

Introduction to Databases

DBDMG - Politecnico di Torino

SQL (IV)

1. Given the following relations (primary keys are underlined):

AUTHOR (AuthorCode, Name, Surname, Department, University)

ARTICLE (ArticleCode, Title, Topic)

AUTHORS OF ARTICLE (AuthorCode, ArticleCode)

EDITIONS OF CONFERENCE (Conference, Edition, EditionName, StartDate, EndDate, Editor)

AUTHOR PRESENTS ARTICLE (AuthorCode, Date, StartTime, EndTime, Room, ArticleCode, Conference, Edition)

express the following queries in SQL language.

- (a) For the authors who have exclusively presented articles with topic 'Data Mining', show the code of the author, the surname of the author, her/his university, and the total number of articles presented by the author in each edition of every conference.
- (b) Considering the conferences with at least 10 editions, for each edition of the conference show the name of the edition and the code of the author who presented the highest number of articles in the edition

2. Given the following relations (primary keys are underlined):

STUDENT (StudentID, Name, Surname, DegreeProgramme)

ASSIGNMENT TO BE DELIVERED (ACode, Title, Topic, ScheduledExpirationDate)

TEACHER (TeacherID, Name, Surname, Department)

EVALUATION OF DELIVERED ASSIGNMENT (StudentID, ACode, TeacherID, DeliveryDate, EvaluationDate, Score)

express the following queries in SQL language.

- (a) For each student who has delivered at least 3 assignments with score greater than 4, show the surname of the student, the total number of assignments delivered by the student, the average score of all delivered assignments, and the number of different teachers who evaluated their delivered assignments.
- (b) Show the identifier, surname and degree programme of the students who have never delivered an assignment after the scheduled expiration date, and who have delivered all the assignments due always getting the highest score.

3. Given the following relations (primary keys are underlined):

SEMINAR(SCode, STitle, Topic, Duration) SPEAKER(S-SSN, SName, BirthDate)
SEMINAR-CALENDAR(SCode, Date, StartTime, S-SSN, Room) EXPERTISE(S-SSN, Topic)

express the following queries in SQL language.

- (a) Show the code of the seminars for which at least one scheduled presentation was held by the speaker with the highest number of topics of expertise

4. Given the following relations (primary keys are underlined):

TEACHER(TCode, TName, TSurname, Department, ResearchGroupName, ResearchArea)

COURSE(CCode, CName, EnrollingStudent, TCode, Topic)

CLASSROOM(RoomID, Floor, VideoKit, Seat)

LECTURE(RoomID, Date, StartHour, EndHour, CCode, AttendingStudent, VideoKit=[yes, no])

express the following queries in SQL language.

- (a) For each teacher who has taught exclusively courses whose topic is databases, select the code of the teacher and, among her courses, the code of the course for which the average number of students attending the course lectures is the highest.