**#include <iostream>**

**KMP**

**#include <stdio.h>**

**#include <string.h>**

**using namespace std;**

**#define MAXS 5000**

**#define MAXT 500**

**char S[MAXS];**

**char T[MAXT];**

**int next[MAXT];**

**void get\_next(char \* t,int l)**

**{**

**int i=0,j=-1;**

**next[0]=-1;**

**while(i<l)**

**{**

**if (j==-1||T[i]==T[j])**

**next[++i]=++j;**

**else**

**j=next[j]; //回溯**

**}**

**}**

**/\***

**//优化的next很有意思，将重复的状态叠在一起了**

**void get\_next(char \* t,int l) //优化的，一定注意，要慎重使用**

**{**

**int i=0,j=-1;**

**next[0]=-1;**

**while (i<l)**

**{**

**if (j==-1||T[i]==T[j])**

**{**

**i++;j++;**

**if (T[i]!=T[j]) next[i]=j;**

**else next[i]=next[j];**

**}**

**else j = next[j];**

**}**

**}**

**\*/**

**int KMP(char \*s,char \*t) //求匹配索引**

**{**

**int lens = strlen(s);**

**int lent = strlen(t);**

**get\_next(t,lent);**

**int i=-1,j=-1;**

**while (i<lens&&j<lent)**

**{**

**if (j==-1||S[i]==T[j])**

**i++,j++;**

**else**

**j = next[j];**

**}**

**if (j==lent)**

**return i-lent;**

**return -1;**

**}**

**int KMP\_count(char \*s,char \*t) //求匹配数,一定要用没优化的**

**{**

**int res = 0;**

**int lens = strlen(s);**

**int lent = strlen(t);**

**get\_next(t,lent);**

**int i=-1,j=-1;**

**while (i<lens)**

**{**

**if (j==-1||S[i]==T[j])**

**i++,j++;**

**else**

**j = next[j];**

**if (j==lent)**

**{**

**res++;**

**j = next[j];**

**}**

**}**

**return res;**

**}**

**int main()**

**{**

**scanf("%s",S);**

**scanf("%s",T);**

**int p = KMP(S,T);**

**printf("%d\n",p);**

**return 0;**

**}**