#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#define INITSIZE 50

char \*read\_input(){

int size = INITSIZE;

int length = 0;

char user\_in;

char \*input;

input = (char\*) malloc ( INITSIZE \* sizeof (char) );

if (input == NULL){

printf("Fehler bei Speicherreservierung\n");

}

/\*printf("Geben Sie Zeichenkette ein:\n");\*/

while ( (user\_in = getchar()) != '\n' && user\_in != EOF) {

input[length] = user\_in;

if (length == INITSIZE){

size = size \* 2;

input = (char\*) realloc (input, size \* sizeof (char) );

}

length++;

}

input[length] = '\0';

return input;

/\*free (input);\*/

}

int string\_count\_substring(const char \*src, const char \*search){ /\* gibt strstr \*/

int count = 0;

const char \*move = src;

while(search[0] != '\0' && search[0] != EOF){ /\* search nicht leer \*/

if(strcmp(src, search) <= 0){ /\* search kürzer als src \*/

while(( move = strstr( move, search)) != NULL){

++count;

move += strlen(search);

}

}

else

printf("Fehler bei den Zeichenketten\n");

}

return count;

}

char \*string\_replace(const char \*src, const char \*search, const char \*replace){

int src\_len = strlen(src);

int search\_len = strlen(search);

int replace\_len = strlen(replace);

int str\_diff = search\_len - replace\_len; /\* negativ-kürzer, positiv-länger \*/

int result\_len = src\_len + (string\_count\_substring(src, search) \* str\_diff);

char \*result = (char \*) malloc (result\_len + 1);

const char \*p\_src = src;

char \*p\_result = result;

while(\*p\_src != '\0'){

if(strncmp(p\_src, search, search\_len) == 0){

strncpy(p\_result, replace, replace\_len);

p\_result += replace\_len;

p\_src += search\_len;

}else{

\*p\_result++ = \*p\_src++;

}

}

\*(result + result\_len -1) = '\0';

return result;

}

int main(void){

char \*str\_src;

char \*str\_search;

char \*str\_replace;

char \*result;

printf("Eingabe der zu durchsuchenden Zeichenkette\n");

str\_src = read\_input();

printf("Eingabe der zu ersetzenden Zeichenkette\n");

str\_search = read\_input();

printf("Eingabe der ersetzenden Zeichenkette\n");

str\_replace = read\_input();

printf("Lesen erfolgreich\n");

result = string\_replace(str\_src, str\_search, str\_replace);

if(result != NULL)

printf("%s\n", result);

else

printf("Irgendwo Fehler\n");

free(str\_src);

free(str\_search);

free(str\_replace);

return 0;

}