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Database

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Project 1 (Relational Model Design (2.1))

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Data Base **Bachelor's in Data Science and Engineering** **SUBJECT**: Project 1 (Design DB)	

TITLE: The Olympic Games

1. Statement

The various Olympic venues found in each host city (such as for the Tokyo Olympic Games) are comprised of different sports complexes. Each venue is identified by a code; the address must also be stored. The sports complexes are subdivided into those in which only one sport is carried out and the multi-purpose sports centres. All the sports complexes have their own name, opening hours, address, and a corresponding manager. Moreover, the facilities total surface area, the number of different sports taking place there, the number of outdoor sports units and the number of indoor/covered sports units must be stored for each multi-purpose sports centre.

Information regarding the employees such as managers, supervisors, maintenance, cleaning, officials and security staff must also be stored. The ID number, name and surname(s), telephone numbers and possibly an email address must be stored for each employee.

The venues have three different categories of hospitality facilities: hotels, apartments, and restaurants. Each facility must be identified by the venue to which it belongs, an identification number; the capacity of the facility must also be stored. The type of food served in each restaurant (such as Spanish, American, etc.) must also be stored and may include food from one single country or various countries. Each facility will have cleaning and maintenance staff who must be included in the database. What's more, each facility will have a manager and various supervisors.

Each hotel will accommodate one or several delegations. Each delegation is identified by the name of the country and number of athletes, including the check-in and check-out dates for the delegation in each hotel. The following information must be included for each athlete in every delegation: ID number, name and surname(s), type of food, sport, date of birth, height, weight, telephone number and possibly an email address. All athletes belonging to the same delegation will have the same check-in and check-out dates.

Various events are held at each complex. A date, duration, number of participants and number of Olympic officials are established for each event. Specific equipment is also needed for each event (bows, poles, parallel bars, etc.) which must also be stored.

The database must include all the Olympic officials, the list of events each official will participate in, the date of each event and whether each official will be acting as a judge or an observer. The ID number, name and surname(s), telephone numbers and possibly an email address must be stored for each Olympic official. These officials are also considered employees.

In order to organise transport between the various facilities, the athletes' information must also be stored, including the various events in which they are participating and the dates of said events.

2. Requested information

You must:

- Obtain the relational diagram according to requirements with the primary and alternative keys. Indicate the foreign keys with their delete and update options.
- Write additional semantic assumptions to the statement, if needed
- Write additional semantic assumptions to the scheme, if needed

The diagram must be made digitally and follow the relational model notation.