

Trigger exercises: Event calendar management

Given the following relational schema (primary keys are underlined):

EVENT(EvID, EventName, EventCategory, EventCost, EventDuration)

CALENDAR(EvID, Date, StartTime, Location)

CATEGORY_SUMMARY(EventCategory, Date, TotalNumberEvents, TotalEventCost)

You are requested to manage the planning of events in the city of Turin for the anniversary of the 150th anniversary of the unification of Italy (Italia 150).

Events belong to different categories (EventCategory attribute), such as exhibitions, debates, screenings, and are characterized by a cost of realization (EventCost attribute). Each event can be repeated several times on different dates. The CALENDAR table shows the planning of events on different days and places in the city. Write triggers to handle the following tasks.

(1) *Updating the table CATEGORY_SUMMARY.* The table CATEGORY_SUMMARY shows, for each category of event and for each date, the total number of events planned and the total cost for their realization. Write the trigger to propagate changes to the CATEGORY_SUMMARY table when a new calendar event is inserted (CALENDAR table insertion).

(2) *Integrity constraint on the maximum cost of the event.* The cost of an event in the film screening category (EventCategory attribute) cannot exceed 1500 euros. If a cost value greater than 1500 is entered in the EVENT table, the EventCost attribute must be assigned a value of 1500. Write the trigger for handling the integrity constraint.

(3) *Constraint on the maximum number of events per date.* No more than 10 events can be scheduled on any given date. Any changes to the table CALENDAR that cause the constraint violation should not be performed.