

Exercise 1

- The following relations are given (primary keys are underlined, optional attributes are denoted with *):

ATHLETE(AthleteCode, TeamName)
 ATHLETE_ARRIVAL(AthleteCode, Time)
 TEAM_ARRIVAL(TeamName, #ArrivedAthletes)
 RANKING(Position, AthleteCode, Time)

- Write triggers to *update ATHLETE_ARRIVAL and RANKING tables* when a new row is inserted in ATHLETE_ARRIVAL table. For the update of the TEAM_ARRIVAL table, consider also the case of a team not yet inserted in the table. For the update of RANKING table, consider that the Time field can assume the same value for two different athletes.

Exercise 2(a)

- The following relations are given (primary keys are underlined, optional attributes are denoted with *):

RENTAL-REQUEST(ReqCode, ReqDate, MemberCode, RentalStartDate, RentalEndDate, Model)
 RENTAL-CANCELLATION(CanCode, CancDate, MemberCode, RentalStartDate, BCode)
 RENTAL(BCode, StartDate, EndDate, MemberCode)
 WAITING-RENTAL(ReqCode, ReqDate, MemberCode, RentalStartDate, RentalEndDate, Model)
 BOAT(BCode, BName, Model, Maker, MYear)

- Write the triggers managing two events: (i) *A new request of boat rental* and (ii) *a cancellation of a given rental*.
- When a new rental is requested, it is necessary to verify if a boat of the requested model is available in the requested period of time. If so, a new record is inserted in the RENTAL table. If more than one boat are available, the newest boat (i.e., maximum MYear) is rented (let assume that, there always exists a single boat made in a given date). If no boats are available in the requested period of time, the request is inserted in the WAITING-RENTAL table.

Exercise 2(b)

- The following relations are given (primary keys are underlined, optional attributes are denoted with *):

RENTAL-REQUEST(ReqCode, ReqDate, MemberCode, RentalStartDate, RentalEndDate, Model)
 RENTAL-CANCELLATION(CanCode, CancDate, MemberCode, RentalStartDate, BCode)
 RENTAL(BCode, StartDate, EndDate, MemberCode)
 WAITING-RENTAL(ReqCode, ReqDate, MemberCode, RentalStartDate, RentalEndDate, Model)
 BOAT(BCode, BName, Model, Maker, MYear)

- Write the triggers managing two events: (i) *A new request of boat rental* and (ii) *a cancellation of a given rental*.
- When a rental is canceled (i.e., insertion in the RENTAL-DELETE table), rental information needs to be deleted from the RENTAL table. Furthermore, it is necessary to verify if there are waiting rentals for the boat model that became available in the requested period of time. If so, the oldest waiting request is selected (let assume that, there always exists a single waiting request for a given period of time and boat model). A new rental is defined for that waiting request and it is deleted from the table WAITING-RENTAL.