

Marmara University – Faculty of Engineering – Department of Computer Engineering

Fall 2021 – CSE3055 Database Systems

Homework #3

Due: 19.12.2021.Sun 23:59

Consider the *Turkish Super League* database accompanied with this homework.

Player (PlayerID: int, *FirstName*: nvarchar(25), *LastName*: nvarchar(25), *Nationality*: varchar(25), *Birthdate*: smalldatetime, *Age*: smallint, *Position*: varchar(25))

Team (TeamID: int, *Name*: nvarchar(50), *City*: nvarchar(25))

PlayerTeam (PlayerID: int, TeamID: int, Season: varchar(5))

Match (MatchID: int, *HomeTeamID*: int, *VisitingTeamID*: int, *DateOfMatch*: smalldatetime, *Week*: tinyint)

Goals (MatchID: int, PlayerID: int, *IsOwnGoal*: bit, Minute: tinyint)

Notes:

- Table *Match* stores data only for season 2013-2014.
- Table *Goals* stores data only for season 2013-2014.

- 1) Using the backup file *TurkishSuperLeague_20211207_StudentVersion.bak* accompanied with this homework, restore the database *TurkishSuperLeague*. Write the following SQL queries, IN A SINGLE STATEMENT, using this database. For each of the following query; save your SQL statements in a text file and take a screenshot of both your SQL query and output of the query on MS SQL Server.
- 2) Update the field *Age* for all players.
- 3) List the “younger” players whose first name does not contain “nec” and play in “Beşiktaş”. “Younger” players are the ones whose ages are less than the average age of all players. Retrieve PlayerID, FirstName + “ ” + LastName.
- 4) Update all *City* values of the table *Team* as: “City” + “ #p” + “Number of players” + “ #g” + “Number of goals forward” (e.g. “İstanbul #p25 #g74”). Do not forget to consider own goals in your calculations.
- 5) List the top 10 top scorers. Retrieve playerID, first name, last name, number of goals scored, number of matches that player did not score a goal, average number of goals per scored matches.

6) Implement a stored procedure *sp_GetStandingsUpToDate (aDate)* such that

exec sp_GetStandingsUpToDate (aDate) computes and shows the standings table, same as in the following figure, up to the date *aDate* (inclusive).

Calling with any invalid date causes an error with a message “Invalid date!” All transactions that have been done will be rolled back and stop doing further operations.

Results		Messages								
	Pos	Team Name	GP	W	T	L	GF	GA	GD	Pts
1	1	Fenerbahçe	34	23	5	6	72	33	39	74
2	2	Galatasaray	34	18	11	5	58	33	25	65
3	3	Beşiktaş	34	17	11	6	53	32	21	62
4	4	Trabzonspor	34	14	11	9	53	39	14	53
5	5	Sivasspor	34	16	5	13	60	55	5	53
6	6	Kasımpaşa	34	13	12	9	56	38	18	51
7	7	Kardemir Karabükspor	34	13	10	11	31	35	-4	49
8	8	Bursaspor	34	12	10	12	40	45	-5	46
9	9	Çaykur Rizespor	34	11	12	11	40	42	-2	45
10	10	Gençlerbirliği	34	13	6	15	39	43	-4	45
11	11	Akhisar Belediye	34	12	8	14	44	55	-11	44
12	12	Torku Konyaspor	34	11	9	14	48	44	4	42
13	13	Eskişehirspor	34	10	12	12	33	35	-2	42
14	14	Kayseri Erciyesspor	34	10	7	17	34	50	-16	37
15	15	Gaziantepspor	34	10	7	17	38	57	-19	37
16	16	Elazığspor	34	10	4	20	38	61	-23	34
17	17	Medical Park Antalyaspor	34	6	12	16	33	47	-14	30
18	18	Kayserispor	34	7	8	19	30	56	-26	29

Notes:

- Invalid date: any date not between 2013-08-16 and 2014-07-31.
- The order of the table: Firstly, Pts; secondly, GT; thirdly, GF.
- Pos will be automatically generated according to the order. Study on ranks.
- GP (Games Played): the number of matches that a team has played.
- W (Wins): the number of wins of a team in all games that have been played.
- T (Ties/Deuce): the number of ties of a team in all games that have been played.
- L (Losses): the number of losses of a team in all games that have been played.
- GF (Goals For/Forward): the number of goals scored of a team in all games that have been played, including own goals of the other team.
- GA (Goals Against): the number of goals scored by the other teams in all games that have been played, including own goals of the team.
- GD (Goals Difference): GF-GA.
- Pts (Points): the points accumulated by a team. For each win, a team gets 3 points; for each tie, a team gets 1 point; and, for each lost, a team gets 0 points.

IMPORTANT NOTES

- 1) Write the following sentence in a text file: “We hereby swear that the work done on this project is totally our own; and on our honor, we have neither given nor received any unauthorized and/or inappropriate assistance for this project. We understand that by the school code, violation of these principles will lead to a zero grade and is subject to harsh discipline issues.” Rename it as “we_swear.txt” and include this file in the zip submission file.
- 2) In case of any form of copying and cheating on solutions, all parts will get ZERO points. You should submit your own work. In case of any forms of cheating or copying, both giver and receiver are equally culpable and suffer equal penalties. All types of plagiarism will result in zero points from the homework.
- 3) Compress the following files in a zip file and name it as hw5_studentID.zip
 - a) hw3_studentID_we_swear.txt: honor code.
 - b) hw3_studentID_sql.txt: all your sql statements merged in a single text file in order.
 - c) hw3_studentID.bak: your database backup file.
 - d) hw3_studentID_scr.pdf: all screenshots of both your SQL queries and output of the queries in order.
- 4) Submit your single zip file to the site <http://ues.marmara.edu.tr> before deadline.
- 5) Do not send homework submissions through e-mail. E-mail attachments will not be accepted as valid submissions.
- 6) You are responsible for making sure you are turning in the right file, and that it is not corrupted in anyway. We will not allow resubmissions if you turn in the wrong file, even if you can prove that you have not modified the file after the deadline.
- 7) No groups are allowed.
- 8) Grade evaluation may be done on selected parts of the homework, so try to complete all parts of your homework successfully.
- 9) No late submissions will be accepted.