

Progettazione - Parte A

1. The following relations are given (primary keys are underlined):

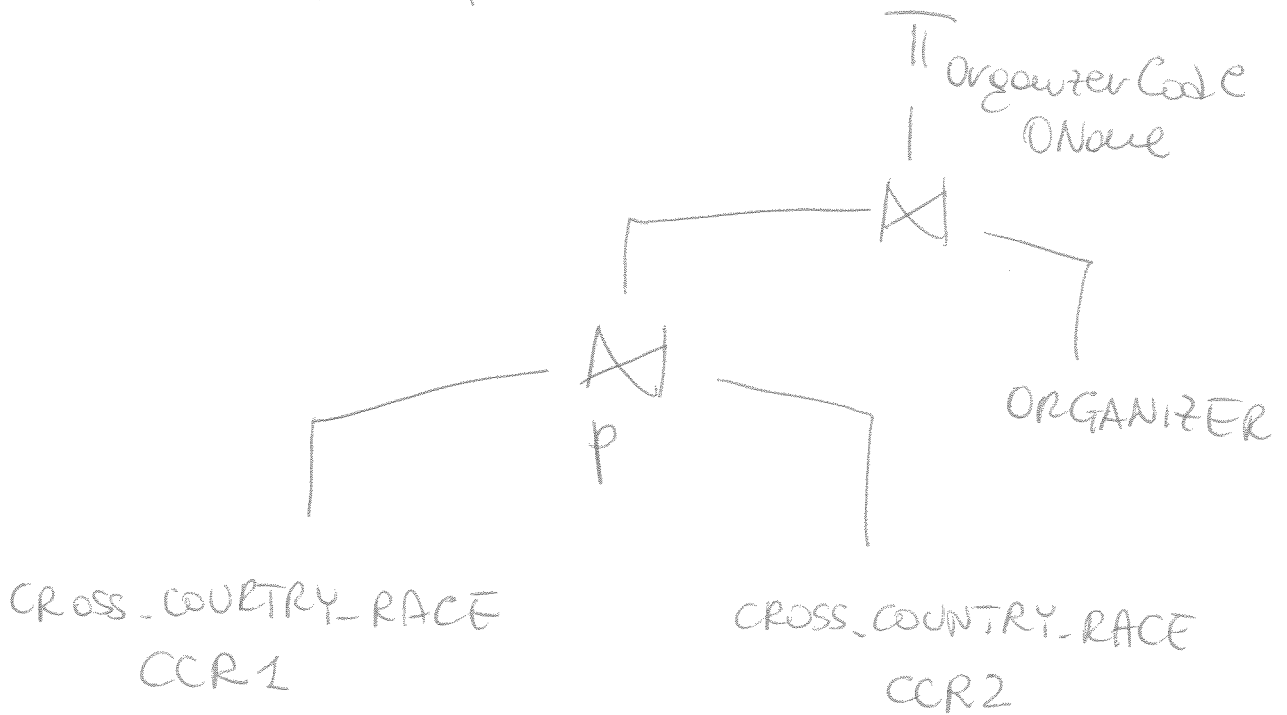
```
CROSS_COUNTRY_RACE(RaceCod, RaceName, Category, City, Region, Date, OrganizerCod)
ORGANIZER(OrganizerCod, OName)
PARTICIPANT(ParticipantCod, PName, BirthDate, Address, City, Region)
PARTICIPANT_PARTICIPATES_RACE(ParticipantCod, RaceCod, Rank)
```

Write the following queries

- (a) *Mandatory* exercise in algebra (4 points):
Select the code and the name of the persons who have organized at least two cross country races for the same category in different cities.
- (b) *Mandatory* exercise in SQL language (5 points):
Select the name of the persons who have organized in the Piedmont region at least one cross country race for the category 'Under 14' but no cross country race for the category 'Under 20'.
- (c) *Optional* exercise in SQL language (5 points):
Select the name of the participants who have participated to all cross country races held in their region but never ranked first in any cross country race.

23/01/2014

(e) Same organizer, different cross country races,
same category, different cities



p: CCR1. OrganizerCod = CCR2. OrganizerCod \wedge
CCR1. City \neq CCR2. City \wedge
CCR1. Category = CCR2. Category \wedge
CCR1. Race Cod \neq CCR2. Race Cod

```

(b) SELECT OName
FROM ORGANIZER
WHERE OrganizerCod IN (SELECT OrganizerCod
FROM CROSS_COUNTRY_RACE
WHERE Category = 'Under 16'
AND Region = 'Piedmont')
AND OrganizerCod NOT IN (SELECT OrganizerCod
FROM CROSS_COUNTRY_RACE
WHERE Category = 'Under 20'
AND Region = 'Piedmont')

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(c) SELECT PName
FROM PARTICIPANT P, PARTICIPANT.PARTICIPATES.RACE PPR,
CROSS_COUNTRY_RACE CCR
WHERE P.ParticipantCode = PPR.ParticipantCode AND
CCR.RaceCod = PPR.RaceCod AND
CCR.Region = P.Region AND
P.ParticipantCode NOT IN (SELECT ParticipantCode
FROM PPR2
WHERE Rank = 1)
GROUP BY P.ParticipantCode, PName, Region
HAVING COUNT(*) >= (SELECT COUNT(*)
FROM CCR1
WHERE CCR1.Region =
P.Region)

```

necessary

It is not correct