

**Introduction to Database System (Lab)**

**Spring 2023**

# **Final Term Lab**

# **VERSION I**

**Time Allowed: 90 min**

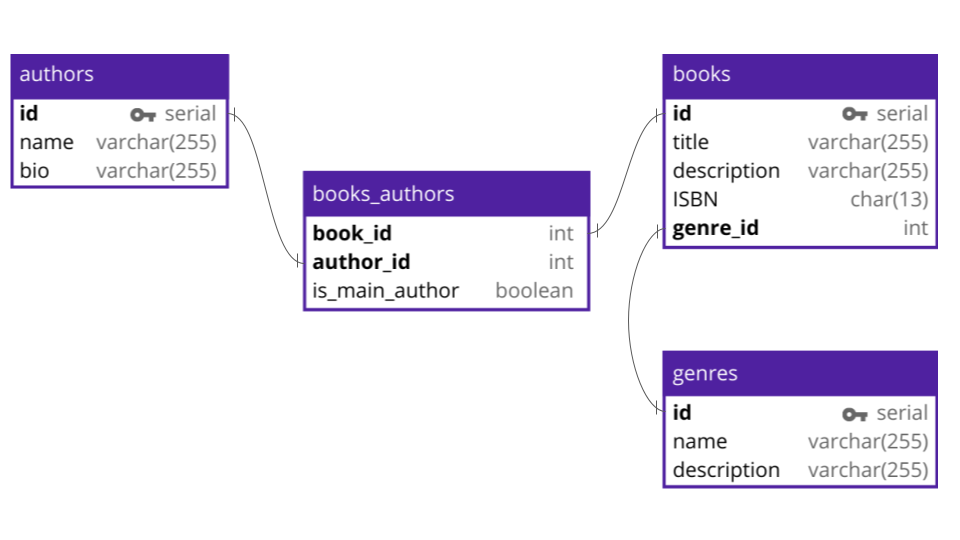
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| Serial Number (of attendance sheet) |  |

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|  | DDL | DML | Total |
| Total Marks | 20 | 30 | 50 |
| Ob. Marks |  |  |  |

**Instructions:**

1. **This is a closed book, closed notes paper.**
2. **Understanding questions is part of the paper**. Therefore, no queries will be entertained during examination.
3. **chess.sql** file is uploaded on teams/portal. Use those files to attempt the DML section of paper.
4. Use proper indentation/formatting while writing queries. Not properly indenting will deduct 5% marks.
5. **You need to make an MS Word with your name and registration should be mentioned on each page.**
6. **You need to write only queries with output in MS Word file, you need to write query (text form) + its output table (picture) if any.**
7. **You will solve the DDL + DML section only in word docx.**

# **Part 1 DDL** **[20 Marks]**



**Q#1:** Implement all the table with its attributes. Make primary keys in all tables (Without foreign keys).

**Q#2:** Alter **books** and **books\_authors** tables and add foreign keys by altering these tables.

**Alter table book**

Add constraint fk\_gid foreign key(genre\_id) references genres(id);

**Alter table books\_authors**

Add constraint fk\_bid foreign key(book\_id) references authors(id);

**Alter table books\_authors**

Add constraint fk\_aid foreign key(author\_id) references book(id);

**Q#3:** Add a column ABC (data type must be char(255)) in the **genres’s** table.

Alter table genres

Add column ABC char(225);

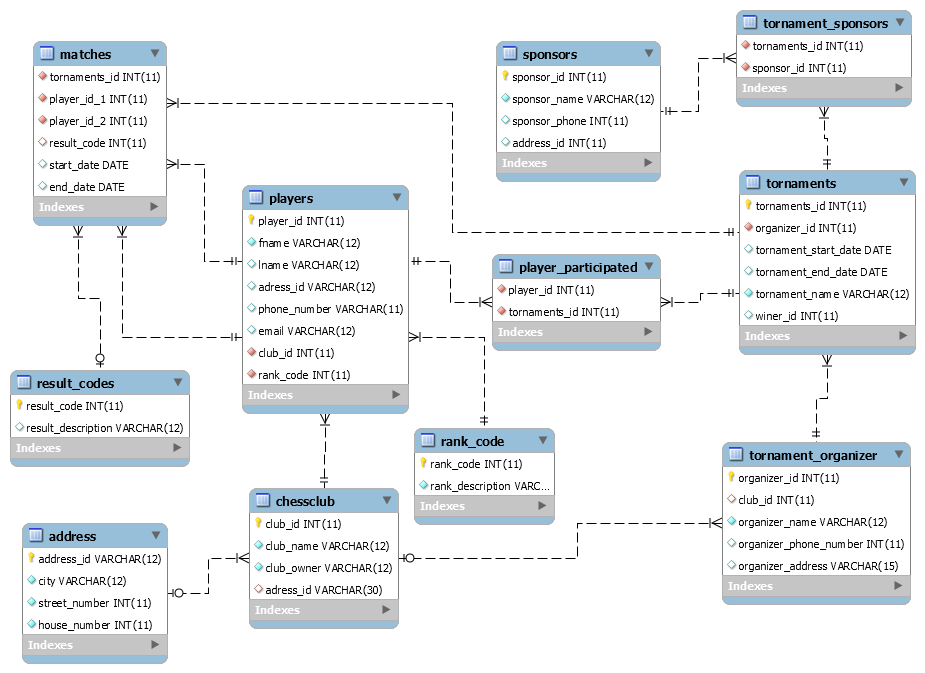
**Q#4:** Change the data type of ISBN from char to varchar (255).

Alter table book

Modify ISBN varchar(225);

**Part 2 DML**  **[30 Marks]**

**Import chess.sql schema.**



**Solve the following questions from the above schema:**

**Q#1:**Write a query to display the count of tournaments sponsored by Mr. Azhar.

**Note: [use Join]**

select count(tornaments.tornaments\_id) as total\_tornaments

from tornaments

inner join tornament\_sponsors on tornament\_sponsors.tornaments\_id=tornaments.tornaments\_id

inner join sponsors on tornament\_sponsors.sponsor\_id=sponsors.sponsor\_id

where sponsors.sponsor\_name ="Azhar";

Q#2:Write a query to display the ID, first name, and last name of players who play for the club "Ned Chess" and have the club organizer named "Hafiz Asif"

Note: **[use correlated query]**

select players.fname,players.lname,players.player\_id

from players

where players.club\_id = (select chessclub.club\_id from chessclub

inner join tornament\_organizer on tornament\_organizer.club\_id=chessclub.club\_id

where chessclub.club\_name="NED CHESS" and tornament\_organizer.organizer\_name="Hafiz Asif");

**Q#3:**Create a view that displays the names of players who have played the maximum number of matches.

create view Player\_Names as

select fname,lname

from players

where player\_id in( select player\_id\_1

from matches

order by max(tornaments\_id) );

select \* from Player\_Names;

**Q#4:**Write a query to display the details of players who have participated in more than one tournament, including the tournament name, tournament sponsor name, and the name of the organizer.

selectplayers.\*,tornaments.tornament\_name,sponsors.sponsor\_name,tornament\_organizer.organizer\_name

from players

left join player\_participated on players.player\_id = player\_participated.player\_id

inner join tornaments on tornaments.tornaments\_id=player\_participated.tornaments\_id

inner join tornament\_organizer on tornament\_organizer.organizer\_id = tornaments.organizer\_id

inner join tornament\_sponsors on tornament\_sponsors.tornaments\_id=tornaments.tornaments\_id

inner join sponsors on sponsors.sponsor\_id = tornament\_sponsors.sponsor\_id

where player\_participated.tornaments\_id > 1 ;

**Q#5:**Write a query to print the count of players who participated in the tournament named 'Grand Master'

**Note: [use nested query]**

select count(player\_id) as total\_players

from player\_participated

where tornaments\_id in ( select tornaments\_id

from tornaments where tornament\_name='Grand Master');

**Q#6**Create a stored procedure that displays the names of players as participants along with their rank description for all players who participated in a tournament with an end date in the year 2002. Also, call the procedure.

select distinct players.fname,players.lname,rank\_code.rank\_description

from players

inner join player\_participated on players.player\_id= player\_participated.player\_id

inner join matches on matches.player\_id\_1 = players.player\_id

inner join rank\_code on rank\_code.rank\_code=players.rank\_code

where year(matches.end\_date) = 2002;