Fall 2010 91.573 Database Project Solution
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Tables
Matches (Match_Number, Match_Date, Venue, Team1, Team2)
Stadium (Stadium_Name, City, Capacity)
Teams (Team_Name, Groups, Coach)
Ticket (Match_Number, Category, Price)

(Note: matches.venue = stadium.stadium_name)

Table Creation:
create table Teams
   (Team_Name varchar(100),
    Groups varchar(100),
    Coach varchar(100),
    primary key(Team_Name)
   );

create table Stadium
   (Stadium_Name varchar(100),
    City varchar(100),
    Capacity numeric(12,0),
    primary key(Stadium_Name)
   );

create table Matches
   (Match_Number numeric(4,0),
    Match_Date Date,
    Venue varchar(100),
    Team1 varchar(100),
    Team2 varchar(100),
    primary key(Match_Number),
    foreign key(Venue)
       references Stadium(Stadium_Name),
    foreign key(Team1)
       references Teams(Team_Name),
    foreign key(Team2)
       references Teams(Team_Name)
   );

create table Ticket
   (Match_Number numeric(4,0),
    Category varchar(100),
    Price numeric(7,0),
    ...
Queries:
1. Find out the name and group of coach(es) whose name starting with “C” and the team he led participated in the games during June 28-July2.
   select coach, groups from teams
   where team_name in
   (select team1 from matches
   where match_date between '28-Jun-2010' and '2-July-2010'
   union
   select team2 from matches
   where match_date between '28-Jun-2010' and '2-July-2010')
   and coach like 'C%';
   Result:
   COACH                        GROUPS
-----------------------------------------------
Carlos Caetano Bledorn Verri       G
Claude Le Roy                     D
Carlos Queiroz                    G
3 rows selected.

2. Find out name of each team along with the total number of games each has participated in. List the results in descending order.
   select team1, count(distinct match_number) from(
   select match_number, team1 from matches
   union
   select match_number, team2 from matches)
   group by team1
   order by count(distinct match_number) desc;
   Result:
   TEAM1                  COUNT(DISTINCTMATCH_NUMBER)
-----------------------------------------------
Germany                  7
Netherlands               7
Spain                    7
Uruguay                  7
Argentina                5
Paraguay                 5
Brazil                   5
Ghana                    5
England                  4
Chile  4
Japan  4
USA  4
Slovakia  4
Portugal  4
Mexico  4
Korea Republic  4
Korea DPR  3
France  3
South Africa  3
Cameroon  3
New Zealand  3
Nigeria  3
Australia  3
Algeria  3
Serbia  3
Switzerland  3
Cote d'Ivoire  3
Italy  3
Honduras  3
Greece  3
Denmark  3
Slovenia  3
32 rows selected.

3. List the most expensive tickets' prices (of each category) on sale, and the names of teams played in that game.
select team1, team2, ticket.price from matches, ticket
where ticket.match_number = matches.match_number
and matches.match_number =(
select match_number from ticket
where price =
(select max(price) from ticket));

Result:
TEAM1  TEAM2  PRICE
---------------------------------------------
Netherlands  Spain  900
Netherlands  Spain  600
Netherlands  Spain  400
Netherlands  Spain  150

4. Find the cities that have more than one stadiums.
select city from stadium
group by city
having count(stadium_name)>1;
**Result:**
CITY

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Johannesburg

5. For a stadium named “Durban”, list all the groups of games it has been held. (Be sure to eliminate the duplicate value.)
select distinct groups from teams
where team_name in
(select team1 from matches
where venue = 'Durban'
union
select team2 from matches
where venue = 'Durban');
**Result:**
GROUPS

---------------------------------------------------------------

H
D
B
G
E
F
6 rows selected.

6. Find the stadium(s) that host the fewest number of games.
select stadium_name from stadium, matches
where stadium.stadium_name=matches.venue
group by stadium_name
having count(matches.match_number) <= all(select count(match_number) from matches
group by venue);
**Result:**
STADIUM_NAME

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Peter Mokaba
Mbombela

7. For each ticket category, calculate the average price of that category. List the results by descending price.
select category, avg(price) as AVG_PRICE from ticket
group by category
dorder by avg(price) desc;

**Result:**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>AVG_PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>205.78125</td>
</tr>
<tr>
<td>2</td>
<td>149.0625</td>
</tr>
<tr>
<td>3</td>
<td>100.15625</td>
</tr>
<tr>
<td>Wheelchair</td>
<td>33.359375</td>
</tr>
</tbody>
</table>

8. Find the stadium(s) that hosts a match for each group.

```sql
SELECT Stadium_Name
FROM Stadium Stad1
WHERE NOT EXISTS
(SELECT * FROM Teams
WHERE Teams.Groups NOT IN
(SELECT Groups FROM Stadium Stad2, Teams, Matches
WHERE Stad2.Stadium_Name = Stad1.Stadium_Name AND
Stad2.Stadium_Name = Venue AND
(Team_Name = Team1 OR Team_Name = Team2));
```

**Result:**

<table>
<thead>
<tr>
<th>STADIUM_NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Point</td>
</tr>
</tbody>
</table>

9. Delete the records for all category “1” tickets regarding the matches after July 1, 2010.

delete from ticket
where category = '1'
and match_number in
(select match_number from matches
where Match_date > '1-July-2010');

**Result:**

8 rows deleted.

10. Increase all ticket price with matches against Italy by 10%.

```sql
update ticket
set price = price * 1.1
where match_number in (SELECT distinct match_number from matches where team1='Italy' or team2='Italy');
```
Result:
12 rows updated