

Program :

```
#include <iostream>
using namespace std;
int main()
{
    int i,j,k=0,m,n,x;
    string text,key,cipher="",decipher="";
    cout<<"Plain Text  : ";cin>>text;
    cout<<"Key      : ";cin>>key;
    m=key.length(),n=text.length();

    // Augmented text
    if(n%m!=0) text.append(m-n%m,'x');
    n=text.length();          //Due to appending 'x', length of text will change.

    // Printing content of the matrix
    for(i=0;i<n/m;i++)
    {
        for(j=0;j<m;j++)
            cout<<text[k++]<<"\t";
        cout<<endl;
    }
    // Encryption
    for(i=1;i<=m;i++)
        for(j=0;j<n;j++)
            if((key[j%m]-48==i)    //48 is ASCII value of '0'.
                cipher.append(1,text[j]));
    cout<<"Cipher Text  : "<<cipher<<endl;

    //Decryption
    x=n/m;
    for(i=0;i<x;i++)
        for(j=0;j<m;j++)
            decipher.append(1,cipher[(key[j]-48-1)*x+i]);
    cout<<"Decipher Text : "<<decipher<<endl;
    return 0;
}
```

Output:

```
Plain Text    : hidethegoldattackistoday
Key           : 52314
h    i    d    e    t
h    e    g    o    l
d    a    t    t    a
c    k    i    s    t
o    d    a    y    x
Cipher Text   : eotsyieakddgtiatlatxhhdco
Decipher Text : hidethegoldattackistodayx
```