#include<stdio.h>

char arr[26][26];

char message[22],key[22],emessage[22],retMessage[22];

int findRow(char);

int findColumn(char);

int findDecRow(char,int);

int main() {

int i=0,j,k,r,c;

clrscr();

k=96;

for (i=0;i<26;i++) {

k++;

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

arr[i][j]=k++;

if(k==123)

k=97;

}

}

printf("\nEnter message\n");

gets(message);

printf("\nEnter the key\n");

gets(key);

// Encryption

for (i=0;key[i]!=NULL;i++) {

c=findRow(key[i]);

r=findColumn(message[i]);

emessage[i]=arr[r][c];

}

emessage[i]='\0';

printf("\n Encrypted message is:\n\n");

for (i=0;emessage[i]!=NULL;i++)

printf("%c",emessage[i]);

//decryption

for (i=0;key[i]!=NULL;i++) {

c=findColumn(key[i]);

r=findDecRow(emessage[i],c);

retMessage[i]=arr[r][0];

}

retMessage[i]='\0';

printf("\n\nMessage Retrieved is:\n\n");

for (i=0;retMessage[i]!=NULL;i++)

printf("%c",retMessage[i]);

getch();

return(0);

}

int findRow(char c) {

int i;

for (i=0;i<26;i++) {

if(arr[0][i]==c)

return(i);

}

}

int findColumn(char c) {

int i;

for (i=0;i<26;i++) {

if(arr[i][0]==c)

return(i);

}

}

int findDecRow(char c,int j) {

int i;

for (i=0;i<26;i++) {

if(arr[i][j]==c)

return(i);

}

}

