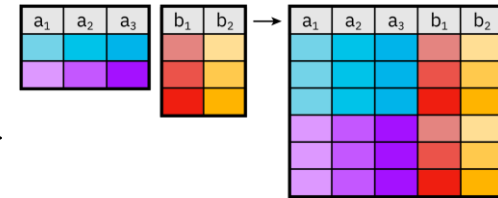# Relational Algebra Operators

- Unary Operators: on **single relation**
  - **Projection** (π): Retains only desired columns (vertical)
  - **Selection** (σ): Selects a subset of rows (horizontal)
  - Renaming (ρ): Rename attributes and relations

- Binary Operators: on **pairs of relations**
  - Union ($\cup$): Tuples in r1 or in r2.
  - Set-difference (-): Tuples in r1, but not in r2.
  - Cross-product ($\times$): Combine two relations =>

- Compound Operators: common "*macros*" for the above
  - Intersection ($\cap$): Tuples in r1 and in r2.
  - **Joins** ($\bowtie_\theta$, $\bowtie$): Combine relations that satisfy predicates ($= \sigma_\theta(R \times S)$)