**Hill Cipher**

#include <iostream>

using namespace std;

void getKeyMatrix(string key, int keyMatrix[][3])

{

int k = 0;

for (int i = 0; i < 3; i++)

{

for (int j = 0; j < 3; j++)

{

keyMatrix[i][j] = (key[k]) % 65;

k++;

}

}

}

void encrypt(int cipherMatrix[][1],

int keyMatrix[][3],

int messageVector[][1])

{

int x, i, j;

for (i = 0; i < 3; i++)

{

for (j = 0; j < 1; j++)

{

cipherMatrix[i][j] = 0;

for (x = 0; x < 3; x++)

{

cipherMatrix[i][j] +=

keyMatrix[i][x] \* messageVector[x][j];

}

cipherMatrix[i][j] = cipherMatrix[i][j] % 26;

}

}

}

void HillCipher(string message, string key)

{

int keyMatrix[3][3];

getKeyMatrix(key, keyMatrix);

int messageVector[3][1];

for (int i = 0; i < 3; i++)

messageVector[i][0] = (message[i]) % 65;

int cipherMatrix[3][1];

encrypt(cipherMatrix, keyMatrix, messageVector);

string CipherText;

for (int i = 0; i < 3; i++)

CipherText += cipherMatrix[i][0] + 65;

cout << " Ciphertext:" << CipherText;

}

int main()

{

string message = "ACT";

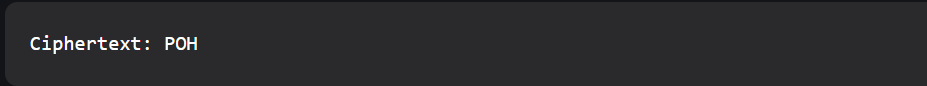
string key = "GYBNQKURP";

HillCipher(message, key);

return 0;

}

**Output:**

****