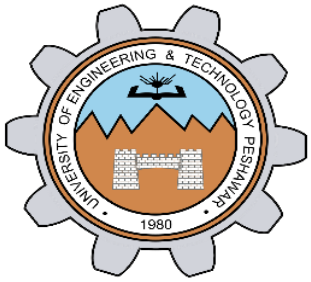
# Database Development using MySQL

## LAB REPORT # 4




**Spring 2023**

**Data Base Management System Lab**

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"On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work."

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# Database Development using MySQL

## ----------Task 4.5----------

Consider the Relational Schema given in Figure 4.3 and its tables given in Figure 4.4. Write SQL commands to create all the tables. Take the appropriate attribute type and length from the data provided. (Note: Use the following hierarchy for table creation: 1) Type, Tournament and Team, 2) Member, and 3) Entry).

```
Microsoft Windows [Version 10.0.19045.2728]
(c) Microsoft Corporation. All rights reserved.

C:\Users\DELL>mysql -u root -p
Enter password: ************
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 39
Server version: 8.0.32 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| sys                |
+--------------------+
4 rows in set (0.00 sec)
```

```
mysql> create database golfclub;
Query OK, 1 row affected (0.01 sec)

mysql> use golfclub;
Database changed
mysql> create table TYPE(
    -> Type int not null auto_increment primary key,
    -> Fee varchar(30) not null);
Query OK, 0 rows affected (0.03 sec)

mysql> describe TYPE;
+-------+-------------+------+-----+---------+----------------+
| Field | Type        | Null | Key | Default | Extra          |
+-------+-------------+------+-----+---------+----------------+
| Type  | int         | NO   | PRI | NULL    | auto_increment |
| Fee   | varchar(30) | NO   |     | NULL    |                |
+-------+-------------+------+-----+---------+----------------+
2 rows in set (0.00 sec)

mysql> create table Tournament(
    -> TourId int not null primary key,
    -> TourName varchar(45) not null,
    -> TourType varchar(45) not null);
Query OK, 0 rows affected (0.02 sec)

mysql> describe Tournament;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| TourId   | int         | NO   | PRI | NULL    |       |
| TourName | varchar(45) | NO   |     | NULL    |       |
| TourType | varchar(45) | NO   |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

```
mysql> create table Team(TeamName varchar(30) not null primary key,
    -> PracticeNight binary not null,
    -> ManagerId int not null);
Query OK, 0 rows affected (0.03 sec)
```

```
mysql> show tables;
+--------------------+
| Tables_in_golfclub |
+--------------------+
| team               |
| tournament         |
| type               |
+--------------------+
3 rows in set (0.00 sec)
```

```
mysql> create table Member(Memberid int not null primary key, FirstName varchar(30) not null, LastName varchar(30) not null, MemberType int not null, Phone varchar(30) not null, Handicap
ATE not null, Coach int not null, Team varchar(30) not null, Gender varchar(10) not null, foreign key(MemberType) references TYPE(Type), foreign key(Coach) references Member(Memberid), f
es Team(TeamName));
Query OK, 0 rows affected (0.09 sec)

mysql> describe team
    -> ;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| TeamName      | varchar(30) | NO   | PRI | NULL    |       |
| PracticeNight | binary(1)   | NO   |     | NULL    |       |
| ManagerId     | int         | NO   |     | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> describe Member;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| Memberid   | int         | NO   | PRI | NULL    |       |
| FirstName  | varchar(30) | NO   |     | NULL    |       |
| LastName   | varchar(30) | NO   |     | NULL    |       |
| MemberType | int         | NO   | MUL | NULL    |       |
| Phone      | varchar(30) | NO   |     | NULL    |       |
| Handicap   | int         | NO   |     | NULL    |       |
| JoinDate   | date        | NO   |     | NULL    |       |
| Coach      | int         | NO   | MUL | NULL    |       |
| Team       | varchar(30) | NO   | MUL | NULL    |       |
| Gender     | varchar(10) | NO   |     | NULL    |       |
+------------+-------------+------+-----+---------+-------+
10 rows in set (0.00 sec)
```

```
mysql> alter table Team add foreign key(ManagerId) references Member(Memberid);
Query OK, 0 rows affected (0.08 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe Team;
+---------------+-------------+------+-----+---------+-------+
| Field         | Type        | Null | Key | Default | Extra |
+---------------+-------------+------+-----+---------+-------+
| TeamName      | varchar(30) | NO   | PRI | NULL    |       |
| PracticeNight | binary(1)   | NO   |     | NULL    |       |
| ManagerId     | int         | NO   | MUL | NULL    |       |
+---------------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql> create table Entry(MemberID int not null, TourID int not null, Year varchar(30) not null, primary key (MemberID, TourID),
    -> foreign key(MemberID) references Member(Memberid),
    -> foreign key(TourID) references Tournament(TourID));
Query OK, 0 rows affected (0.07 sec)

mysql> describe Entry;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| MemberID | int         | NO   | PRI | NULL    |       |
| TourID   | int         | NO   | PRI | NULL    |       |
| Year     | varchar(30) | NO   |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)

mysql>
```

## ----------Task 4.6----------

Using insert command, populate all the records in member, type, entry, team, and tournament tables according to Figure 4.4a and Figure 4.4b.

```
mysql> use golfclub;
Database changed
mysql> show tables;
+---------------------+
| Tables_in_golfclub |
+---------------------+
| entry               |
| member              |
| team                |
| tournament          |
| type                |
+---------------------+
5 rows in set (0.01 sec)
```

```
mysql> insert into member values(
    -> 118, 'McKenzie', 'Melissa' , 30 , 'F', ' ', 'Junior' , 153, 963270, '2009-05-10');
Query OK, 1 row affected (0.01 sec)

mysql> insert into member values(
    -> 138, 'Stone', 'Micheal' , 30 , 'M', ' ', 'senior' , 0 , 983223 , '2013-05-13');
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into Member values
    -> (153, 'Nolan', 'Brenda', 11, 'F', 'TeamB', 'Senior', 0, 442649, '25-Jul-2010');
Query OK, 1 row affected (0.02 sec)
```

```
mysql> insert into Member values
    -> (176, 'Branch','Helen',0 ,'F', ' ', 'Social', 0 ,589419, '18-Nov-2015'),
    -> (178, 'Beck', 'Sarah', 0 , 'F', ' ' , 'Social', 0, 226596, '06-Jan-2014');
Query OK, 2 rows affected (0.01 sec)
Records: 2  Duplicates: 0  Warnings: 0
```

```
mysql> select * from Member;
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
| MemberID | LastName | FirstName | Handicap | Gender | Team  | MType  | Coach | Phone  | JoinDate    |
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
|      118 | McKenzie | Melissa   |       30 | F      |       | Junior |   153 | 963270 | 2009-05-10  |
|      138 | Stone    | Micheal   |       30 | M      |       | senior |     0 | 983223 | 2013-05-13  |
|      153 | Nolan    | Brenda    |       11 | F      | TeamB | Senior |     0 | 442649 | 25-Jul-2010 |
|      176 | Branch   | Helen     |        0 | F      |       | Social |     0 | 589419 | 18-Nov-2015 |
|      176 | Branch   | Helen     |        0 | F      |       | Social |     0 | 589419 | 18-Nov-2015 |
|      178 | Beck     | Sarah     |        0 | F      |       | Social |     0 | 226596 | 06-Jan-2014 |
|      235 | Cooper   | William   |       14 | M      | TeamB | Senior |   153 | 722954 | 12-Feb-2012 |
|      487 | Kent     | Susan     |        0 | F      |       | Social |     0 | 707217 | 19-Sep-2014 |
|      414 | Gilmore  | Jane      |        5 | F      | TeamA | Junior |   153 | 459558 | 12-May-2011 |
|      414 | Gilmore  | Jane      |        5 | F      | TeamA | Junior |   153 | 459558 | 12-May-2011 |
|      323 | Wilcox   | Daniel    |        3 | M      | TeamA | Senior |     0 | 665953 | 30-Apr-2013 |
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
11 rows in set (0.00 sec)
```

```
mysql> insert into Team values
    -> ('TeamA' , 'Tuesday', 239);
Query OK, 1 row affected (0.01 sec)
```

```
mysql> insert into Team values
    -> ('TeamB' ,'Monday', 153);
Query OK, 1 row affected (0.01 sec)

mysql> select * from team;
+----------+--------------+---------+
| TeamName | PracticeNight | Manager |
+----------+--------------+---------+
| TeamA    | Tuesday      |     239 |
| TeamB    | Monday       |     153 |
+----------+--------------+---------+
2 rows in set (0.00 sec)
```

```
mysql> insert into Tournament values
    -> (24, 'Leetson', 'Social'),
    -> (25, 'Kaiapoi', 'Social'),
    -> (36, 'WestCoast', 'Social'),
    -> (38, 'Canterburry', 'Open'),
    -> (40, 'Otago', 'Open');
Query OK, 5 rows affected (0.01 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
mysql> select * from Tournament;
+--------+-------------+----------+
| TourID | TourName    | TourType |
+--------+-------------+----------+
|     24 | Leetson     | Social   |
|     25 | Kaiapoi     | Social   |
|     36 | WestCoast   | Social   |
|     38 | Canterburry | Open     |
|     40 | Otago       | Open     |
+--------+-------------+----------+
5 rows in set (0.00 sec)
```

```
mysql> insert into Type values
    -> ('Associate', 60),
    -> ('Junior', 150),
    -> ('Senior', 300),
    -> ('Social', 50);
Query OK, 4 rows affected (0.01 sec)
Records: 4  Duplicates: 0  Warnings: 0

mysql> select * from Type;
+-----------+-----+
| type      | Fee |
+-----------+-----+
| Associate |  60 |
| Junior    | 150 |
| Senior    | 300 |
| Social    |  50 |
+-----------+-----+
4 rows in set (0.00 sec)
```

```
mysql> insert into Entry values
    -> (118,24,2013),
    -> (228,24,2014),
    -> (228,25,2014),
    -> (228,23,2014),
    -> (235,38,2012),
    -> (235,38,2014),
    -> (235,40,2013),
    -> (235,40,2014),
    -> (239,25,2014),
    -> (239,40,2012),
    -> (258,38,2013),
    -> (286,24,2012);
Query OK, 12 rows affected (0.02 sec)
Records: 12  Duplicates: 0  Warnings: 0
```

```
mysql> select * from Entry;
+--------+--------+------+
| Member | TourID | Year |
+--------+--------+------+
|    118 |     24 | 2013 |
|    228 |     24 | 2014 |
|    228 |     25 | 2014 |
|    228 |     23 | 2014 |
|    235 |     38 | 2012 |
|    235 |     38 | 2014 |
|    235 |     40 | 2013 |
|    235 |     40 | 2014 |
|    239 |     25 | 2014 |
|    239 |     40 | 2012 |
|    258 |     38 | 2013 |
|    286 |     24 | 2012 |
+--------+--------+------+
12 rows in set (0.00 sec)
```

## ----------Task 4.7----------

Write the query for the following:

a) List the first name, last name, and phone numbers of all the members.

```
mysql> select FirstName, LastName, Phone from Member ;
+-----------+----------+--------+
| FirstName | LastName | Phone  |
+-----------+----------+--------+
| Melissa   | McKenzie | 963270 |
| Micheal   | Stone    | 983223 |
| Brenda    | Nolan    | 442649 |
| Helen     | Branch   | 589419 |
| Helen     | Branch   | 589419 |
| Sarah     | Beck     | 226596 |
| William   | Cooper   | 722954 |
| Susan     | Kent     | 707217 |
| Jane      | Gilmore  | 459558 |
| Jane      | Gilmore  | 459558 |
| Daniel    | Wilcox   | 665953 |
+-----------+----------+--------+
11 rows in set (0.00 sec)
```

b) List complete information of all the male members.

```
mysql> select * from Member where Gender = 'M';
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
| MemberID | LastName | FirstName | Handicap | Gender | Team  | MType  | Coach | Phone  | JoinDate    |
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
|      138 | Stone    | Micheal   |       30 | M      |       | senior |     0 | 983223 | 2013-05-13  |
|      235 | Cooper   | William   |       14 | M      | TeamB | Senior |   153 | 722954 | 12-Feb-2012 |
|      323 | Wilcox   | Daniel    |        3 | M      | TeamA | Senior |     0 | 665953 | 30-Apr-2013 |
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
3 rows in set (0.00 sec)
```

c) List complete information of all the members who joined after 01-01-2013

```
mysql> select * from Member where JoinDate = '06-Jan-2014';
+----------+----------+-----------+----------+--------+------+--------+-------+--------+-------------+
| MemberID | LastName | FirstName | Handicap | Gender | Team | MType  | Coach | Phone  | JoinDate    |
+----------+----------+-----------+----------+--------+------+--------+-------+--------+-------------+
|      178 | Beck     | Sarah     |        0 | F      |      | Social |     0 | 226596 | 06-Jan-2014 |
+----------+----------+-----------+----------+--------+------+--------+-------+--------+-------------+
1 row in set (0.00 sec)
```

d) List name of all the members who belonged to Team A.

```
mysql> select FirstName, LastName from Member where Team = 'TeamA';
+-----------+----------+
| FirstName | LastName |
+-----------+----------+
| Jane      | Gilmore  |
| Jane      | Gilmore  |
| Daniel    | Wilcox   |
+-----------+----------+
3 rows in set (0.00 sec)
```

e) List complete information of all the senior members.

```
mysql> select * from Member where MType = 'Senior';
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
| MemberID | LastName | FirstName | Handicap | Gender | Team  | MType  | Coach | Phone  | JoinDate    |
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
|      138 | Stone    | Micheal   |       30 | M      |       | senior |     0 | 983223 | 2013-05-13  |
|      153 | Nolan    | Brenda    |       11 | F      | TeamB | Senior |     0 | 442649 | 25-Jul-2010 |
|      235 | Cooper   | William   |       14 | M      | TeamB | Senior |   153 | 722954 | 12-Feb-2012 |
|      323 | Wilcox   | Daniel    |        3 | M      | TeamA | Senior |     0 | 665953 | 30-Apr-2013 |
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
4 rows in set (0.00 sec)
```

f) List complete information of all the members in order of LastName.

```
mysql> select * from Member order by LastName DESC;
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
| MemberID | LastName | FirstName | Handicap | Gender | Team  | MType  | Coach | Phone  | JoinDate    |
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
|      323 | Wilcox   | Daniel    |        3 | M      | TeamA | Senior |     0 | 665953 | 30-Apr-2013 |
|      138 | Stone    | Micheal   |       30 | M      |       | senior |     0 | 983223 | 2013-05-13  |
|      153 | Nolan    | Brenda    |       11 | F      | TeamB | Senior |     0 | 442649 | 25-Jul-2010 |
|      118 | McKenzie | Melissa   |       30 | F      |       | Junior |   153 | 963270 | 2009-05-10  |
|      487 | Kent     | Susan     |        0 | F      |       | Social |     0 | 707217 | 19-Sep-2014 |
|      414 | Gilmore  | Jane      |        5 | F      | TeamA | Junior |   153 | 459558 | 12-May-2011 |
|      414 | Gilmore  | Jane      |        5 | F      | TeamA | Junior |   153 | 459558 | 12-May-2011 |
|      235 | Cooper   | William   |       14 | M      | TeamB | Senior |   153 | 722954 | 12-Feb-2012 |
|      176 | Branch   | Helen     |        0 | F      |       | Social |     0 | 589419 | 18-Nov-2015 |
|      176 | Branch   | Helen     |        0 | F      |       | Social |     0 | 589419 | 18-Nov-2015 |
|      178 | Beck     | Sarah     |        0 | F      |       | Social |     0 | 226596 | 06-Jan-2014 |
+----------+----------+-----------+----------+--------+-------+--------+-------+--------+-------------+
11 rows in set (0.00 sec)
```

g) Retrieve the number of records in Member table.

```
mysql> select count(MemberID) from Member;
+-----------------+
| count(MemberID) |
+-----------------+
|              11 |
+-----------------+
1 row in set (0.01 sec)
```

h) Provide the first name and last name of the two coaches.

```
mysql> select FirstName, LastName from Member where Coach = 153 or 0;
+-----------+----------+
| FirstName | LastName |
+-----------+----------+
| Melissa   | McKenzie |
| William   | Cooper   |
| Jane      | Gilmore  |
| Jane      | Gilmore  |
+-----------+----------+
4 rows in set (0.00 sec)
```

j) Delete the record from Entry table where Member=415 and TourID=40.

```
mysql> delete from Entry where Member=286 AND TourID=24;
Query OK, 1 row affected (0.01 sec)
```

k) Update the Fee of Associate in Type table from 60 to 80.

```
mysql> update Type set Fee = 80 where Type = 'Associate';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from Type;
+-----------+-----+
| type      | Fee |
+-----------+-----+
| Associate |  80 |
| Junior    | 150 |
| Senior    | 300 |
| Social    |  50 |
+-----------+-----+
4 rows in set (0.00 sec)
```

## ----------Task 4.8----------

MySQL supports various built-in functions belonging to various categories such as numeric functions, string functions, and date & time functions. Write MySQL commands for following numeric functions: ceiling, cos, degrees, log10, mod, radians, round, sqrt, and truncate. Next write MySQL commands for following string functions: concat, upper, lower, repeat, reverse, regexp, replace, length, ltrim, and rtrim. Finally write MySQL commands for following date & time functions: curdate, week, date_from, quarter, now, sysdate, and date_format.

Output:

```
mysql> select * from Type;
+-----------+-----+
| type      | Fee |
+-----------+-----+
| Associate |  80 |
| Junior    | 150 |
| Senior    | 300 |
| Social    |  50 |
+-----------+-----+
4 rows in set (0.00 sec)
```

```
mysql> select ceil (5.697);
+--------------+
| ceil (5.697) |
+--------------+
|            6 |
+--------------+
1 row in set (0.00 sec)
```

```
mysql> select cos(90);
+---------------------+
| cos(90)             |
+---------------------+
| -0.4480736161291701 |
+---------------------+
1 row in set (0.00 sec)
```

```
mysql> select degrees(1);
+-------------------+
| degrees(1)        |
+-------------------+
| 57.29577951308232 |
+-------------------+
1 row in set (0.00 sec)
```

```
mysql> select radians(35.23);
+--------------------+
| radians(35.23)     |
+--------------------+
| 0.6148794954776022 |
+--------------------+
1 row in set (0.00 sec)
```

```
mysql> select log10(5);
+--------------------+
| log10(5)           |
+--------------------+
| 0.6989700043360189 |
+--------------------+
1 row in set (0.00 sec)

mysql> select mod(5,7);
+----------+
| mod(5,7) |
+----------+
|        5 |
+----------+
1 row in set (0.00 sec)
```

```
mysql> select round(342.12);
+---------------+
| round(342.12) |
+---------------+
|           342 |
+---------------+
1 row in set (0.00 sec)

mysql> select sqrt(23);
+--------------------+
| sqrt(23)           |
+--------------------+
| 4.795831523312719 |
+--------------------+
1 row in set (0.00 sec)
```

```
mysql> select truncate(23.43,3);
+-------------------+
| truncate(23.43,3) |
+-------------------+
|             23.43 |
+-------------------+
1 row in set (0.00 sec)

mysql> select concat('Hamza','Ali','DCSE');
+-----------------------------+
| concat('Hamza','Ali','DCSE') |
+-----------------------------+
| HamzaAliDCSE                |
+-----------------------------+
1 row in set (0.01 sec)
```

```
mysql> select upper('computersystemengineering');
+-----------------------------------+
| upper('computersystemengineering') |
+-----------------------------------+
| COMPUTERSYSTEMENGINEERING         |
+-----------------------------------+
1 row in set (0.00 sec)

mysql> select lower('IAMHAMZA');
+------------------+
| lower('IAMHAMZA') |
+------------------+
| iamhamza         |
+------------------+
1 row in set (0.00 sec)
```

```
mysql> select repeat('hamza', 5);
+---------------------------+
| repeat('hamza', 5)        |
+---------------------------+
| hamzahamzahamzahamzahamza |
+---------------------------+
1 row in set (0.00 sec)
```

***----------Task 4.9----------***

MySQL uses various operators such as Comparison (, <=, >=, ==, and !=), Boolean (AND, OR, and NOT), and Special Operators (Between, Like, IN, Is Null, and Distinct). Give examples of these for Golf database created in this lab

***Use of = operator:***

```
mysql> update Type set Fee = 80 where Type = 'Associate';
Query OK, 1 row affected (0.01 sec)
Rows matched: 1  Changed: 1  Warnings: 0

mysql> select * from Type;
+-----------+-----+
| type      | Fee |
+-----------+-----+
| Associate |  80 |
| Junior    | 150 |
| Senior    | 300 |
| Social    |  50 |
+-----------+-----+
4 rows in set (0.00 sec)
```

```
mysql> select FirstName, LastName from Member where Team = 'TeamA';
+-----------+----------+
| FirstName | LastName |
+-----------+----------+
| Jane      | Gilmore  |
| Jane      | Gilmore  |
| Daniel    | Wilcox   |
+-----------+----------+
3 rows in set (0.00 sec)
```

***Use of Boolean AND:***

```
mysql> delete from Entry where Member=286 AND TourID=24;
Query OK, 1 row affected (0.01 sec)
```

***Use of Boolean OR:***

```
mysql> select FirstName, LastName from Member where Coach = 153 or 0;
+-----------+----------+
| FirstName | LastName |
+-----------+----------+
| Melissa   | McKenzie |
| William   | Cooper   |
| Jane      | Gilmore  |
| Jane      | Gilmore  |
+-----------+----------+
4 rows in set (0.00 sec)
```

## ----------Task 4.10----------

Alter is an important command of MySQL. It is used to alter variety of things associated with a database. It can alter the overall characteristics of database, metadata, view, function, procedure, event, and user. Alter table is used specifically for altering the table metadata. Write MySql statements involving alter table for following.

a) Add new column DOB to store member date of birth. Its type is date and can be null.

```
mysql> alter table Member add column DOB date;
Query OK, 0 rows affected (0.03 sec)
Records: 0  Duplicates: 0  Warnings: 0

mysql> describe Member;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| MemberID  | int         | NO   |     | NULL    |       |
| LastName  | varchar(30) | NO   |     | NULL    |       |
| FirstName | varchar(30) | NO   |     | NULL    |       |
| Handicap  | int         | NO   |     | NULL    |       |
| Gender    | varchar(10) | YES  |     | NULL    |       |
| Team      | varchar(30) | YES  |     | NULL    |       |
| MType     | varchar(30) | YES  |     | NULL    |       |
| Coach     | int         | YES  |     | NULL    |       |
| Phone     | int         | NO   |     | NULL    |       |
| JoinDate  | varchar(15) | NO   |     | NULL    |       |
| DOB       | date        | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
11 rows in set (0.00 sec)
```

b) Now change the name of newly added column from DOB to M_DOB with date as data type and not null

```
mysql> ALTER TABLE Member
    -> RENAME COLUMN DOB to M_DOB;
Query OK, 0 rows affected (0.04 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

```
mysql> ALTER TABLE Member
    -> MODIFY COLUMN M_DOB int not null;
ERROR 1265 (01000): Data truncated for column 'M_DOB' at row 1
mysql>
```

c) Now drop the M_DOB column from member table.

```
mysql> alter table member
    -> drop column M_DOB;
Query OK, 0 rows affected (0.02 sec)
Records: 0  Duplicates: 0  Warnings: 0
```

d) Next drop the primary key TourID from tournament table

```
mysql> alter table Tournament
    -> drop primary key;
Query OK, 5 rows affected (0.05 sec)
Records: 5  Duplicates: 0  Warnings: 0

mysql> describe Tournament;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| TourID   | int         | NO   |     | NULL    |       |
| TourName | varchar(30) | YES  |     | NULL    |       |
| TourType | varchar(15) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

```
mysql> describe member;
+------------+--------------+------+-----+---------+-------+
| Field      | Type         | Null | Key | Default | Extra |
+------------+--------------+------+-----+---------+-------+
| MemberID   | int          | NO   |     | NULL    |       |
```

e) Now add new primary key TourID into tournament table

```
mysql> DESCRIBE tournament;
+----------+-------------+------+-----+---------+-------+
| Field    | Type        | Null | Key | Default | Extra |
+----------+-------------+------+-----+---------+-------+
| TourID   | int         | NO   | PRI | NULL    |       |
| TourName | varchar(30) | YES  |     | NULL    |       |
| TourType | varchar(15) | YES  |     | NULL    |       |
+----------+-------------+------+-----+---------+-------+
3 rows in set (0.00 sec)
```

f) Next drop the foreign key Coach from member table.

```
| Coach      | int          | YES  |     | NULL    |       |
```