

ECE 1410 Figure Skating Program Requirements

Task

Using Microsoft Visual Studio, write a program that keeps track of country names and scores associated with an Olympics figure skating competition. The program should maintain a linked list of country/score pairs, sorted in descending score order. The user is shown a menu with options to add a node to the list, print the list, and exit the program.

You should create two C++ classes. One should be named Skater, with a declaration that looks something like this:

```
class Skater {
public:
    Skater(string c, float s);
    string getCountry();
    float getScore();
    Skater *getNext();
    void setNext(Skater *p);

private:
    string country;
    float score;
    Skater *next;
};
```

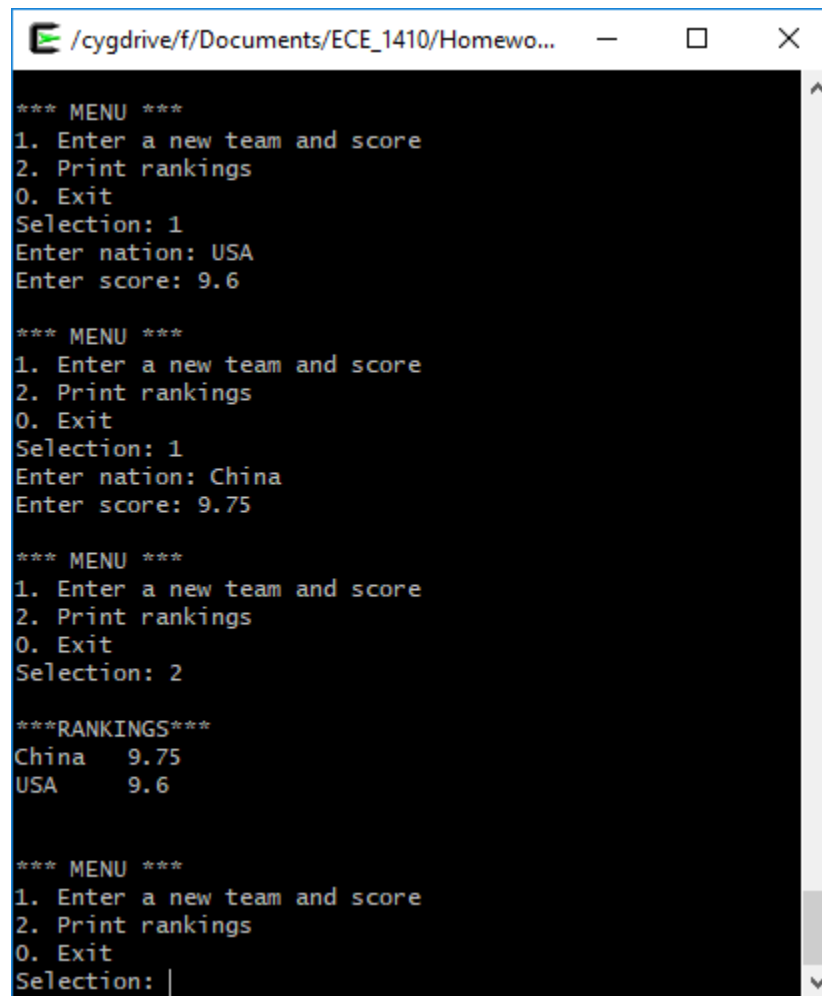
The other class should be named List, and should manage a linked list of Skaters. The constructor simply sets up an empty list. The destructor frees the dynamically-allocated memory. A declaration for List might look like this:

```
class List {
public:
    List();
    void addNode(string country, float score);
    void printList();
    ~List();

private:
    Skater *head;
};
```

Submit a .zip file to Canvas that contains five files: main.cpp, skater.cpp, skater.h, list.cpp, and list.h.

Example Output



```
*** MENU ***
1. Enter a new team and score
2. Print rankings
0. Exit
Selection: 1
Enter nation: USA
Enter score: 9.6

*** MENU ***
1. Enter a new team and score
2. Print rankings
0. Exit
Selection: 1
Enter nation: China
Enter score: 9.75

*** MENU ***
1. Enter a new team and score
2. Print rankings
0. Exit
Selection: 2

***RANKINGS***
China 9.75
USA 9.6

*** MENU ***
1. Enter a new team and score
2. Print rankings
0. Exit
Selection: |
```