Soma de Strings

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Contents

Index

1	Proj	eto Son	nador de s	strings numéricas	1	1
2	File	Index			3	3
	2.1	File Lis	st		3	3
3	File	Docum	entation		5	5
	3.1	READ	ME.md File	e Reference	5	5
	3.2	string_	soma.cpp	File Reference	5	5
		3.2.1	Function	Documentation	5	5
			3.2.1.1	find_delimiters()	5	ō
			3.2.1.2	remove_newlines()	ε	3
			3.2.1.3	soma_string()	ε	3
			3.2.1.4	vectorize()	7	7
	3.3	string_	soma.hpp	File Reference	7	7
		3.3.1	Function	Documentation	7	7
			3.3.1.1	find_delimiters()	8	3
			3.3.1.2	remove_newlines()	8	3
			3.3.1.3	soma_string()	8	3
			3.3.1.4	vectorize()	9	9
	3.4	testa_s	soma_strir	ng_stdin.cpp File Reference	9	Э
		3.4.1	Function	Documentation	9	9
			3.4.1.1	main()	10	Э
	3.5	testa_s	string_som	na.cpp File Reference	10	Э
		3.5.1	Macro D	efinition Documentation	10	Э
			3.5.1.1	CATCH_CONFIG_MAIN	10	Э
		3.5.2	Function	Documentation	10	Э
			3.5.2.1	TEST_CASE() [1/4]	11	1
			3.5.2.2	TEST_CASE() [2/4]	11	1
			3.5.2.3	TEST_CASE() [3/4]	11	1
			3.5.2.4	TEST_CASE() [4/4]		1

13

Chapter 1

Projeto Somador de strings numéricas

This project aims to implement knowledge acquired in the class of Métodos de Programação by means of summing a string of numbers.

Documentation

Here.

Requirements

You must have a C++ compiler (4.9 or above) installed on the machine. The operating system can be Linux, Windows or MacOS. Compiler installation:

- Windows.
- Mac.
- Linux.
- Linux 4.9.

For coverage, gcovr is used. Go to http://gcovr.com/ for installation process. It's used valgrind to check use of memory. Installation process here.

Installing/Compiling

Download the entire project directory, open the terminal or the equivalent of your machine, access the directory in which the project was downloaded using

```
cd /YourDirectory/YourFolder/projetolmp
```

Insert your input according to the requisites found here: PDF Document. Then compile using make.

In case your gcc is below 4.9, install using the link provided and use

make stable

For tests, run

make test

or

make stabletest

For checking performance

make perf

or

make stableperf

GCOV

If you want to check the gcov results, go to this link.

File description

- testa_soma_string_stdin.cpp Program for checking text files
- string_soma.hpp Abstract file for function soma_string
- string_soma.cpp Implementation of function soma_string
- testa_string_soma.cpp Code for all the unit tests (it was used TDD in this project! Yay!)

TODO

- [x] Criar doxygen
- [x] Checar vírgulas duplas

Chapter 2

File Index

2.1 File List

Here is a list of all files with brief descriptions:

string_soma.cpp	5
string_soma.hpp	7
testa_soma_string_stdin.cpp	9
testa string soma.cpp	10

File Index

Chapter 3

File Documentation

3.1 README.md File Reference

3.2 string_soma.cpp File Reference

```
#include <iostream>
#include <sstream>
#include <vector>
#include <algorithm>
#include <string>
#include <regex>
```

Functions

• std::string remove_newlines (std::string my_string)

Function responsible for the removal of newlines in the string to be treated.

std::vector< int > vectorize (std::string my_string)

Function to make the process of summing up the numbers in the string truly simple.

std::string find_delimiters (std::string my_string)

Function for finding special delimiters.

• int soma_string (std::string my_string)

Main function, responsible for delegating tasks and show the result.

3.2.1 Function Documentation

3.2.1.1 find_delimiters()

Function for finding special delimiters.

Also checks if all characters are valid.

Parameters

my_string	string to be checked
-----------	----------------------

Returns

string with all delimiters changed to comma

Definition at line 49 of file string_soma.cpp.

3.2.1.2 remove_newlines()

Function responsible for the removal of newlines in the string to be treated.

Particularly useful when the string in question is filled with non-breaking newlines.

Parameters

my_string string for removal of newlines
--

Returns

string without newlines

Definition at line 16 of file string_soma.cpp.

3.2.1.3 soma_string()

Main function, responsible for delegating tasks and show the result.

Once it reaches the end, it gives the result of a string sum.

Parameters

my ctring	string for summing up
IIIV SUIIIU	

Returns

sum of string or error

Definition at line 96 of file string_soma.cpp.

3.2.1.4 vectorize()

Function to make the process of summing up the numbers in the string truly simple.

Once vectorized, all kinds of operations become possible to be done.

Parameters

```
my_string string used to make vector
```

Returns

vector with all numbers in string if string is valid

Definition at line 30 of file string_soma.cpp.

3.3 string_soma.hpp File Reference

```
#import <iostream>
```

Functions

• std::string remove_newlines (std::string my_string)

Function responsible for the removal of newlines in the string to be treated.

std::vector< int > vectorize (std::string my_string)

Function to make the process of summing up the numbers in the string truly simple.

• std::string find_delimiters (std::string my_string)

Function for finding special delimiters.

• int soma_string (std::string my_string)

Main function, responsible for delegating tasks and show the result.

3.3.1 Function Documentation

3.3.1.1 find_delimiters()

Function for finding special delimiters.

Also checks if all characters are valid.

Parameters

my_string	string to be checked
-----------	----------------------

Returns

string with all delimiters changed to comma

Definition at line 49 of file string_soma.cpp.

3.3.1.2 remove_newlines()

Function responsible for the removal of newlines in the string to be treated.

Particularly useful when the string in question is filled with non-breaking newlines.

Parameters

my_string	string for removal of newlines
-----------	--------------------------------

Returns

string without newlines

Definition at line 16 of file string_soma.cpp.

3.3.1.3 soma_string()

Main function, responsible for delegating tasks and show the result.

Once it reaches the end, it gives the result of a string sum.

Parameters

my_string	string for summing up
-----------	-----------------------

Returns

sum of string or error

Definition at line 96 of file string_soma.cpp.

3.3.1.4 vectorize()

Function to make the process of summing up the numbers in the string truly simple.

Once vectorized, all kinds of operations become possible to be done.

Parameters

my_string	string used to make vector
-----------	----------------------------

Returns

vector with all numbers in string if string is valid

Definition at line 30 of file string_soma.cpp.

3.4 testa_soma_string_stdin.cpp File Reference

```
#include <iostream>
#include <fstream>
#include <string>
#include "string_soma.cpp"
```

Functions

• int main ()

3.4.1 Function Documentation

3.4.1.1 main()

```
int main ( )
```

Definition at line 6 of file testa_soma_string_stdin.cpp.

3.5 testa_string_soma.cpp File Reference

```
#include <vector>
#include <iostream>
#include <string>
#include "others/catch.hpp"
#include "string_soma.cpp"
```

Macros

• #define CATCH_CONFIG_MAIN

Functions

TEST_CASE ("Verificação da função soma_string")

Verifica a funcionalidade da função soma_string.

• TEST_CASE ("Teste da função remove_newlines")

Verifica se comportamento está dentro do esperado para remoção de quebras de linhas.

TEST_CASE ("Teste da função find_delimiters")

Verifica se comportamento está dentro do esperado para troca de delimitadores por vírgulas.

• TEST_CASE ("Teste da função vectorize")

Verifica se a vetorização da string ocorre de maneira adequada.

3.5.1 Macro Definition Documentation

```
3.5.1.1 CATCH_CONFIG_MAIN
```

```
#define CATCH_CONFIG_MAIN
```

Definition at line 1 of file testa_string_soma.cpp.

3.5.2 Function Documentation

```
3.5.2.1 TEST_CASE() [1/4]

TEST_CASE (
"Verificação da função soma_string" )
```

Verifica a funcionalidade da função soma_string.

Verifica a maior parte dos possíveis comportamentos da função

Definition at line 13 of file testa string soma.cpp.

```
3.5.2.2 TEST_CASE() [2/4]

TEST_CASE (
"Teste da função remove_newlines" )
```

Verifica se comportamento está dentro do esperado para remoção de quebras de linhas.

Definition at line 112 of file testa_string_soma.cpp.

Verifica se comportamento está dentro do esperado para troca de delimitadores por vírgulas.

Definition at line 120 of file testa_string_soma.cpp.

```
3.5.2.4 TEST_CASE() [4/4]

TEST_CASE (
"Teste da função vectorize" )
```

Verifica se a vetorização da string ocorre de maneira adequada.

Definition at line 127 of file testa_string_soma.cpp.

Index

```
CATCH_CONFIG_MAIN
    testa_string_soma.cpp, 10
find_delimiters
    string_soma.cpp, 5
    string_soma.hpp, 7
main
    testa_soma_string_stdin.cpp, 9
README.md, 5
remove_newlines
    string_soma.cpp, 6
    string_soma.hpp, 8
soma_string
    string soma.cpp, 6
    string_soma.hpp, 8
string_soma.cpp, 5
    find_delimiters, 5
    remove_newlines, 6
    soma_string, 6
    vectorize, 7
string_soma.hpp, 7
    find_delimiters, 7
    remove_newlines, 8
    soma_string, 8
    vectorize, 9
TEST_CASE
    testa_string_soma.cpp, 10, 11
testa_soma_string_stdin.cpp, 9
    main, 9
testa_string_soma.cpp, 10
    CATCH_CONFIG_MAIN, 10
    TEST_CASE, 10, 11
vectorize
    string_soma.cpp, 7
```

string_soma.hpp, 9