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# Exercícios de Álgebra

$$1) (\pi_{\text{codcli}}(\text{cliente})) - (\pi_{\text{codcli}}(\text{reserva}))$$

$\pi_{\text{nome, codcli}}$  não tem reserva (R1)

$$2) ((\text{cliente} \bowtie ((\pi_{\text{codcli}}(\text{cliente})) - \pi_{\text{codcli}}(\text{Reserva}))))$$

$\text{cliente.codcli} = R_1.\text{codcli}$

$$3) (\pi_{\text{nome, idade}}(\text{cliente})) \cup (\pi_{\text{nome, idade}}(\text{Funcionário}))$$

$$4) R1 \leftarrow \overbrace{\pi_{\text{codcli}}(\text{cliente}) - \pi_{\text{codcli}}(\text{Reserva})}^{\text{todos os clientes sem reserva}}$$

$$R2 \leftarrow \left( \begin{array}{c} \text{data} \leq 01/01/2003 \\ \text{data} > 31/01/2003 \end{array} \right) (\text{Reserva})$$

$$R3 \leftarrow R1 \cup (\pi_{\text{codcli}}(R2))$$

! → todos os códigos de quem não fez reserva em 2003,1





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$$R_4 \leftarrow \text{Cliente} \bowtie R_3$$

$$R_3 \text{ codcli} =$$

$$\text{Cliente} \cdot \text{codcli}$$

$$R_5 \leftarrow \text{Ciudad} \bowtie R_4$$

$$\text{ciudad} \cdot \text{codcli} =$$

$$R_4 \cdot \text{codcid}$$

$$R_6 \leftarrow \Pi \text{ name} (R_5)$$

$$5) R_1 \leftarrow (\Pi \text{ codcli} (\text{cliente}) - \Pi \text{ codcli} (\text{reserva}))$$

$$R_2 \leftarrow \text{Cliente} \bowtie R_1$$

$$\text{cliente} \cdot \text{codcli}$$

$$R_1 \cdot \text{codcli}$$

$$R_3 \leftarrow \sigma_{\text{idade} > 30} (R_2)$$

$$R_4 \leftarrow \Pi \text{ codcli} (R_3)$$





$$6) R1 \leftarrow (\pi_{\text{codcli}}(\text{Reserva})) - (\pi_{\text{codcli}}(\text{Cliente}))$$

$$R2 \leftarrow R1 \bowtie \text{Reserva}$$

$R1.\text{codcli} =$   
 $\text{Cliente}.\text{codcli}$

$$R3 \leftarrow R2 \bowtie \text{Cliente}$$

$R2.\text{codcli} =$   
 $\text{Cliente}.\text{codcli}$

$$R4 \leftarrow \sigma_{\text{fecha} = 01/01/2000}$$

$$7) (\pi_{\text{codFum}, \text{codcar}}(\text{Financiamiento})) \div (\pi_{\text{codcar}}(\text{Reserva}))$$