CodeChallenges 

b1t.ninja

Contents

1 Easy

1.1 Hours in minutes

Minute Man

Task: Convert hours to minutes

Signature: `int hoursToMinutes(int hours)`

Examples

Input	Output
60	1
120	2
240	4

Complexity max $O(1)$

1.2 Small number

Smallest of them all

Task: Find the smallest number in the array

Signature: `int smallestNumber(int[] nums)`

Examples

Input	Output
`(1, 2, 3, 4)`	1
`(3, 7, 1, 9)`	1
`(10, 7, 2, 4, 5)`	2

Complexity max $O(n)$

1.3 Biggest number

Biggest of them all

Task: Find the largest number in the array

Signature: `int largestNumber(int[] nums)`

Examples

Input	Output
`(1, 2, 3, 4)`	4
`(3, 7, 1, 9)`	9
`(10, 7, 2, 4, 5)`	10

Complexity max $O(n)$

1.4 Even number

Even Steven

Task: Determine if a given number is even

Signature: `boolean isEven(int number)`

Examples

Input	Output
1	`false`
2	`true`
3	`false`

Complexity max $O(1)$

1.5 Uneven filter

Filter all uneven

Task: Given a list of numbers, return a list with only the even numbers remaining

Signature: `ArrayList<Integer> filterUnevens(int[] nums)`

Examples

Input	Output
`(1, 2, 3)`	2
`(4, 5, 6)`	`(4, 6)`
`(7, 8, 9)`	8

the 2 and 8 should be (2) and (8), no idea why it looks like this

Complexity max $O(n)$

2 Medium

2.1 Sum

LVL: 1

Sum me up

Task: Given a list of integers, return the sum of those elements

Signature: `int sum(int[] nums)`

Examples

Input	Output
`(1, 2, 3)`	6
`(4, 5, 6)`	15
`(7, 8, 9)`	24

Complexity max $O(n)$

LVL: 2

Sum me up

Task: Given a list of integers, return the sum of those elements

Signature: `int sum([]int nums)`

Examples

Input	Output
`(1, 2, 3)`	6
`(4, 5, 6)`	15
`(7, 8, 9)`	24

Complexity max $O(n)$

No `for` loops allowed!

↝ `while` loop

LVL: 3

Sum me up

Task: Given a list of integers, return the sum of those elements

Signature: `int sum([]int nums)`

Examples

Input	Output
`(1, 2, 3)`	6
`(4, 5, 6)`	15
`(7, 8, 9)`	24

Complexity max $O(n)$

Not any kind of loop allowed

↝ higher order functions

LVL: 4

Sum me up

Task: Given a list of integers, return the sum of those elements

Signature: `int sum([]int nums)`

Examples

Input	Output
`(1, 2, 3)`	6
`(4, 5, 6)`	15
`(7, 8, 9)`	24

Complexity max $O(n)$

No higher order functions allowed

↝ oldschool recursion

2.2 Avatar checker

Get that Avatar

Task: The Avatar cycle is as follows: Fire, Water, Earth, Air. If the Avatar was a firebender return , for water , earth , Air

Signature: `String avatarChecker(int iteration)`

Examples

Input	Output
1	
3	
6	

Complexity max $O(1)$

2.3 Brackets correct

Brackets

Task: Given an input like ((((())())())), determine if the bracket order is correct. Correct means that every `(` has a corrosponding `)`.

Signature: `boolean brackets(String input)`

Examples

Input	Output
()()(())	`true`
))()	`false`
((())	`false`

Complexity max $O(n^2)$
Optional : **Complexity max** $O(n)$

2.4 Word is palindrome

Palindrome

Task: Given a word, determine if the word is a palindorme. A palindrome is a word or number, that is symmetrical. For example 11211, anna, abccba and so on.

Signature: `boolean isPalindrome(String word)`

Examples

Input	Output
anna	`true`
12321	`true`
nico	`false`

Complexity max $O(n)$
Optional: **Complexity max** $n \log(n)$

2.5 String math

String me up

Task: Given a list of numbers, sum up all numbers that are grouped and return the largest one. Groups are sperated two empty lines.

Signature: `int stringMath(String input)`

Example input:

1
3
5

4

6
5
4
3

Example output:

18, because $6 + 5 + 4 + 3 = 18$, is the biggest number

Complexity max $O(n)$

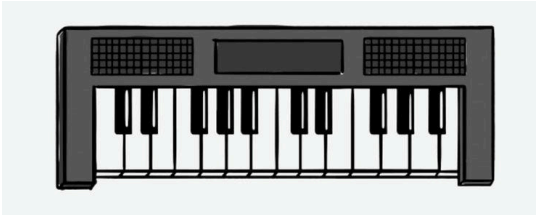
2.6 Piano keys

Piano

Task: Given a number, return what color the corrosponding key on a keyboard has.

Signature: `String pianoKeyColor(int number)`

The Keybaord Layout



Examples

Input	Output
5	W
6	W
9	B

White: W
Black: B

Complexity max $O(1)$

2.7 Two sum

Two sum

Task: Given an array of numbers and a target value, return the indices of the two numbers of the array, that when summed up amoint to target.

Signature: `int[] twoSum(int[] numbers, int target)`

Examples

Input	Output
`((1, 2, 3, 4), 3)`	`(0, 1)`
`((5, 6, 7, 8), 12)`	`(0, 2)`
`((9, 10, 11, 12), 22)`	`(1, 3)`

Complexity max $O(n^2)$
Optional: **Complexity max** $O(n)$

2.8 Median of two sorted arrays

Median two

Task: Given tow sorted arrays, return the median of both arrays combined.

Signature: `double medianTwoSortedArrays(int[] n, int[]m)`

Example:
$n = [1, 3], m = [2]$
Output: $2.\overline{0}$
Explanation: merged array: $[1, 2, 3]$ and median is $2.\overline{0}$
Complexity max $O(\log(n + m))$

2.9 Reverse Integer

Reverse Int

Task: Given an integer x, return x with its digits reversed

Signature: `int reverseInt(int x)`

Examples

Input	Output
123	321
−123	−321
120	21

Complexity max $O(n)$, where n is number of digits in x

2.10 Integer Multiplication

Multipy Integers

Task: Given two integers, return the result of the two numbers multiplied. You may not use * (mulitplication operator) or a for or while loop

Signature: `int integerDivision(int num1, int num2)`

Examples

Input	Output
`(1, 2)`	2
`(4, 5)`	20
`(8, 7)`	56

Complexity max $O(1)$

2.11 Numbers in Strings

Get those numbers!

Task: Given a String of words, separated by a newline character, find the first and last digit in the word, together they for a number, and sum all those up for every word.

Signature: `int sumNumbersInString(String numbers)`

Examples

Input	Output
1helllo3 w3or9ld sno45	97
69isafunnumber 4isalso20 wh4ythese6	155
2is1morethan1	21

Further explanation

1helllo3 $\rightsquigarrow$ 13,
w3or9ld $\rightsquigarrow$ 39,
sno45 $\rightsquigarrow$ 45
Sum those together: $13 + 39 + 45 = 97$

Complexity max $O(n)$

2.11.1 Numbers in Strings Part2

Part Two

Task: The same as Part1, but now there are also numbers hidden as words. Examples will explain more

Signature: `int sumNumbersInString(String numbers)`

Examples

Input	Output
five1helllo3 w3or9ld sno45	137
69isafunnumberone 4isalso20 wh4ythese6	147
2is1morethan1	21

Further explanation

five1helllo3 ⇝ 53 (since the first number was `five`),
w3or9ld ⇝ 39,
sno45 ⇝ 45
Sum those together: $53 + 39 + 45 = 97$
`Complexity max` $O(n)$

This method does not have a test yet, will add later 👌

3 Tests

Not sure if your solution is correct ?
Test it !
Github