# HOMEWORK 3 - ΣΧΕΣΙΑΚΗ ΑΛΓΕΒΡΑ

1. π ssn (σ id=categoryID (σ name='tennis' (Specialization ⋈ Category))) ⋈ π ssn (σ id=categoryID (σname='golf' (Specialization ⋈ Category)))

2. π ssn ((σ name = 'ski' ∨ name = 'tennis' Category) ⋈ id = categoryID Specialization)

3. π type (σname='snowboard' (Specialization⋈Category)⋈Salesperson)

4. π name, season (σ last_spec_date ≥ date('2014-01-01') (σ categoryID=id (Specialization⋈Category))) - π name, season (σ last_spec_date ≤ date('2013-12-31') (σ categoryID=id (Specialization⋈Category)))

5. π firstname, lastname (π firstname, lastname, boss Salesperson ⋈ Salesperson.boss = ssn (π ssn σ firstname = 'Bradley' ∧ lastname = 'Salinas' Salesperson))

6. π type,firstname,lastname ((σ firstname LIKE 'G%' or lastname LIKE 'M%' Salesperson) ∩ σ type≠'trainee' Salesperson)

7. π Salesperson.ssn, firstname, lastname ((Salesperson ⋈ Salesperson.ssn = Specialization.ssn (Specialization - (σ ssn='9771-50397' (Specialization)))) ⋈ Specialization.categoryID = Specs.categoryID ρ Specs π categoryID σ ssn = '9771-50397' Specialization)

8. π Salesperson.firstname, Salesperson.lastname (((Salesperson ⋈ Salesperson.ssn = SP1.ssn (ρ SP1 Specialization)) ⋈ Salesperson.ssn = SP2.ssn ∧ SP1.categoryID != SP2.categoryID (ρ SP2 Specialization)) ⋈ Salesperson.ssn = SP3.ssn ∧ SP1.categoryID != SP3.categoryID ∧ SP2.categoryID != SP3.categoryID (ρ SP3 Specialization))

9. Specialization - π Specialization.ssn, Specialization.categoryID, Specialization.last_spec_date (Specialization ⋈ Specialization.last_spec_date > Special.last_spec_date ρ Special Specialization)

10. π categoryID, type (Specialization ⋈Salesperson) ÷ π type Salesperson