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**Codewars Solutions**

A collection of solutions and things I have learned.

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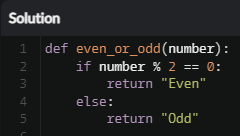
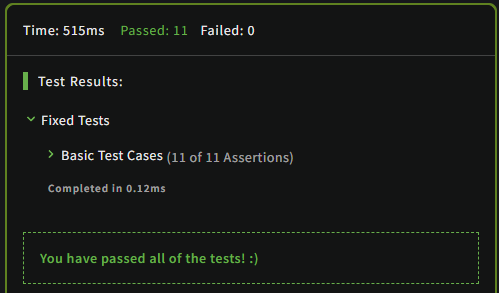
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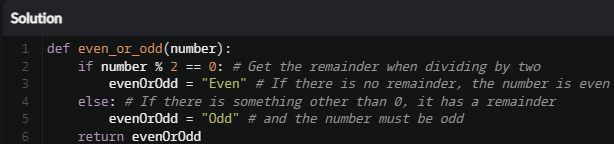
# 8 Kyu Difficulty Challenges

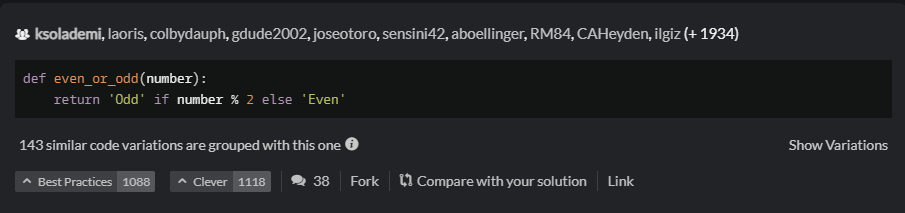
## Challenge descriptionEven or Odd – Python - 25/07/2022

This challenge wants me to write a program that can take an integer, work out if it is odd or even, and then return the result.

I plan to make use of the modulus operator (%) to divide the integer by 2 and work out if the number is odd or even based on the returned value (which will be the remainder). My first solution can be seen below.

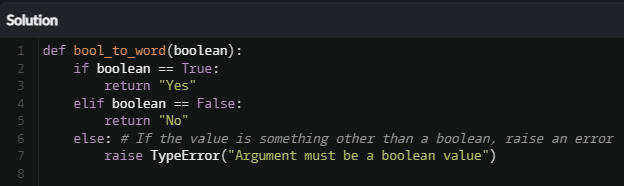
This code works, but it uses multiple return statements. For a program this small it doesn’t really matter but it is good practice to only have one return statement to make a function more readable. I have changed my program so that it follows the rule of ‘single exit’.

I submitted this solution and looked at some of the solutions submitted by the community. Most people had done something very similar to my solution. I also saw solutions that had similar logic but were condensed onto a single line. An example can be seen below.

## Challenge descriptionRemove String Spaces – Python – 27/07/2022

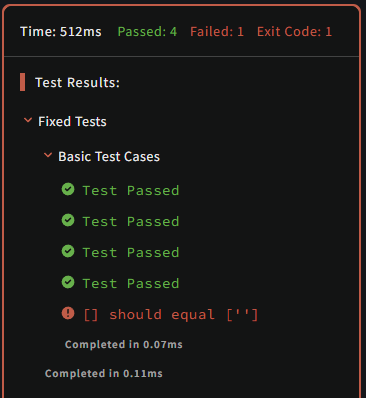
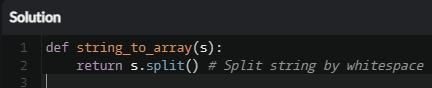
Single-line solution
This challenge wants me to take a boolean value and return its string representation (as “Yes” or “No”). This is a very basic challenge, but it will allow me to do something similar to the single-line solution that I found for the ‘Even or Odd’ challenge. My solutions can be seen below.

This solution is my single-line solution. I have tested it and it works as required. I have also done a ‘spaced’ solution which also takes into consideration that the argument given might not be a boolean and so should not return “Yes” or “No”.



I submitted both solutions and looked at solutions created by the community. The highest solutions were very similar or the same to my single-line solution.

## Challenge description Convert a String to an Array – Python - 31/07/2022

This challenge wants me to write a program that can take a string and convert it into a list of words. I will do this by making use of the split() method. Without any arguments, it will use whitespace as the separator. However, it has two optional parameters. The first parameter is the **separator** to be used. This determines where the algorithm will split the string into different items to add to the list. The second parameter is the **maxsplit**. This lets you limit how many splits it will do. By default it is set to -1 which means to do all occurrences of the separator. Below is my first attempt at the challenge (which failed).

I assumed that I would not need to give the method any arguments since it by default splits by whitespace. This idea works for strings that have characters in them. However, it does not work when the string being passed into **string\_to\_array** was "" (an empty string). I didn’t know why it was not giving the expected result, so I did some reading about it online. I found a similar question to what I had on Stackoverflow ([The Question I found](https://stackoverflow.com/questions/16645083/when-splitting-an-empty-string-in-python-why-does-split-return-an-empty-list)). One of the answers explained how the split() method has two different modes, which change how it works. The mode it will use will depend on if it is given an argument (other than **None**) or if it is left blank (which will set it to **None**).

Graphical user interface

Description automatically generatedText

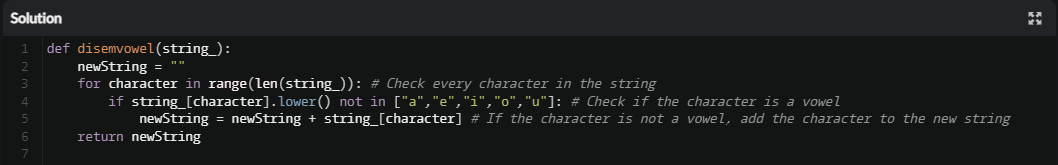
Description automatically generatedNow that I understood the way split() works, I reattempted the challenge. My new attempt can be seen below.

This solution worked as required so I submitted it and looked at solutions from the community. Most people had used a solution like mine.

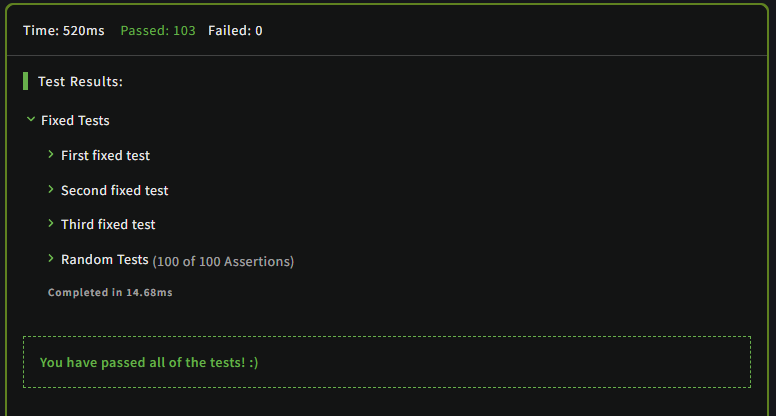
# 7 Kyu Difficulty Challenges

## Challenge descriptionDisemvowel Trolls - Python – 23/07/2022

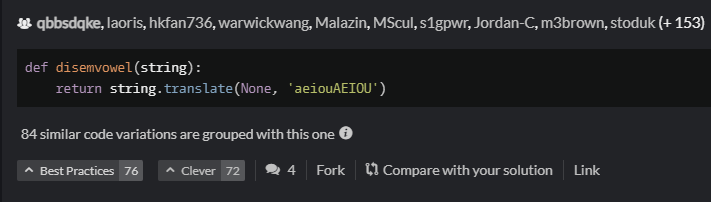
In short, this challenge wants me to create a program that can take a string, remove the vowels from it, and return the new string.

My first idea was to make use of count-controlled iteration paired with selection statements and the ‘not in’ operator. My program would go through each character in the string and check if it’s a vowel. If it is not a vowel, the character would be added to a new string variable which would be returned once every character has been checked. My solution can be seen below.

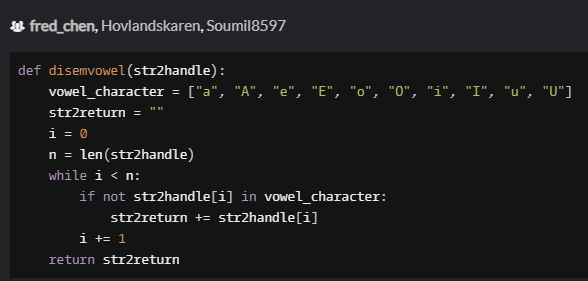
I tested the code and it worked as intended. I then submitted my solution.



I then looked at some of the solutions that the community had come up with. I found a much simpler solution which makes use of the ‘translate’ method. I have not seen this method before, so I will spend some time reading about this method and try to find a way of implementing it into my programs. The solution I found can be seen below.



I also found some solutions that seemed much more complicated than my solution and have lots of unnecessary and inefficient parts to them (not saying that mine is perfect). An example can be seen below.



One issue with this solution is that it checks all the vowels in their lowercase and uppercase forms via a list. This will mean that there will be ten comparisons being made for each character in the list. A better way of doing this would be to only put lower case letters in the list and use the ‘lower’ method on each character when making the comparisons. This will half the number of comparisons being made, save memory, and make the program faster.

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