwertyuiopasdfghjklzxcvbnm"; // Example key
    int choice;

    printf("Select 1 for Encryption or 2 for Decryption: ");
    scanf("%d", &choice);
    getchar(); // Consume newline

    printf("Enter the text: ");
    fgets(text, sizeof(text), stdin);
    text[strcspn(text, "\n")] = 0; // Remove newline

    if (choice == 1) {
        encrypt(text, key);
        printf("Encrypted text: %s\n", text);
    } else if (choice == 2) {
        decrypt(text, key);
        printf("Decrypted text: %s\n", text);
    } else {
        printf("Invalid choice.\n");
    }

    return 0;
}
```

output:


Output
Select 1 for Encryption or 2 for Decryption: 1
Enter the text: soma sekhar reddy
Encrypted text: lgdq ltaiqk ktrrn
=== Code Execution Successful ===