#include <stdio.h>

#include <string.h>

const int MAX = 256;

**// Shift Table Generation- generates shift table for 256 characters with ascii values from 0-255**

void GenShiftTable(char p[], int t[])

{

int m, i, j;

m = strlen(p);

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

{

t[i]=m;

}

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

{

t[p[j]] = m-1-j;

}

}

**// Horspools algorithm - checks for pattern p in the main string s referring table t**

int Horspool(char s[],char p[],int t[])

{

int i, n, m, k;

GenShiftTable(p,t);

n = strlen(s);

m = strlen(p);

i = m-1;

while(i<n)

{

k = 0;

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

k++;

if (k == m)

return i-m+1;

else

i = i+t[s[i]];

}

return -1;

}

int main(void)

{

char text[MAX];

char pattern[MAX];

int shiftTable[MAX];

int found;

puts("Enter the source string : ");

gets(text);

puts("Enter the pattern string : ");

gets(pattern);

found = Horspool(text,pattern,shiftTable);

if(found==-1)

puts("\nMatching Substring not found.\n");

else

printf("\nMatching Substring found at position: %d\n",found+1);

return 0;

}