

CS 380

Homework 2

SQL

Due: Sep 27, 2020, 11:59PM

Background:

The vbstat database has a set of tables that describe the action in a set of volleyball matches. Matches are between two teams but the database has details about the only one team. A match consists of between 1 and 5 sets. Each set ends when the team in the lead gets to 25 points so long as the team ahead is leading by at least 2 points. In set number 5 the number of points to win is 15.

Here are how the tables interact (tables not mentioned are not used):

matches: The set of matches known.

userID: ignored

matchid: primary key, a unique identifier for the match

team1: the name of the team for which stats are recorded

team2: the name of the other team

start_date: the starting time

current set: When a match is in progress, the number of the current set. When complete, 9999

players: The set of all players in all matches. To get the players in a given match, select all players with the appropriate matchid. The player number is unique within a match.

number: The jersey number. This is unique for a given match

name1: first name

name2: last name

setter: 1==yes or 0==no

libero: 1==yes or 0==no

frontrow: not used

backrow: not used

matchid: foreign key from matches table

points: the points all of the matches. To get the points in a single match, select by matchid. The action in a single set of a match can be seen by selecting by matchid and setno.

matchid: foreign key on matchid from matches table

pointid: primary key.

teamno: either 1 or 2. 1 is the team being recorded and is the team named as team 1. 2 is the opposition and is named as team2 in the matches table.

teamscore: in the normal course of play this is always 1; that is a play in volleyball results in one team scoring 1 point;. However, when correcting an error, an integer between -10 and +10 is possible.

time: The time at which the point was scored.

sequence: the order of action within a match within a set. Should be 1,2,3,4,... The action in sequence n+1 is for the point that immediately follows the action in sequence n.

setno: the number of the set in a match. Matches are typically a max of 5 sets, but there is no reason they could not be longer.

actionnames: the names of each action

actionid: primary key

name: a nice, understandable, name for each action

actions: the actions (e.g. bump, set, spike) in each match in each point. To see what happened in a particular point in a particular match, select by matchid and pointid.

matchid: foreign key from matches table

pointid: foreign key key to points table

player: a player number from players table (ignore player numbers that are negative)

actionid: foreign key to actionnames table

value: most actions have a value of 1 (which simply indicates occurrence). For this assignment, we can assume that all actions have a value of 1

What to do:

Write queries on this database to answer the questions below. When asked for a count (e.g., question 4) your query must provide the answer in the data returned, not in the summary after the data (the summary usually appears in boldface below the table and looks like, “46 rows in set (0.011 sec)”. Clearly this summary gives the correct number but it is not properly part of the data returned.

What to hand in:

A document with the queries, a second document with the results of those queries

Send both documents to gtowell380@cs.brynmawr.edu

Queries:

1. What player numbers were involved in the match Lirz1pNxjdk0hFepVjQk
2. How many players were involved in each match (sorted from lowest to highest)
3. How many total points were scored in each match?
4. How many different actions actually occurred in the recorded matches?
5. What is the most common action, and how often did it happen? For extra credit, write an sql query that returns ONLY the third most common action. A full credit answer would be a query that has no more than 5 rows.
6. What are the names of the 3 most common actions (and how often did each occur)? A full credit answer would be a query that has exactly 3 rows.
7. What are all of the action names that start with “Kill”?
8. How many of the kill types listed in question 7 actually are recorded in the database?
9. How many actions whose name starts with “Block” and did not include “error” were recorded?
10. What were the final scores for each team in each set in the match with id O8xOJ5Fan6UEVewH3NN9
11. What is the min and max number of actions recorded for a single point?
12. What are the names of the players (name1 and name2) who recorded the most actions and second most actions in the entire database and how many actions did they each record? (Note that while we can suspect, the information in the database does not allow use to

conclude that a person in match 1 whose name is “A”, “B” and whose number is 1 is the same person as an identically named and numbered person in match 2.)

13. For set 1 of match mc1GdvpOtXalrXrHTfST for players numbered 11,12, 13,14 or 15 create a table that contains the points the set in the order the points were scored with each action given the correct name and have the name of the person who preformed that action. The rows should be ordered by sequence with the following columns:
 1. sequence number
 2. name1
 3. name2
 4. action name
14. For the match YWzsUhmCFCABsVODondQ, write a query that returns a table containing, for each player, their name and the count of each action attributed to them during the match. The table should have the names of these actions, not just their id. The table should be sorted so that all of the counts for a given player are in consecutive rows. Columns in this result set should be:
 1. name1
 2. name2
 3. action name
 4. action id
 5. count of action for named player