Homework 09

Re-submit Assignment

Due Apr 6 by 11:59pm **Points** 10 **Submitting** a file upload

- Develop a class called **BaseballPark** that stores Baseball Parks data
  - Your class will have at least **five member variables. (must be private)**
    - **type std::string** to represent the franchise.
    - **type std::string** to represent the name of stadium.
    - **type std::string** to represent the name of city.
    - **type int** to represent the capacity.
    - **type USLength** to represent the center field dimension.
      - You have developed **USLength** class in HW7.
  - The complete class will include all the following member functions:
    - a constructor to set a franchise, stadium, city, capacity and center field dimension as
      - **BaseballPark park(franchise, stadium, city, capacity, centerField)**;
    - a default constructor (takes no input) that sets name="NA", and default number (maybe 0).
    - Mutators for each member variable.
    - Accessors for each member variable.
    - Add "**const**" modifier for **member function that does not modify member variables**.
- Develop C++ code to process following tasks:
  - Reads "**MajorLeagueBallparks.csv**" and store those in an array.
    - Download the file from **here**.
    - How to read CSV (Comma-Separated Values) file in C++? See below or see **here (http://www.cplusplus.com/forum/general/13087/)** .
    - Use your **BaseballPark** class to recored data.
    - Use **std::vector** container class to store all data in an array.
      - Your vector type must be like:
        - **std::vector<BaseballPark> baseballParks;**
  - Sort the array data with the center field geometry in descending order.
    - Stadium of longest center field comes first and the shortest goes to end.
    - You must use "**sort**" function from "**algorithm**" library.
  - Export the sorted data to "**rankStadium.csv**" with CSV format.
    - File must have franchise, stadium, city, capacity and center field dimension data.
- You can start with code below:

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

```
#include "USLength.h"

class BaseballPark{
public:
    BaseballPark();
    BaseballPark(std::string franchise,std::string stadium,std::string city,int capacity,USLength cente
rField);

    /// member/friend functions

private:
    std::string franchise;
    std::string stadium;
    std::string city;
    int capacity;
    USLength centerField; // you may need your namespace
};

///
/// your code here
///

int main(int argc, const char * argv[]) {

    // YOUR code here

    std::ifstream infile;
    infile.open("MajorLeagueBallparks.csv");// Path to the CSV file
    if (infile.fail()){
        std::cout << "file not found\n";
        return -1;
    }
    std::string franchise;
    std::string stadium;
    std::string city;
    int capacity;
    int yards;
    int feet;
    std::string entry;

    std::string line;
    while (std::getline(infile,line)){
        std::stringstream ststrm(line);
        std::getline(ststrm,franchise,',');
        std::getline(ststrm,stadium,',');
        std::getline(ststrm,city,',');
        std::getline(ststrm,entry,',');
        capacity = std::stoi(entry);
        std::getline(ststrm,entry,',');
        yards = std::stoi(entry);
        std::getline(ststrm,entry);
        feet = std::stoi(entry);

        USLength centerField(yards,feet,0);//you might need namespace
        BaseballPark bbpark(franchise,stadium,city,capacity,centerField);
        // YOUR code here
```

```
    }

    // Sort the array data with the center field in descending order.

    // export to a CSV file

    return 0;
}
```

Upload your USLength class files as well as your code if you make some changes onUSLength class.