CSCI 1300 Recitation HW 8

Question 1:

```
#include <iostream>
#include <fstream> //needed to include fstream
#include <string>
using namespace std;

int main()
{
    ifstream my_file("Visitor.txt");
    string full_line;
    string days[] = {"Monday", "Tuesday", "Wednesday", "Thursday", "Friday"};
    int vis[5] = {0, 0, 0, 0, 0};
    int i = 0;
    int traffic = 0;
    int j = 0;
    int k = 0; //added counter

    while (getline(my_file, full_line))
    {
        for(int i = 0; i < static_cast<int>(full_line.length()); i+=1)
        {
            if(full_line[i] == '-' && i < static_cast<int>(full_line.length())-1)
            {
                vis[k]++;//array is named vis, changed index to counter k
            }
            if(full_line[i] == ',') //use a character for comparison
            {
                vis[k]++; // array is named vis, changed index to counter k
            }
        }
        //flipped comparison
        if (vis[k] > traffic) //array is named vis, changed index to counter k
        {
            traffic = vis[k]; //array is named vis, changed index to counter k
            j = k; //set j = to k
        }
        i++;
        k++; //incrememt k
    }
    cout << days[j] << "-is-the-busiest-day-of-the-week-at-the-mueseum." << endl;

    return 0;
}
```

Question 2:

```
#include <iostream>
#include <sstream>
#include <string>
```

```
    using namespace std;

    bool validateDouble(string input){
        stringstream numS(input);
        string line;
        int beginningIdx = 0;
        bool aPeriod = false;
        bool isValidNum = true;
        while(getline(numS, line)){
            if(line[0] == '-'){
                beginningIdx = 1;
            }
            for(int i = beginningIdx; i < static_cast<int>(line.length()); i++){
                if(!aPeriod && line[i] == '.' && i != beginningIdx){
                    aPeriod = true;
                }else if(aPeriod && line[i] == '.'){
                    isValidNum = false;
                }else if(!isdigit(line[i])){
                    isValidNum = false;
                }
            }
        }
        return isValidNum;

    }

    int main(){
        string doubleIn;
        cout << "Enter the double:" << endl;
        cin >> doubleIn;

        if(validateDouble(doubleIn)){
            cout << "The entered string is a valid double!!" << endl;
        }
        else{
            cout << "The entered string is not a valid double!!" << endl;
        }

        return 0;
}
```

Question 3:

```
    #include <sstream>
    using namespace std;

    bool IsValidateDouble(string input){
        stringstream numS(input);
        string line;
        int beginningIdx = 0;
        bool aPeriod = false;
        bool isValidNum = true;
        while(getline(numS, line)){
```

```
        if(line[0] == '-'){
            beginningIdx = 1;
        }
        for(int i = beginningIdx; i < static_cast<int>(line.length()); i++){
            if(!aPeriod && line[i] == '.' && i != beginningIdx){
                aPeriod = true;
            }else if(aPeriod && line[i] == '.'){
                isValidNum = false;
            }else if(!isdigit(line[i])){
                isValidNum = false;
            }
        }
    }
    return isValidNum;
}
```

Question 4:

```
#include <iostream>
#include <fstream>
#include <string>

//import previously made functions
#include "libs/IsValidDouble.cpp"
#include "libs/SplitString.cpp"

using namespace std;

int main()
{
    double midterm1Sum = 0;
    double midterm2Sum = 0;
    double midterm3Sum = 0;
    int numStudents = 0;
    int idx = 0;
    bool invalidString = false;
    int invalidStudent;

    double NumsIn[3];
    string NumsInS[3];

    ifstream fileIn("midterms.txt");
    if(fileIn.fail()){
        cout << "file failed" << endl;
    }
    string line;
    while(getline(fileIn, line)){
        SplitString(line, ',', NumsInS, 3);
        if(line != ""){
            numStudents++;
            idx = 0;
            while(idx < 3){
                if(IsValidateDouble(NumsInS[idx])){
```

```
                    NumsIn[idx] = stod(NumsInS[idx]);
                    switch (idx)
                    {
                    case 0:
                        midterm1Sum += NumsIn[idx];
                        break;
                    case 1:
                        midterm2Sum += NumsIn[idx];
                        break;
                    case 2:
                        midterm3Sum += NumsIn[idx];
                        break;
                    default:
                        break;
                    }
                }
                else if(!IsValidateDouble(NumsInS[idx])){
                    invalidString = true;
                    invalidStudent = numStudents;
                }
                idx++;
            }
            cout << numStudents;
        }
    }

    if(!invalidString){
        cout << "The average scores per midterm are: " << endl;
        cout << "Midterm 1: " << midterm1Sum/(numStudents) << endl;
        cout << "Midterm 2: " << midterm2Sum/(numStudents) << endl;
        cout << "Midterm 3: " << midterm3Sum/(numStudents) << endl;
    }else if(invalidString){
        //the below two lines is actually one, writen as two to fit on the page
        cout << "Invalid value detected in Student "
            << invalidStudent << "'s score!" << endl;
    }
    return 0;
}
```