Soma de Strings

Generated by Doxygen 1.8.13

Contents

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/projeto1mp
```

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

```
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:

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()

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

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()

```
std::string remove_newlines (
             std::string my_string )
```

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()

```
int soma_string (
             std::string my_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.

3.2.1.4 vectorize()

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

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()

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

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()

```
std::string remove_newlines (
             std::string my_string )
```

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()

```
int soma_string (
             std::string my_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()

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

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.

3.5.2.3 TEST_CASE() [3/4]

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

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