**SOCCER EURO CUP 2016 DATABASE ANALYSIS**

**Introduction-**

Sample Database: soccer

Throughout this documentation we will be working with a sample database which will help to explain some basic to advanced level database concepts.

Sample Database description: The sample database represents some of the data storage and retrieval about a soccer tournament based on EURO CUP 2016. You might love football, and for all the football lovers we are providing detailed information about a football tournament. This design of the database will make it easier to understand the various questions that come to your mind about a soccer tournament.

**Description of tables:**

***soccer\_country:***

* **country\_id – this is a unique ID for each country**
* **country\_abbr – this is the sort name of each country**
* **country\_name – this is the name of each country**

***soccer\_city:***

* **city\_id – this is a unique ID for each city**
* **city – this is the name of the city**
* **country\_id – this is the ID of the country where the cities are located and only those countries will be available which are in soccer\_country table**

***soccer\_venue:***

* **venue\_id – this is a unique ID for each venue**
* **venue\_name – this is the name of the venue**
* **city\_id – this is the ID of the city where the venue is located and only those cities will be available which are in the soccer\_city table**
* **aud\_capicity – this is the capacity of audience for each venue**

***soccer\_team:***

* **team\_id – this is the ID for each team. Each teams are representing to a country which are referencing the country\_id column of soccer\_country table**
* **team\_group – the name of the group in which the team belongs**
* **match\_played – how many matches a team played in group stage**
* **won – how many matches a team won**
* **draw – how many matches a team draws**
* **lost – how many matches a team lose**
* **goal\_for – how many goals a team conceded**
* **goal\_agnst – how many goals a team scored**
* **goal\_diff – the difference of goal scored and goal conceded**
* **points – how many points a team achieved from their group stage matches**
* **group\_position – in which position a team finished their group stage matches**

***playing\_position:***

* **position\_id – this is a unique ID for each position where a player played**
* **position\_desc – this is the name of the position where a player played**

***player\_mast:***

* **player\_id – this is a unique ID for each player**
* **team\_id – this is the team where a player played, and only those teams which referencing the country\_id column of the table soccer\_country**
* **jersey\_no – the number which labeled on the jersey for each player**
* **player\_name – name of the player**
* **posi\_to\_play – the position where a player played, and the positions are referencing the position\_id column of playing\_position table**
* **dt\_of\_bir – date of birth of each player**
* **age – approximate age at the time of playing the tournament**
* **playing\_club – the name of the club for which a player was playing at the time of the tournament**

***referee\_mast:***

* **referee\_id – this is the unique ID for each referee**
* **referee\_name – name of the referee**
* **country\_id – the country, where a referee belongs and the countries are those which referencing the country\_id column of soccer\_country table**

***match\_mast:***

* **match\_no – this if the unique ID for a match**
* **play\_stage – this indicates that in which stage a match is going on, i.e. G for Group stage, R for Round of 16 stage, Q for Quarter final stage, S for Semi Final stage, and F for Final**
* **play\_date – date of the match played**
* **results – the result of the match, either win or draw**
* **decided\_by – how the result of the match has been decided, either N for by normally or P for by penalty shootout**
* **goal\_score – score for a match**
* **venue\_id – the venue where the match played and the venue will be one of the venue referencing the venue\_id column of soccer\_venue table**
* **referee\_id – ID of the referee who is selected for the match which referencing the referee\_id column of referee\_mast table**
* **audence – number of audience appears to watch the match**
* **plr\_of\_match – this is the player who awarded the player of a particular match and who is selected a 23 men playing squad for a team which referencing the player\_id column of player\_mast table**
* **stop1\_sec – how many stoppage time ( in second) have been added for the 1st half of play**
* **stop2\_sec – how many stoppage time ( in second) have been added for the 2nd half of play**

***coach\_mast:***

* **coach\_id – this is the unique ID for a coach**
* **coach\_name – this is the name of the coach**

***asst\_referee\_mast:***

* **ass\_ref\_id – this is the unique ID for each referee assists the main referee**
* **ass\_ref\_name – name of the assistant referee**
* **country\_id – the country where an assistant referee belongs and the countries are those which are referencing the country\_id column of soccer\_country table**

***match\_details:***

* **match\_no – number of the match which is referencing the match\_no column of match\_mast table**
* **play\_stage - stage of the match, i.e. G for group stage, R for Round of 16, Q for Quarter Final, S for Semi final and F for final**
* **team\_id – the team which is one of the playing team and it is referencing the country\_id column of soccer\_country table**
* **win\_lose – team either win or lose or drawn indicated by the character W, L, or D**
* **decided\_by - how the result achieved by the team, indicated N for normal score or P for penalty shootout**
* **goal\_score – how many goal scored by the team**
* **penalty\_score – how many goal scored by the team in penalty shootout**
* **ass\_ref – the assistant referee assist the referee which are referencing the ass\_ref\_id column of asst\_referee\_mast table**
* **player\_gk - the player who is keeping the goal for the team, is referencing the player\_id column of player\_mast table**

***goal\_details:***

* **goal\_id – this is the unique ID for each goal**
* **match\_no – this is match\_no which is referencing the match\_no column of match\_mast table**
* **player\_id - this is the ID of a player who is selected for the 23 men squad of a team for the tournament and which is referencing the player\_id column of player\_mast table**
* **team\_id – this is the ID of each team who are playing in the tournament and referencing the country\_id column of soccer\_country table**
* **goal\_time – this is the time when the goal scored**
* **goal\_type – this is the type of goal which came in normally indicated by N or own goal indicating by O and goal came from penalty indicated by P**
* **play\_stage – this is the play stage in which goal scored, indicated by G for group stage, R for round of 16 stage, Q for quarter final stage, S for semifinal stage and F for final match**
* **goal\_schedule – when the goal came, is it normal play session indicated by NT or in stoppage time indicated by ST or in extra time indicated by ET**
* **goal\_half – in which half of match goal came**

***penalty\_shootout:***

* **kick\_id – this is unique ID for each penalty kick**
* **match\_no - this is the match\_no which is referencing the match\_no column of match\_mast table**
* **team\_id – this is the ID of each team who is playing in the tournament and referencing the country\_id column of soccer\_country table**
* **player\_id - this is the ID of a player who is selected for the 23 men squad of a team for the tournament and which is referencing the player\_id column of player\_mast table**
* **score\_goal – this is the flag Y if able to score the goal or N when not**
* **kick\_no – this is the kick number for the kick of an individual match**

***player\_booked:***

* **match\_no - this is the match\_no which is referencing the match\_no column of match\_mast table**
* **team\_id – this is the ID of each team who are playing in the tournament and referencing the country\_id column of soccer\_country table**
* **player\_id - this is the ID of a player who is selected for the 23 men squad of a team for the tournament and which is referencing the player\_id column of player\_mast table**
* **booking\_time – this is the time when a player booked**
* **sent\_off – this is the flag Y when a player sent off**
* **play\_schedule – when a player booked, is it in normal play session indicated by NT or in stoppage time indicated by ST or in extra time indicated by ET**
* **play\_half – in which half a player booked**

***player\_in\_out:***

* **match\_no - this is the match\_no which is referencing the match\_no column of match\_mast table**
* **team\_id – this is the ID of each team who are playing in the tournament and referencing the country\_id column of soccer\_country table**
* **player\_id - this is the ID of a player who is selected for the 23 men squad of a team for the tournament and which is referencing the player\_id column of player\_mast table**
* **in\_out – this is the flag I when a player came into the field or O when go out from the field**
* **time\_in\_out – when a player come into the field or go out from the field**
* **play\_schedule – when a player come in or go out of the field, is it in normal play session indicated by NT or in stoppage time indicated by ST or in extra time indicated by ET**
* **play\_half - in which half a player come in or go out**

***match\_captain:***

* **match\_no - this is the match\_no which is referencing the match\_no column of match\_mast table**
* **team\_id – this is the ID of each team who are playing in the tournament and referencing the country\_id column of soccer\_country table**
* **player\_captain - the player who represents as a captain for a team, is referencing the player\_id column of player\_mast table**

***team\_coaches:***

* **team\_id – this is the ID of a team who is playing in the tournament and referencing the country\_id column of soccer\_country table**
* **coach\_id – a team may be one or more coaches, this indicates the coach(s) who is/are coaching the team is referencing the coach\_id column of coach\_mast table**

***penalty\_gk:***

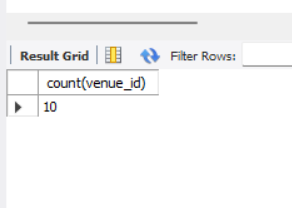
* **match\_no - this is the match\_no which is referencing the match\_no column of match\_mast table**
* **team\_id – this is the ID of each team who are playing in the tournament and referencing the country\_id column of soccer\_country table**
* **player\_gk - the player who kept goal at the time of penalty shootout, is referencing the player\_id column of player\_mast table**

**Question And Answer-**

Question1-From the following table, write a SQL query to count the number of venues for EURO cup 2016. Return number of venues

Query-select count(venue\_id) from soccer\_venue

Solution-

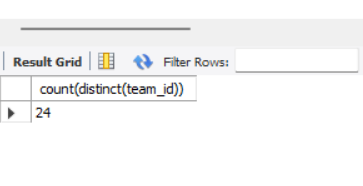


Analysis- from this data we analyze that there is total 10 venues for euro cup 2016

Question2-From the following table, write a SQL query to count the number of countries that participated in the 2016-EURO Cup.

Query-select count(distinct(team\_id)) from player\_mast

Solution-

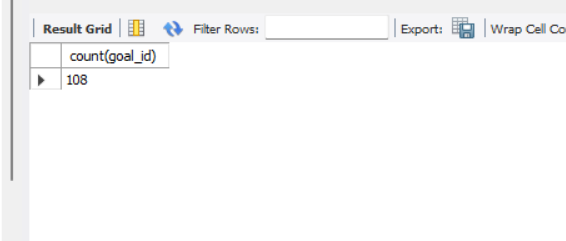


Analysis-from this query we found that there are total 24 countries in euro cup 2016

Question3-From the following table, write a SQL query to find the number of goals scored within normal play during the EURO cup 2016

Query-select count(goal\_id) from goal\_details

Solution-

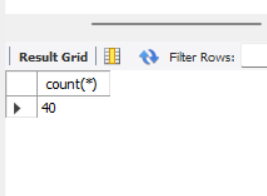


Analysis-from this query we found that total goals is 108 in euro cup

Question4- From the following table, write a SQL query to find the number of matches that ended with a result.

Query- From the following table, write a SQL query to find the number of matches that ended with a result.

Solution-

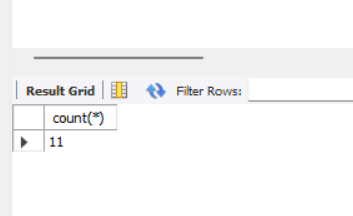


Analysis-from this query we analyse that 40 teams won their matches

Question5- From the following table, write a SQL query to find the number of matches that ended in draws

Query- select count(\*) from match\_mast where results='DRAW'

Solution-

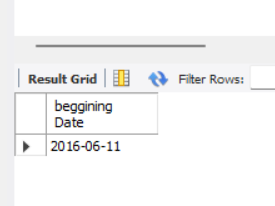


Analysis-11 teams have drawn their matches in euro cup 2016

Question6- From the following table, write a SQL query to find out when the Football EURO cup 2016 will begin.

Query- select play\_date as "beggining Date" from match\_mast where match\_no=1

Solution-



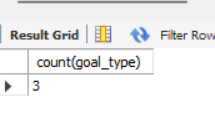
Analysis- beginning date of euro cup 2016 is 2016-06-11

Question7- From the following table, write a SQL query to find the number of self-goals scored during the 2016 European Championship.

Query- select count(goal\_type) from goal\_details where

goal\_type='O'

Solution-



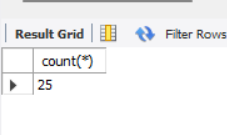
Analysis-we analyze that 3 teams scored an own goal scored in eurocup

Quesion8- From the following table, write a SQL query to count the number of matches ended with a results in-group stage

Query- select count(\*) from match\_mast where play\_stage='G'

and results='WIN'

solution-

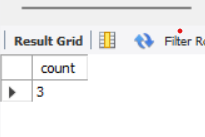


Analysis-we analyze that 25 teams won in their group stage

Question9- From the following table, write a SQL query to find the number of matches that resulted in a penalty shootout.

Query- select count(distinct(match\_no)) as count from penalty\_shootout

Solution-

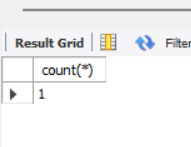


Analysis-from this query we found that 3 matches ended in penalty shootout

Question10- From the following table, write a SQL query to find number of matches decided by penalties in the Round 16

Query- select count(\*) from match\_mast where decided\_by='P' and play\_stage='R'

Solution-

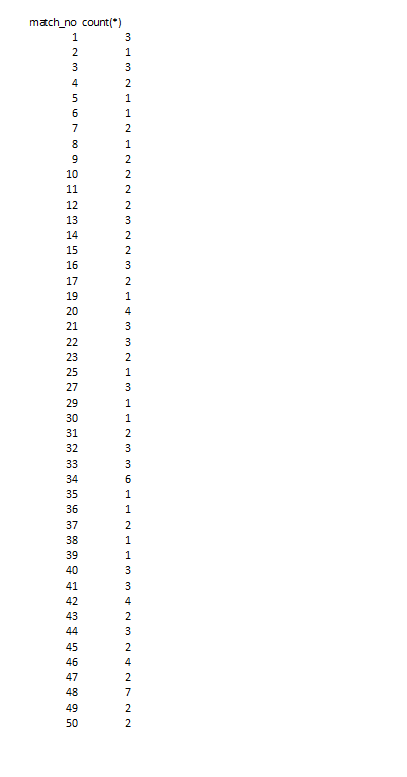


Analysis- only 1 match was decided by penalty in round16

Question11-  From the following table, write a SQL query to find the number of goals scored in every match within a normal play schedule. Sort the result-set on match number. Return match number, number of goal scored.

Query- select match\_no, count(\*) from goal\_details group by match\_no order by match\_no

Solution-

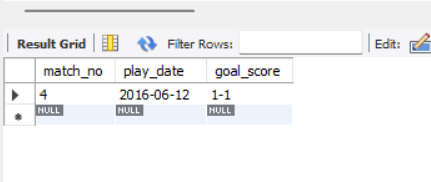


Analysis-the data shown the number of goals scored in normal play

Question12-  From the following table, write a SQL query to find the matches in which no stoppage time was added during the first half of play. Return match no, date of play, and goal scored

Query- select match\_no,play\_date,goal\_score from match\_mast where stop1\_sec='0'

Solution-

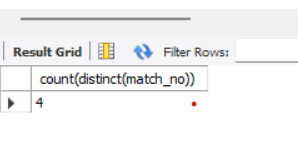


Analysis-from this we found the above data where no stoppage time was added in 1st half

Question13- From the following table, write a SQL query to count the number of matches that ended in a goalless draw at the group stage. Return number of matches.

Query- select count(distinct(match\_no)) from match\_details where win\_lose='D' and goal\_score='0' and play\_stage='G'

Solution-

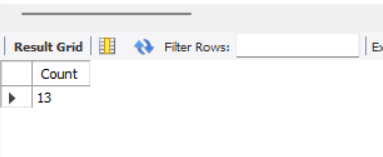


Question14-From the following table, write a SQL query to calculate the number of matches that ended in a single goal win, excluding matches decided by penalty shootouts. Return number of matches

Query-select count(distinct(match\_no)) as "Count" from match\_details

where goal\_score=1 and decided\_by<>'P' and win\_lose='W'olution-

Solution-

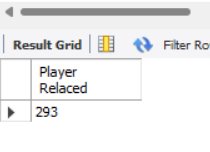


Analysis-there are 13 matches that that ended in a single goal win, excluding matches decided by penalty shootouts

Question15- From the following table, write a SQL query to count the number of players replaced in the tournament. Return number of players as "Player Replaced".

Query- select count(player\_id) as "Player Relaced" from player\_in\_out where in\_out='O'

Solution-

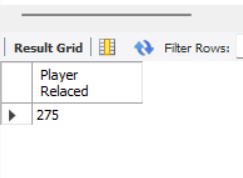


Analysis- from this we analyse that 293 player were replaced

Question16- From the following table, write a SQL query to count the total number of players replaced during normal playtime. Return number of players as "Player Replaced"

Query- select count(player\_id) as "Player Relaced" from player\_in\_out where in\_out='O' and play\_schedule='NT'

Solution-

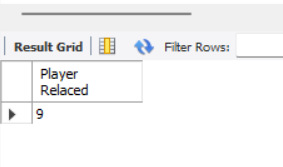


Analysis- 275 players were replaced during normal playtime in euro cup 2016

Question17- From the following table, write a SQL query to count the number of players who were replaced during the stoppage time. Return number of players as "Player Replaced"

Query- select count(player\_id) as "Player Relaced" from player\_in\_out where in\_out='O' and play\_schedule='ST'

Solution-



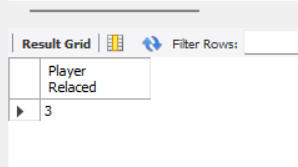
Analysis- 9 players were replaced during the stoppage time in euro cup 2016

Question18- From the following table, write a SQL query to count the number of players who were replaced during the first half. Return number of players as "Player Replaced"

Query- select count(player\_id) as "Player Relaced" from player\_in\_out

where play\_half='1' and in\_out='I' and play\_schedule='NT'

Solution-

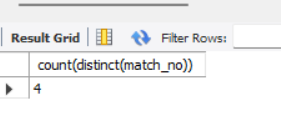


Analysis-total 3 players were replaced during the first half of euro cup 2016

Question19- From the following table, write a SQL query to count the total number of goalless draws played in the entire tournament. Return number of goalless draws.

Query- select count(distinct(match\_no)) from match\_details where win\_lose='D' and goal\_score=0

Solution-

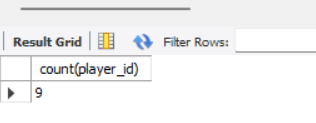


Analysis- in following query we found that there are 4 matches with draws and 0 goal scored by either team

Question20- From the following table, write a SQL query to calculate the total number of players who were replaced during the extra time.

Query- select count(player\_id) from player\_in\_out where in\_out='I' and play\_schedule='ET'

Solution-

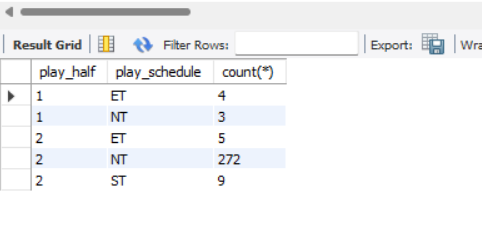


Analysis- total 9 players were replaced during extra time

Question21- From the following table, write a SQL query to count the number of substitutes during various stages of the tournament. Sort the result-set in ascending order by play-half, play-schedule and number of substitutes happened. Return play-half, play-schedule, number of substitutes happened

Query- select play\_half, play\_schedule, count(\*) from player\_in\_out where in\_out='I' group by play\_half,play\_schedule order by play\_half, play\_schedule, count(\*)

Solution-

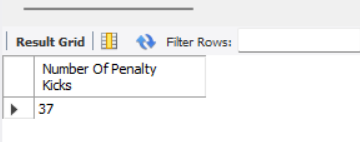


Analysis -The query aggregates substitute occurrences by play half and schedule, providing insights into substitution patterns throughout the tournament stages. Sorting helps identify trends and key moments in matches based on substitution frequency.

Question22-From the following table, write a SQL query to count the number of shots taken in penalty shootouts matches. Number of shots as "Number of Penalty Kicks".

Query-select count(team\_id) as "Number Of Penalty Kicks " from penalty\_shootout

Solution-

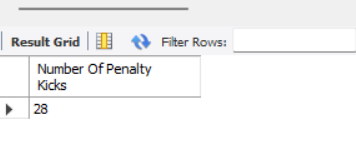


Analysis- total 37 penalty kicks were taken in the game

Question23-From the following table, write a SQL query to count the number of shots that were scored in penalty shootouts matches. Return number of shots scored goal as "Goal Scored by Penalty Kicks".

Query-select count(team\_id) as "Goal Scored by Penalty Kicks " from penalty\_shootout where score\_goal='Y'

Solution-

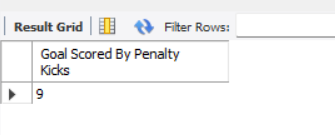


Analysis-total 28 goals were scored by penalty kicks

Question24-From the following table, write a SQL query to count the number of shots missed or saved in penalty shootout matches. Return number of shots missed as "Goal missed or saved by Penalty Kicks".

Query-select count(team\_id) as "Goal Scored by Penalty Kicks " from penalty\_shootout where score\_goal='N'

Solution-



Analysis- total 9 goals were missed through penalties

Question25- From the following table, write a SQL query to find the players with shot numbers they took in penalty shootout matches. Return match\_no, Team, player\_name, jersey\_no, score\_goal, kick\_no.

Query-select penalty\_shootout.match\_no,soccer\_country.country\_name,

player\_mast.player\_name,player\_mast.jersey\_no,

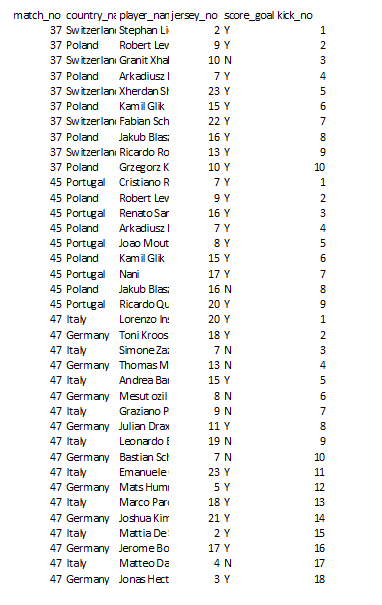
penalty\_shootout.score\_goal,penalty\_shootout.kick\_no

from penalty\_shootout,player\_mast,soccer\_country

where soccer\_country.country\_id=penalty\_shootout.team\_id

and penalty\_shootout.player\_id=player\_mast.player\_id

Solution-

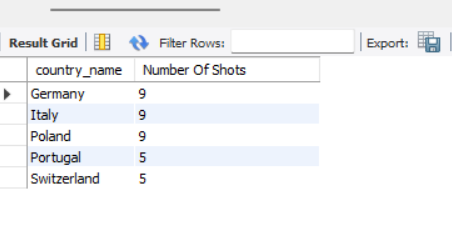


Analysis- from this we analyze that the above listed countries took penalty shootout in euro cup 2016

Question26-From the following table, write a SQL query to count the number of penalty shots taken by each team. Return country name, number of shots as "Number of Shots"

Query-select soccer\_country.country\_name,count(penalty\_shootout.team\_id) from soccer\_country,penalty\_shootout where soccer\_country.country\_id=penalty\_shootout.team\_id group by country\_name

Solution-

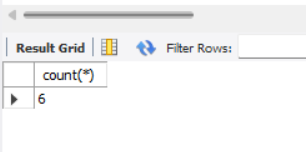


Analysis-

Question27- From the following table, write a SQL query to count the number of bookings during stoppage time.

Query-select count(\*) from player\_booked where play\_schedule='ST'

Solution-

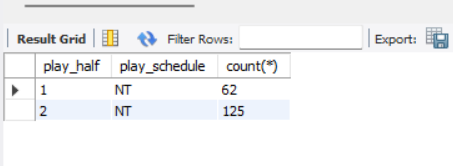


Analysis- We analyze that 6 players were booked during stoppage time

Question28-From the following table, write a SQL query to count the number of bookings in each half of play within the normal play schedule. Return play\_half, play\_schedule, number of booking happened.

Query-select play\_half,play\_schedule,count(\*) from player\_booked where play\_schedule='NT' group by play\_half

Solution-

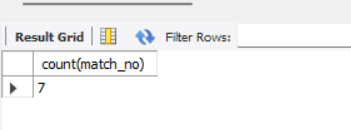


Analysis-in this we found that only 2 bookings were done in normal schedule

Question29-From the following table, write a SQL query to count the number of bookings that happened in extra time.

Query-select count(match\_no) from player\_booked where play\_schedule='ET'

Solution-

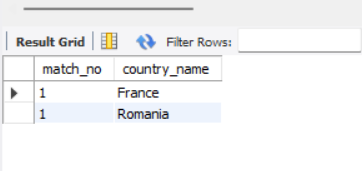


Analysis-in this we found that 7 bookings were done in extra time

Question30-From the following table, write a SQL query to find out which teams played the first match of the 2016 Euro Cup. Return match number, country name.

Query-select m.match\_no,s.country\_name from match\_details m, soccer\_country s where m.team\_id=s.country\_id and m.match\_no='1'

Solution-

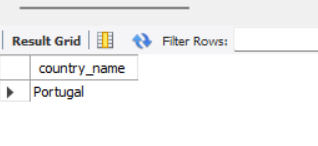


Analysis- France and Romania are the countries having first match in euro cup 2016

Question31-From the following tables, write a SQL query to find the winner of EURO cup 2016. Return country name.

Query-select s.country\_name from soccer\_country s,match\_details m where s.country\_id=m.team\_id and m.play\_stage='F' and m.win\_lose='W'

Solution-

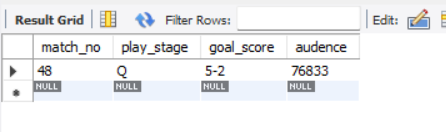


Analysis- from this we found that Portugal won the euro cup of 2016

Question32-From the following table, write a SQL query to find the highest audience match. Return match\_no, play\_stage, goal\_score, audience.

Query-select match\_no,play\_stage,goal\_score,audence from match\_mast where audence=(select max(audence) from match\_mast)

Solution-



Analysis-this shows that 48 match number have the highest audience

Question33-From the following tables, write a SQL query to find the match number in which Germany played against Poland. Group the result set on match number. Return match number.

Query-