

String streams

Write a program that asks user to enter a line that contains integers or “stop” to stop the program. If user enters a string that starts with “stop” the program stops. Otherwise, the program creates a string stream from the user input and reads integers from the stream. Program keeps reading and summing integer until the stream ends or reading an integer fails because text or other non-numerical character is encountered. When the reading stops the sum and count are printed and program asks user to enter another string.

For example:

```
Enter a line with numbers or “stop”: 1 6 34 78 4 6
```

```
Total of 6 numbers is 129
```

```
Enter a line with numbers or “stop”: 4 99 zip 44 6
```

```
Total of 2 numbers is 103
```

```
Enter a line with numbers or “stop”: stop
```

File system

Std::filesystem abstracts path handling and directory creation. The library provides functionality to resolve relative path to absolute path and operators for easy building of paths in a platform independent way.

Std::filesystem::path has overloaded operators for creating a path by concatenating paths or strings. The resulting path can be used to open files or for example, to create multiple directories.

Implement a program that asks user to enter directory names or enter a blank line to stop entry. The read names are stored in a vector of strings. When user has stopped entering directory names the program forms a relative path from the entered directory names. For example, if user entered “this”, “is”, and “test” the path is “this/is/test” (assuming posix operating system, on windows the result). To form a path use concatenation operator defined for std::filesystem::path.

Then program creates the path using create_directories (see:

https://en.cppreference.com/w/cpp/filesystem/create_directory). After creating the directory, the program opens a text file “result.txt” for writing in the created directory and outputs the following thing both to screen and the file:

- Absolute path to the file (there is a function to get that)
- Content of the string vector one per line
- Relative path to the file

Note that since C++17 ofstream (and fstream in general) constructor can take filesystem::path as parameter.