# Lab 5-2

Problem: Acquire a user-entered text file and sort the words in alphabetical order.



# Source File:

/\*Problem: Read in a text file and sort the file alphabetically with a vector.

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#include <iostream>

#include <fstream>

#include <vector>

#include <string>

using namespace std;

void fillVector(vector<string> & words, ifstream & input);

void sortVector(vector<string> & words);

int main()

{

/\*

Sends open stream determined by user and sends vector of strings and stream to fillVector. Sends filled vector to sortVector to be sorted. Displays sorted vector.

\*/

vector <string> words;

char file[256];

cout<<"Please enter the address of the file to be processed: \n";

cin.getline(file,256);

ifstream input(file);

if(!input.is\_open())

{

cout<<"Error: the file "<<file<<" failed to open correctly. Quitting program.";

exit(-1);

}

fillVector(words,input);

sortVector(words);

cout<<"\n\nHere are the words in the file sorted alphabetically:\n\n";

for(unsigned i=0;i<words.size();i++)

cout<<words.at(i)<<" ";

cout<<endl<<endl;

return 0;

}

void fillVector(vector<string> & words,ifstream & input)

{

/\*

Takes opened stream and empty vector and fills the vector with strings extracted from stream.

\*/

string temp;

while(!input.eof())

{

getline(input,temp,' ');

words.push\_back(temp);

}

}

void sortVector(vector<string> & words)

{

/\*

Takes filled vector and sorts the vector alphabetically using bubble sort.

\*/

string placeholder;

unsigned test=words.size();

for(unsigned i=0;i<test;i++)

{

for(unsigned x=1;x<test;x++)

{

if(words.at(i)<words.at(x))

{

placeholder=words.at(i);

words.at(i)=words.at(x);

words.at(x)=placeholder;

}

}

}

words.push\_back(words.at(0)); //These two lines of code are a bug fix where what was supposed to be the last string alphabetically was instead becoming the first string

words.erase(words.begin()); //So this sends the first string after sorting to the end and deletes the first location to create a soft-fix.

}

# Input File:

four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal. now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. we are met on a great battle-field of that war. we have come to dedicate a portion of that field, as a final resting place for those who here gave their lives that that nation might live. it is altogether fitting and proper that we should do this. but, in a larger sense, we can not dedicate we can not consecrate we can not hallow this ground. whe brave men, living and dead, who struggled here, have consecrated it, far above our poor power to add or detract. the world will little note, nor long remember what we say here, but it can never forget what they did here. it is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. it is rather for us to be here dedicated to the great task remaining before us that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion that we here highly resolve that these dead shall not have died in vain that this nation, under god, shall have a new birth of freedom and that government of the people, by the people, for the people, shall not perish from the earth.

# Sample Run:

Please enter the address of the file to be processed:

C:\Users\naroa\Desktop\gettysburg address.txt

Here are the words in the file sorted alphabetically:

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Press any key to continue . . .