

Task 1:

An English text needs to be encrypted using the following encryption scheme. First, the spaces are removed from the text. Let L be the length of this text. Then, characters are written into a grid, whose rows and columns have the following constraints:

$\lfloor \sqrt{L} \rfloor \leq \text{row} \leq \text{column} \leq \lceil \sqrt{L} \rceil$, where $\lfloor x \rfloor$ floor function and $\lceil x \rceil$ ceil function.

Example:

Message = if man was meant to stay on the ground god would have given us roots

After removing spaces, the string is 54, $\sqrt{54}$ is between 7 and 8, so it is written in the form of a grid with 7 rows and 8 columns.

i	f	m	a	n	w	a	s
m	e	a	n	t	t	o	s
t	a	y	o	n	t	h	e
g	r	o	u	n	d	g	o
d	w	o	u	l	d	h	a
v	e	g	i	v	e	n	u
s	r	o	o	t	s		

Table 1: Message in grid

Always ensure $\text{rows} \times \text{columns} \geq L$. For this message length, L , 54 (without spaces) and grid size 7 rows and 8 columns, $7 \times 8 = 56 > L$.

Encrypted Message = imtgdvs fearwer mayoogo anouuio ntnnlvt
wtddes aohghn sseoau

Now, create a function to encode a message.

Function Description:

Complete the *encryption* function as described below:

encryption has parameter(s):

- string s : a string to encrypt
- string *encrypted_s*: an empty string to store the encrypted string

and returns:

- int *len_encrypted_s*: the length of *encrypted_s*

The *main* function and *encryption* would look like this:

```

1 #include<stdio.h>
2 #include<string.h>
3 #define MAX_SIZE 82
4 #define MAX_SIZE_ENCRYPT_MESSAGE 92
5
6
7 int encryption(char* s, char* encrypted_s){
8     /* code */
9     return len_encrypted_s;
10 }
11
12 int main()
13 {
14     char s[MAX_SIZE];
15     char encrypted_s[MAX_SIZE_ENCRYPT_MESSAGE];
16     scanf("%s",s);
17     /* code */
18     return 0;
19 }

```

Input Format:

One line of text, the string *s*, where $1 \leq \text{length_of_}s \leq 81$. String will only consist of only characters in the range `ascii[a-z]` and space.

Output Format:

Prints the encrypted string, *encrypted_s*.

Sample Input	Sample Output
haveaniceday	hae and via ecy
feedthedog	fto ehg ee dd