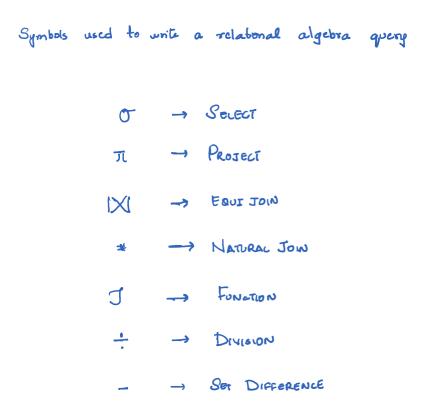
### Ex. 6.16 (a, b, d, e, f, g, i, j)

Specify the following queries on the COMPANY relational database schema shown in Figure 5.5, using the relational operators discussed in this chapter. Also show the result of each query as it would apply to the database state in Figure 3.6.

- a. Retrieve the names of all employees in department 5 who work more than 10 hours per week on the ProductX project.
- b. List the names of all employees who have a dependent with the same first name as themselves.
- d. For each project, list the project name and the total hours per week (by all employees) spent on that project.
- e. Retrieve the names of all employees who work on every project.
- f. Retrieve the names of all employees who do not work on any project.
- g. For each department, retrieve the department name and the average salary of all employees working in that department.
- i. Find the names and addresses of all employees who work on at least one project located in Houston but whose department has no location in Houston.
- j. List the last names of all department managers who have no dependents.

#### **SOLUTION**



A) Names of all employees in department 5 who work on the project

PRODUCTX for more than 10 hrs /wk

Details of the project

Works-on for

whose Phame is

R2 

(R1) 

Productx'

Productx'

Productx'

Checks table

Works-on for

Works-on)

Pro=1

Productx'

R3 4 (EMPLOYEE) \* ESSN (THOURS >10 (R2))

Result 4- II FNAME, LNAME (TONO = 5 (R3))

6 details

Gives Employed actains

which is same as ESSN no. of result R2

Displays only FNAME and LNAME of output obtained from R3

Result of the gueny:

LNAME FNAME

Smith John

English Joyce

RA 4 (EMPLOYEE) M (SGN : ESSN) AND (FNAME : DEPENDENT\_NAME) (DEPENDENT)

REGULT 4 TENAME (RA)

Retrieves details of employees whose SSN of EMPLOYEE table
15 SAME AS SSN OF DEPENDENT table and whose FNAME of EMPLOYEE
table is the SAME AS DEPENDENT-NAME of DEPENDENT table

Result of the apony: EMPTY

d) Display project name and total his love spent on it.

Result 4— TOT-HRE (RI) PNO = PNUMBER (PROJECT)

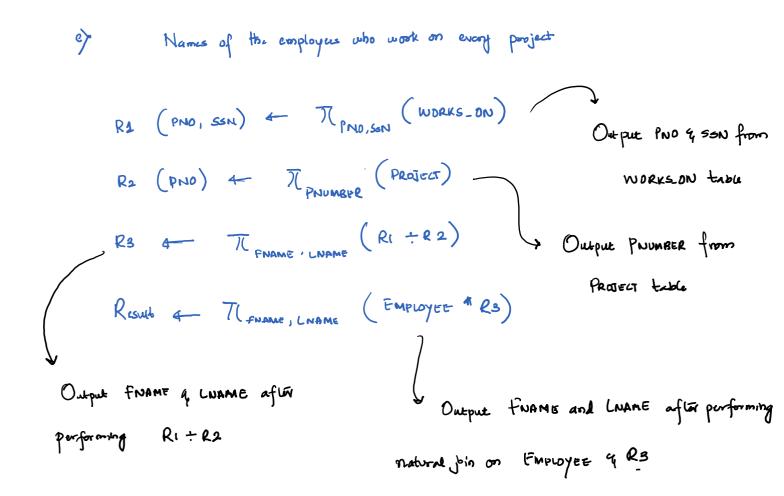
Gives PNO and Sun of hours from WORKS\_ON table

Gles PNAME and TOT-HES by parforming a EDUTION b/w WORKS-ON table and PROJECT table . S

> Performed by matching PNO of works. ON table with PNUMBER of PROJECT ENDLE

## Result of the going:

PNAME	TOT-HRS
Product X	72.5
Produce y	34.5
Product Z	50·0
Computerization	55·D
Reorganization	<b>રે</b> 5∙0
Naw Benefits	55.0



	Result of the	queno:	
-	FNAME	LNAME	

Propres of employees who do not work on any project

R1 + Tess (Employee)

SSN of all employees

R2 (DDN) + Tess (WORKS-ON) from Employees take

R3 + R1-R2 - Difference of result from R1 9 R2

ESSN from

WORKS-ON table

Result + Tename, chame (Employee 4 R3)

Performs natural Join on Emologie 4 R8

Result TNAME LNAME

Display DEHARTMENT name and DEPARTMENT! average Salary

Output Aug. salary of each department after performing the natural Join of RI

q DEBARTMENT

Aug saling of each department from EMPLOYEE table

### Result

DNUMBER	AUG_SAL
Research	33250
Administrativo	81000
Here aparties	55 o <del>o</del> o

Displage names and addresses of employees

RI (SSN) 4- TI (WORKS-ON) | PNO : PWUMPER (PROJECT)))

R2 & T( DNUMBER (DEPARTMENT) - TI DNUMBER (DEPARTMENT))

RS 4 TI SON ((EMPLOYEE) TOT DNO= OFFICER (R2))

Ry 4 RI - R3

Result 4 T FNAME, LNAME, ADDRESS (EMPLOYED \* RY)

Rout:

INANG	LNAME	Adolesi
Jenny	Wallace	291 Bory, Bellave, TX

1>

Display last names of oranagors

# Route

FRAME	LNAME
J amas	Bog.