#include <stdio.h>

#include <string.h>

#define MAX 500

int t[MAX];

void shifttable(char p[]) {

int i, j, m;

m = strlen(p);

for (i = 0; i < MAX; i++)

t[i] = m;

for (j = 0; j < m - 1; j++)

t[(unsigned char)p[j]] = m - 1 - j;

}

int horspool(char src[], char p[]) {

int i, k, m, n;

n = strlen(src);

m = strlen(p);

printf("\nLength of text = %d", n);

printf("\nLength of pattern = %d", m);

i = m - 1;

while (i < n) {

k = 0;

while ((k < m) && (p[m - 1 - k] == src[i - k]))

k++;

if (k == m)

return i - m + 1;

else

i += t[(unsigned char)src[i]];

}

return -1;

}

int main() {

char src[100], p[100];

int pos;

printf("Enter the text in which pattern is to be searched:\n");

fgets(src, 100, stdin);

src[strcspn(src, "\n")] = '\0'; // Remove newline character

printf("Enter the pattern to be searched:\n");

fgets(p, 100, stdin);

p[strcspn(p, "\n")] = '\0'; // Remove newline character

shifttable(p);

pos = horspool(src, p);

if (pos >= 0)

printf("\nThe desired pattern was found starting from position %d\n", pos + 1);

else

printf("\nThe pattern was not found in the given text\n");

return 0;

}