2.6.b $\Pi_{person\text{-}name}(\sigma_{salary>100000}(employee \bowtie works))$

2.6.c $\Pi_{person\text{-}name}(\sigma_{city="Miami" \wedge salary>100000}(employee \bowtie works))$

2.8.a $\Pi_{ID, person\text{-}name}(employee \bowtie works) - \sigma_{company\text{-}name="Big\ Bank"}(employee \bowtie works))$

b $\Pi_{ID, person\text{-}name}((\Pi_{ID}(works) - \Pi_{workers.ID}(\rho_{w_1}(works) \bowtie_{w_1.salary < w_2.salary} \rho_{w_2}(works))) \bowtie employee)$

2.9 $\Pi_{ID, course\text{-}id}(takes) \div \Pi_{course\text{-}id}(\sigma_{dept\text{-}name=}$
(a) $"Comp.\ Sci"(course))$

(b) $temp1 \leftarrow \Pi_{ID, course\text{-}id}(takes)$
$temp2 \leftarrow \Pi_{course\text{-}id}(\sigma_{dept\text{-}name="Comp.\ Sci"}(course))$
$\Pi_{ID}(temp1) - \Pi_{ID}((\Pi_{ID}(temp1) \times temp2) - temp1)$

2.14 c $\Pi_{ID, person\_name, street\_address, city}$ ($\sigma_{employee.id = works.id \wedge works.company\_name = \text{"BigBank"} \wedge employee.city = company.city}$ (employee × works × company))

2.14 d $\Pi_{ID, person\_name}$ ($\sigma_{employee.Id = works.ID \wedge works.company\_name = company.company\_name \wedge employee.city = company.city}$ (employee × works × company))

2.15 c : Π_{ID} ($\sigma_{branch\_name = \text{"Uptown"} \wedge balance > 6000}$ (depositer ⋈ account))

2.18 c $\Pi_{ID, name}(\sigma_{dept\_name = "Comp. Sci"}(takes \bowtie student))$

d $\Pi_{ID, name}(\sigma_{year = 2018}(takes \bowtie student))$

e $\Pi_{ID, name}(\sigma_{student}) - \Pi_{ID, name}(\sigma_{year = 2018}(takes \bowtie student))$