

## Relations and Functions

- a *relation schema* is an indexed set of sets
- a *relation* is a subset of a product
- the states of a relation schema are the subsets of schemas product
- a database schema is an indexed set of relation schemas with some constraints
- a *function*  $A \longrightarrow B$  is a relation  $\subseteq A \times B$  which has exactly one pair  $(a, b)$  for each  $a \in A$
- if  $f$  is a function  $A \longrightarrow B$  and  $(a, b) \in f$  then we say  $f(a) = b$