ITR08 Lecture 12

Table Operations (again)

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Reading

Roman, Steven (1999) "Access Database Design and Programming" (chapter 5), O'Reilly, 2nd edition

ITR8 class (2001) "sofix database" http://wotan.liu.edu/home/krichel/itr8/db/sofix.mdb

Compute the union between two tables with the same attributes

Table1:

A_1	A_2
a	b
c	d
e	f

Table2:

A_1	A_2
g	h
i	j

Result:

A_1	A_2
a	b
c	d
e	f
g	h
i	j

In MS Access, done through copy and paste in the tables view.

Form the Cartesian product between tables with different attributes with the same attributes

Table1:

A_1	A_2
a	b
c	d
e	f

Table4:

B_1	B_2	B_3
g	h	I
j	k	I

Result:

A_1	A_2	B_1	B_2	B_3
a	b	g	h	I
a	b	j	k	I
c	d	g	h	I
c	d	j	k	I
e	f	g	h	I
e	f	j	k	I

Form the projection of a table onto a subset of its columns

item_number	label_name	number
1	arte nova classics	74321 59214 2
2	deutsche grammophon	410 020-2
3	deutsche grammophon	415 062-2

throw everything away exept the 1st and 3rd columns

item_number	label_name
1	74321 59214 2
2	410 020-2
3	415 062-2

Compute the intersection between two tables with the same attributes

Table1:

A_1	A_2
a	b
c	d
e	f

Table3:

A_1	A_2
c	d
i	j
e	f

Result:

A_1	A_2
c	d
e	f

In MS Access, perform left outer join, select where elements of the right table is not null.

Compute the difference between two tables with the same attributes

Table5:

A_1	A_2
a	b
c	d
e	f
g	h

Table3:

A_1	A_2
c	d
i	j
e	f

Result:

A_1	A_2
a	b
g	h

In MS Access, perform left outer join, select where elements of the right table is null.

Form a selection of a rows in a table according to a criterium

Selection criterea may comprise

- Constants values from the attribute domain
- Attribute names
- Algebraic expressions like $=$, $>$ etc
- Logical expressions like AND, OR, NOT

Example

tracktime $>$ 500

label $=$ deutsche gramophone