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CS 60 Winter

Homework 1

**Problem 1:**

**sortNames.cpp:**

#include <iostream>

#include <string>

#include <fstream>

using namespace std;

ifstream inputFile("inputFile.txt");

//string unsortedArray;

int numPeople;

int numberOfNames();

void fillArray(string tempArr[]);

void printArray(string tempArr[]);

void sortArray(string tempArr[], string sortedTempArr[]);

void writeFile(string tempArr[]);

int main(){

string unsortedArray[numberOfNames()]; //Creates an empty array based on number of people in file

fillArray(unsortedArray); //Fills an array with people from file (not sorted)

//printArray(unsortedArray);

string sortedArray[numPeople]; //Creates an empty array based on number of people in file

sortArray(unsortedArray, sortedArray);//Sorts the 'unsortedArray' array, and fills the 'sortedArray'

writeFile(sortedArray);

return(0);

}

//Counts how many names are in a text file

int numberOfNames(){

int count = 0;

string line;

//ifstream file("inputFile.txt");

while (getline(inputFile, line)){

count++;

}

inputFile.close();

//cout << "Numbers of names: " << count << endl;

numPeople = count;

return count;

}

void fillArray(string tempArr[]){

//cout << "Starting fillArray" << endl;

ifstream inFile("inputFile.txt");

string line;

int counter = 0;

while (getline(inFile, line)){

//cout << line << endl;

tempArr[counter] = line;

counter++;

}

inFile.close();

}

void sortArray(string tempArr[], string sortedTempArr[]){

string firstName;

string secondName;

string tempStr;

int first;

int second;

for (int i = 0; i < numPeople-1; i++){

for (int j = i+1; j < numPeople; j++){

if(tempArr[i].at(0) > tempArr[j].at(0)){

tempStr = tempArr[i];

tempArr[i] = tempArr[j];

tempArr[j] = tempStr;

}

}

}

//cout << "Array after changing" << endl;

for (int i = 0; i < numPeople; i++){

sortedTempArr[i] = tempArr[i];

}

//printArray(tempArr);

}

void writeFile(string tempArr[]){

ofstream outFile("outputFile.txt");

for (int i = 0; i < numPeople; i++){

outFile << tempArr[i] << endl;

}

}

//Used for debugging and checking the array is printed properly

void printArray(string tempArr[]){

for (int i = 0; i < numPeople; i++){

cout << tempArr[i] << endl;

}

}

**inputFile.txt**

Tim

Jill

June

Tony

Tina

Bob

**outputFile.txt**

Bob

June

Jill

Tony

Tina

Tim