# SQL — Structured query language                    PostgreSQL

## SELECT X   FROM Y   WHERE Z

"FROM Y": tells DB which tables hold the data we want
            y — list of tables

"WHERE Z": condition, analogous to selection in R.A.
                                            $(\sigma)$

"SELECT X": tells the DB what attributes we want $(\pi)$

$$\pi_X \; \sigma_Z \; (Y)$$

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## Where clause

$=$

~~$\neq$~~  <>  (not equals)              AND
                                          OR
<                                         NOT
<=
>
>=

## Strings

LIKE : work w/ wildcards

% : match any sequence of chars

_ : " exactly one character

ORDER BY attrib1, attrib2.... [ASC/DESC]
                                └── optional

# JOINS

→ Cartesian product  (R.A. "$\times$")

   SQL — <u>FROM</u> Table1, Table2   (diff tables)

   FROM Table T1, Table T2

   ↑       ↑
   new names

→ Theta join (R.A $\bowtie_\theta$)

   SQL   FROM Table1 <u>JOIN</u> Table2 <u>ON</u> <u>condition</u>
                                            $\theta$

→ NATURAL JOIN (R.A. $\bowtie$)

   Joins 2 tables on common attributes being equal