

1. $\pi_{\text{Pub}}(\text{SERVES} \bowtie \sigma_{\text{Drinker}=\text{Joe}}(\text{LIKES}))$.

$\text{JoeLikes}(\text{Pub}) := \text{LIKES}(\text{Joe}, \text{B}), \text{SERVES}(\text{Pub}, \text{B}, _)$.

2. $\pi_{\text{Drinker}}(\text{SERVES} \bowtie \text{FREQUENTS } \sigma_{\text{Cost} < 3})$.

$\text{CheapDrinkers}(\text{Drinker}) := \text{FREQUENTS}(\text{Drinker}, \text{P}), \text{SERVES}(\text{P}, _, \text{X}),$
 $(\text{X} < 3)$.

3. $\pi_{\text{Drinker}}(\text{SERVES} \bowtie \text{LIKES } \sigma_{\text{Cost} > 8} \sigma_{\text{Drinker}=\text{Joe}}(\text{LIKES}))$.

4. $\pi_{\text{Drinker}}(\text{LIKES} \bowtie \text{FREQUENTS NOT Drinker}(\text{FREQUENTS}))$.

$\text{Liker}(\text{Drinker}) := \text{Likes}(\text{Drinker}, _) , \text{NOT Frequent}(\text{Drinker}, _)$.

5. $\pi_{\text{Drinker}}(\text{LIKES} \bowtie \text{FREQUENTS} \bowtie \text{SERVES } \sigma_{\text{Beer}=\text{"Stella Artois"}} \text{ OR } \sigma_{\text{Beer}=\text{"Morsons"}})$.

6. $\pi_{\text{Pub}}(\text{FREQUENTS} \bowtie \text{LIKES } \sigma_{\text{Drinker}=\text{Joe}}(\text{LIKES}))$.

$\text{JoeLikes}(\text{Pub}) := \text{LIKES}(\text{Joe}, \text{B}), \text{SERVES}(\text{Pub}, \text{B}, _)$.