CSA5122-CRYPTOGRAPHY FOR NETWORK AND SECURITY

LAB PROGRAMS EXECUTION

2.MONOALPHABETIC CIPHER

CODE:

#include <stdio.h>

#include <string.h>

int main() {

char message[100], result[100];

char key[26] = "QWERTYUIOPASDFGHJKLZXCVBNM"; // Substitution key

int choice;

printf("1. Encrypt\n2. Decrypt\nChoice: ");

scanf("%d", &choice);

getchar(); // clear input buffer

printf("Enter message (UPPERCASE only): ");

fgets(message, sizeof(message), stdin);

for (int i = 0; message[i] != '\0'; i++) {

char ch = message[i];

if (ch >= 'A' && ch <= 'Z') {

if (choice == 1) {

result[i] = key[ch - 'A']; // Encrypt

} else if (choice == 2) {

// Find index of letter in key

for (int j = 0; j < 26; j++) {

if (key[j] == ch) {

result[i] = 'A' + j; // Decrypt

break;

}

}

}

} else {

result[i] = ch; // Keep spaces and punctuation unchanged

}

}

result[strlen(message)] = '\0'; // End string

if (choice == 1)

printf("Encrypted: %s\n", result);

else if (choice == 2)

printf("Decrypted: %s\n", result);

else

printf("Invalid choice.\n");

return 0;

}

