Database 1 Sheet

The **Event Management System (EMS)** database schema is designed to manage and track the operations of events, organizers, attendees, sponsors, and their interrelationships. It ensures the efficient organization and execution of events, while maintaining robust data integrity. The schema supports event planning, sponsorship management, attendee participation tracking, and organizer contributions.

1. Organizer Table

OrganizerID (PK)	Name	Email	PhoneNumber	JoinDate	Role	TotalEventsOrganized

2. Event Table

EventID (PK)	EventName	OrganizerID (FK)	EventDate	EventType	Budget	Location

3. Attendee Table

AttendeeID (PK)	Name	Email	PhoneNumber	RegistrationDate	TotalEventsAttended

4. Participation Table

ParticipationID (PK)	EventID (FK)	AttendeeID (FK)	ParticipationDate	FeePaid

5. Sponsor Table

SponsorID (PK)	SponsorName	ContactPerson	ContactEmail	PhoneNumber	Status	TotalContribution

6. SponsorshipEvent Table

SponsorID (PK)(FK)	EventID (PK)(FK)	AmountContributed	SponsershipDate

Descriptions of the Schema's Constraints

1. **Organizer Table :** Organizers manage all the events.

   o Each organizer is uniquely identified by an auto-incrementing OrganizerID, ensuring distinct records when an orgnizer is removed it must be set to null.
   o Organizers are required to provide unique email addresses and phone numbers, preventing duplication.
   o The role of an organizer is restricted to predefined values such as "Manager," "Coordinator," and "Assistant," ensuring uniformity in roles.
   o Ensures the phone number starts with a digit.
   o The JoinDate cannot be set in the future.

2. **Event Table:** Events are managed by organizers and could be sponsored by multiple sponsors.
   o Each event is uniquely identified by an EventID and is linked to an organizer through a foreign key, maintaining referential integrity, consider to set to null when the orgnizer is deleted.
   o The type of event is limited to specific categories like "Conference," "Workshop," "Seminar," or "Meetup," promoting consistency.
   o Event dates must not be in the past, ensuring that only current or future events are planned.
   o Budgets are enforced to be greater than zero, reflecting the financial requirements of hosting an event.

3. **Attendee Table:** Attendees participate in events
   o Attendees are uniquely identified by AttendeeID starting with 1 and autoincrement, with unique email addresses for clear identification.
   o The RegistrationDate cannot be set in the future, ensuring realistic records.
   o Ensures the phone number starts with a digit.
   o Each attendee's total number of events attended is constrained to be non-negative, reflecting actual participation.

4. **Participation Table:** This table links attendees to events, recording the date of participation and the fees paid.
   o The participation records are uniquely identified by ParticipationID and link attendees to events using foreign keys.
   o The FeePaid by an attendee must be greater than or equal to zero, ensuring logical financial data.
   o Participation dates cannot be in the future, ensuring accurate current date.
   o Participation entries are automatically removed if either the attendee or the event is deleted.

5. **Sponsor Table:** Sponsors provide financial contributions to events.
   o Each sponsor is uniquely identified by SponsorID, with unique email addresses to avoid duplication.
   o The sponsor's status is limited to "Active," "Inactive," or "Pending," reflecting their engagement with the system, making it 'Active by default.
   o Ensures the phone number starts with a digit.
   o Total contributions from sponsors must be non-negative, aligning with logical financial data.

6. **SponsorshipEvent Table**: This composite table represents the many-to-many relationship between sponsors and events. It tracks the amount contributed by each sponsor for specific events
   o Each sponsorship's contribution amount must exceed zero, ensuring meaningful financial support.

  o Sponsorshipdate is set to the current date, ensuring that the sponsorship date is always recorded and consistent.

DDL Question

1- Develop **Event Management System Database** and consider the above constraints for each table.

DML Questions

1- Insert real data under each table (Kindly ensure that the data added is valid and aligns with the requirements specified in the questions below)
2- Increase the budget of events happening in the current year by 10%.
3- Update the 'TotalEventsAttended' field for each attendee based on their participation history.
4- Increase the total contribution by 10% for all sponsors who have contributed more than $50,000.
5- Update the total events organized for each organizer based on the events table.
6- Update the Role of all organizers who have organized more than 10 events to "Manager."
7- Adjust the budgets of events located in "New York" by increasing them by 15% if their current budget is below $20,000.
8- Increase the Budget bvy 10% for Specific Events for the current year.
9- Delete all events that have no attendees and sponsors linked.
10- Remove all sponsors who haven't contributed to any event.
11- Remove all records of attendees who have not attended any events.
12- Delete all sponsorships linked to events that are already completed (EventDate < CURRENT_DATE).

DQL Questions

1- Retrieve the names of attendees who participated in all events organized by a specific organizer.
2- Retrieve the top 3 sponsors contributing the highest total contributions to events.
3- For each event, retrieve the event name and the total fees collected from participants, grouped by event.
4- Retrieve the details of events where the total sponsorship exceeds the budget.
5- Retrieve the list of events and their sponsors, including the sponsorship amount, ordered by event name.
6- List all attendees along with the organizers of the events they participated in
7- Retrieve all events with budgets between $10,000 and $50,000 and not sponsored by any sponsors.
8- Retrieve attendees who have participated in events where their participation fee is greater than the average fee for that event.
9- Retrieve details of events with the highest number of attendees.
10- For each sponsor, retrieve the total amount contributed to events within the last year.
11- Retrieve events with the most sponsors (maximum count).
12- For each event, calculate the profit (total sponsorships - budget) and sort by profit descending.
13- Retrieve all events of type "Conference" organized by "Managers" where the event date is within the current month.
14- Retrieve the average contribution per sponsor.
15- Create a column that concatenates each sponsor's name with their contact person's name. Only include sponsors whose contributions exceed $50,000.
16- Retrieve top 5 events with lowest number of attendees and order them ascendengly
17- List all attendees who registered within the last 7 days and have attended at least one event.

18- Retrieve sponsors with "Pending" status who have contributed more than $10,000.
19- Retrieve the names of events with budgets between $10,000 and $50,000, and their respective organizers.
20- Retrieve events where the number of participants is greater than the average for all events.
21- For each sponsor, calculate their average contribution per event.
22- Find the details of the top 3 events with the highest number of attendees, including the event name, organizer, and attendee count.
23- Retrieve attendees, fees and the names of events where the participation fee is between $100 and $500 and order them decendengly.
24- Calculate the total fees collected for all events held in the current year and group by event name.
25- Retrieve the names and emails of attendees participating in events with "Workshop" in their names.
26- List sponsors whose total contributions fall within $10,000, $25,000, or $50,000, along with their status.
27- List all sponsors who have sponsored events held by more than two different organizers.
28- Retrieve the names of events that have a budget greater than the total sponsorship amount received and arrange them with the higher budgent first.