Rational Algebra

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- 1. Select Nama, Alamat, and Gaji from employee in "Research" department.
 - $\Leftrightarrow \pi_{nama,alamat,gaji}(\sigma_{Dname="Research"}(Employee \bowtie Department))$

nmdepan varchar(20)	\$	nmbelakang varchar(20)	\$	alamat varchar(50) ♦	gaji int	\$
John		Smith		731 Fondren, Houston, TX	30000	
Franklin		Wong		638 Voss, Houston, TX	40000	
Ramesh		Narayan		975 Fire Oak, Humble, TX	38000	
Joyce		English		5631 Rice, Houston, TX	25000	

- 2. Select nama, alamat, and noKTP from employee that is a supervisor of other employees.
 - $\Leftrightarrow \pi_{NmDepan,NmBelakang,Alamat,NoKTP}(\sigma_{NoKTP\ IN\ NOKTP_MGR}(Employee))$

nmdepan varchar(20) ♦	nmbelakang varchar(20)	alamat varchar(50) ♦	NoKTP varchar(10) ♦
Franklin	Wong	638 Voss, Houston, TX	333445555
Jennifer	Wallace	291 Berry, Bellaire, TX	987654321
James	Borg	450 Stone, Houston, TX	888665555

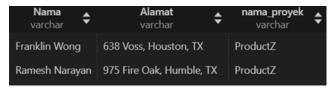
- 3. Select nama and noKTP from employee with its supervisor's nama and noKTP.
 - $\Leftrightarrow \pi_{Nama_Employee,NoKTP_Employee,Nama_Supervisor,NoKTP_Supervisor} \\ (Employee \bowtie \textit{Employee}.NoKTPKepala=Employee.NoKTP})$



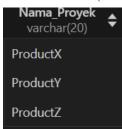
- 4. Select nama, alamat, and noKTP that is a manager in Department 4.
 - $\Leftrightarrow \pi Nama, Alamat, NoKTP(\sigma Dnomor=4(Department \bowtie Department.NOKTP_MGR=Employee.NoKTP))$



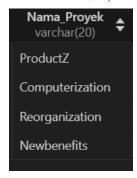
- 5. Select nama, alamat, and nama_proyek from employee that works in "ProductZ" project.



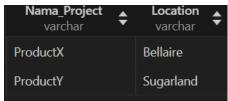
- 6. Select nama_proyek controlled by "Research" department.
 - $\Leftrightarrow \pi Nama_{P}royek(\sigma Dname="Research"(Project \bowtie Project.Dnum=Department.Dnomor))$



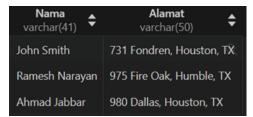
- 7. Select nama_proyek located in "Houston" or" Stafford".
 - $\Leftrightarrow \pi_{Nama_Proyek}(\sigma_{Plokasi="Houston"} \circ R_{Plokasi="stanfford'}(Project))$



- 8. Select name and location of the project which "John" work on it.
 - $\Leftrightarrow \pi_{Nama_Project,Location}(\sigma_{NmDepan="John"}(Bekerja_Pada\bowtie Bekerja_Pada.NoKTP=Employee.NoKTP\bowtie Bekerja_Pada.Pnomor=Project.Pnomor))$



- 9. Select nama and alamat of male employee with salary less than 40000
 - $\Leftrightarrow \pi Nama, Alamat(\sigma JenisKelamin="L"AND Gaji<40000(Employee))$



10. Select nama and gaji of "Administration" department manager.

 $\Leftrightarrow \pi Nama, Gaji \big(\sigma Dname = "Administration" \big(Department \bowtie Department.NOKTP_MGR = Employee.NoKTP \big) \big)$

