

# QBE (Query By Example)

(Not in the text book. But in the on-line version).

- Graphical Query lang.
- Queries specified thru examples
- User friendly
- Access and other database management systems use it.

Fundamental construct:

Skeleton Schema.

Interactive

Skeleton Schema:

relation name			column
→ Customer	Cust-name	Street	Cust-city
	P.		'Chicago'

Selection done by specifying the condition under the appropriate column

accounts	acct #	bal	br-name
	P.	> 10K	

Use negation in a column

accounts	acct #	bal	br-name
	P.	> 10K	¬ UIC

Complex conditions can be specified using  
Condition boxes

Condition box
bal > 10K OR bal < 5K

Using variables

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Retrieve account numbers jointly owned by  
John and Mary

deposit	Cust-name	Acct #
	'John'	P. -x
	'Mary'	-x

Print all tuples from deposit- with Cust-name = John

deposit	Cust-name	Acct #
P.	'John'	

## Queries on multiple relations

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Print names of customers having an account  
with bal > 10K

deposit	cust-name	acct #
	P.	-x

accounts	acct #	bal	br-name
	-x	>10K	

Print names of customers who have an account  
and a loan

deposit	cust-name	acct #
	P. -x	

borrow	cust-name	loan #
	-x	

Print names of customers having an account but not a loan.

deposit	Cust-name	acct #
	P. -x	

borrow	Cust-name	loan #
7	-x	

## Result relation:

Some times we have to print values from multiple relations.

Use 'result' relation.

ex: Print names of customers, addresses and acct #s they own.

customer	cust-name	street	cust-city
	-x	-y	-z

deposit	cust-name	acct #
	-x	-u

result	cust-name	street	cust-city	acct #
P <sub>0</sub>	-x	-y	-z	-u