

```
/*
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CS 472
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*/

#include<iostream>
#include<string>
#include<fstream>
#include<vector>

using namespace std;
class League
{
public:
    class Team
    {
    private:
        int teamId;
        string teamName;
        string teamMascot;
        string Multiverse;
        int victories;
        int losses;
        int points;
    public:
        Team()
        {
            teamId = 0;
            teamName = "";
            teamMascot = "";
            Multiverse = "";
            victories = 0;
            losses = 0;
            points = 0;
        }
        void operator=(Team &T)
        {
            teamId = T.teamId;
            teamName = T.teamName;
            teamMascot = T.teamMascot;
            Multiverse = T.Multiverse;
            victories = T.victories;
            losses = T.losses;
            points = T.points;
            return;
        }
        bool operator==(Team &T)
        {
            if (victories == T.victories)
            {
                return true;
            }
            return false;
        }
        int getPoints()
        {
            points = victories;
            return points;
        }
    }
}
```

```

friend istream &operator>>(istream &input, Team &T)
{
    char trash;
    input >> T.teamId;
    input >> trash;
    char k = ' ';
    k = input.peek();
    while (k != ',')
    {
        input.get(k);
        T.teamName += k;
        k = input.peek();
    }
    input >> trash;
    k = input.peek();
    while (k != ',')
    {
        input.get(k);
        T.teamMascot += k;
        k = input.peek();
    }
    input >> trash;
    k = input.peek();
    while (k != ',')
    {
        input.get(k);
        T.Multiverse += k;
        k = input.peek();
    }
    input >> trash;
    input >> T.victories;
    input >> trash;
    input >> T.losses;
    return input;
}

friend ostream &operator<<(ostream & output, Team &T)
{
    output << T.teamId << "," << T.teamName << "," << T.teamMascot << ","
<< T.Multiverse << ", " << T.victories << ", " << T.losses << ", " << T.points << endl;
    return output;
}

bool operator>(Team &T)
{
    if (getPoints() > T.getPoints())
    {
        return true;
    }
    return false;
}

};

private:
    ifstream infile;
    ofstream outfile;
    vector<Team> team;

public:
    League()
    {
        infile.open("Williams.Marlene.assn01.P2.txt");
        team.resize(9);
        for (int i = 0; i < 9; i++)

```

```

        {
            infile >> team[i];
        }
    }
    void write()
    {
        outfile.open("result.txt");
        for (int i = 0; i < 9; i++)
        {
            outfile << team[i];
        }
    }
    int getPoints(int index)
    {
        return team[index].getPoints();
    }
    void sort()
    {
        int i, j;
        Team temp;
        for (i = 0; i < team.size(); i++)
        {
            for (j = 0; j < team.size() - 1; j++)
            {
                if (team[j + 1] > team[j])
                {
                    temp = team[j];
                    team[j] = team[j + 1];
                    team[j + 1] = temp;
                }
            }
        }
    }
    void top(int i)
    {
        if (i > 0 && i < team.size())
        {
            sort();
            for (int x = 0; x < i; x++)
            {
                cout << team[x];
            }
        }
        return;
    }
};
int main()
{
    League L;
    L.write();
    L.top(4);

    system("pause");
    return 0;
}

/*
Output for top 4 teams
164, Alabama, Elephants, Champions, 10, 0, 10
112, Pisgah, Eagles, RubberThumpers, 9, 1, 9

```

```
100, Fyffe, Devils, StarWarriors, 8, 2, 8
199, EastLimestone, Indians, Tuchanka, 7, 3, 7
Press any key to continue . . .
*/
```

#### Input file

```
125, Ider, Hornets, Rednecks, 5, 5
100, Fyffe, Devils, StarWarriors, 8, 2
112, Pisgah, Eagles, RubberThumpers, 9, 1
131, Detroit, Lions, NFL, 3, 7
164, Alabama, Elephants, Champions, 10, 0
126, HomeSchool, Snails, Mars, 6, 4
106, Madison, Mustangs, Naboo, 4, 6
199, EastLimestone, Indians, Tuchanka, 7, 3
187, Cherokee, Monkeys, Chocolate, 1, 9
```

#### output file

```
125, Ider, Hornets, Rednecks, 5, 5, 5
100, Fyffe, Devils, StarWarriors, 8, 2, 8
112, Pisgah, Eagles, RubberThumpers, 9, 1, 9
131, Detroit, Lions, NFL, 3, 7, 3
164, Alabama, Elephants, Champions, 10, 0, 10
126, HomeSchool, Snails, Mars, 6, 4, 6
106, Madison, Mustangs, Naboo, 4, 6, 4
199, EastLimestone, Indians, Tuchanka, 7, 3, 7
187, Cherokee, Monkeys, Chocolate, 1, 9, 1
```