Homework n.2 - Bruno Palermo s272052
SQL

TRAINER (SSN, Name, Surname, City)
GYM (CodG, NameP, City, Address)
SPECIALTY (CodS, NameS, Description)
GROUP_LESSON (SSN, CodG, Date, CodS, ParticipantsNumber)

a. Show SSN, name and surname of every personal trainer who gave group lessons in at least 3 different gyms located in Turin.

SELECT SSN, Name, Surname
FROM TRAINER T
WHERE T.SSN IN (
                SELECT GL.SSN
                 FROM GROUP_LESSON GL
                 WHERE GL.CdDG IN
                         (SELECT G.CodG
                           FROM GYM G
                           WHERE G.City='Turin'))
                GROUP BY GL.SSN
                 HAVING COUNT (DISTINCT GL.CodG)>=3

b. For each gym in which more than 10 Karate group lessons (NameS = "Karate") have been conducted, show the code of the gym and, separately for each trainer, the total number of participants to the group lessons (of any specialty) given by the trainer in that gym.

```
SELECT CodG, SSN, SUM(ParticipantsNumber)
FROM GROUP_LESSON GL
WHERE CodG IN (
        SELECT CodG
        FROM GROUP_LESSON GL1, SPECIALITY S
        WHERE GL1.CodS = S.CodS  AND NameS ='Karate'
        GROUP BY CodG
        HAVING COUNT(*)> 10 )
GROUP BY CodG, SSN
```

c. For each personal trainer who gave group lessons at every gym in his city, show name, surname and the number of specialties for which he gave lessons.

SELECT Name, Surname, Count(DISTINCT CodS)
FROM TRAINER T, GROUP_LESSON G2
WHERE G2.SSN = T.SSN AND T.SSN IN (

        SELECT T1.SSN
         FROM TRAINER T1, GROUP_LESSON G1, GYM G
         WHERE G1.SSN = T1.SSN AND G.CodG = G1.CodG
           AND T1.City = G.City
         GROUP BY T1.SSN, T1.City
          HAVING COUNT(DISTINCT G1.CodG) = (
               SELECT COUNT(*)
               FROM GYM G
               WHERE T1.City = G.City)
GROUP BY T.Name, T.Surname

USER (SSN, NameU, SurnameU, City, YearOfBirth, UserType)
MOVIE (CodM, Title, Nation, Language, MovieStudio, Genre)
EVALUATION (SSN, CodM, Evaluation, Date)

a. For each user type, show the average evaluation given to movies produced by "Marvel" (MovieStudio = "Marvel").

SELECT   U.UserType, AVG(Evaluation)
FROM USER U, EVALUATION E
WHERE E.SSN = U.SSN AND E.CodM IN (
                                SELECT CodM
                                 FROM MOVIE M
                                 WHERE MovieStudio = 'Marvel')
GROUP BY UserType

b. For each user belonging to type "Expert" who has never evaluated movies of genre "Horror" but has evaluated at least 3 movies of genre "Comedy", show name, surname and the highest evaluation assigned to movies in language "Italian".

```sql
SELECT NameU, SunameU, MAXE
FROM USER U, (
                        SELECT SSN, MAX(Evaluation) AS MAXE
                        FROM EVALUATION E, MOVIE M2
                        WHERE M2.CodM = E.CodM AND
                         Language = 'Italian'
                         GROUP BY SSN) AS EVA

WHERE EVA.SSN = U.SSN AND UserType = 'Expert' AND
             U.SSN NOT IN
                        ( SELECT SSN
                          FROM EVALUATION E1, MOVIE M
                          WHERE M.CodM = E1.CodM AND Genre= 'Horror')
             AND U.SSN IN
                        (SELECT SSN
                         FROM EVALUATION E2, MOVIE M1
                         WHERE M1.CodM= E2.CodM AND Genre='Comedy'
                         GROUP BY SSN
                         HAVING COUNT(*) >=3 )
```