**// ========= Trie 树 =========**

const int maxnode = 4000010;

const int sigma\_size = 26;

struct Trie {

    int ch[maxnode][sigma\_size];

    int sz, val[maxnode];

void clear()

{sz=0;memset(ch[0],0,sizeof(ch[0]));}

    // 一开始只有一个根节点0

    // 点的编号: 0 ~ sz

    int idx(char c){return c-'a';}

    void insert(char \*s, int v) {

        int u = 0, n = strlen(s);

        for(int i=0;i<n;i++) {

            int id = idx(s[i]);

            if(!ch[u][id]) {

                ++sz;

                memset(ch[sz],0,sizeof(ch[sz]));

                val[sz]=0;

                ch[u][id]=sz;

            }

            u = ch[u][id];

        }

        val[u] += v;

    }

    int search(char \*s) {

        int u = 0, n = strlen(s);

        for(int i=0;i<n;i++) {

            int id = idx(s[i]);

            if(ch[u][id]==0)

                return 0;

            u = ch[u][id];

        }

        return val[u];

    }

};

Trie trie;

**// ========= AC自动机 =========**

inline void insert(char\* word, int value) {

int len = strlen(word), j = 0;

for (int i=0; i<len; ++i) {

int c = word[i] - 'a';

if(!ch[j][c]) ch[j][c] = ++size;

j = ch[j][c];

}

val[j]+=value;

}

inline void GetFail() {

queue<int> q;

fail[0] = 0;

for (int c = 0; c < Sigma\_Size; ++c) {

int p = ch[0][c];

if(p) {

fail[p] = last[p] = 0;

q.push(p);

}

}

while(!q.empty()) {

int head = q.front();

q.pop();

for (int c = 0; c < Sigma\_Size; ++c) {

int u = ch[head][c];

if(!u) continue;

q.push(u);

int v = fail[head];

while(v && !ch[v][c]) v = fail[v];

fail[u] = ch[v][c];

last[u] = val[fail[u]] ? fail[u] : last[fail[u]];

//这样保证了沿last数组经过的节点(除了u与root) 都会是单词节点(val>0)

//val[u]有可能大于0

}

} }

inline void Founded(int x) {

for(; x; x=last[x]) cnt[x]++;}

// last[i]=j表j节点表示的单词是i节点单词的后缀，且j节点是单词节点

// 递归打印与结点i后缀相同的前缀节点编号

// 进入此函数前需保证val[x]>0

// cnt[] 记录某个点代表的单词 在文章中出现的次数

inline void Find(char\* text) {

int j = 0, len = strlen(text);

memset(cnt, 0, sizeof(cnt));

for (int i=0; i<len; ++i) {

int c = text[i] - 'a';

while(j && !ch[j][c]) j = fail[j];

j = ch[j][c];

if(val[j]) Founded(j);

else if(last[j]) Founded(last[j]);

}

}

// main(): insert(P, 1); GetFail(); Find(T);

**// ========= KMP匹配=========**

char P[maxn]; // Pattern 短串

char T[maxn]; // Text 长串

int f[maxn];

void getFail(char\* P,int\* f) {

//字符串p自我匹配

int m = strlen(P);

f[0] = f[1] = 0;

for(int i = 1; i < m; i++) {

int j = f[i];

while(j && P[i]!=P[j])

j = f[j];

f[i+1] = P[i]==P[j] ? j+1 : 0;

}

}

void Find(char\* T, char\* P, int\* f) {

//p去匹配字符串T

int n = strlen(T), m = strlen(P);

getFail(P, f); //得出部分匹配表

int j = 0;

//j:短串的下标 i: 长串下标

for (int i = 0; i < n; i++) {

while (j && P[j] != T[i])

j = f[j];

if (P[j] == T[i]) j++;

if(j == m)

printf("%d ", i-m+1);

}

puts("");

}

int main() {

// c++ getline(cin, P)

// c gets(P)

while (gets(P))

{gets(T); Find(T, P, f);}

}

**// ========= 后缀数组 =========**

const int CHARSET\_SIZE = 257;

string s, s2;

int sa[maxn], rk[maxn], ht[maxn];

int cnt[maxn], rk1[maxn], rk2[maxn];

bool cmpSA(int \*y,int a,int b,int k, int n) {

int a1=y[a];

int b1=y[b];

int a2=a+k >= n ? -1: y[a+k];

int b2=b+k >= n ? -1: y[b+k];

return a1==b1 && a2==b2;

}

void buildSA(const string& str,int n,int m){

// or “const char\* s”

for(int i = 0; i < m; i++) cnt[i] = 0;

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

++cnt[rk1[i]=(int)str[i]];

for(int i = 1; i < m; i++) cnt[i] += cnt[i-1];

for(int i = n-1; i >= 0; i--)

sa[--cnt[rk1[i]]]=i;

for(int len=1; len<=n; len<<=1) {

int p=0;

for(int i = n-len; i < n; i++) rk2[p++]=i;

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

if( sa[i]>=len )

rk2[p++]=sa[i]-len;

for(int i = 0; i < n; i++) cnt[i]=0;

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

++cnt[rk1[rk2[i]]];

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

cnt[i] += cnt[i-1];

for(int i = n-1; i >= 0; i--)

sa[--cnt[rk1[rk2[i]]]]=rk2[i];

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

swap(rk1[i], rk2[i]);

int tot\_rk = 1;

rk1[sa[0]] = 0;

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

rk1[sa[i]] =

cmpSA(rk2,sa[i],sa[i-1],len,n)

? tot\_rk-1 : tot\_rk++;

if (tot\_rk >= n) break;

}

}

void getHeight(const string& str, int n) {

for (int i = 0; i<n; i++) rk[sa[i]] = i;

ht[0] = 0;

for (int i = 0, k = 0; i < n; i++) {

if (rk[i] == 0) continue;

int j = sa[rk[i] - 1];

if (k) k--;

while (str[i + k] == str[j + k]) k++;

ht[rk[i]] = k;

}

}

int main() {

getline(cin, s);

getline(cin, s2);

s = s + '$' + s2;

int N = s.size();

buildSA(s, N, CHARSET\_SIZE);

getHeight(s, N);

}