Univerza *v Ljubljani*
Fakulteta *za računalništvo*
in informatiko

Predmet:
Osnove podatkovnih baz

Modul:
Poizvedovanje s QBE

Gradivo:
v.2015

Vsebina

- Kaj je QBE
- Poizvedovanje s QBE v MS Access
- QBE orodja za MySQL

QBE – Query-By-Example…

- Vizualen način dostopa do podatkov s podajanjem primerov…povemo, kaj nas zanima.
- QBE originalno razvil IBM v 70' letih. Včasih zelo popularen. Ponujajo mnogi SUPB.
- Možno prehajanje iz vizualne v tekstovno poizvedbo in obratno.

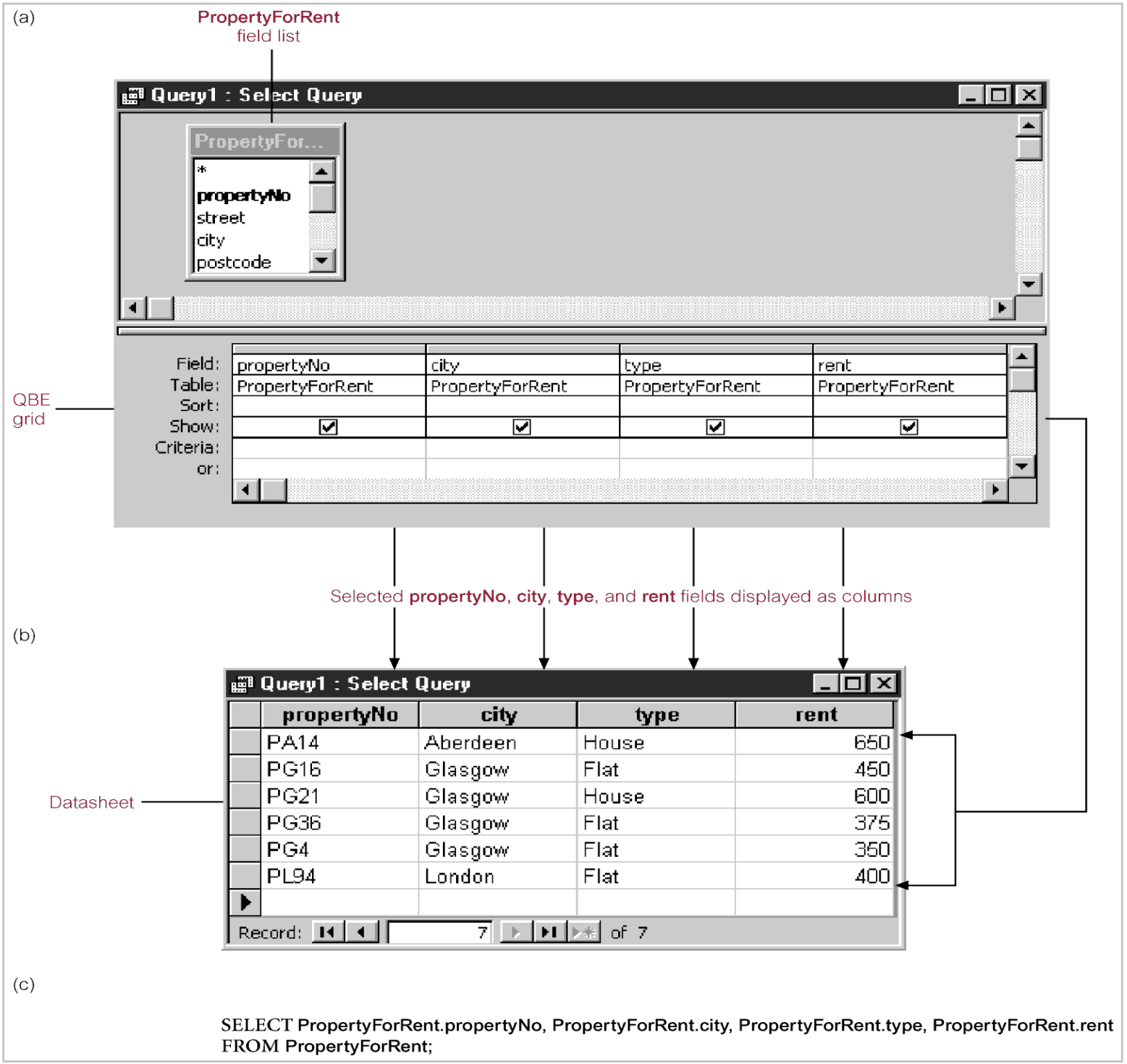
Primer QBE v MS ACCESS...

- QBE v MS Access uporabnikom omogoča:
  - Poizvedovati po podatkih ene ali več tabel.
  - Določiti stolpce, ki jih želimo imeti v odgovoru (projekcija).
  - Določiti kriterije za izbiro vrstic (selekcija).
  - Izvajati izračune nad podatki v tabelah.
  - Dodajati in brisati zapise.
  - Spreminjati vrednosti v poljih.
  - Kreirati nove tabele in stolpce.
  - Izvajati posebne poizvedbe.

Primer QBE v MS ACCESS...

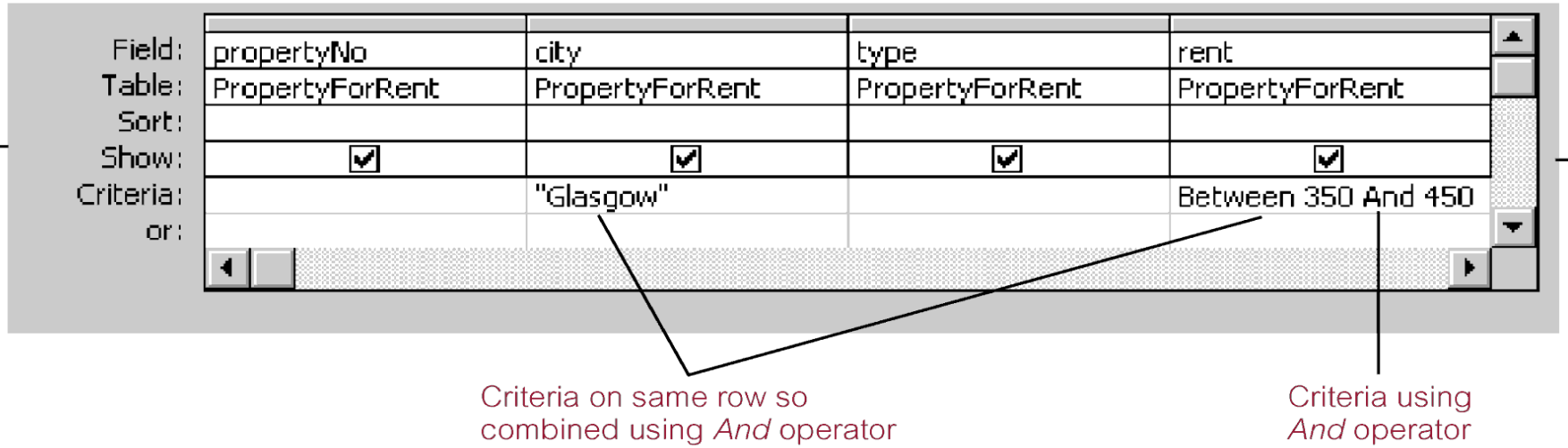
- Primeri iz Accessa

Poizvedba SELECT

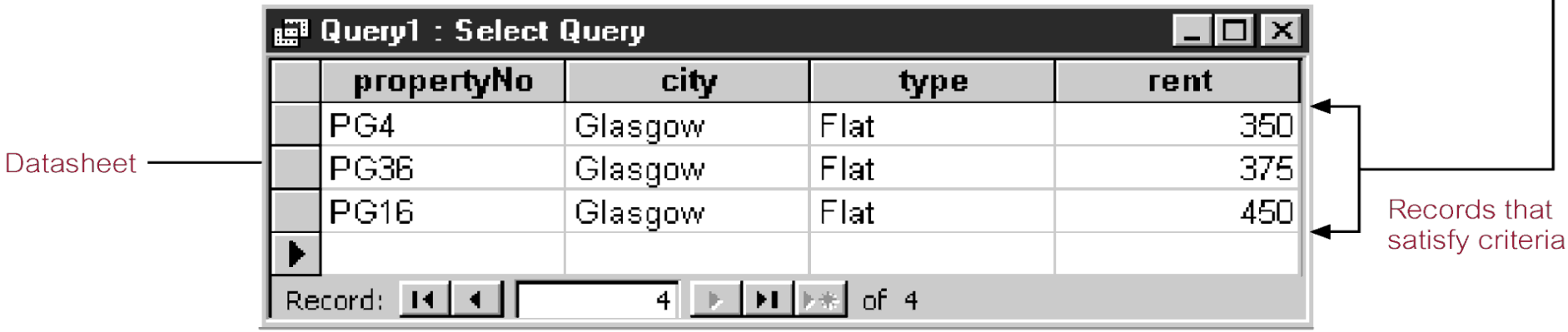


Poizvedba SELECT, določitev kriterija

(a)



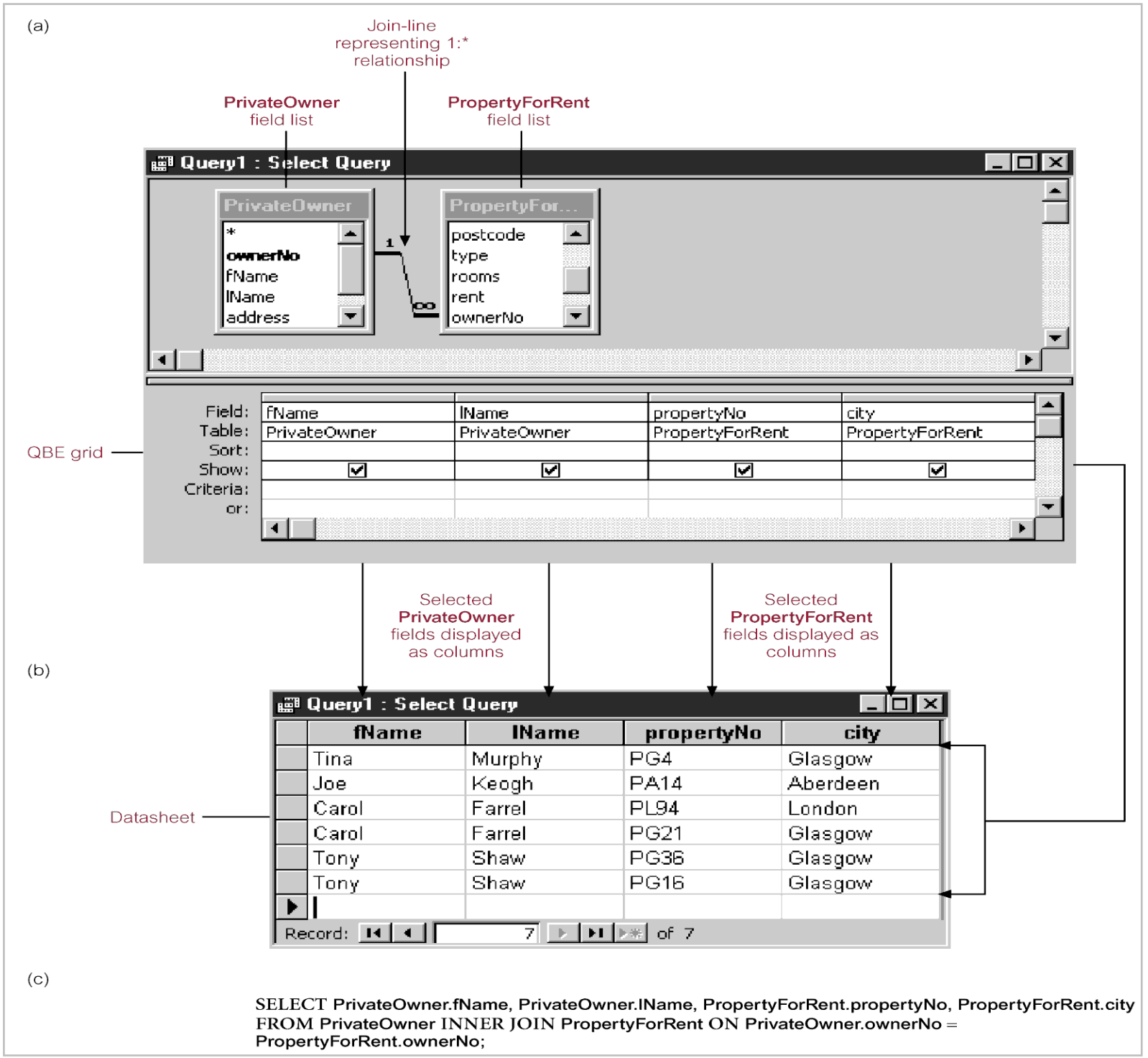
(b)



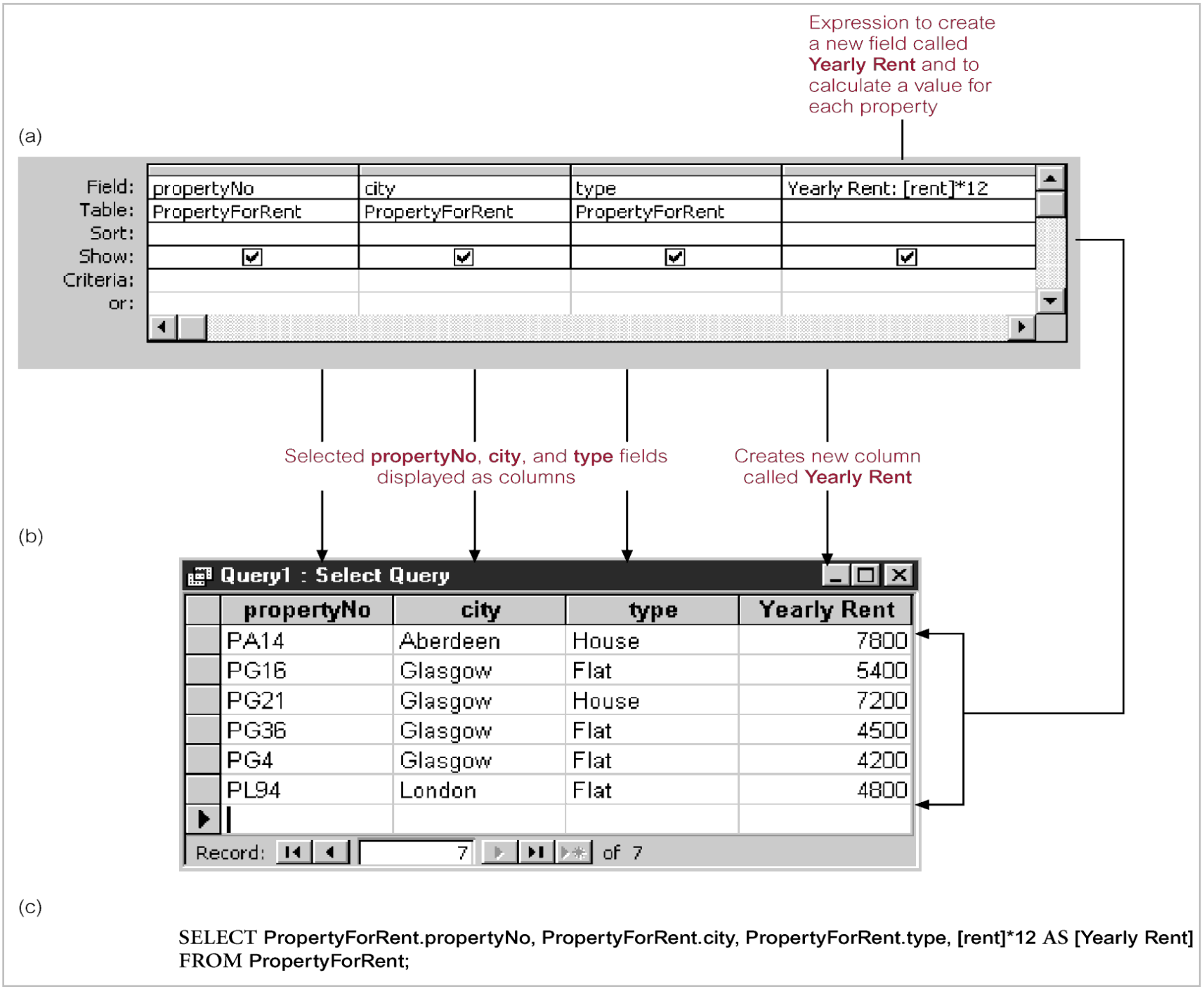
(c)

```
SELECT PropertyForRent.propertyNo, PropertyForRent.city, PropertyForRent.type, PropertyForRent.rent
FROM PropertyForRent
WHERE (((PropertyForRent.city)="Glasgow") AND ((PropertyForRent.rent) Between 350 And 450));
```

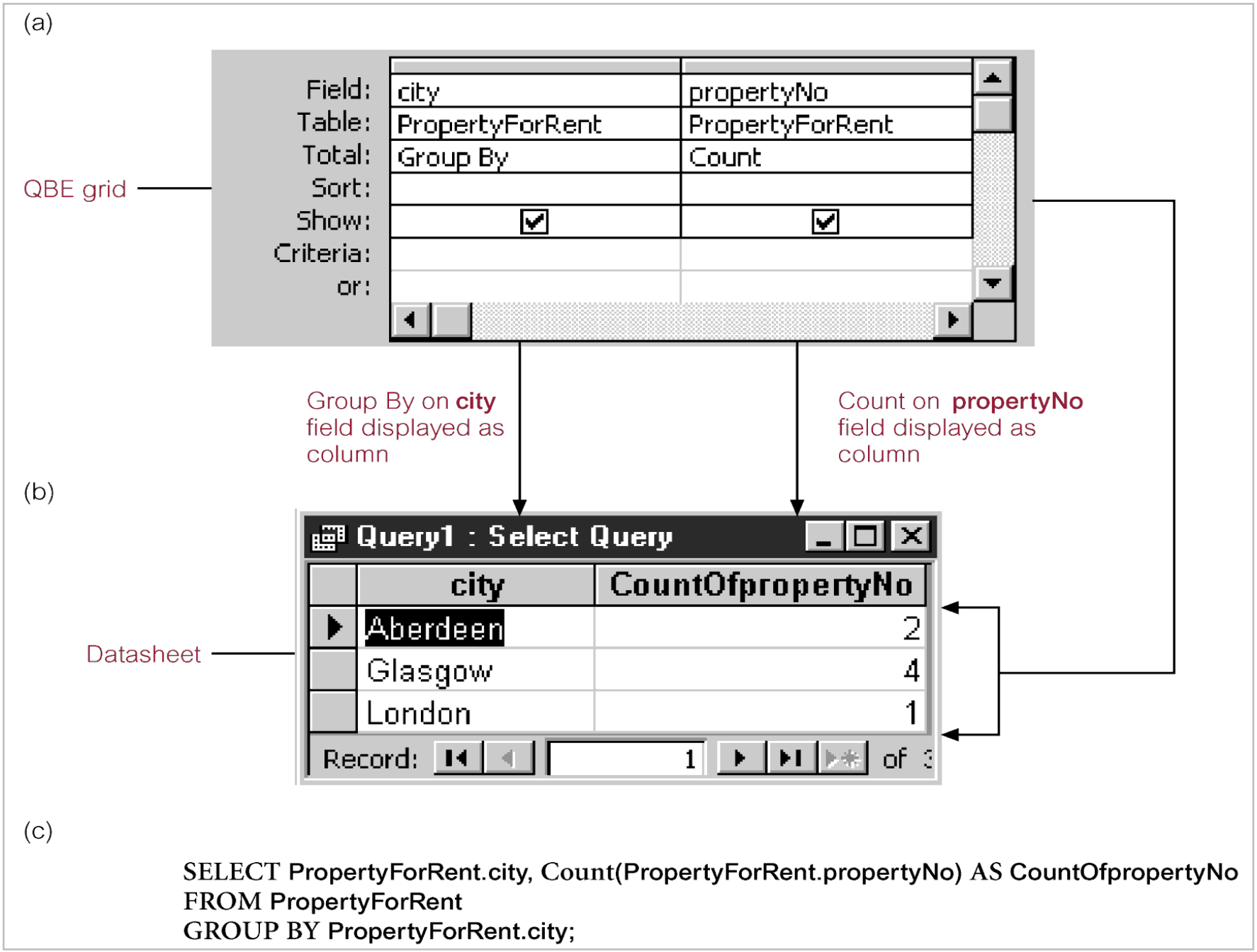
Poizvedba SELECT, stik tabel



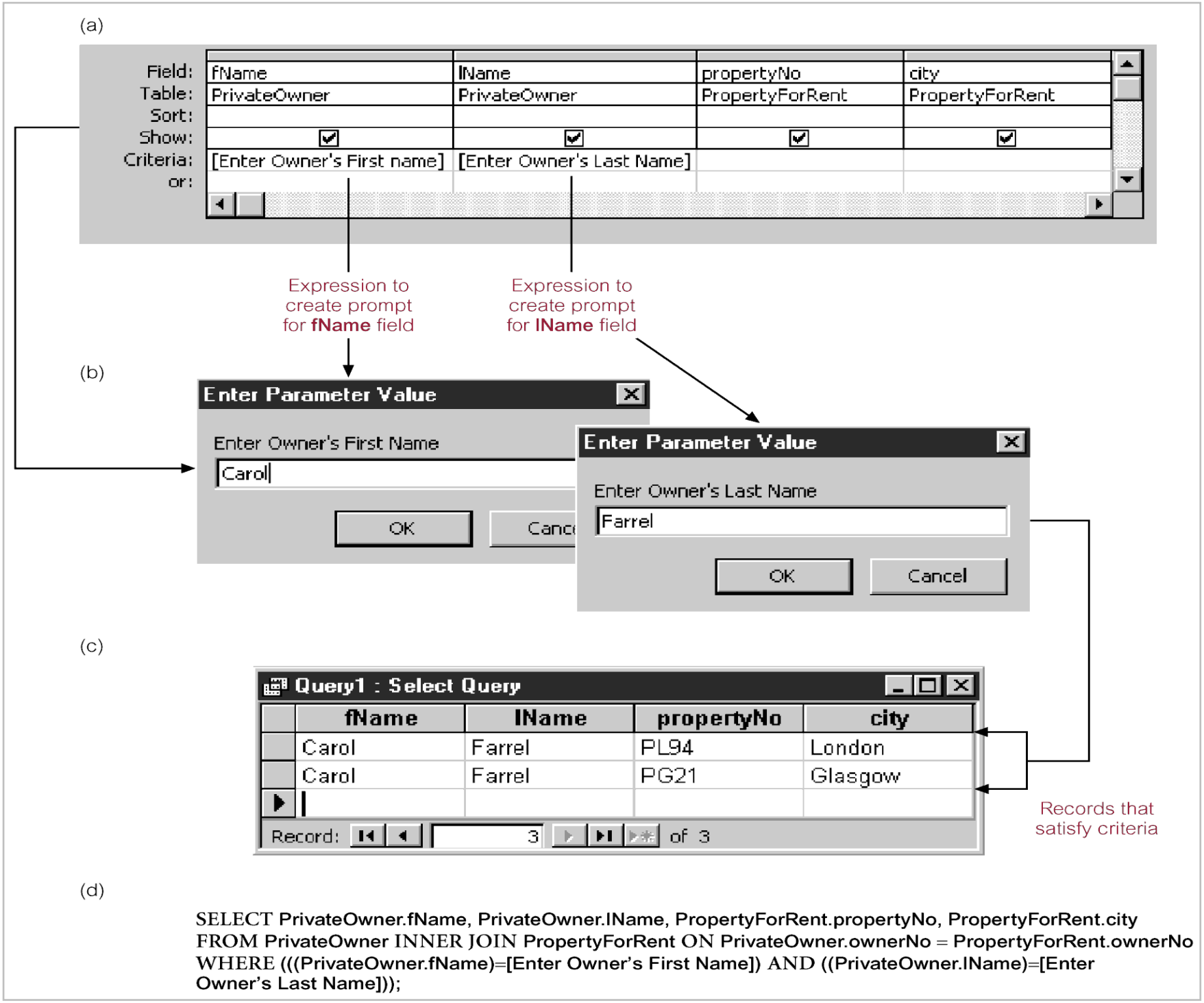
Poizvedba SELECT, izračunana polja



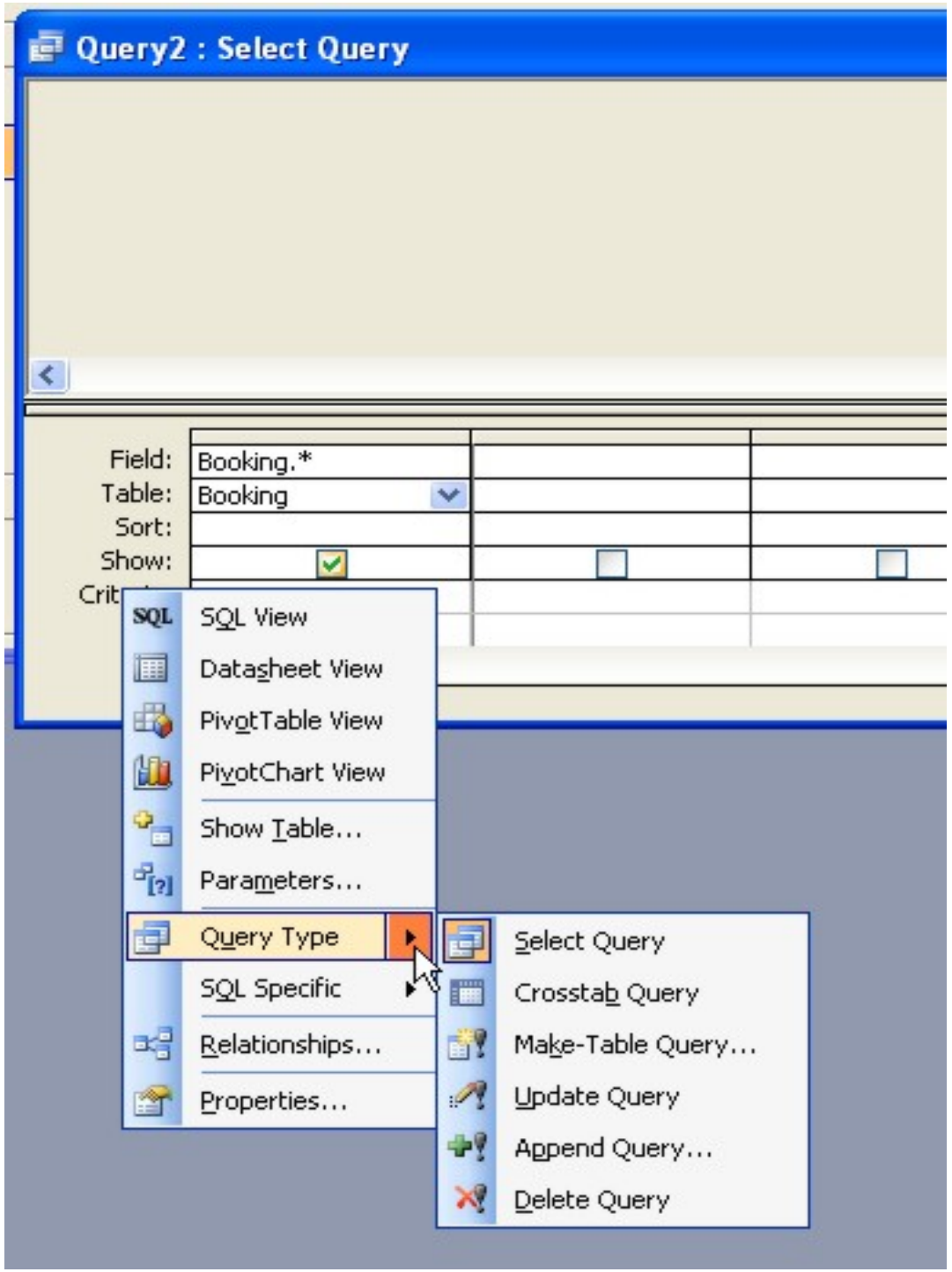
Poizvedba SELECT, uporaba agregatov



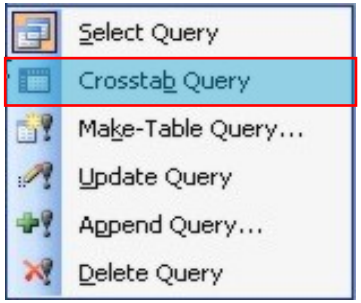
Poizvedba SELECT, uporaba parametrov



Posebne vrste SELECT poizvedb



Poizvedba Crosstab



(a)

Field:	fName	lName	type	propertyNo
Table:	Staff	Staff	PropertyForRent	PropertyForRent
Total:	Group By	Group By	Group By	Count
Sort:				
Show:	☑	☑	☑	☑
Criteria:				
or:				

Group By on **fName**, **lName**, and **type** fields displayed as columns

Count on **propertyNo** field displayed as column

(b)

Query1 : Select Query

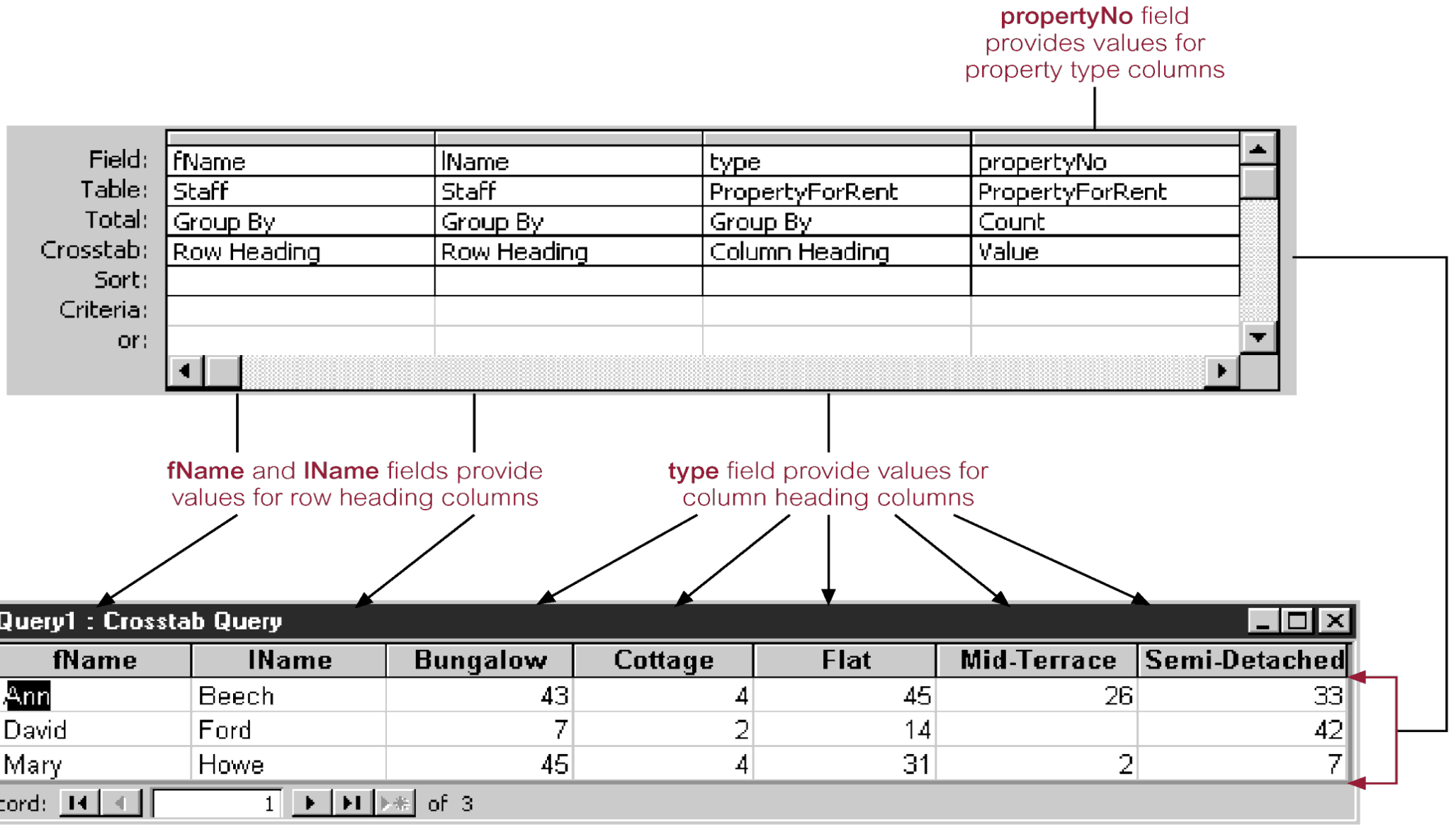
fName	lName	type	CountOfpropertyNo
Ann	Beech	Bungalow	43
Ann	Beech	Cottage	4
Ann	Beech	Flat	45
Ann	Beech	Mid-Terrace	26
Ann	Beech	Semi-Detached	33
David	Ford	Bungalow	7
David	Ford	Cottage	2
David	Ford	Flat	14
David	Ford	Semi-Detached	42
Mary	Howe	Bungalow	45
Mary	Howe	Cottage	4
Mary	Howe	Flat	31
Mary	Howe	Mid-Terrace	2
Mary	Howe	Semi-Detached	7

Record: 1 of 14

(c)

```
SELECT Staff.fName, Staff.lName, PropertyForRent.type, Count(PropertyForRent.propertyNo) AS
CountOfpropertyNo
FROM Staff INNER JOIN PropertyForRent ON Staff.staffNo = PropertyForRent.staffNo
GROUP BY Staff.fName, Staff.lName, PropertyForRent.type;
```

(a)



(b)

Query1 : Crosstab Query

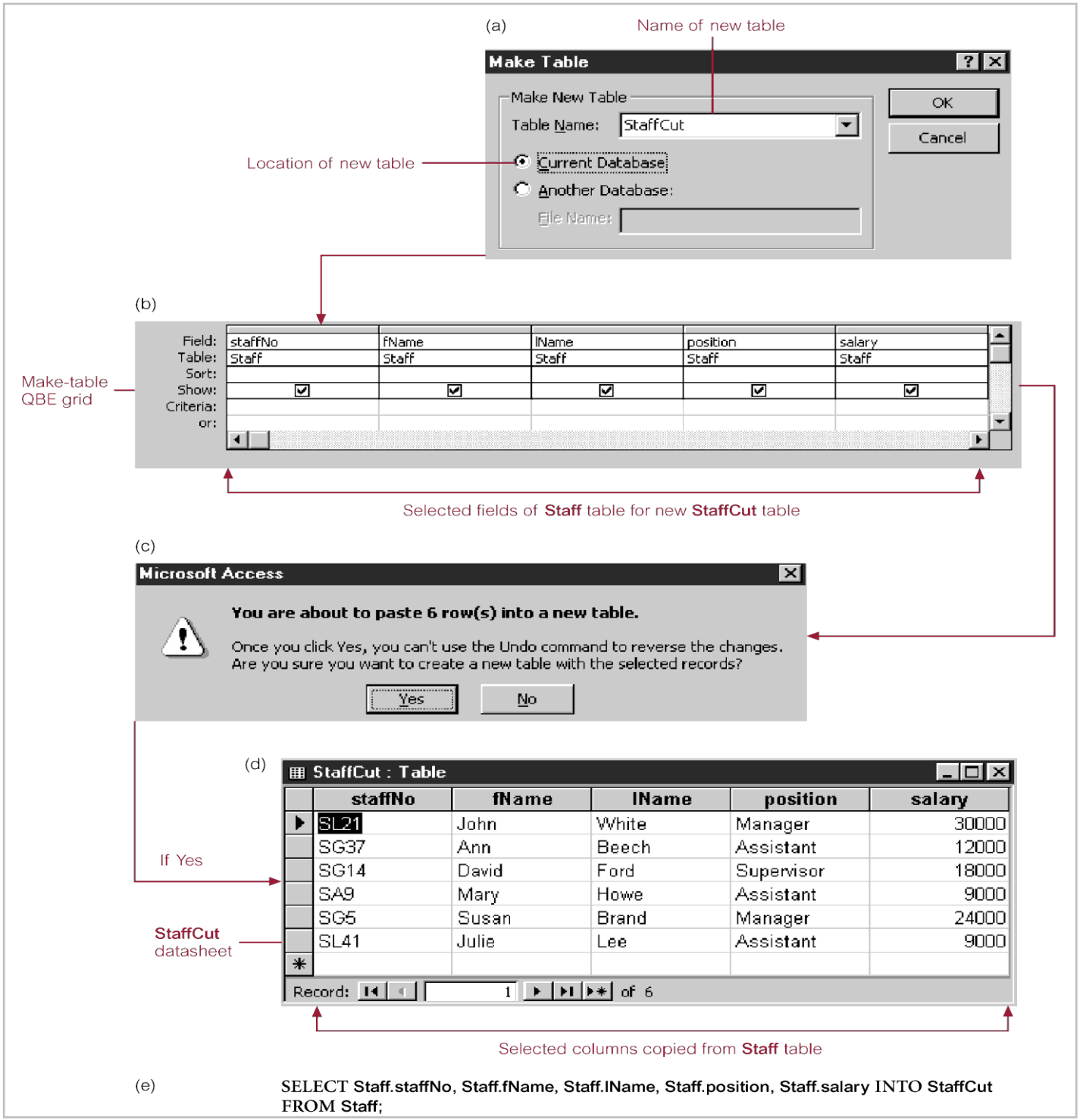
fName	lName	Bungalow	Cottage	Flat	Mid-Terrace	Semi-Detached
Ann	Beech	43	4	45	26	33
David	Ford	7	2	14		42
Mary	Howe	45	4	31	2	7

Record: 1 of 3

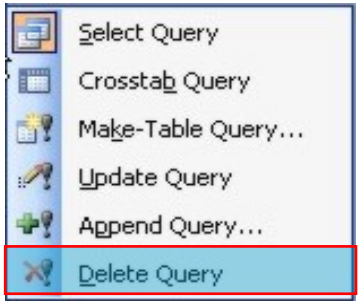
(c)

```
TRANSFORM Count(PropertyForRent.propertyNo) AS CountOfpropertyNo
SELECT Staff.fName, Staff.lName
FROM Staff INNER JOIN PropertyForRent ON Staff.staffNo = PropertyForRent.staffNo
GROUP BY Staff.fName, Staff.lName
PIVOT PropertyForRent.type;
```

Kreiranje novih tabel



Brisanje zapisov



(a)

Target table for deletion

Delete QBE grid

Field:	PropertyForRent.*	city
Table:	PropertyForRent	PropertyForRent
Delete:	From	Where
Criteria:		"Glasgow"
or:		

Criterion for properties in Glasgow

(b)

Microsoft Access

You are about to delete 4 row(s) from the specified table.

Once you click Yes, you can't use the Undo command to reverse the changes.
Are you sure you want to delete the selected records?

Yes No

If Yes

(c)

PropertyForRent : Table

propertyNo	street	city	postcode
PA14	16 Holhead	Aberdeen	AB7 5SU
PL94	6 Argyll Street	London	NW2

Record: 1 of 2

PropertyForRent datasheet minus deleted records (properties in Glasgow)

Deletion cascades to related table if referential integrity is set and cascade deletes are allowed

Viewing : Table

clientNo	propertyNo	viewDate	comment
CR56	PA14	24-May-01	too small
CR62	PA14	14-May-01	no dining room

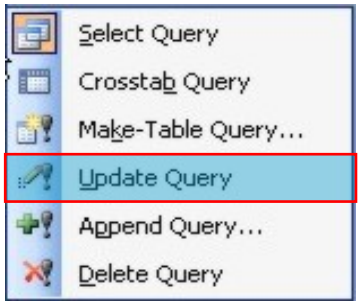
Record: 1 of 2

Viewing datasheet minus deleted records (viewings of properties) in Glasgow)

(d)

```
DELETE PropertyForRent.*, PropertyForRent.city
FROM PropertyForRent
WHERE (((PropertyForRent.city)="Glasgow"));
```

Spreminjanje zapisov



(a)

Target table for update

Field: rent
Table: PropertyForRent
Update To: [rent]*1.1
Criteria:
or:

Update To row

Expression to update values in **rent** field by 10%

Update QBE grid

(b)

Microsoft Access

You are about to update 6 row(s).

Once you click Yes, you can't use the Undo command to reverse the changes.
Are you sure you want to update these records?

Yes | No

If Yes

(c)

Query1 : Select Query

propertyNo	street	city	rent
PA14	16 Holhead	Aberdeen	715
PG16	5 Novar Drive	Glasgow	495
PG21	18 Dale Road	Glasgow	660
PG36	2 Manor Road	Glasgow	412
PG4	6 Lawrence Street	Glasgow	385
PL94	6 Argyll Street	London	440

Record: 1 of 6

Values updated in **rent** column by 10%

(d)

```
UPDATE PropertyForRent SET PropertyForRent.rent = [rent]*1.1;
```

QBE orodja za MySQL

- phpMyAdmin 

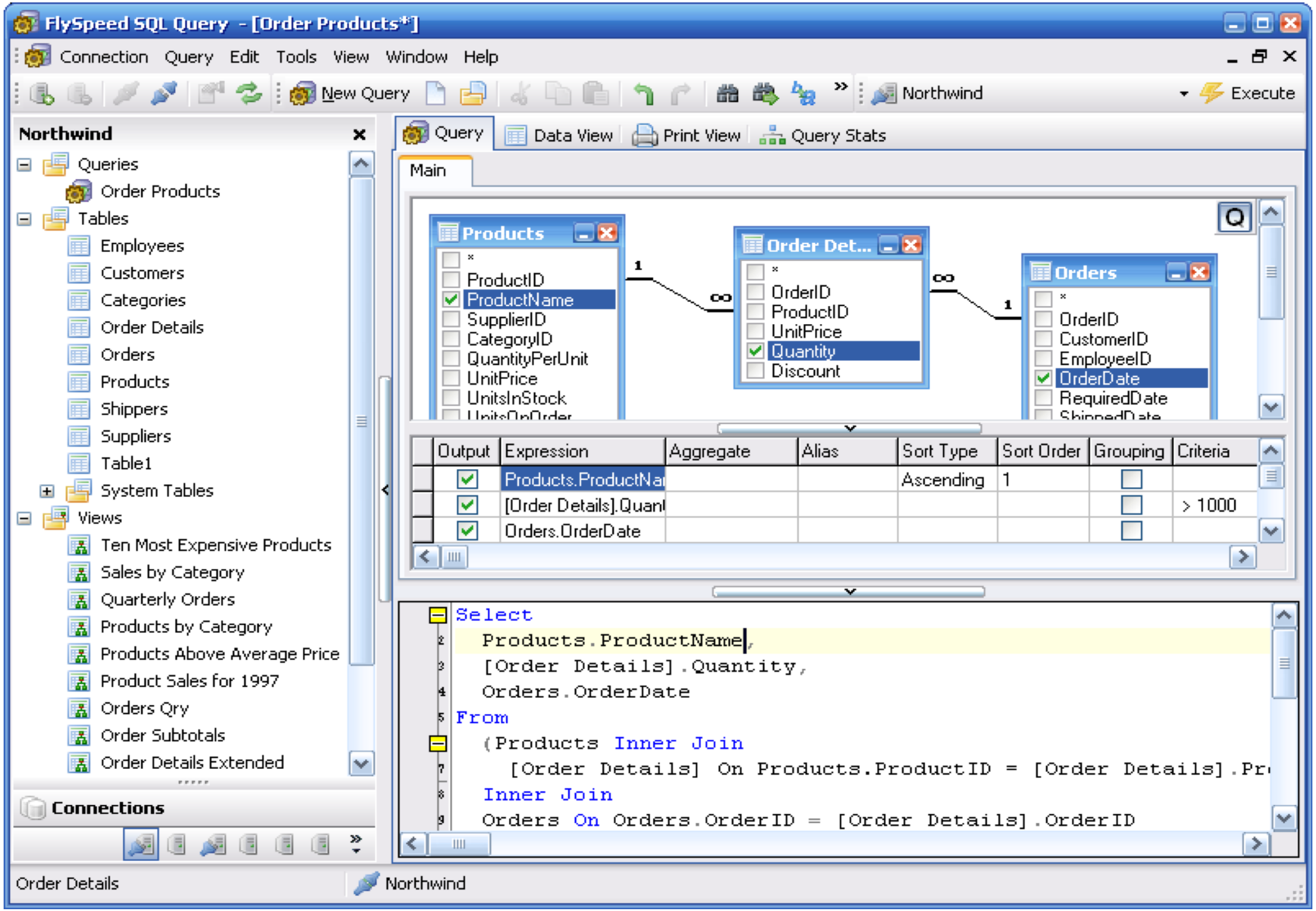
- dbForge Studio for MySQL
  http://www.devart.com/dbforge/mysql/ 

- FlySpeed SQL Query
  http://www.activedbsoft.com/index.html 

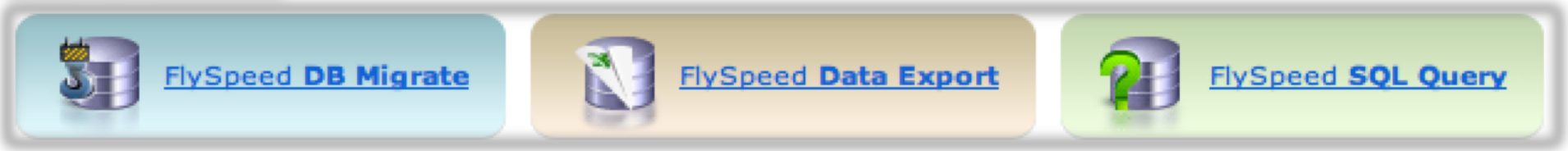
- SQLyog MySQL
  https://www.webyog.com/ 

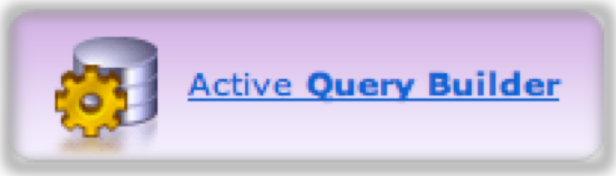
- …

dbForge Studio for MySQL

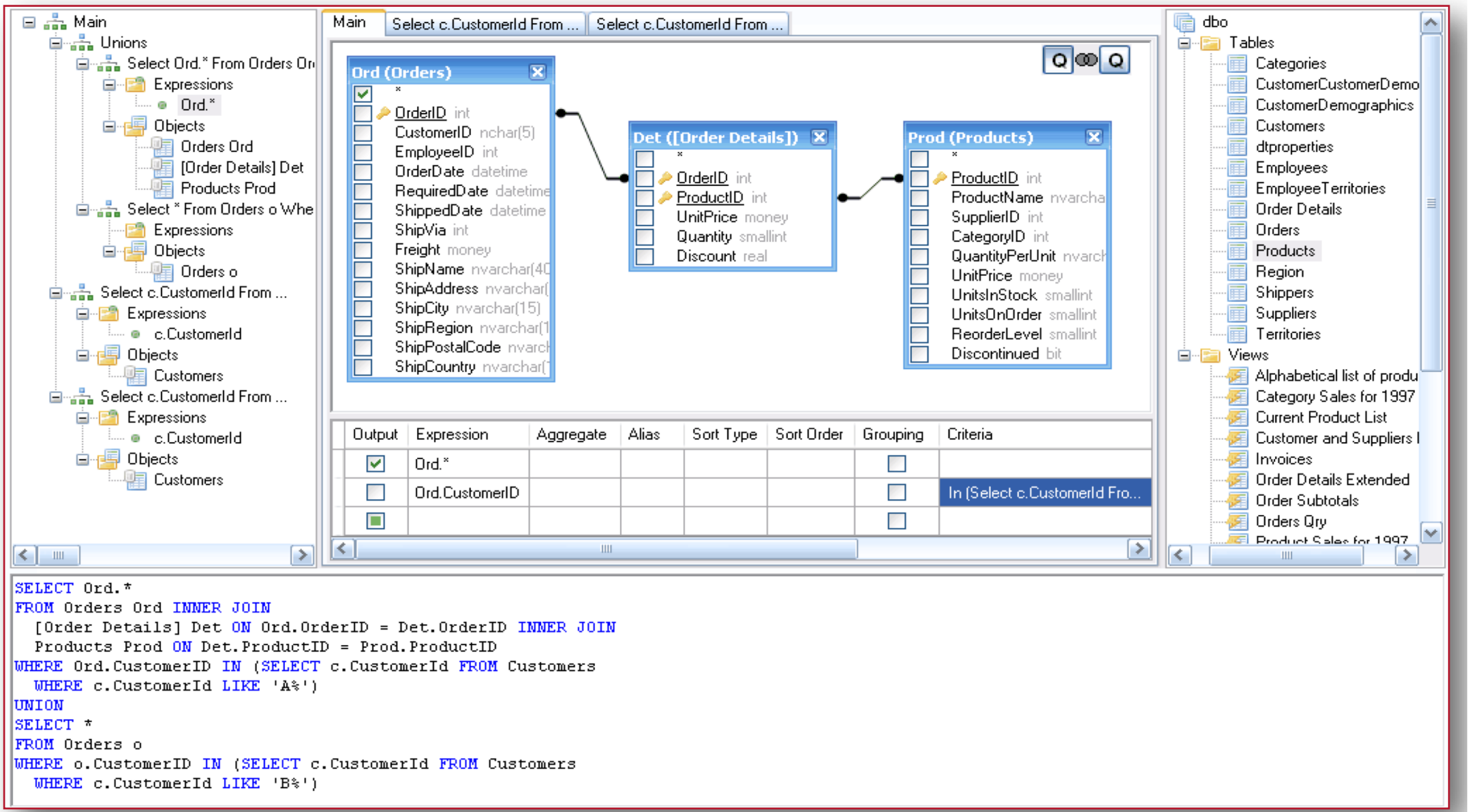

FlySpeed SQL Query - [Order Products*]
Connection Query Edit Tools View Window Help
New Query
Northwind
Execute
Northwind
Queries
Order Products
Tables
Employees
Customers
Categories
Order Details
Orders
Products
Shippers
Suppliers
Table1
System Tables
Views
Ten Most Expensive Products
Sales by Category
Quarterly Orders
Products by Category
Products Above Average Price
Product Sales for 1997
Orders Qry
Order Subtotals
Order Details Extended
Connections
Query
Data View
Print View
Query Stats
Main
Products
ProductID
ProductName
SupplierID
CategoryID
QuantityPerUnit
UnitPrice
UnitsInStock
Order Det...
OrderID
ProductID
UnitPrice
Quantity
Discount
Orders
OrderID
CustomerID
EmployeeID
OrderDate
RequiredDate
1
∞
∞
1
Output
Expression
Aggregate
Alias
Sort Type
Sort Order
Grouping
Criteria
Products.ProductNa
Ascending
1
[Order Details].Quant
> 1000
Orders.OrderDate
Select
Products.ProductName,
[Order Details].Quantity,
Orders.OrderDate
From
(Products Inner Join
[Order Details] On Products.ProductID = [Order Details].Pr
Inner Join
Orders On Orders.OrderID = [Order Details].OrderID
Order Details
Northwind

FlySpeed SQL Query





FlySpeed SQL Query




```
SELECT Ord.*
FROM Orders Ord INNER JOIN
  [Order Details] Det ON Ord.OrderID = Det.OrderID INNER JOIN
  Products Prod ON Det.ProductID = Prod.ProductID
WHERE Ord.CustomerID IN (SELECT c.CustomerId FROM Customers
  WHERE c.CustomerId LIKE 'A%')
UNION
SELECT *
FROM Orders o
WHERE o.CustomerID IN (SELECT c.CustomerId FROM Customers
  WHERE c.CustomerId LIKE 'B%')
```