a) Caesar Cipher :

Encryption.c

#include<stdio.h>

int main()

{

char message[100], ch;

int i, key;

printf("Enter a message to encrypt: ");

gets(message);

printf("Enter key: ");

scanf("%d", &key);

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

ch = message[i];

if(ch >= 'a' && ch <= 'z'){

ch = ch + key;

if(ch > 'z'){

ch = ch - 'z' + 'a' - 1;

}

message[i] = ch;

}

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

ch = ch + key;

if(ch > 'Z'){

ch = ch - 'Z' + 'A' - 1;

}

message[i] = ch;

}

}

printf("Encrypted message: %s", message);

return 0;

}

Output:

Enter a message to encrypt: welcome

Enter key: 4

Encrypted message: aipgsqi

Decryption.c

#include<stdio.h>

int main()

{

char message[100], ch;

int i, key;

printf("Enter a message to decrypt: ");

gets(message);

printf("Enter key: ");

scanf("%d", &key);

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

ch = message[i];

if(ch >= 'a' && ch <= 'z'){

ch = ch - key;

if(ch < 'a'){

ch = ch + 'z' - 'a' + 1;

}

message[i] = ch;

}

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

ch = ch - key;

if(ch < 'A'){

ch = ch + 'Z' - 'A' + 1;

}

message[i] = ch;

}

}

printf("Decrypted message: %s", message);

return 0;

}

Output:

Enter a message to decrypt: aipgsqi

Enter key: 4

Decrypted message: welcome