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/* create table for entity news */
create table News
(
news_id varchar(16),
news_title varchar(64),
new_content text,
news_date date,
primary key (news_id)
);

/* create table for many-to-many relationship of news related to
players */
create table News_to_Players
(
news_id varchar(16),
player_id varchar(16),
primary key (news_id,player_id),
foreign key (player_id) references Players,
foreign key (news_id) references News
);

/* create table for entity players */
create table Players
(
player_id varchar(16),
player_name varchar(20),
team_name varchar(20) not null,/* every player should has a team */
position varchar(8),
height numeric(8,2),
weight numeric(8,2),
block numeric(8,2),
rebounds numeric(8,2),
assists numeric(8,2),
steals numeric(8,2),
twopoint_shot_percentage numeric(8,2),
threepoint_shot_percentage numeric(8,2),
start_year numeric(4,0) check (start_year>1950 and start_year<2100),
/* the start year of players' careers should in this interval */
salary numeric(8,2),
primary key (player_id),
foreign key (team_name) references Teams /* represent a many-to-one
relationship between players and teams */
);

/* create table for entity players */
create table Teams
(
team_name varchar(20),
found_year numeric(4,0) check (found_year>1900 and found_year<2100),
city varchar(16),
coach_id varchar(20) not null, /* represent a one-to-one relationship
between teams and coaches, since coach is unique */
manager varchar(20),
stadium_name varchar(20) not null,/* every team should has a stadium
*/
primary key (team_name),
foreign key (coach_id) references Coaches, unique(coach_id),/*
represent a one-to-one relationship between teams and coaches, since
coach is unique */
foreign key (stadium_name) references Stadiums /* represent a many-
to-one relationship between teams and stadiums */

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    );

/* create table for entity coaches */
create table Coaches
(
coach_id varchar(16),
coach_name varchar(16),
start_year numeric(4,0) check (start_year>1900 and
start_year<2100),/* the start year of coaches' careers should in this
interval */
number_of_champs int check (number_of_champs>=0),/* the number of
championship should be positive */
primary key (coach_id)
);

/* create table for entity stadiums */
create table Stadiums
(
stadium_name varchar(20),
size numeric(8,0),
stadium_location varchar(20),
primary key (stadium_name)
);

/* create table for entity games */
create table Games
(
game_id varchar(16),
home_team_name varchar(20) not null,
away_team_name varchar(20) not null, /* represent a full
participation relationship, which indicates that every game should
have a home and away team*/
game_date date,
stadium_name varchar(20),
result_score varchar(20),
winner char(4) check (winner in ('home','away')),
primary key (game_id),
foreign key (home_team_name) references Teams, /* represent
relationship between teams and the home team of the game*/
foreign key (away_team_name) references Teams, /* represent
relationship between teams and the away team of the game*/
foreign key (stadium_name) references Stadiums /* represent
relationship between game and stadiums, each game can only in one
stadium*/
);

create table Shots
(
shot_id varchar(16),
shooter_id varchar(16) not null, /* represent a full participation of
shooter and player_id, which indicates that every shots should has a
shooter */
game_id varchar(16) not null, /* represent a full participation of
games, which indicates that every shots should be in a game*/
defender_id varchar(16),
shot_distance numeric(8,2),
defender_distance numeric(8,2),
time_clock int check (time_clock>=0 and time_clock<=24) , /* shots
clock should be integer between 0 to 24*/
shot_result boolean,

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quarter numeric(1,0) check (quarter in (1,2,3,4)), /* there are only 4
quarters*/
primary key (shot_id),
foreign key (shooter_id) references Players, /* represent a many-to-
one relationship between shooter and player_id */
foreign key (defender_id) references Players, /* represent a many-to-
one relationship between defender and player_id */
foreign key (game_id) references Games /* represent a many-to-one
relationship between shoots and games */
);

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/\* One of the constraints we have not yet covered is that the team of the shooter/defender should be one of the home team or away team of the game that the shot is related. Similarly, Another constraint that we have not yet covered is that the stadium of a game should be indential to the stadium of the home team.\*/