#include<stdio.h>

#include<string.h>

int main()

{

unsigned int a[3][3] = { { 6, 24, 1 }, { 13, 16, 10 }, { 20, 17, 15 } };

unsigned int b[3][3] = { { 8, 5, 10 }, { 21, 8, 21 }, { 21, 12, 8 } };

int i, j;

unsigned int c[20], d[20];

char msg[20];

int determinant = 0, t = 0;

printf("Enter plain text\n ");

scanf("%s", msg);

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

c[i] = msg[i] -65;

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

}

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

t = 0;

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

t = t + (a[i][j] \* c[j]);

}

d[i] = t % 26;

}

printf("\nEncrypted Cipher Text :");

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

printf(" %c", d[i] + 65);

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

t = 0;

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

t = t + (b[i][j] \* d[j]);

}

c[i] = t % 26;

}

printf("\nDecrypted Cipher Text :");

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

printf(" %c", c[i] + 65);

return 0;

}

