Relational Algebra Examples

Symbols:

|  |  |  |
| --- | --- | --- |
| Selection |  | Choose rows |
| Projection |  | Choose columns |
| Predicate | ϴ | Filter rows |
| Natural Join | **⋈** |  |
| Relation | r | Table (Rows) |
| Scheme | R | Scheme (attributes) |

Syntax:

X ϴ r – where X is a subscheme of all relations in the expression

Schemes:

States={sname,population,governor}

Cities={sname,cname,mayor}

Examples:

1. List all the attributes and all the rows from the states table

states

Select \* from states;

1. List all the attributes and all the rows from states where the population of the state is > 1000

population>1000states

Select \* from states where population>1000;

1. List the name of the state and all the rows from states where the population of the state is > 1000

sname population>1000states

Select sname from states where population>1000;

1. List the name of the state and its population for all the rows from states where the population of the state is > 1000

sname,population population>1000states

Select sname,population where population>1000;

1. List the name of the state and its cities names for all the rows from states joined with cities where the population of the state is > 1000

sname,cname population>1000states⋈cities

Select states.sname,cname from states natural join cities where population>1000;