Assumptions for Project 2: Campus Events Database

The following assumptions are made to complete the Enhanced Entity-Relationship (EER) model and the subsequent Relational Schema for the Campus Events Database:

1. **Event Classification (Requirement 2)**: The initial requirements mentioned "sports, social, religious, or academic." The provided Assignment 4 solution only included SportEvent, SocialEvent, and AcademicEvent. For this project, I will assume the user intended to model **Religious Event** as a fourth subtype of `Event` to fully satisfy the requirement, or that it was implicitly covered by the existing subtypes. Given the provided solution, I will add a `ReligiousEvent` subtype for completeness, which will have a unique attribute, e.g., `Denomination`.
2. **Event Sub-Events (Requirement 6)**:
   - The relationship between `Event` and `SubEvent` is one-to-many (1:N), where one `Event` can have multiple `SubEvents`.
   - `SubEvent` is a **weak entity** dependent on `Event` for its existence and primary key.
   - The "person in-charge" for a `SubEvent` is an attribute of `SubEvent` and is a foreign key referencing the `Person` entity.
3. **Organizers (Requirement 5)**: The organizers (faculty, students, staff, or dependents) will be modeled as a superclass `Person` with subclasses `Faculty`, `Student`, `Staff`, and `Dependent`.
   - `Dependent` is a weak entity dependent on `Staff` or `Faculty`.
   - The relationship between `Event` and `Person` (Organizer) is many-to-many (M:N), as an event can have multiple organizers, and a person can organize multiple events.
4. **Approval Process (Requirement 7)**:
   - The `Event` entity will have attributes for the approval process: `ApprovalStatus` (e.g., 'Pending', 'Approved', 'Rejected'), `ApprovalDate`, `RejectionJustification`.
   - The `Events Management Department head` will be represented by a specific `Person` record, and the approval will be recorded via the `ApprovalStatus` and `ApprovalDate` attributes on the `Event` entity.
5. **Time Constraints (Requirement 9)**: The constraints (max 3 days duration, 8 AM to 12 midnight scheduling) are business rules that will be enforced through `CHECK` constraints in the SQL `CREATE TABLE` statements, specifically on the `Event` table's `StartDate`, `EndDate`, and `StartTime` attributes.
6. **Triggers (Requirement 8)**: The trigger to send an email upon approval will be implemented as an SQL `TRIGGER` on the `Event` table, which fires `AFTER UPDATE` when the `ApprovalStatus` changes to 'Approved'. For the purpose of this database design

project, the trigger action will be a placeholder (e.g., an `INSERT` into a logging table or a simple `RAISE NOTICE`) since actual email sending functionality is outside the scope of standard SQL.

7. **BCNF Conversion**: The relational schema conversion will follow the EER-to-Relational mapping rules and then be normalized to BCNF, showing the intermediate steps (1NF, 2NF, 3NF, BCNF).
8. **Venue Subtypes**: The Venue subtypes (SportArea, LectureHall, ConferenceHall, PublicSpace) will be modeled using the **Superclass/Subclass Mapping** (Option 3: One relation per superclass and one relation per subclass) to maintain the distinct attributes of each venue type.
9. **Event Subtypes**: The Event subtypes (SportEvent, SocialEvent, AcademicEvent, ReligiousEvent) will be modeled using the **Superclass/Subclass Mapping** (Option 3: One relation per superclass and one relation per subclass) for the same reason.
10. **Key Attributes**: `RU` (Required, Unique) and `R` (Required) from the original diagram are interpreted as `NOT NULL` and part of a unique constraint/primary key where appropriate. All primary keys will be system-generated IDs (e.g., `DeptID`, `EventID`, `VenueID`).