

Exercise questions

Exercise 1: Write a Java program to display the asterisk pattern as shown below when given a 5. Your program should work for any given integer technically.

```
*  
  
**  
  
***  
  
****  
  
*****
```

Exercise 2: One classic method for composing secret messages is called a square code. The spaces are removed from the English text and the characters are written into a square (or rectangle). For example, the sentence "If man was meant to stay on the ground god would have given us roots" is 54 characters long, so it is written into a rectangle with 7 rows and 8 columns.

```
ifmanwas  
meantt  
stayonthe  
groundgo  
dwouldha  
vegivenu  
sroots
```

The coded message is obtained by reading down the columns going left to right. For example, the message above is coded as:

```
imtgdvs fearwer mayoogo anouuio ntnnlvt wttddes aohghn  sseoau
```

In your program, have the user enter a message in English with no spaces between the words. Have the maximum message length be 81 characters. Display the encoded message. Here are some more examples:

```
Input  
haveaniceday  
feedthedog  
chillout
```

```
Output  
hae and via ecy  
fto ehg ee dd  
clu hlt io
```