## Lab 2

### Explanations for selected queries

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Q3) Returning for each person, the person's name and that of his grandparent's.

SELECT non.Nome AS Nonno, nip.Nome AS Nipote

**FROM** Persone non, Genitori g1, Genitori g2, Persone nip

**WHERE** non.Id=g1.Genitore **AND** g1.Figlio=g2.Genitore **AND** g2.Figlio=nip.Id;

- Tables **Persone** and **Genitori** are joined with each other to find the relation between grandparent, parent and grandson.
- The WHERE clause non.Id=g1.Genitore selects the grandparent and his details.
- The clause gr.Figlio=g2.Genitore selects the rows that match grandparent's children(P).

- The clause g2.Figlio=nip.Id selects P's children or grandchildren from the results along with the person details.
- The **SELECT** clause displays the grandparent's name and the grandson's name.

## Q9) For each child show the names of the parents

SELECT m.Nome AS Madre, p.Nome AS Padre, f.Nome AS Figlio
FROM Persone f, Genitori gm, Persone m, Genitori gp, Persone p
WHERE f.Id=gm.Figlio AND m.Id=gm.Genitore AND m.Sesso='F'
AND f.Id=gp.Figlio AND p.Id=gp.Genitore AND p.Sesso='M';

- Tables **Persone** and **Genitori** are joined with each other to find the mother for a particular person and then the father for the same person.
- First from the joined tables, the parent is selected. Then the details are filtered by gender to find the mother and the father.
- The **SELECT** clause selects only the names of the mother, father and the son.

# Q10) Modify the previous query for each child to show the null values for those children that do not have one of the parents or both.

- This Query is built with three queries.
- First, creates two temporary tables (PersoneMadre and PersonePadre) to store details of father and mother.
- Second, join the temporary tables and get the results.

### **CREATE TEMPORARY TABLE** PersoneMadre **AS**

SELECT m.Id AS MadreId, m.Nome AS MadreNome, f.Id AS FiglioId, f.Nome AS FiglioNome

**FROM** Persone f **LEFTJOIN** (Genitori g **JOIN** Persone m **ON** (m.Id=g.Genitore)) **ON** (f.Id=g.Figlio **AND** m.Sesso='F');

#### **CREATE TEMPORARY TABLE** PersonePadre **AS**

SELECT p.Id AS PadreId, p.Nome AS PadreNome, f.Id AS FiglioId, f.Nome AS FiglioNome

**FROM** Persone f **LEFTJOIN** (Genitori g **JOIN** Persone p **ON** (p.Id=g.Genitore)) **ON** (f.Id=g.Figlio **AND** p.Sesso='M');

**SELECT** pm.MadreNome, pp.PadreNome, pm.FiglioNome

**FROM** PersoneMadre pm, PersonePadre pp

**WHERE** pm.FiglioId=pp.FiglioId;

- The two temporary tables are joined to generate the null values.
- The previous query (Q9) omitted the **null** values.
- Joining the two tables creates **null** fields for missing parent details.
- The **SELECT** clause selects the mothers name, fathers name and the sons name.