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IS Exp1.D - Vigenere Cipher Technique

Encryption –

Code :-

```
#include<bits/stdc++.h>
using namespace std;
int main(){
    int i,j,k,n;
    vector<vector<char>> > a(26,vector<char>(26));
    k=0;
    n=26;
    for(i=0;i<n;i++){
        k=i;
        for(j=0;j<n;j++){
            a[i][j]='A'+k;
            k++;
            if(k==26)
                k=0;
        }
    }
    cout<<"Enter the message\n";
    string s;
    cin>>s;
    cout<<"Enter the key\n";
    string key;
    cin>>key;
    k=0;
    int mod = key.size();
    for(i=key.size();i<s.size();i++){
        key+=key[k%mod];
        k++;
    }
    string encrypt;
    for(i=0;i<s.size();i++){
        encrypt+= a[s[i]-'A'][key[i]-'A'];
    }
    cout<<"Encrypted message: "<<encrypt<<"\n";
    return 0;
}
```

Output:

Enter the message

MOHANPATIL

Enter the key

LOOP

Encrypted message: XCVPYD0ITZ

Decryption –

Code :-

```
#include<bits/stdc++.h>
using namespace std;
int main(){
    int i,j,k,n;
    vector<vector<char> > a(26,vector<char>(26));
    k=0;
    n=26;
    for(i=0;i<n;i++){
        k=i;
        for(j=0;j<n;j++){
            a[i][j]='A'+k;
            k++;
            if(k==26) k=0;
        }
    }
    cout<<"Enter the encrypted message\n";
    string s;
    cin>>s;
    cout<<"Enter the key\n";
    string key;
    cin>>key;
    k=0;
    for(i=key.size();i<s.size();i++){
        key+=key[k];
        k++;
    }
    string decrypt;
    for(i=0;i<s.size();i++){
        for(j=0;j<n;j++){
            if(a[j][key[i]-'A']==s[i]){
                decrypt += 'A'+j;
                break;
            }
        }
    }
    cout<<"Decrypted message: "<<decrypt<<"\n";
    return 0;
}
```

OUTPUT:

Enter the encrypted message

XCVPYDOITZ

Enter the key

LOOP

Decrypted message: MOHANPATIL