# Kata 18 - Square Code

Assignment

115 - 240 minute



#### **STRETCH ACTIVITY**

This activity is marked as stretch. We strongly suggest you come back to it if/when you've completed all the core exercises for the prep course.

One classic method for composing secret messages is called a square code. In this activity, we will be creating our own Square Code algorithm.

## **Square Code**

In 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, once the spaces are removed, so it is written into a rectangle with 7 rows and 8 columns.

ifmanwas			
meanttos			
tayonthe			
groundgo			
dwouldha			
vegivenu			
sroots			

The square root of 54 (Math.sqrt(54)) is 7.3484692283495345. If we round this number up (Math.ceil(Math.sqrt(54))), we get 8. If we use that for the number of characters on each line (the number of columns), then our text will be close to a square shape.

The message is then coded 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

And that's the output of the algorithm. We can then reverse the process to decrypt the text and read the original message.

### Input

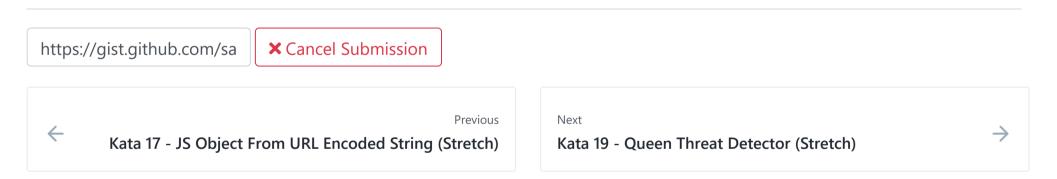
```
const squareCode = function(message) {
   // Put your solution here
};

console.log(squareCode("chill out"));
console.log(squareCode("feed the dog"));
console.log(squareCode("have a nice day"));
console.log(squareCode("if man was meant to stay on the ground god would have given us roots"));
```

#### **Expected Output**

```
clu hlt io
fto ehg ee dd
hae and via ecy
imtgdvs fearwer mayoogo anouuio ntnnlvt wttddes aohghn sseoau
```

- Create a function named squareCode that will receive a message, and return the secret square code version of the message.
- Submit Your Work
- Browse to gist.github.com and create a new gist.
- Copy-and-paste your code into the form
- Name the gist and the file appropriately and click Create secret gist.
- Finally, mark this activity as completed (at the bottom of this page) and please copy/paste the *entire* browser URL for your gist (from *gist.github.com*) into the text field.



#### How well did you understand this content?

Thank you for your feedback



Got most of it

Please give us some written insight into your feedback

> 2: Dev Environment
> 3: Version Control
> 4: Programming Intro
> 5: The Browser
→6: Katas
6 hrs + 29 hrs stretch T
Katas
Kata 1 - Sum the Largest Numbers
Kata 2 - Conditional sums
Kata 3 - Vowels
Kata 4 - Instructors Names
Kata 5 - Percent Encoded String
Kata 6 - SmartParking
Kata 7 - In the Air Tonight
Kata 8 - Repeating Numbers
Kata 9 - Case Maker
<a>Kata 10 - Multiplication Table</a>
Kata 11 - Bouncy Castles
Kata 12 - The Great Codeville Bake-off.
Kata 13 - Talking Calendar
Kata 14 - Change Calculator
Kata 15 - Organizing Instructors
Kata 16 - Case Maker II
Kata 17 - JS Object From URL Encoded String
Kata 18 - Square Code
<a>Kata 19 - Queen Threat Detector</a>
<a>Kata 20 - Taxicab Geometry</a>
<a href="#">Kata 21 - Number Guesser</a>
> 7: Stretch Project
> 8: The Lab Manual
> 9: Day One Prep
> 10: Collab Tools Setup
I I

> 1: Welcome



