

Introduction to Databases

Homework n. 1 - Relational Algebra

1. Given the following relational schema

USER (UID, Name, Surname, DateOfBirth, City)

VIDEO (VID, Title, Category)

VIEW (UID, VID, #Views)

Write the following query in relational algebra

- a. Show name and surname of users living in Turin who have viewed only videos in the category Entertainment.

2. Given the following relational schema

Guest (GID, Name, Surname, DateOfBirth)

HOTEL (HID, Name, City, Region, #Stars)

STAY (GID, HID, StartDate, EndDate)

Write the following queries in relational algebra

- a. Show name and surname of guests born after 1990/01/01 who have stayed only in hotels located in region Piedmont.
- b. Show name and city of hotels that have never hosted clients for stays shorter than 3 days (difference between StartDate and EndDate)

3. Given the following relational schema

PLAYER (PID, Nickname, DateOfBirth, Country)

VIDEOGAME (VID, Name, Category)

MATCH (PID, VID, Date, #Hours)

Write the following queries in relational algebra

- a. Show the nicknames of players who have played all video games belonging to category arcade.
- b. Show nickname and country of players who played, on the same date, two different video games belonging to the same category.