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2.6 a. $\Pi_{person\_name}(\sigma_{city="Miami"}(employee))$

b. $\Pi_{person\_name}(\sigma_{salary>\$100000}(works))$

c. $\Pi_{person\_name}(\sigma_{city="Miami"}(employee)) \cap \Pi_{person\_name}(\sigma_{salary>\$100000}(works))$

2.7 a. $\Pi_{branch\_name}(\sigma_{branch\_city=Downtown}(branch))$

$\Pi_{ID}(\sigma_{branch\_name=Downtown}(borrower \bowtie loan))$

2.8 a. $\Pi_{person\_name}(works) - \Pi_{person\_name}(\sigma_{company\_name="Big\ Bank"}(works))$

b. $temp_1 \leftarrow \Pi_{person\_name}(\sigma_{works.salary<temp.salary}(\rho_{temp}(works) \times works))$

$temp_2 \leftarrow \Pi_{person\_name}(works)$

$result \leftarrow temp_2 - temp_1$

2.14 a. $\Pi_{person\_name}(\sigma_{company\_name="Big\ Bank"}(works))$

b. $\Pi_{person\_name,city}(\sigma_{company\_name="Big\ Bank"}(employee \bowtie works))$

c. $\Pi_{person\_name,city,street}(\sigma_{company\_name="Big\ Bank" \wedge salary>\$10000}(employee \bowtie works))$

2.15 a. $\Pi_{loan\_number}(\sigma_{amount>\$10000}(loan))$

b. $\Pi_{ID}(\sigma_{balance>\$6000}(account \bowtie depositer))$

c. $\Pi_{ID}(\sigma_{balance>\$6000 \wedge branch\_name="Uptown"}(account \bowtie depositer))$