**Homework 3**

Upload the answers of the following questions from *Google Classroom* until **November 19, 2017, 23:55.**

Upload only a single \*.cs file.

The name of the file: **number\_name\_surname.cs**

For example: 2017510028\_ali\_yildirim.cs

**Note**: Don’t take any input from the user.

Assign the arrays in the code.

**Questions**

**1-** Assume that there are 10 clubs in the football super league. Each team made matches with all other teams.

Write a program that prints the champion team of the league according to the match results.

A match matrix is a matrix that satisfies:

aij = the number of goals scored by team *i* against team *j*

aji = the number of goals scored by team *j* against team *i*

Point for a match is taken as follows:

3 if team *x* defeats team *y*

Point of team *x* = 0 if team *x* loses the match against team *y*

1 if teams *x* and *y* tie

If the total points of more than one team are equal, the team that has scored more goals should be winner.

If both points and scored goals are equal, the number of goals that other teams have scored against the team should be considered. To be winner, the team should give away less goal.

If both the total number of goals thrown and kicked are equal, then you can print the names of all teams on the screen.

The program must run with different arrays (with different teams and with different match results).

**Example:**

string[,] teams = new string[,] {{"1","GS","[Galatasaray](http://tr.wikipedia.org/wiki/Galatasaray_Profesyonel_Futbol_Tak%C4%B1m%C4%B1)"},

{"2","FB","[Fenerbahçe](http://tr.wikipedia.org/wiki/Fenerbah%C3%A7e_Profesyonel_Futbol_Tak%C4%B1m%C4%B1)"},

{"3","BJ","Beşiktaş"},

{"4","SS","Sivasspor"},

{"5","TS","Trabzonspor"},

{"6","GT","Göztepe"},

{"7","AS","Antalyaspor"},

{"8","GA","[Gaziantepspor](http://tr.wikipedia.org/wiki/Gaziantepspor)"},

{"9","GB","Gençlerbirliği"},

{"10","BS","Bursaspor"}};

int[,] matches = new int[,] {{0,2,4,5,2,1,1,0,3,3},

{1,0,0,0,1,0,3,2,0,0},

{2,2,0,0,0,0,2,2,1,3},

{1,0,3,0,1,0,0,1,1,1},

{0,1,1,2,0,0,0,4,1,1},

{1,1,0,0,1,0,1,0,0,3},

{0,1,0,0,1,0,0,2,0,1},

{1,1,2,1,3,0,2,0,0,1},

{2,0,4,3,1,0,2,1,0,0},

{0,1,1,0,1,3,1,0,1,0}};

**Output:**

The champion team: ***Galatasaray*** with 22 points

Because:

GS won 7 times, lost 1 time and tie 1 time.

(3+3+3+3+1+3+0+3+3 = 22)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | GS | FB | BJ | SS | TS | GT | AS | GA | GB | BS |
| GS |  | 2 | 4 | 5 | 2 | 1 | 1 | 0 | 3 | 3 |
| FB | 1 |  | 0 | 0 | 1 | 0 | 3 | 2 | 0 | 0 |
| BJ | 2 | 2 |  | 0 | 0 | 0 | 2 | 2 | 1 | 3 |
| SS | 1 | 0 | 3 |  | 1 | 0 | 0 | 1 | 1 | 1 |
| TS | 0 | 1 | 1 | 2 |  | 0 | 0 | 4 | 1 | 1 |
| GT | 1 | 1 | 0 | 0 | 1 |  | 1 | 0 | 0 | 3 |
| AS | 0 | 1 | 0 | 0 | 1 | 0 |  | 2 | 0 | 1 |
| GA | 1 | 1 | 2 | 1 | 3 | 0 | 2 |  | 0 | 1 |
| GB | 2 | 0 | 4 | 3 | 1 | 0 | 2 | 1 |  | 0 |
| BS | 0 | 1 | 1 | 0 | 1 | 3 | 1 | 0 | 1 |  |

For example; the match results of Trabzonspor:

GS 2 – TS 0 FB 1 – TS 1 BJ 0 – TS 1 SS 1 – TS 2 GT 1 – TS 0

AS 1 – TS 0 GA 3 – TS 4 GB 1 – TS 1 BS 1 – TS 1

Trabzonspor won 3 times, lost 3 times and tie 3 times.

The total point of Trabzonspor is 12.

This homework will be graded by Res.Asst. Göksu TÜYSÜZOĞLU.

You can ask your questions to her.

**Notes:**

**1.** Your program must work correctly under all conditions. Try to control all possible errors.

**2.** You should use meaningful variable names, appropriate comments, and good prompting messages.

**3.**If you are late, your grade will be decreased 10 points for each day. After five days, your assignment will not be accepted.

**4.** Assignment must be your individual work. **Cheating** is strictly prohibited. If any cheating occurs, your assignment will be graded with **zero (0)**. It is real.