***SAVEETHA SCHOOL OF ENGINEERING***

***SAVEETHA INSTITUTE OF MEDICAL AND TECHNICAL SCIENCE***

**EXP NO 4 Perform encryption and decryption of a message using Vigenère Cipher substitution technique.**

**AIM**

To write a C program to perform encryption and decryption of a message using Vigenère Cipher substitution technique.

**PROCEDURE**

* Download and install any c application
* Traverse the given text one character at a time .
* For each character, transform the given character as per the rule,depending on whether we’re encrypting or decrypting the text.
* Return the new string generated.

**PROGRAM**

#include <stdio.h>

#include <string.h>

int main() {

char msg[100], key[100], newKey[100], encryptedMsg[100], decryptedMsg[100];

printf("Enter the message: ");

scanf("%s", msg);

printf("Enter the key: ");

scanf("%s", key);

int msgLen = strlen(msg), keyLen = strlen(key), i, j;

for (i = 0, j = 0; i < msgLen; ++i, ++j) {

if (j == keyLen)

j = 0;

newKey[i] = key[j];

}

newKey[i] = '\0';

for (i = 0; i < msgLen; ++i)

encryptedMsg[i] = ((msg[i] + newKey[i]) % 26) + 'A';

encryptedMsg[i] = '\0';

for (i = 0; i < msgLen; ++i)

decryptedMsg[i] = (((encryptedMsg[i] - newKey[i]) + 26) % 26) + 'A';

decryptedMsg[i] = '\0';

printf("\nOriginal Message: %s", msg);

printf("\nKey: %s", key);

printf("\nNew Generated Key: %s", newKey);

printf("\nEncrypted Message: %s", encryptedMsg);

printf("\nDecrypted Message: %s\n", decryptedMsg);

return 0;

}

**OUTPUT**

