CSA5122-CRYPTOGRAPHY FOR NETWORK AND SECURITY

LAB PROGRAMS EXECUTION

5.RAILFENCE CIPHER

#include <stdio.h>

#include <string.h>

void encrypt(char msg[]) {

char rail1[100], rail2[100];

int len = strlen(msg), r1 = 0, r2 = 0;

for (int i = 0; i < len; i++) {

if (i % 2 == 0)

rail1[r1++] = msg[i];

else

rail2[r2++] = msg[i];

}

rail1[r1] = '\0';

rail2[r2] = '\0';

printf("Encrypted: %s%s\n", rail1, rail2);

}

void decrypt(char msg[]) {

int len = strlen(msg);

char plain[100];

int mid = (len + 1) / 2;

int i = 0, j = mid, k = 0;

while (i < mid || j < len) {

if (i < mid) plain[k++] = msg[i++];

if (j < len) plain[k++] = msg[j++];

}

plain[len] = '\0';

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

}

int main() {

char msg[100];

int choice;

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

scanf("%d", &choice);

getchar(); // clear newline

printf("Enter message: ");

fgets(msg, sizeof(msg), stdin);

msg[strcspn(msg, "\n")] = '\0';

if (choice == 1)

encrypt(msg);

else if (choice == 2)

decrypt(msg);

else

printf("Invalid choice.\n");

return 0;

}

