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Database

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Project 2 (SQL database script. Queries (2.2))

OpenCourseWare

Data Base

Bachelor in Data Science and Engineering

SUBJECT: Project 2 SQL database script. Queries

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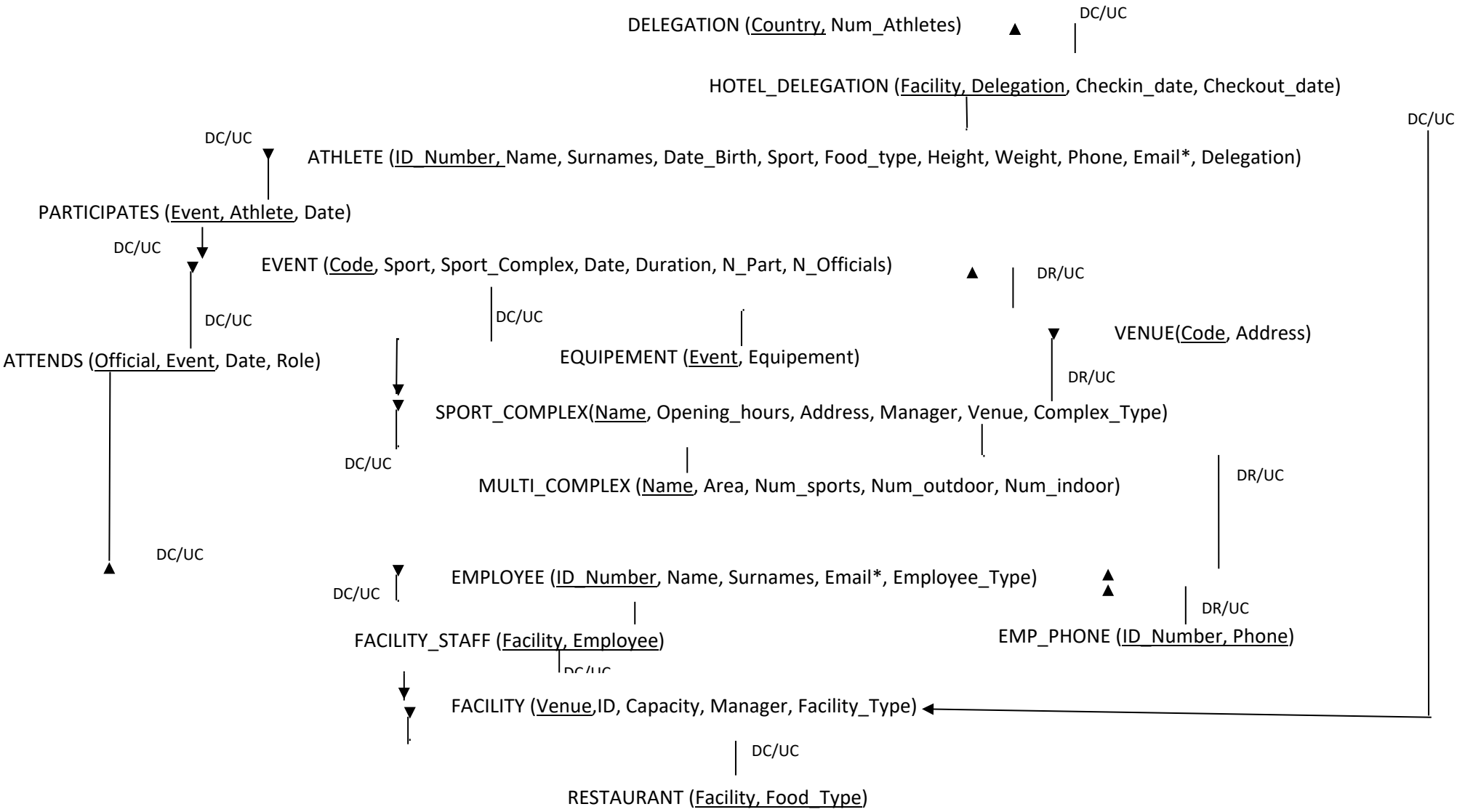
Statement

Given the practical case design solution "The Olympic Games", answer the following questions based on the following relational schema/diagram:


DELEGATION (Country, Num_Athletes)
DC/UC
HOTEL_DELEGATION (Facility, Delegation, Checkin_date, Checkout_date)
DC/UC
DC/UC
ATHLETE (ID_Number, Name, Surnames, Date_Birth, Sport, Food_type, Height, Weight, Phone, Email*, Delegation)
PARTICIPATES (Event, Athlete, Date)
DC/UC
EVENT (Code, Sport, Sport_Complex, Date, Duration, N_Part, N_Officials)
DR/UC
DC/UC
DC/UC
VENUE(Code, Address)
ATTENDS (Official, Event, Date, Role)
EQUIPEMENT (Event, Equipement)
DR/UC
SPORT_COMPLEX(Name, Opening_hours, Address, Manager, Venue, Complex_Type)
DC/UC
MULTI_COMPLEX (Name, Area, Num_sports, Num_outdoor, Num_indoor)
DR/UC
DC/UC
EMPLOYEE (ID_Number, Name, Surnames, Email*, Employee_Type)
DC/UC
DR/UC
FACILITY_STAFF (Facility, Employee)
EMP_PHONE (ID_Number, Phone)
FACILITY (Venue,ID, Capacity, Manager, Facility_Type)
DC/UC
RESTAURANT (Facility, Food_Type)

Assumptions to the schema

- Check that the Complex_Type in SPORT_COMPLEX is Multisport for rows in MULTI_COMPLEX
- Only employees of type Manager can manage FACILITY
- Employees linked through FACILITY_STAFF must have type 'cleaning', 'maintenance', 'supervisor' or 'security' but not 'manager' nor 'official'.
- HOTEL_DELEGATION must include facilities of type 'Hotel'
- All athletes of the same delegation will have the same check in and check out dates
- Check that the date officials and athletes taking part in an event match the date of the event
- Each facility will have various supervisors

DOMAINS

Complex_Type={'multisport','onesport'}

Employee_Type={ 'manager', 'supervisor', 'maintenance', 'cleaning', 'security','official'}

Facility_Type={'hotel','apartment','restaurant'}

Assumptions to the statement

- 2 employees can share the same phone number
- One delegation can be hosted in more than one hotel
- One event takes place in one sports_complex
- One restaurant can provide different food types

Requested information

1. Write the SQL statements required to create the relational schema, including all primary and foreign key integrity constraints, and DOMAIN constraints.
2. Write the SQL statement to insert records:
   2.1. Insert a minimum of 10 records in each table.
   2.2. Insert records into the tables such that when executing the next queries, records are obtained as a result.
3. Specify the following queries in SQL
   3.1. Query1: Obtain the average number of athletes per delegation.
   3.2. Query2: Get the number of employees per restaurant for those restaurants serving 'italian food'. The query must return the identifier of the restaurant, its capacity and the number of employees.
   3.3. Query3: List the events ordered by the number of athletes taking part on them. The query must return the event identifier, the sport and the number of athletes.
   3.4. Query4: Get the number of athletes that have been hosted per hotel between June 2021 and September 2021
4. Specify the following trigger in SQL
   4.1. Trigger: Include all the triggers needed to calculate the attribute number of athletes in table DELEGATION.