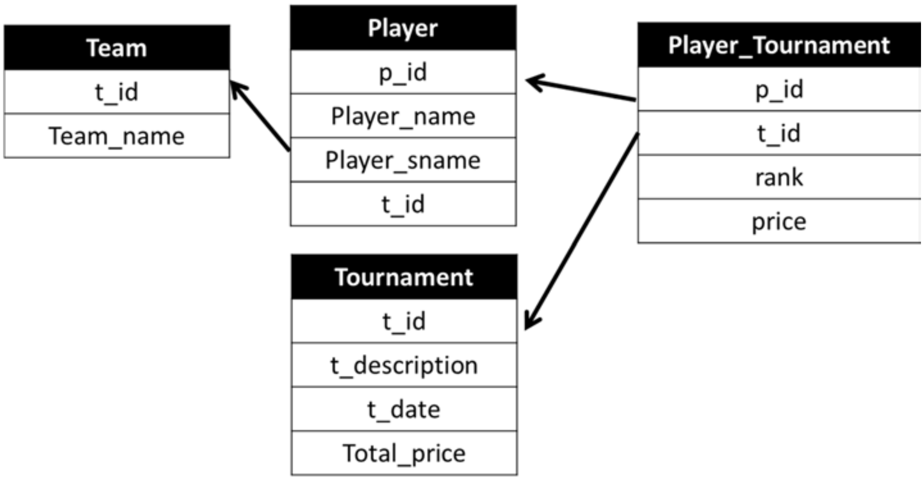
Advanced Databases, Dr. Pierpaolo Dondio
Lab – week 9/10
Dimensional Model and ETL

Execute the script *golf.sql*

The script generates two relational models for two *golf results* databases. Each golf player belongs to a team. Each player plays one or more tournament, and the DB stores player's ranking in the tournament and the price won for each tournament. The DB has a tournaments list as well.

ER DIAGRAM:

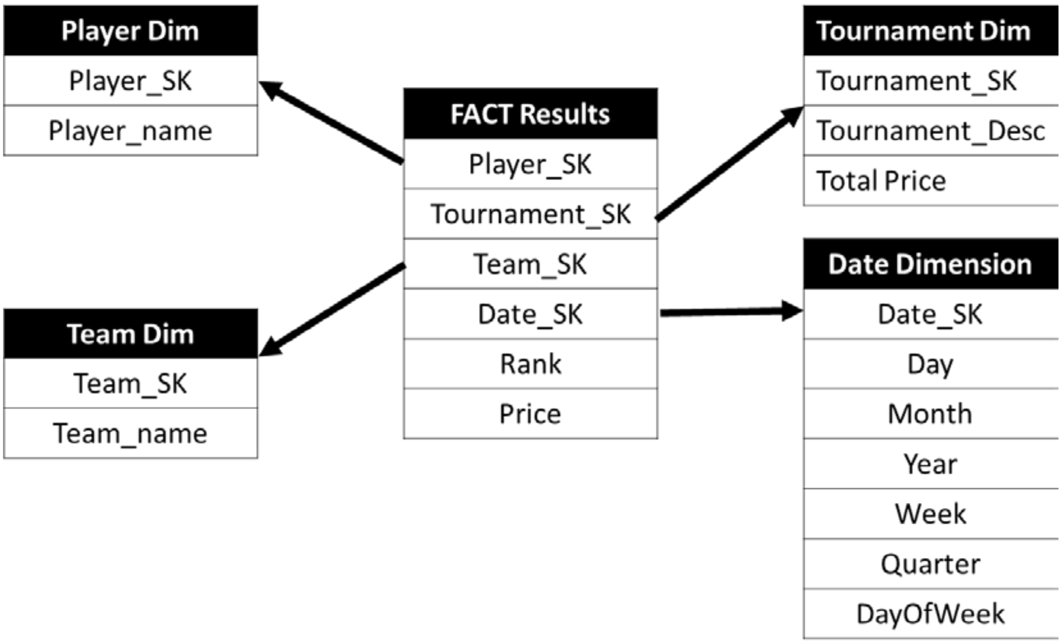


Each DB registers results from distinct tournaments, but the same player can be in both DBs. Assume that a player name and surname identifies always the same person. The same is for Team names, i.e. same team name across the two DBs is the same team.
The data format is the same with only two exceptions:

1. DB1 stores prices in EURO while DB stores prices in $. Assume a fix conversion rate 1 EURO = 1.3 DOLLAR and set all the values to EURO.

   You are required to:

1. Create an SQL script to create the following dimensional model (next page)
2. Load data from the two DBs into the Dimensional model, using surrogate keys and applying proper data transformations to address the two above differences in data representation. Note that the date dimension is storing, as integer fields, the surrogate key and the day, month, year, week number (1-52) , quarter and day of the week (from 1 to 7, 1=Monday, 2=Tuesday,..,7=Sunday). You need to write a PL/SQL script to convert a date into the required fields.



Player Dim
Player_SK
Player_name

FACT Results
Player_SK
Tournament_SK
Team_SK
Date_SK
Rank
Price

Tournament Dim
Tournament_SK
Tournament_Desc
Total Price

Team Dim
Team_SK
Team_name

Date Dimension
Date_SK
Day
Month
Year
Week
Quarter
DayOfWeek

Useful command:

Extract part of a date from a date field (the year from the *t_date* field in the example) and convert into an integer:

```
select cast(to_char(t_date,'YYYY') as integer) from TOURNAMENT1;
```

SECOND LOAD

After a while, the following new data are available in DB1. Execute the following statements to enter new data.

```
INSERT INTO PLAYERS1 (P_ID, P_NAME, P_SNAME, TEAM_ID) VALUES (7, ‘Alan’, 'Parker', 1);

INSERT INTO PLAYERS1 (P_ID, P_NAME, P_SNAME, TEAM_ID) VALUES (8, 'Martha', 'Bag', 2);

INSERT INTO TOURNAMENT1 (T_ID, T_DESCRIPRION, TOTAL_PRICE) VALUES (5, ‘Saudi Open', 500000);



INSERT INTO RESULTS1 (T_ID, P_ID, RANK, PRICE) VALUES (5, 1, 1, 60000);
INSERT INTO RESULTS1 (T_ID, P_ID, RANK, PRICE) VALUES (5, 7, 5, 20000);
INSERT INTO RESULTS1 (T_ID, P_ID, RANK, PRICE) VALUES (2, 8, 3, 1000);
```

Prodce SQL code to load the above data into the datewarehouse.