ZFUN

///code by sonhotrung

///2 dòng này sẽ mất:)))

#include <bits/stdc++.h>

const int maxn=1e6+5;

const long long oo=1e18;

using namespace std;

string S,T;

int n,m;

int Z[2\*maxn];

void Z\_FuncTion(string s)

{

int l=0,r=0;

for (int i=1; i<n; ++i)

{

if (i<=r)

Z[i]=min(Z[i-l],r-i+1);

while (i+Z[i]<n&&s[Z[i]]==s[i+Z[i]])

Z[i]++;

if (i+Z[i]-1>r)

{

l=i;

r=i+Z[i]-1;

}

}

}

int main()

{

//freopen("","r",stdin);

//freopen("","w",stdout);

ios\_base::sync\_with\_stdio(false);

cin.tie(0); cout.tie(0);

cin >> S >> T;

S=T+S;

n = S.size();

Z\_FuncTion(S);

m = T.size();

for (int i=m; i<n; ++i)

if (Z[i]>=m)

cout << i-m+1 << ' ';

return 0;

}

KMP

///code by sonhotrung

///2 dòng này sẽ mất:)))

#include <bits/stdc++.h>

const int maxn=1e6+5;

const long long oo=1e18;

using namespace std;

string S,T;

int kmp[maxn],nxt[maxn][26];

int main()

{

//freopen("","r",stdin);

//freopen("","w",stdout);

ios\_base::sync\_with\_stdio(false);

cin.tie(0);

cout.tie(0);

cin >> S >> T;

int n=S.size(),m=T.size();

S=' '+S;

T=' '+T;

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

{

if (i>0)

kmp[i]=min(i-1,nxt[kmp[i-1]][T[i]-'a']);

for (char c='a';c<='z';++c)

{

if (i+1<=m&&T[i+1]==c)

nxt[i][c-'a']=i+1;

else

nxt[i][c-'a']=nxt[kmp[i]][c-'a'];

}

}

int j=0;

for (int i=1;i<=n;++i)

{

j=nxt[j][S[i]-'a'];

if (j==m)

cout << i - m + 1 << " ";

}

return 0;

}