

Date :

PRACTICAL-9

Objective – Write a program to implement Vigenere Cipher.

Code-

```
#include <stdio.h>
```

```
#include <string.h>
```

```
int main()
```

```
{
```

```
    char msg[] = "THECRAZYPROGRAMMER";
```

```
    char key[] = "HELLO";
```

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

```
    char newKey[msgLen], encryptedMsg[msgLen], decryptedMsg[msgLen];
```

```
    //generating new key
```

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

```
    {
```

```
        if (j == keyLen)
```

```
            j = 0;
```

```
        newKey[i] = key[j];
```

```
    }
```

```
    newKey[i] = '\0';
```

```

//encryption
for (i = 0; i < msgLen; ++i)
    encryptedMsg[i] = ((msg[i] + newKey[i]) % 26) + 'A';

encryptedMsg[i] = '\0';

//decryption
for (i = 0; i < msgLen; ++i)
    decryptedMsg[i] = (((encryptedMsg[i] - newKey[i]) + 26) % 26) + 'A';

decryptedMsg[i] = '\0';

printf("Original Message: %s", msg);
printf("\nKey: %s", key);
printf("\nNew Generated Key: %s", newKey);
printf("\nEncrypted Message: %s", encryptedMsg);
printf("\nDecrypted Message: %s", decryptedMsg);

return 0;
}

```

Output-

```

Original Message: THECRAZYPROGRAMMER
Key: HELLO
New Generated Key: HELLOHELLOHELLOHEL
Encrypted Message: ALPNFHDJAFUKCLATIC
Decrypted Message: THECRAZYPROGRAMMER
Process returned 0 (0x0)   execution time : 0.014 s
Press any key to continue.

```