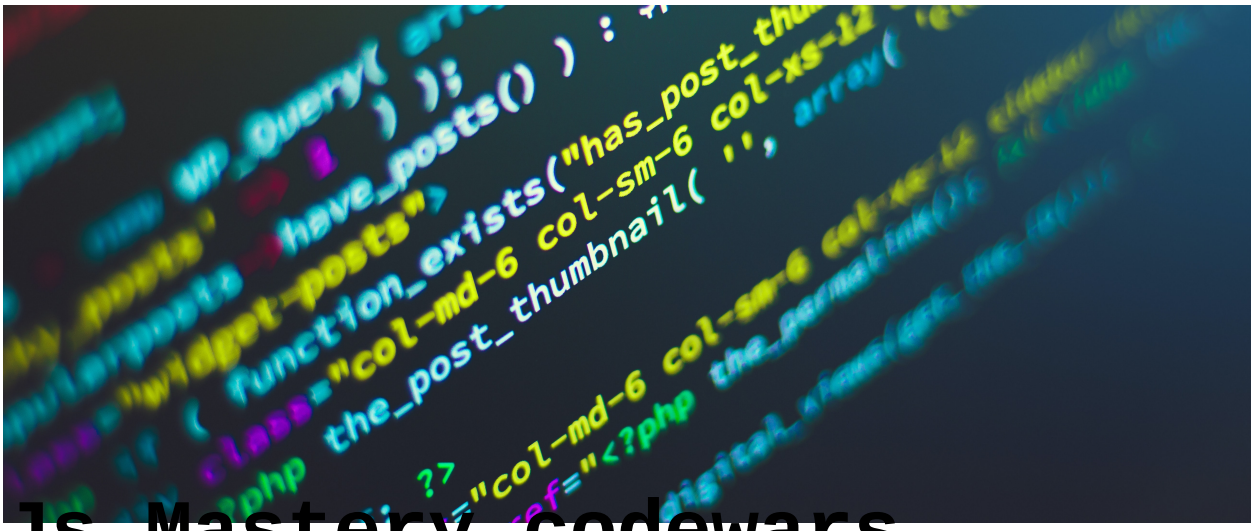

Js Mastery codewars

study case

- Note:
- Solution
- Sample Tests
- studied:

Powers of 2

- Instructions :
- Examples
- Solution
- Sample Tests
- studied:

Reversing Words in a String

- Instructions :
- Solution
- Sample Tests
- studied:

Super Duper Easy

- Instructions :
- Solution
- Sample Tests
- studied:

L1: Set Alarm

- Instructions :
- Solution
- Sample Tests
- studied:

Multiply

- Instructions :
- Solution
- Sample Tests
- studied:

Exclamation marks series #11: Replace all vowel to exclamation mark in the sentence

- Instructions :
- Examples
- Solution
- Sample Tests
- studied:

Are You Playing Banjo?

- Instructions :

- **Solution**
- **Sample Tests**
  - studied:

Training JS #2: Basic data types--Number

- Instructions :
- **Task**
- **Solution**
- **Sample Tests**
  - studied:

Number of Decimal Digits

- Instructions :
- **Solution**
- **Sample Tests**
  - studied:

Reversed Strings

- Instructions :
- **Solution**
- **Sample Tests**
  - studied:

Even or Odd

- Instructions :
- **Solution**
- **Sample Tests**
  - studied:

All Star Code Challenge #18

- Instructions :
- **Solution**
- **Sample Tests**
  - studied:

Training JS #7: if..else and ternary operator

- Instructions :
- **Task:**
- **Solution**
- **Sample Tests**
  - studied:

Reversed Words

- Instructions :
- **Solution**
- **Sample Tests**

If you can't sleep, just count sheep!!

If you can't sleep, just count sheep!!

Instructions :

Given a non-negative integer, `3` for example, return a string with a murmur: `"1 sheep...2 sheep...3 sheep..."`. Input will always be valid, i.e. no negative integers.

Solution

```
var countSheep = function (num){
let str = '';
for(let i = 1; i <= num ; i++){
str+= `${i} sheep...`;
}
return str;
}
```

Sample Tests

```
const chai = require("chai");
const assert = chai.assert;
chai.config.truncateThreshold=0;

describe("Fixed tests", () => {
it("Testing for fixed tests", () => {
assert.strictEqual(countSheep(0), "");
assert.strictEqual(countSheep(1), "1 sheep...");
assert.strictEqual(countSheep(2), "1 sheep...2 sheep...");
assert.strictEqual(countSheep(3), "1 sheep...2 sheep...3
sheep...");
});
});
```

studied:

increment

for

template literal

Grasshopper - Terminal game combat function

Instructions :

Create a combat function that takes the player's current health and the amount of damage recieved, and returns the player's new health. Health can't be less than **0**.

Solution

```
function combat(health, damage) {
return Math.max(health - damage, 0);
}
```

Sample Tests

```
const Test = require('@codewars/test-compat');

describe("The combat() function", function () {
it("should work for some example tests", function () {
Test.assertEquals(combat(100, 5), 95);
Test.assertEquals(combat(92, 8), 84);
Test.assertEquals(combat(20, 30), 0, "Health cannot go below
0");
});
});
```

studied:

module Math

arithmetic

Convert a Number to a String!

Instructions :

We need a function that can transform a number (integer) into a string.

What ways of achieving this do you know?

Examples (input --> output):

```
123  --> "123"
999  --> "999"
-100 --> "-100"
```

Solution

```
function numberToString(num) {
return num.toString()
}
```

Sample Tests

```
const assert = require('chai').assert;
describe("Tests", () => {
it("test", () => {
assert.strictEqual(numberToString(67), '67');
});
});
```

studied:

typeof

arithmetic

What is between?

Instructions :

Complete the function that takes two integers (`a, b`, where `a < b`) and return an array of all integers between the input

parameters, **including** them.

For example:

```
a = 1
b = 4
--> [1, 2, 3, 4]
```

Solution

```
function between(a, b) {
const betweenArray = []

while (a <= b) {
betweenArray.push(a);
a++;
}

return betweenArray;
}
```

Sample Tests

```
describe("Basic tests", () => {
it("between(1, 4)", () => assert.deepStrictEqual(between(1, 4),
[1, 2, 3, 4]));
it("between(-2, 2)", () => assert.deepStrictEqual(between(-2,
2), [-2, -1, 0, 1, 2]));
});
```

studied:

typeof

arithmetic

How good are you really?

Instructions :

There was a test in your class and you passed it. Congratulations!But you're an ambitious person. You want to know if you're better than the average student in your class.

You receive an array with your peers' test scores. Now calculate the average and compare your score!

Return `True` if you're better, else `False`!

Note:

Your points are not included in the array of your class's points. For calculating the average point you may add your point to the given array!

Solution

```
function betterThanAverage(classPoints, yourPoints) {
return yourPoints > classPoints.reduce((a, b) => a + b) /
classPoints.length;
}
```

Sample Tests

```
const chai = require('chai');
const assert = chai.assert;

describe("Example Tests", function() {
```

```
it("betterThanAverage([2, 3], 5) should return True", function()
{
assert.strictEqual(betterThanAverage([2, 3], 5), true);
});

it("betterThanAverage([100, 40, 34, 57, 29, 72, 57, 88], 75)
should return True", function() {
assert.strictEqual(betterThanAverage([100, 40, 34, 57, 29, 72,
57, 88], 75), true);
});

it("betterThanAverage([12, 23, 34, 45, 56, 67, 78, 89, 90], 9)
should return False", function() {
assert.strictEqual(betterThanAverage([12, 23, 34, 45, 56, 67,
78, 89, 90], 9), false);
});

it("betterThanAverage([41, 75, 72, 56, 80, 82, 81, 33], 50)
should return False", function() {
assert.strictEqual(betterThanAverage([41, 75, 72, 56, 80, 82,
81, 33], 50), false);
});

it("betterThanAverage([29, 55, 74, 60, 11, 90, 67, 28], 21)
should return False", function() {
assert.strictEqual(betterThanAverage([29, 55, 74, 60, 11, 90,
67, 28], 21), false);
});
});
```

studied:

typeof

arithmetic

Powers of 2

Instructions :

Complete the function that takes a non-negative integer `n` as input, and returns a list of all the powers of `2` with the exponent ranging from `0` to `n` (inclusive).

Examples

```
n = 0  ==> [1]       # [2^0]
n = 1  ==> [1, 2]    # [2^0, 2^1]
n = 2  ==> [1, 2, 4]  # [2^0, 2^1, 2^2]
```

Solution

```
function powersOfTwo(n){
var result = [];
for (var i = 0; i <= n; i++) {
result.push(Math.pow(2, i));
}
return result;
}
```

Sample Tests

```
const chai = require("chai");
const assert = chai.assert;
chai.config.truncateThreshold=0;

describe("Basic Tests", function(){
it("Testing for fixed tests", () => {
```

```
assert.deepEqual(powersOfTwo(0), [1])
assert.deepEqual(powersOfTwo(1), [1, 2])
assert.deepEqual(powersOfTwo(4), [1, 2, 4, 8, 16])
})
});
```

studied:

typeof

arithmetic

Reversing Words in a String

Instructions :

You need to write a function that reverses the words in a given string. A word can also fit an empty string. If this is not clear enough, here are some examples:

As the input may have trailing spaces, you will also need to ignore unneccesary whitespace.

Example (**Input** --> **Output**)

```
"Hello World" --> "World Hello"
"Hi There." --> "There. Hi"
```

Happy coding!

Solution

```
function combat(health, damage) {
return Math.max(health - damage, 0);
```

```
}
```

Sample Tests

```
const Test = require('@codewars/test-compat');

describe("The combat() function", function () {
it("should work for some example tests", function () {
Test.assertEquals(combat(100, 5), 95);
Test.assertEquals(combat(92, 8), 84);
Test.assertEquals(combat(20, 30), 0, "Health cannot go below
0");
});
});
```

studied:

module Math

arithmetic

Super Duper Easy

Instructions :

Make a function that returns the value multiplied by 50 and increased by 6. If the value entered is a string it should return "Error".

Solution

```
function problem(x){
return typeof x === "number" ? x * 50 + 6 : "Error"
```

```
}
```

Sample Tests

```
const chai = require("chai");
const assert = chai.assert;
chai.config.truncateThreshold=0;

describe("Basic tests", () => {
it("Testing for fixed tests", () => {
assert.strictEqual(problem("hello"), "Error");
assert.strictEqual(problem(1), 56);
assert.strictEqual(problem(5), 256);
assert.strictEqual(problem(0), 6);
assert.strictEqual(problem(1.2), 66);
assert.strictEqual(problem(3), 156);
assert.strictEqual(problem("RyanIsCool"), "Error");
assert.strictEqual(problem(-3), -144);
assert.strictEqual(problem(""), "Error");
assert.strictEqual(problem(0.03), 7.5);
})
})
```

studied:

typeof

arithmetic

L1: Set Alarm

Instructions :

Write a function named setAlarm which receives two parameters. The first parameter, *employed*, is true whenever you are employed and the second parameter, *vacation* is true whenever you are on vacation.

The function should return true if you are employed and not on vacation (because these are the circumstances under which you need to set an alarm). It should return false otherwise. Examples:

```
setAlarm(true, true) -> false
setAlarm(false, true) -> false
setAlarm(false, false) -> false
setAlarm(true, false) -> true
```

Solution

```
function setAlarm(employed, vacation){
return employed &&  !vacation;
}
```

Sample Tests

```
const chai = require("chai");
const assert = chai.assert;
chai.config.truncateThreshold=0;

describe("Test Suite",()=>{
it("Fixed tests",()=>{
assert.strictEqual(setAlarm(true, true),  false,"Should be
false.");
assert.strictEqual(setAlarm(false,true),  false, "Should be
false.");
assert.strictEqual(setAlarm(true, false), true,"Should be
true.");
```

```
});
});
```

studied:

typeof

arithmetic

Multiply

Instructions :

This code does not execute properly. Try to figure out why.

Solution

```
function multiply(a, b){
return a * b;
}
```

Sample Tests

```
const assert = require("chai").assert;

describe("Multiply", () => {
it("fixed tests", () => {
assert.strictEqual(multiply(1,1), 1);
assert.strictEqual(multiply(2,1), 2);
assert.strictEqual(multiply(2,2), 4);
assert.strictEqual(multiply(3,5), 15);
```

```
});
});
```

studied:

typeof

arithmetic

Exclamation marks series #11: Replace all vowel to exclamation mark in the sentence

Instructions :

Replace all vowel to exclamation mark in the sentence. `aeiouAEIOU` is vowel.

Examples

```
replace("Hi!") === "H!!"
replace("!Hi! Hi!") === "!H!! H!!"
replace("aeiou") === "!!!!!"
replace("ABCDE") === "!BCD!"
```

Solution

```
function replace(s){
return s.replace(/[aeiou]/ig, '!');
}
```

Sample Tests

```
const Test = require('@codewars/test-compat');

describe("Basic Tests", function(){
it("It should works for basic tests", function(){

Test.assertSimilar(replace("Hi!") , "H!!")
Test.assertSimilar(replace("!Hi! Hi!") , "!H!! H!!")
Test.assertSimilar(replace("aeiou") , "!!!!!")
Test.assertSimilar(replace("ABCDE") , "!BCD!")

})})
```

studied:

typeof

arithmetic

Are You Playing Banjo?

Instructions :

Create a function which answers the question "Are you playing banjo?".If your name starts with the letter "R" or lower case "r", you are playing banjo!

The function takes a name as its only argument, and returns one of the following strings:

```
name + " plays banjo"
name + " does not play banjo"
```

Names given are always valid strings.

Solution

```
function areYouPlayingBanjo(name) {
return name + (name[0].toLowerCase() == 'r' ? ' plays' : ' does
not play') + ' banjo';
}
```

Sample Tests

```
const chai = require("chai");
const assert = chai.assert;
chai.config.truncateThreshold=0;

describe("Basic tests", () => {
it("Testing for fixed tests", () => {
assert.strictEqual(areYouPlayingBanjo("Adam"), "Adam does not
play banjo");
assert.strictEqual(areYouPlayingBanjo("Paul"), "Paul does not
play banjo");
assert.strictEqual(areYouPlayingBanjo("Ringo"), "Ringo plays
banjo");
assert.strictEqual(areYouPlayingBanjo("bravo"), "bravo does not
play banjo");
assert.strictEqual(areYouPlayingBanjo("rolf"), "rolf plays
banjo");
})
})
```

studied:

typeof

arithmetic

Training JS #2: Basic data types--Number

Instructions :

In javascript, Number is one of basic data types. It can be positive: `1,2,3`, negative:`-1,-100` , integer:`123,456`, decimal:`3.1415926,-8.88` etc..

Numbers can use operators such as `+ - * / %`

Task

I've written five function `equal1,equal2,equal3,equal4,equal5`, defines six global variables `v1 v2 v3 v4 v5 v6`, every function has two local variables `a,b`, please set the appropriate value for the two variables(select from v1--v6), making these function return value equal to 100. the function equal1 is completed, please refer to this example to complete the following functions.

When you have finished the work, click "Run Tests" to see if your code is working properly.

In the end, click "Submit" to submit your code pass this kata.

Solution

```
let v1=50,
v2=100,
v3=150,
v4=200,
v5=2,
v6=250;

const equal1 = () => v1 + v1;
```

```
const equal2 = () => v3 - v1;
const equal3 = () => v1 * v5;
const equal4 = () => v4 / v5;
const equal5 = () => v2 % v4;
```

Sample Tests

```
const { assert } = require('chai');

describe("Tests", () => {
it("test", () => {
assert.strictEqual(equal1(), 100, "value of a+b is not equal to
100");
assert.strictEqual(equal2(), 100, "value of a-b is not equal to
100");
assert.strictEqual(equal3(), 100, "value of a*b is not equal to
100");
assert.strictEqual(equal4(), 100, "value of a/b is not equal to
100");
assert.strictEqual(equal5(), 100, "value of a%b is not equal to
100");
});
});
```

studied:

typeof

arithmetic

Number of Decimal Digits

Instructions :

Determine the total number of digits in the integer (`n>=0`) given as input to the function. For example, 9 is a single digit, 66 has 2 digits and 128685 has 6 digits. Be careful to avoid overflows/underflows.

All inputs will be valid.

Solution

```
function digits(n) {
return n.toString().length;
}
```

Sample Tests

```
describe("Solution", function(){
it("Example tests", function(){
Test.assertEquals(digits(5), 1, "Fail!");
Test.assertEquals(digits(12345), 5, "Fail!");
Test.assertEquals(digits(9876543210), 10, "Fail!");
});
});
```

studied:

typeof

arithmetic

Reversed Strings

Instructions :

Complete the solution so that it reverses the string passed into it.

```
'world'  =>  'dlrow'
'word'   =>  'drow'
```

Solution

```
function solution(str){
return str.split('').reverse().join('');
}
```

Sample Tests

```
const chai = require("chai");
const assert = chai.assert;
chai.config.truncateThreshold=0;

describe("Basic tests", () => {
it("Testing for fixed tests", () => {
assert.strictEqual(solution('world'), 'dlrow');
assert.strictEqual(solution('hello'), 'olleh');
assert.strictEqual(solution(''), '');
assert.strictEqual(solution('h'), 'h');
});
});
```

studied:

typeof

arithmetic

Even or Odd

Instructions :

Create a function that takes an integer as an argument and returns `"Even"` for even numbers or `"Odd"` for odd numbers.

Solution

```
function even_or_odd(number) {
return number % 2 ? "Odd" : "Even"
}
```

Sample Tests

```
const chai = require('chai');
const assert = chai.assert;

describe("Sample tests",() => {

it("2 is even", () => {
assert.strictEqual(evenOrOdd(2), "Even");
});
it("7 is odd", () => {
assert.strictEqual(evenOrOdd(7), "Odd");
});
it("-42 is even", () => {
assert.strictEqual(evenOrOdd(-42), "Even");
});
it("-7 is odd", () => {
assert.strictEqual(evenOrOdd(-7), "Odd");
});
it("0 is even", () => {
```

```
assert.strictEqual(evenOrOdd(0), "Even");
});
});
```

studied:

typeof

arithmetic

All Star Code Challenge #18

Instructions :

This Kata is intended as a small challenge for my students

All Star Code Challenge #18

Create a function that accepts 2 string arguments and returns an integer of the count of occurrences the 2nd argument is found in the first one.

If no occurrences can be found, a count of 0 should be returned.

```
("Hello", "o")  ==>  1
("Hello", "l")  ==>  2
("", "z")       ==>  0
```

Notes:

- The first argument can be an empty string
- The second string argument will always be of length 1

Solution

```
function strCount(str, letter){
```

```
return str.split(letter).length-1
}
```

Sample Tests

```
const { assert } = require('chai');

describe("Tests", () => {
it("test", () => {
assert.strictEqual(strCount('Hello', 'o'), 1);
assert.strictEqual(strCount('Hello', 'l'), 2);
assert.strictEqual(strCount('',      'z'), 0);
});
});
```

studied:

typeof

arithmetic

Training JS #7: if..else and ternary operator

Instructions :

In JavaScript, `if..else` is the most basic conditional statement, it consists of three parts:`condition, statement1, statement2`, like this:

```
if (condition) statementa
else           statementb
```

It means that if the condition is true, then execute the statementa, otherwise execute the statementb. If the statementa or statementb are more than one line, you need to add `{` and `}` at the head and tail of statements in JS, to keep the same indentation on Python and to put an `end` in Ruby where it indeed ends.

For example, if we want to judge whether a number is odd or even, we can write code like this:

```
function oddEven(n){
  if (n % 2 == 1) return "odd number";
  else            return "even number";
}
```

If there is more than one condition to judge, we can use the compound if...else statement. For example:

```
function oldYoung(age){
  if (age < 16)      return "children"
  else if (age < 50) return "young man"   //use "else if" if needed
  else               return "old man"
}
```

This function returns a different value depending on the parameter age.

Looks very complicated? Well, JS and Ruby also support the `ternary operator` and Python has something similar too:

```
condition ? statementa : statementb
```

Condition and statement separated by "?", different statement separated by ":" in both Ruby and JS; in Python you put the condition in the middle of two alternatives. The two examples above can be simplified with ternary operator:

```
function oddEven(n){
  return n%2 == 1 ? "odd number" : "even number";
}
function oldYoung(age){
  return age < 16 ? "children" : age < 50 ? "young man" : "old man";
}
```

Task:

Complete function `saleHotdogs`/`SaleHotDogs`/`sale_hotdogs`, function accepts 1 parameter:`n`, n is the number of hotdogs a customer will buy, different numbers have different prices (refer to the following table), return how much money will the customer spend to buy that number of hotdogs.

number of hotdogs	price per unit (cents)
n < 5	100
n >= 5 and n < 10	95
n >= 10	90

You can use if..else or ternary operator to complete it.

```
When you have finished the work, click "Run Tests" to see if your code is working properl
y.

In the end, click "Submit" to submit your code and pass this kata.
```

Solution

```
function saleHotdogs(n){
return n*(n<5?100:n<10?95:90);
}
```

Sample Tests

```
const { assert } = require('chai');

describe("Tests", () => {
it("Sample tests", () => {
assert.strictEqual(saleHotdogs(  1),  100);
assert.strictEqual(saleHotdogs(  4),  400);
assert.strictEqual(saleHotdogs(  5),  475);
assert.strictEqual(saleHotdogs(  9),  855);
assert.strictEqual(saleHotdogs( 10),  900);
assert.strictEqual(saleHotdogs(100), 9000);
});
});
```

studied:

typeof

arithmetic

Reversed Words

Instructions :

Complete the solution so that it reverses all of the words within the string passed in.

Words are separated by exactly one space and there are no leading or trailing spaces.

Example(Input --> Output):

```
"The greatest victory is that which requires no battle" --> "battle no requires which that is victory greatest The"
```

Solution

```
function reverseWords(str){
return str.split(' ').reverse().join(' ');
}
```

Sample Tests

```
const { assert } = require('chai');

describe("reverseWords",function(){
it("should work for some examples", function(){
assert.strictEqual(reverseWords("hello world!"
),  "world! hello")
assert.strictEqual(reverseWords("yoda doesn't speak like this"
),  "this like speak doesn't yoda")
assert.strictEqual(reverseWords("foobar"
),  "foobar")
assert.strictEqual(reverseWords("kata editor"
),  "editor kata")
assert.strictEqual(reverseWords("row row row your boat"
),  "boat your row row row")
assert.strictEqual(reverseWords(""
),  "")
});
});
```

studied:

typeof

arithmetic

Training JS #1: create your first JS function and print "Hello World!"

Instructions :

In JavaScript, your code is running in a function, let us step by step complete your first JS function.

Look at this example:

```
      --------keyword "function"
      |       ----your function name
      |       |    ---if needed, some arguments will appear in parentheses
      |       |    |
    function myfunc(){  ---------your function code will starting with "{"
      //you should type your code here
    }---------------------------ending with "}"
```

If we want to print some to the screen, maybe we can use `Document.write()` in the web, or use `alert()` pop your message, but Codewars did not support these methods, we should use `console.log()` in your function. see this example:

```
function printWordToScreen(){
  var somewords="This is an example."
  console.log(somewords)
}
```

If we run this function, `This is an example.` will be seen on the screen. As you see, `console.log()` is an useful method. You will use it a lot!

Task

Please refer to two example above and write your first JS function.

mission 1:

use keyword `function` to define your function, function name should be `helloWorld`(don't forget the `() and {}`)

mission 2:

use keyword `var` (or `let` or `const`) to define a variable `str`, value of `str` should be a string: `"Hello World!"`(don't forget the `=`).

mission 3:

type the `console.log()` in the next line (don't forget to put the `str` in the parentheses).

When you have finished the work, click "Run Tests" to see if your code is working properly.

In the end, click "Submit" to submit your code pass this kata.

Solution

```
function helloWorld() {
let hello = "Hello World!";
return console.log(hello)
}
```

Sample Tests

```
const { assert } = require('chai');
describe("Tests", () => {
it("test", () => {
assert.isFunction(helloWorld, "function helloWorld is not defined")
helloWorld();
```

```
});
});
```

studied:

typeof

arithmetic

Ninja vs Samurai: Strike <7 Kyu>

Instructions :

Something is wrong with our Warrior class. The strike method does not work correctly. The following shows an example of this code being used:

```
var ninja = new Warrior('Ninja');
var samurai = new Warrior('Samurai');

samurai.strike(ninja, 3);
// ninja.health should == 70
```

Can you figure out what is wrong?

Solution

function Warrior(name){

this.name

= name;

this.health = 100;
this.strike = (enemy, swings) => enemy.health = Math.max(0, enemy.health - (Math.abs(swings) * 10));
}

Sample Tests

```
// Since Node 10, we're using Mocha.
// You can use
```

```
chai
```

```
for assertions.
const chai = require("chai");
const assert = chai.assert;
// Uncomment the following line to disable truncating failure
messages for deep equals, do:
// chai.config.truncateThreshold = 0;
// Since Node 12, we no longer include assertions from our
deprecated custom test framework by default.
// Uncomment the following to use the old assertions:
// const Test = require("@codewars/test-compat");

describe("Solution", function() {
it("should test for something", function() {
// Test.assertEquals(1 + 1, 2);
// assert.strictEqual(1 + 1, 2);
});
});
```

studied:

typeof

arithmetic