后卫小金-第六章作业

2021.06.22

一、简要说明

后卫小金-第6章作业.zip 中主要包含三个文件:

1、 project1 文件夹

代码 main.cpp 所在文件夹。

main.cpp 完成了作业中要求的三个功能。

代码在 windows 下的 visual studio 2019 中完成。

代码主要包含的函数及主要功能如下:

- void str_filter(std::string& str)过滤字符串中的 0 和符号位,小写字母转大写字母
- void abv_compar(std::string& str1, std::string& str2)
 比较两个大数的绝对值,使str1为绝对值较大值
- void read_str(std::string test_case, std::string& str1, std::string& str2, std::string& real)
 读字符串
- int arg_check(std::string& str, int M)参数检查
- std::string M_to_N(std::string str, int M, int N)
 进制转换
- std::string big_num_add(std::string& str1, std::string& str2, int M = 10, int N = 10)
 大数加法
- std::string big_num_sub(std::string& str1, std::string& str2, int M = 10, int N = 10)
 大数减法
- void test(std::string test_mode="test", int M=10, int N=10)
 代码测试
- int main(int argc, char* argv[])主函数

详细注释请参考 main.cpp

注: 若出现路径问题请检查 main.cpp 78-82 行

2、test 文件夹

测试 txt 文件所在文件夹,主要来自群里共享的文档。

注:代码测试并未使用该文件夹中的脚本文件。若不给 main.cpp 任何参数时,代码会自动测试 test 文件夹中的所有测试用例并输出结果。

3、说明文档

包含代码的简要说明与测试结果。

二、测试结果

main.cpp 通过 visual studio 2019 生成.exe 文件,在 windows 下的 cmd 中进行测试,结果如下:

1、功能1:长整数加法

使用 test case1.txt, 结果如图所示:

```
C:\Users\93532>"D:\06 KIT2021\CS_Robo\SL_C++\00_Code\05_Project\Project1\Debug\Project1.exe" test_case1.txt test_case1.txt
You Program out: 53337468491112136635
Standard answer: 53337468491112136635
C:\Users\93532>
```

2、扩展1:不同进制长整数加法

使用 test case13.txt(16 进制),结果如图所示:

```
C:\Users\93532>"D:\06 KIT2021\CS_Robo\SL_C++\00_Code\05_Project\Project1\Debug\Project1.exe" test_case13.txt 16 test_case13.txt You Program out: 3577B9879CB46A789896A789659BB673597984 Standard answer: 3577B9879CB46A789896A789659BB673597984 C:\Users\93532>
```

3、扩展2:增加输出进制

使用 test_case21.txt(16 进制输入,8 进制输入),结果如图所示:

```
C:\Users\93532>"D:\06 KIT2021\CS_Robo\SL_C++\00_Code\05_Project\Project1\Debug\Project1.exe" test_case21.txt 16 8
test_case21.txt
You Program out: 4075066230460517360614417671223104163675146024170364103622571135525
Standard answer: 4075066230460517360614417671223104163675146024170364103622571135525
C:\Users\93532>
```

4、参数检查

当输入参数有误时,代码报错,并结束程序。错误包含,进制数大于 36,数字与进制数不符,main 函数参数大于 4,结果如图所示:

```
C:\Users\93532>"D:\06 KIT2021\CS_Robo\SL_C++\00_Code\05_Project\Project1\Debug\Project1.exe" test_case15.txt 8 test_case15.txt argument false

C:\Users\93532>"D:\06 KIT2021\CS_Robo\SL_C++\00_Code\05_Project\Project1\Debug\Project1.exe" test_case15.txt 8 16 2 argument false

C:\Users\93532>"D:\06 KIT2021\CS_Robo\SL_C++\00_Code\05_Project\Project1\Debug\Project1.exe" test_case15.txt 42 test_case15.txt 42 test_case15.txt 42 argument false

C:\Users\93532>

C:\Users\93532>
```

5、代码测试

当不输入任何参数时,代码自动测试所有 txt 文件,结果如下图所示:

注: 若代码出现地址问题,请检查 main.cpp 78-82 行。

```
C:\Users\93532>"D:\06 KIT2021\CS_Robo\SL_C++\00_Code\05_Project\Project1\Debug\Project1.exe
test_case0.txt
fou Program out: 0
Standard answer: 0
test_case1_txt
    est_case1.txt
     est_case1.txt
ou Program out: 53337468491112136635
tandard answer: 53337468491112136635
   test_case2.txt
You Program out: -53091181444261658491
Standard answer: -53091181444261658491
test_case3.txt
    iest_case3.txt
fou Frogram out: 122611380175562203682045210143320679111898900018722303378469001
itandard answer: 122611380175562203682045210143320679111898900018722303378469001
Tou Frogram but: 122011380173562203682045210143320679111898900016722303378469001
test_case4.txt
You Frogram out: 1002464955944335234758539002875947111112831341128442327113167877
Standard amswer: 1002464955944335234758539002875947111112831341128442327113167877
Standard amswer: 1002464955944335234758539002875947111112831341128442327113167877
test_case5.txt
You Frogram out: -12367566667491594163291417784561768819788802577748931449996866202
Standard amswer: -12367566667491594163291417784561768819788802577748931449996866202
Standard amswer: -123675666674915941632914177845617688197888025777748931449996866202
test_case6.txt
You Frogram out: 532153122068108010232203159697080286075564113758243874221469
Standard amswer: 532153122068108010232203159697080286075564113758243874221469
test_case7.txt
You Frogram out: 1231433498023479525111625332397671245344480088489282614802019
Standard amswer: 1231433498023479525111625332397671245344480088489282614802019
Standard amswer: -9321432495768566612819817114403029104989743560430089398882670166588590397122
Standard amswer: -9321432495768566612819817114403029104989743560430089398882670166588590397122
Standard amswer: -9321432495768566612819817114403029104989743560430089398882670166588590397122
Standard amswer: -9321432495768566612819817114403029104989743560430089398882670166588590397122
  test_case10.txt

You Program out: -1425597610853920052209873801155525908531981357979144

Standard answer: -1425597610853920052209873801155525908531981357979144

test_case11.txt
 test_case11.txt
You Frogram out: 47829171082715165390785148658875550310354999910460086197671310
Standard answer: 47829171082715165390785148658875550310354999910460086197671310
test_case12.txt
   test_case12.txt

You Program out: 3904885797777517825051977979921967606700052404854754935910113

Standard answer: 3904885797777517825051977979921967606700052404854754935910113

test_case13.txt
   test_case13.txt
You Program out: 3577B9879CB46A789896A789659BB673597984
Standard answer: 3577B9879CB46A789896A789659BB673597984
You December 1
   test_casel4.txt
You Program out: F5D879989D307679329FB801DF9CA6855A02CA
Standard answer: F5D879989D307679329FB801DF9CA6855A02CA
test_casel5.txt
   test_case15, txt
7ou Program out: 44E3D86B6CFAD6FE0542EE41540C45F25DE613588277F8834F
5tandard answer: 44E3D86B6CFAD6FE0542EE41540C45F25DE613588277F8834F
Standard answer: 4463D86B6CFAD6FE0542EE41540C45F25DE613588277F8834F
test_casel6.txt
You Program out: -9F2D752E5A01563ECC20A95ACA7AB57D726E89FD1D5BA8431C
Standard answer: -9F2D752E5A01563ECC20A95ACA7AB57D726E89FD1D5BA8431C
test_casel7.txt
You Program out: -184757EBE1BB76E0F54463D2A063504FA12F3594ECC9E96F294
Standard answer: -184757EBE1BB76E0F54463D2A063504FA12F3594ECC9E96F294
test_casel8.txt
You Program out: 2454B6FDF49185780D246DA5460A85100D4436043406406DE2
Standard answer: 2454B6FDF49185780D246DA5460A85100D4436043406406DE2
test_casel9.txt
You Program out: 845505AEE5E501A67CCP6B4A618423A183855F0880B250973A
Standard answer: 845505AEE5E501A67CCP6B4A618423A183855F0880B250973A
   test_case20.txt
Fou Program out: 107A364C4C29EF0C643F7293221CF7A660A1E1E843C95E4BB55
Standard answer: 107A364C4C29EF0C643F7293221CF7A660A1E1E843C95E4BB55
     :\Users\93532>
```