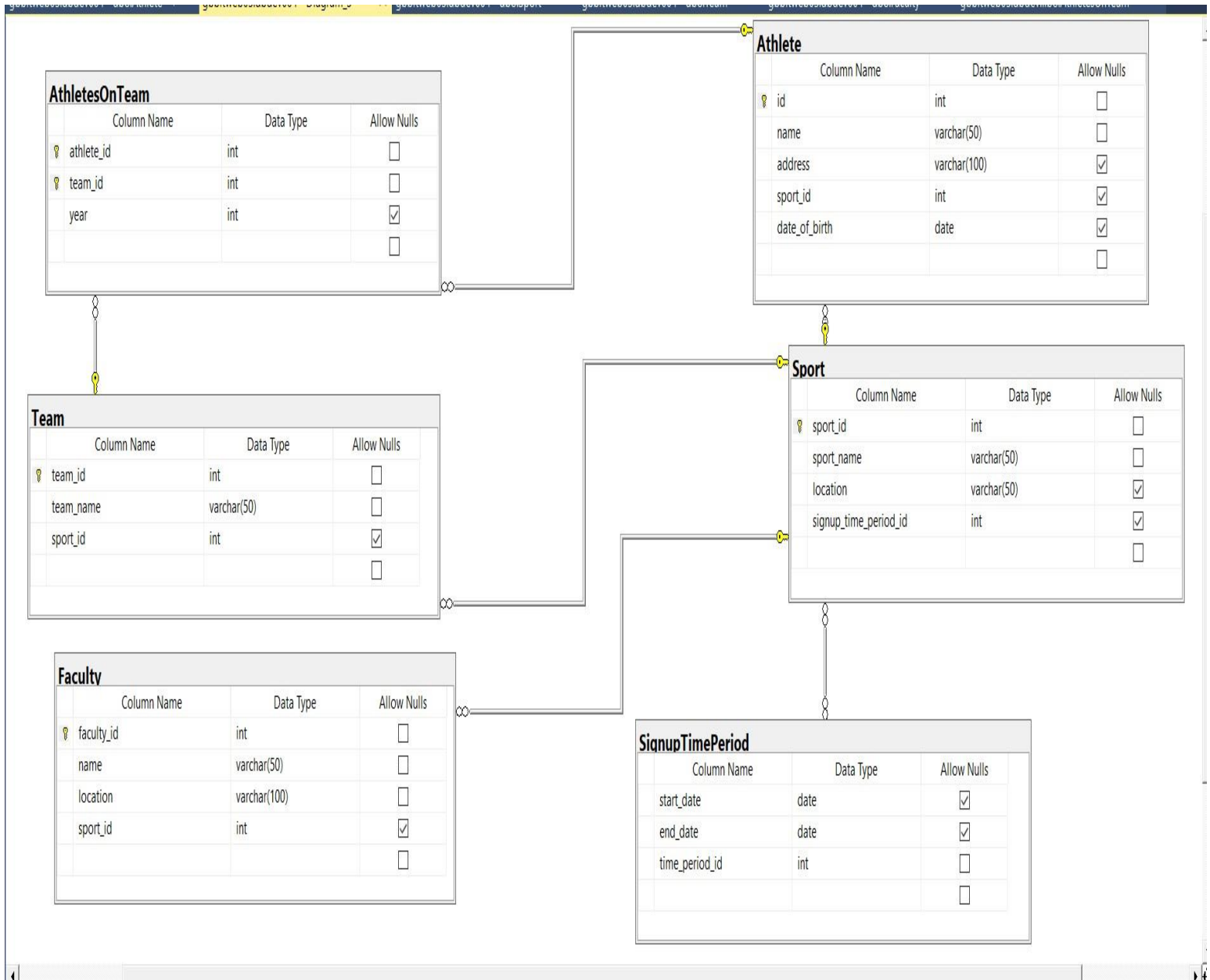**Final Examination**

=> Business requirements:

1. Sport:

    o Sport Name (e.g., Basketball, Volleyball)

    o Year (e.g., 2023)

    o Maximum Participants

2. Facility Location:

    o Facility Name (e.g., DBD North, DBD East)

    o Address

    o Contact Number

3. Athlete:

    o Athlete ID (unique identifier for each athlete)

    o Athlete Name

    o Date of Birth

4. Team:

    o Team ID (unique identifier for each team)

    o Team Name

    o Contact Name

    o Contact Phone Number

    o Home Facility (foreign key referencing Facility Location)

    o Registered Sport (foreign key referencing Sport)

5. Athletes on a Team (Team Membership):

    o Athlete ID (foreign key referencing Athlete)

    o Team ID (foreign key referencing Team)

    o Year (e.g., 2023)

6. Sign-up Time Period:

    o Start Date

    o End Date

Database Design:

Athlete

	Column Name	Data Type	Allow Nulls
🔑	id	int	☐
	name	varchar(50)	☐
	address	varchar(100)	☑
	sport_id	int	☑
	date_of_birth	date	☑
			☐

AthletesOnTeam

	Column Name	Data Type	Allow Nulls
🔑	athlete_id	int	☐
🔑	team_id	int	☐
	year	int	☑
			☐

Sport

	Column Name	Data Type	Allow Nulls
🔑	sport_id	int	☐
	sport_name	varchar(50)	☐
	location	varchar(50)	☑
	signup_time_period_id	int	☑
			☐

Team

	Column Name	Data Type	Allow Nulls
🔑	team_id	int	☐
	team_name	varchar(50)	☐
	sport_id	int	☑
			☐

Faculty

	Column Name	Data Type	Allow Nulls
🔑	faculty_id	int	☐
	name	varchar(50)	☐
	location	varchar(100)	☐
	sport_id	int	☑
			☐

SignupTimePeriod

Column Name	Data Type	Allow Nulls
start_date	date	☑
end_date	date	☑
time_period_id	int	☐
		☐

CRUD Diagram for Athlete Entity:

1. **Create a new sport**

   - Add a new entry to the **Sport** table.

   - Ensure the sport name is unique and conforms to any other business rules.

2. **View sport details**

   - Retrieve the sport details from the **Sport** table using the sport ID or name.

3. **Edit sport details**

   - Update the relevant fields in the **Sport** table.

   - Ensure the updated details still conform to business rules.

4. **Delete a sport**

   - Remove the sport from the **Sport** table.

   - Consider cascading deletes or how this deletion affects teams or athletes registered for the sport.

5. **Create new facility**

   - Add a new entry to the **Facility Location** table.

   - Ensure the facility name and address are unique.

6. **View facility info**

   - Retrieve details from the **Facility Location** table using facility ID or name.

7. **Edit facility info**

   - Update the relevant fields in the **Facility Location** table.

   - Ensure the updated details are unique and accurate.

8. **Delete a facility**

   - Remove the facility from the **Facility Location** table.

   - Consider implications for teams that use this facility as their home location.

9. **Register an athlete**

   - Add a new entry to the **Athlete** table.

   - Ensure the athlete ID is unique.

10. **View athlete info**

    - Retrieve details from the **Athlete** table using the athlete ID.

11. **Update athlete info**

   - Update relevant fields in the **Athlete** table.

12. **Remove athlete**

   - Delete the athlete from the **Athlete** table.

   - Consider implications for teams the athlete might be a part of.

13. **Create a new team**

   - Add a new entry to the **Team** table.

   - Ensure the team ID and team name are unique.

   - Verify that the home facility exists.

   - Verify that the sport they're registering for exists.

14. **View team details**

   - Retrieve details from the **Team** table using the team ID or name.

15. **Update team details**

   - Update the relevant fields in the **Team** table.

   - Ensure the updated details still adhere to business rules.

16. **Disband a team**

   - Remove the team from the **Team** table.

   - Consider how this affects athletes associated with the team.

17. **Add athlete to team**

   - Add an entry to the **Athletes on a Team** table.

   - Ensure the athlete and team both exist and the combination is unique for the year.

18. **View team roster**

   - Retrieve all athletes associated with a particular team for a specified year.

19. **Edit team roster**

   - Update the **Athletes on a Team** table as necessary.

20. **Remove athlete from team**

   - Delete the specific athlete-team association from the **Athletes on a Team** table.

21. **Set sign-up period**

   - Add a new entry to the **Sign-up Time Period** table.

- Ensure the start and end dates are valid.

22. **View sign-up period**

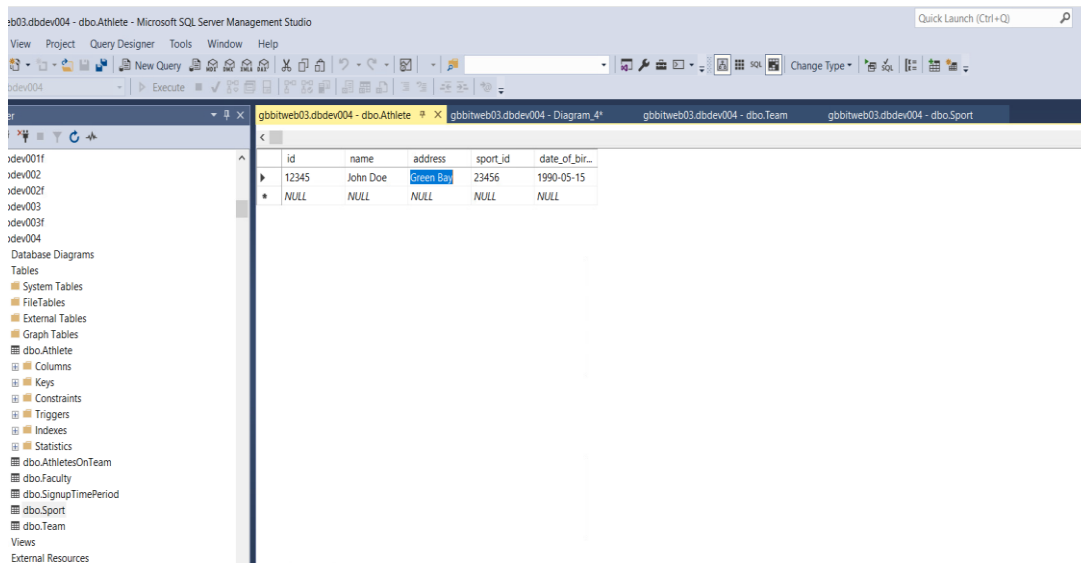- Retrieve the start and end dates from the **Sign-up Time Period** table.

23. **Edit sign-up period**

- Update the dates in the **Sign-up Time Period** table.

- Ensure the new dates are valid.

24. **Remove sign-up period**

- Delete the specific time period from the **Sign-up Time Period** table.

=>**test cases**

Object Explorer

Connect ▾

- dbdev001f
- dbdev002
- dbdev002f
- dbdev003
- dbdev003f
- dbdev004
  - Database Diagrams
  - Tables
    - System Tables
    - FileTables
    - External Tables
    - Graph Tables
    - dbo.Athlete
      - Columns
      - Keys
      - Constraints
      - Triggers
      - Indexes
      - Statistics
    - dbo.AthletesOnTeam
    - dbo.Faculty
    - dbo.SignupTimePeriod
    - dbo.Sport
    - dbo.Team
  - Views
  - External Resources

gbbitweb03.dbdev004 - dbo.Athlete   gbbitweb03.dbdev004 - Diagram_4*   **gbbitweb03.dbdev004 - dbo.Team**   gbbitweb03.dbdev004 - dbo.Sp

team_id	team_name	sport_id
1	John Deo	23456
2	❗ Sarah	❗ 2333
NULL	NULL	NULL

Microsoft SQL Server Management Studio   ✕

ℹ No row was updated.

The data in row 2 was not committed.
Error Source: Framework Microsoft SqlClient Data Provider.
Error Message: The INSERT statement conflicted with the FOREIGN KEY constraint "FK__Team__sport_id__5BE2A6F2". The conflict occurred in database "dbdev004", table "dbo.Sport", column 'sport_id'.
The statement has been terminated.

Correct the errors and retry or press ESC to cancel the changes.

[OK]   [Help]

---

gbbitweb03.dbdev004 - dbo.Faculty - Microsoft SQL Server Management Studio

File Edit View Project Query Designer Tools Window Help

New Query   ...   Change Type ▾ ...

dbdev004   ▷ Execute

Object Explorer

Connect ▾

- Tables
  - System Tables
  - FileTables
  - External Tables
  - Graph Tables
  - dbo.Athlete
    - Columns
    - Keys
    - Constraints
    - Triggers
    - Indexes
    - Statistics
  - dbo.AthletesOnTeam
  - dbo.Faculty
  - dbo.SignupTimePeriod
  - dbo.Sport
    - Columns
    - Keys
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    - Statistics
  - dbo.Team
- Views
- External Resources
- Synonyms
- Programmability

gbbitweb03.dbdev004 - dbo.Athlete   gbbitweb03.dbdev004 - dbo.Sport   gbbitweb03.dbdev004 - dbo.Team   **gbbitweb03.dbdev004 - dbo.Faculty**

faculty_id	name	location	sport_id
2344355 ❗	Sarah	Cricket	❗ 23234 ❗
NULL	NULL	NULL	NULL

Microsoft SQL Server Management Studio   ✕

ℹ No row was updated.

The data in row 1 was not committed.
Error Source: Framework Microsoft SqlClient Data Provider.
Error Message: The INSERT statement conflicted with the FOREIGN KEY constraint "FK__Faculty__sport_i__59063A47". The conflict occurred in database "dbdev004", table "dbo.Sport", column 'sport_id'.
The statement has been terminated.

Correct the errors and retry or press ESC to cancel the changes.

[OK]   [Help]

◁ ◁ 1   of 1 ▷ ▷▷ ▷⊕ ▷ | Cell is Modified. 🖉

Ready

🔍 Type here to search   1:53 AM 10/10/2023