

# Lab05

## Grupo - P2G2

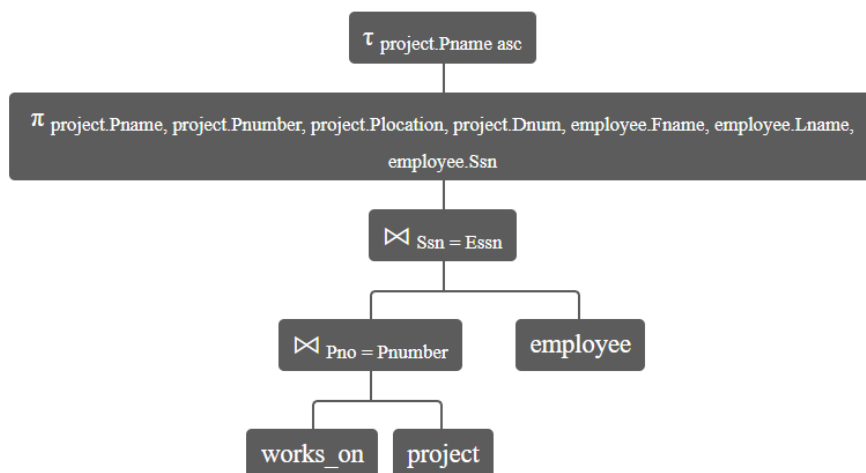
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## Exercicio 1

a)

$\pi$  project.Pname, project.Pnumber, project.Plocation, project.Dnum, employee.Fname, employee.Lname, employee.Ssn works\_on  $\bowtie$  Pno = Pnumber project  $\bowtie$  Ssn = Essn employee

```
SELECT project.*, employee.Fname, employee.Lname, employee.Ssn
FROM works_on
INNER JOIN project on Pno=Pnumber
INNER JOIN employee on Ssn=Essn
```



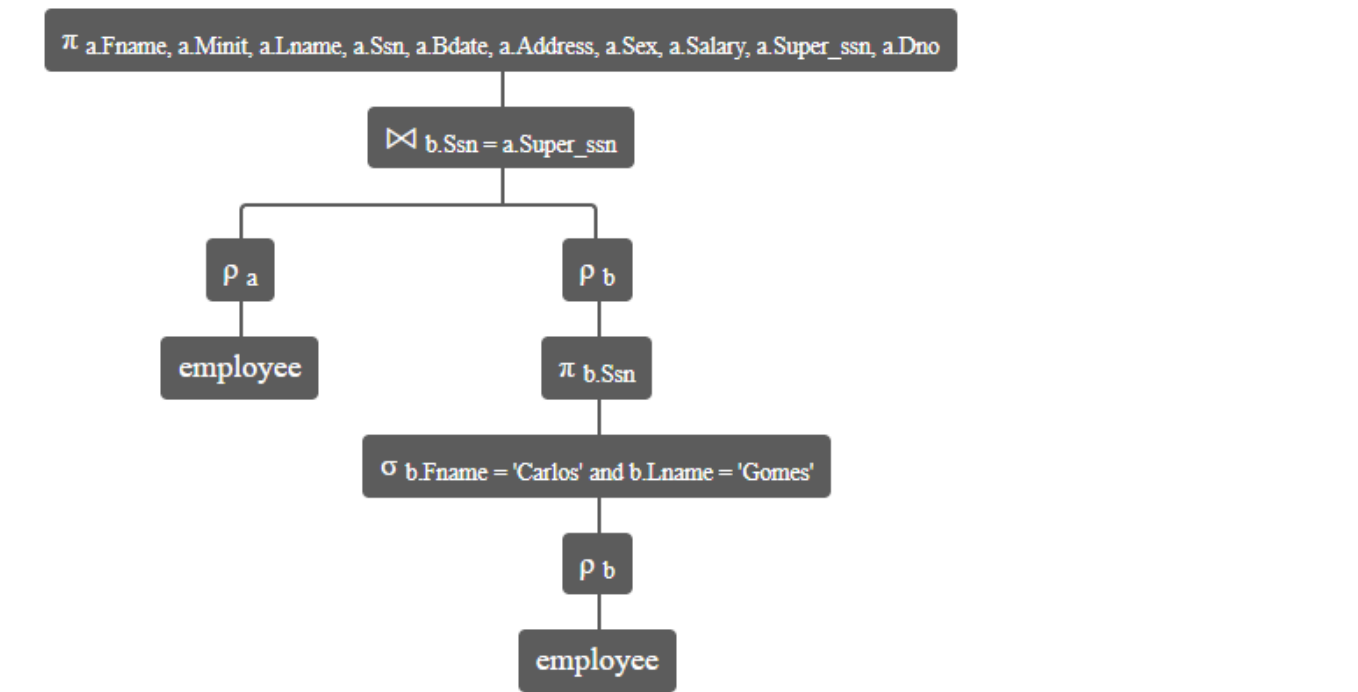
$\tau$  project.Pname asc  $\pi$  project.Pname, project.Pnumber, project.Plocation, project.Dnum, employee.Fname, employee.Lname, employee.Ssn works\_on  $\bowtie$  Pno = Pnumber project  $\bowtie$  Ssn = Essn employee

project.Pname	project.Pnumber	project.Plocation	project.Dnum	employee.Fname	employee.Lname	employee.Ssn
Aveiro Digital	1	Aveiro	3	Paula	Sousa	183623612
Aveiro Digital	1	Aveiro	3	Carlos	Gomes	21312332
Aveiro Digital	1	Aveiro	3	Juliana	Amaral	321233765
Aveiro Digital	1	Aveiro	3	Maria	Pereira	342343434
BD Open Day	2	Espinho	2	Joao	Costa	41124234
Dicoogle	3	Aveiro	3	Paula	Sousa	183623612
Dicoogle	3	Aveiro	3	Joao	Costa	41124234
GOPACS	4	Aveiro	3	Maria	Pereira	342343434

b)

$\pi$  a.Fname, a.Minit, a.Lname, a.Ssn, a.Bdate, a.Address, a.Sex, a.Salary, a.Super\_ssn, a.Dno  $\rho$  a employee  
 $\bowtie$  b.Ssn = a.Super\_ssn  $\rho$  b  $\pi$  b.Ssn  $\sigma$  b.Fname = 'Carlos' and b.Lname = 'Gomes'  $\rho$  b employee

```
SELECT a.*
FROM employee AS a
INNER JOIN (
    SELECT b.Ssn
    FROM employee as b
    WHERE b.Fname='Carlos' AND b.Lname='Gomes' )
AS b
ON b.Ssn = a.Super_ssn;
```



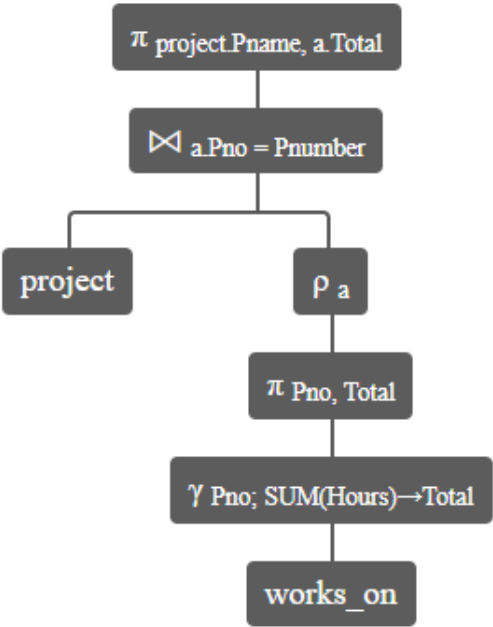
$\pi$  a.Fname, a.Minit, a.Lname, a.Ssn, a.Bdate, a.Address, a.Sex, a.Salary, a.Super\_ssn, a.Dno  $\rho$  a employee  $\bowtie$  b.Ssn = a.Super\_ssn  $\rho$  b  $\pi$  b.Ssn  $\sigma$  b.Fname = 'Carlos' and b.Lname = 'Gomes'  $\rho$  b employee

a.Fname	a.Minit	a.Lname	a.Ssn	a.Bdate	a.Address	a.Sex	a.Salary	a.Super_ssn	a.Dno
Maria	I	Pereira	342343434	2001-05-01	Rua JANOTA	F	1250	21312332	2
Joao	G	Costa	41124234	2001-01-01	Rua YGZ	M	1300	21312332	2
Ana	L	Silva	12652121	1990-03-03	Rua ZIG ZAG	F	1400	21312332	2

c)

$\pi$  project.Pname, a.Total project  $\bowtie$  a.Pno = Pnumber  $\rho$  a  $\pi$  Pno, Total  $\gamma$  Pno; SUM(Hours) $\rightarrow$ Total works\_on

```
SELECT project.Pname, a.Total
FROM project
INNER JOIN (
    SELECT Pno, SUM(Hours) AS Total
    FROM works_on
    GROUP BY Pno)
AS a
ON (a.Pno=Pnumber);
```



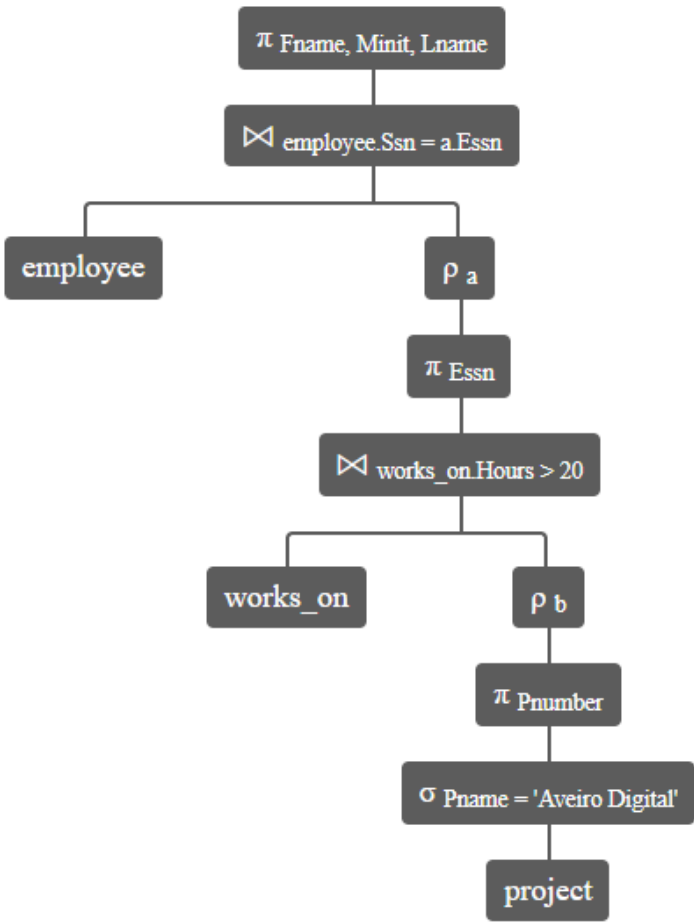
$\pi$  project.Pname, a.Total project  $\bowtie$  a.Pno = Pnumber  $\rho$  a  $\pi$  Pno, Total  $\gamma$  Pno; SUM(Hours) $\rightarrow$ Total works\_on

project.Pname	a.Total
Aveiro Digital	85
BD Open Day	20
Dicoogle	40
GOPACS	25

d)

$\pi$  Fname, Minit, Lname employee  $\bowtie$  employee.Ssn = a.Essn  $\rho$  a  $\pi$  Essn works\_on  $\bowtie$  works\_on.Hours > 20  $\rho$  b  $\pi$  Pnumber  $\sigma$  Pname = 'Aveiro Digital' project

```
SELECT Fname, Minit, Lname
FROM employee
INNER JOIN (
    SELECT Essn
    FROM works_on
    INNER JOIN (
        SELECT Pnumber
        FROM project
        WHERE Pname='Aveiro Digital')
    AS b
    ON works_on.Hours > 20)
AS a
ON employee.Ssn = a.Essn
```



$\pi$  Fname, Minit, Lname employee  $\bowtie$  employee.Ssn = a.Essn  $\rho$  a  $\pi$  Essn works\_on  $\bowtie$  works\_on.Hours > 20  $\rho$  b  $\pi$  Pnumber  $\sigma$  Pname = 'Aveiro Digital' project

employee.Fname	employee.Minit	employee.Lname
Juliana	A	Amaral
Maria	I	Pereira
Joao	G	Costa