

Step 9

Tables 1

LibreOffice database

Mac OS X

Beginning

Operativsystem High Sierra 10.13.6

You must know Step 1, 2, 3.

Handeling Tables is a great part of all administrative work on computers.

Examples are book-keeping, tables of customers articles, suppliers, orders, invoices, booking.


After this course you probably are able to create such tables.

What is in texts and photoes is not interesting. This course only is about handeling LibreOffice database.

Create folder \Document\Dbase and if you need a break click File/Save and save your work in Dokument/Dbase as My database.

Notions

Fält



Kundnr.	Namn	Gadress	Pnr	Ort	Telnr
1001	Andersson	Algatan 3	123 45	ALSTAD	0011/121314
1002	Bengtsson	Badgatan 4	112 33	BUSSTAD	0101/131413
1003	Classon	Cedervägen 7	121 22	CSTAD	1333/144444
1004	Davidsson	Dalvägen 9	151 55	DAGSTAD	0088/232322
1005	Eriksson	Envägen 5	166 66	ENSTAD	0099/778877

Register consists of 5 **posts** or **objects**.

One post may as in this case be a costumer.

There are 6 different data about every object or 6 fields.

Head line for each field is called field head line.

To have enough space for Andersson in field Name **length of field** need to be at least 9 signs.

Sum of all lengths usually are called length of post.

When you are planning a table you usually want to have one field which is different for all posts. In this case number of costumer is the field which can not be same for two posts.

If you decide table will be sorted by one field you usually say this field is indexed. This means an index is created which make the register sorted faster. If a field beside this cannot have same content you usually call this unique index.

If number of costumer shall be able to use to connect registers (related registers) you may make number of costumer to keyfield.

If you define a register without unique index or keyfield the program usually add an ID-field where posts are numbered in the order they are added.

Planning

As soon as you are going to create a register you ought to take a while for planning the table.

Which data (fields) ought to be in table?

How big place (length of field) shall every field have?

Will there be any indexed field?

Will there be any key field?

Is it possible the table will be part of a big system? If you use LibreOffice database you have great possibilities to build a complicated system of tables.

When you want to create one single small table there are several programs you can use for this.

Some simple tables

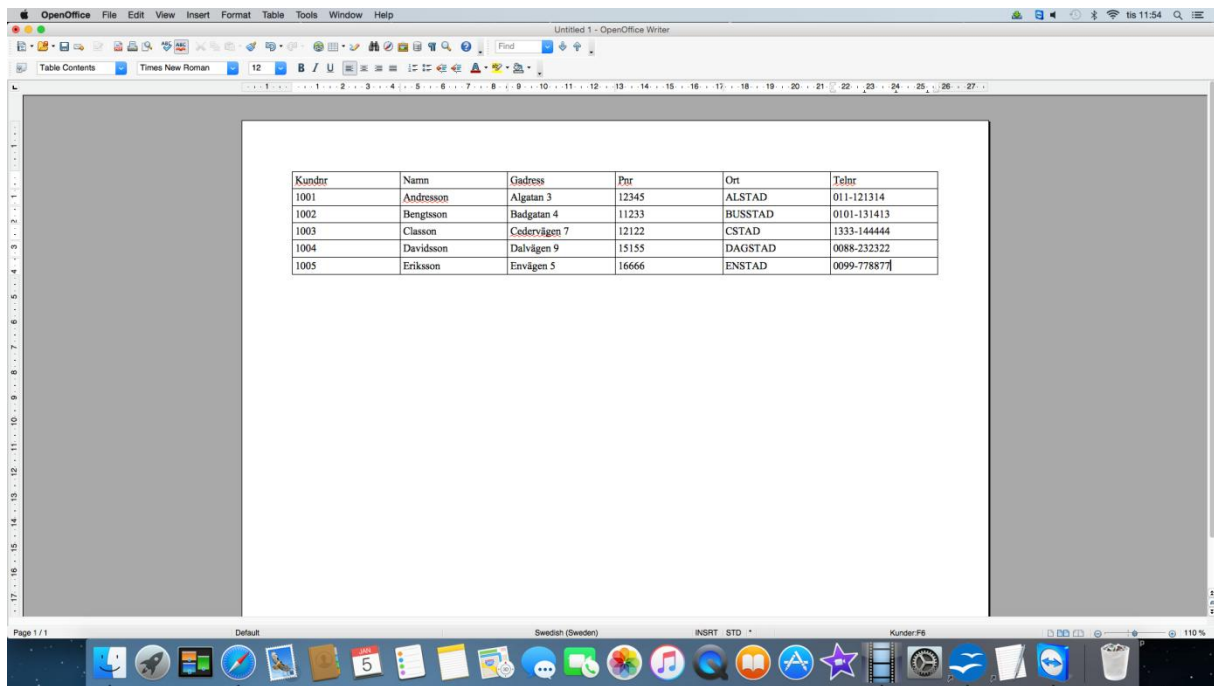
Start LibreOffice writer.

Click Format/Page, mark Landscape and click OK.

Click Insert /Table.

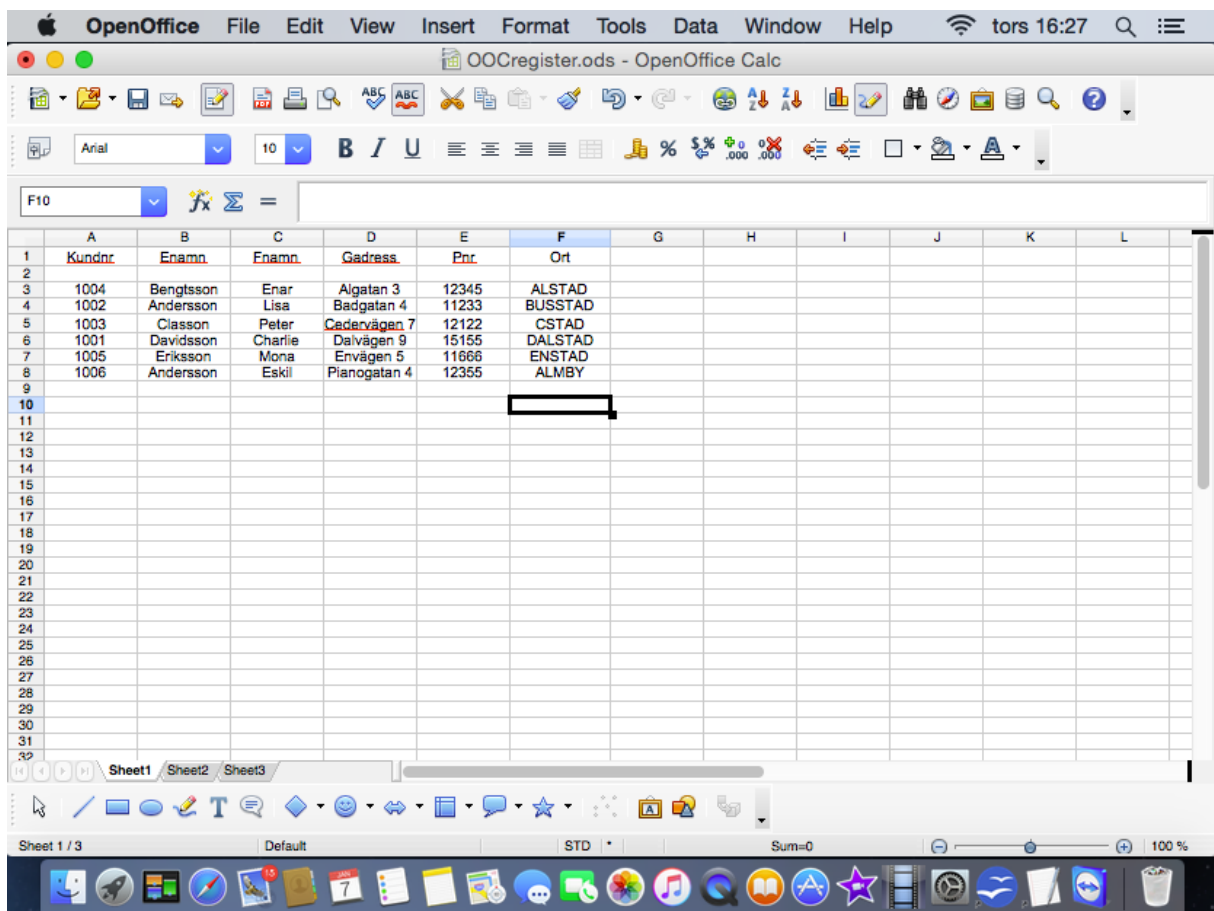
Changre to 6 coloumns and 6 rows. Click OK.

Write the following table.



Click File/Save and save table in \Document\Dbase as LOWtable.

Start LibreOffice calc and write this table.



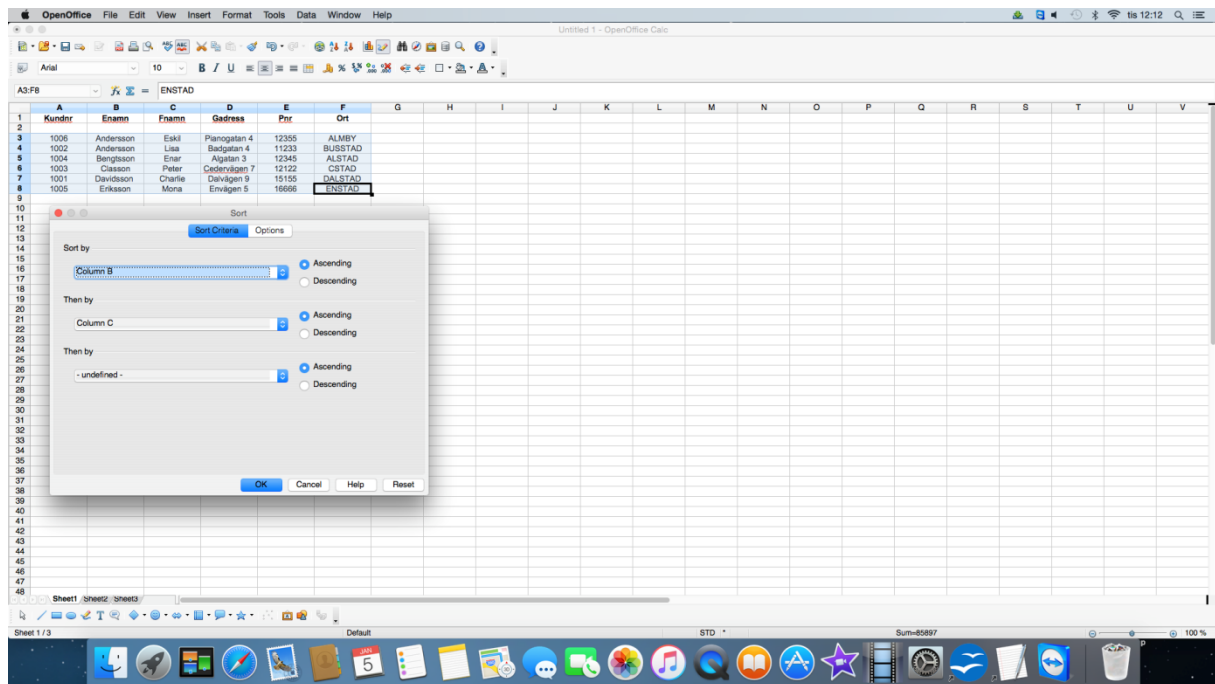
Click Format /Column/With and increase to 2,47 cm.

Mark table and press leftbottom in row of menu

Click File/Save and save table in \Document\Dbase as LOctable.

Mark A3 to F8.

Click Data/Sort.



Sort register on Enamn in rising order. Notice Andersson Lisa still is before Andersson Eskil. You don't need to save after sorting register.

Click Data/Sort again.

Sort register on Enamn first and Fnamn thereafter.

Now Andersson Eskil is before Andersson Lisa. You don't have to save after sorted.

Conclusion

A simple table is simple to do in LOW LOC.

In calc you also can resort the register.

If you suppose register may be hugh and maybe used by persons with little knowledge you ought to choose LibreOffice database to have possibility to adjust the register.

Installing Java

To be able to use LibreOffice database you have to install some programs.

Open harddisc and choose programs.

Write Java as searching word.

Now you will see this picture

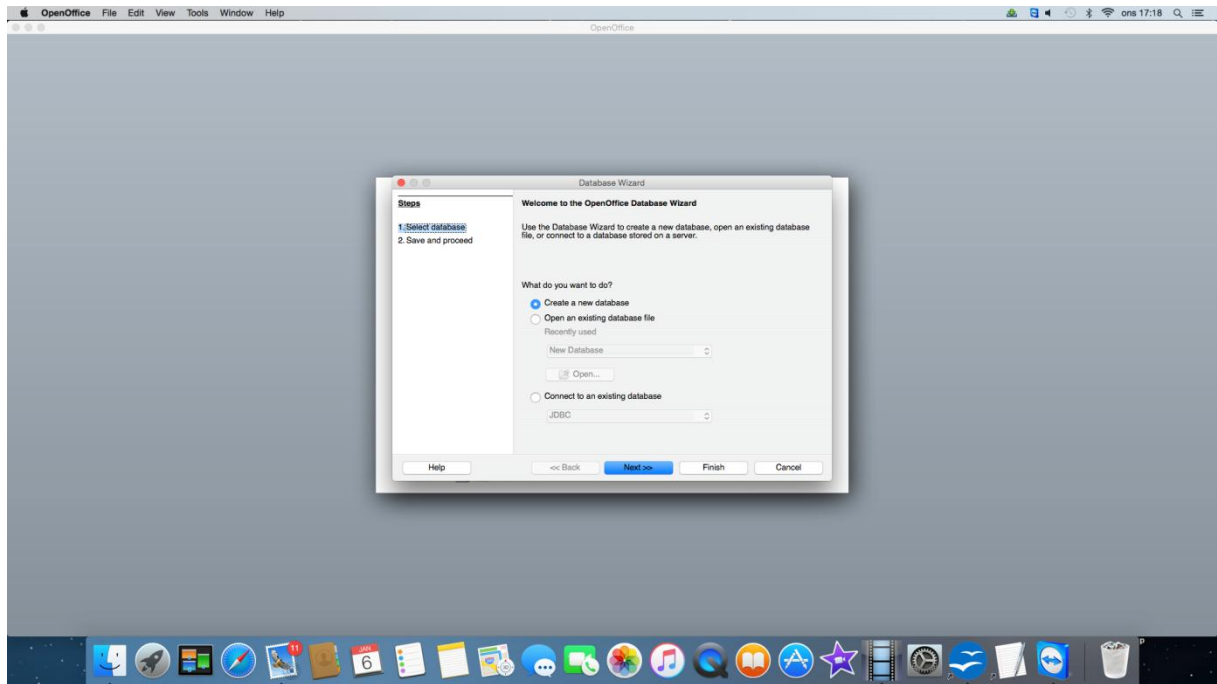


Click jdk-8u131-nb-8_2macosx-x64.dmg and install the program

Some tables in LibreOffice database

If screen suddenly is total black with an arrow move the arrow to top of screen and choose the last alternative to return to start position of your database

Start LOB.



Check Create a new database is marked and click <Next> and Finish.

Create folder \Document\Dbase and save database as My Database.odt
 \Dokument\Dbase

When you will start in the future you choose Open an existing database file and click twice on My database.

Check Tables is marked and choose Create table in design view.

Notice all tables you are going to create will be in this database.

Now you can create a new table and at first you must decide conditions for this table.

Create table of costumers

Check Table is marked and click Create table in design view.

First decide headlines of fields for this register.

Write Costumer number as first name of field. You must not use dot in this name.

Press right arrow.

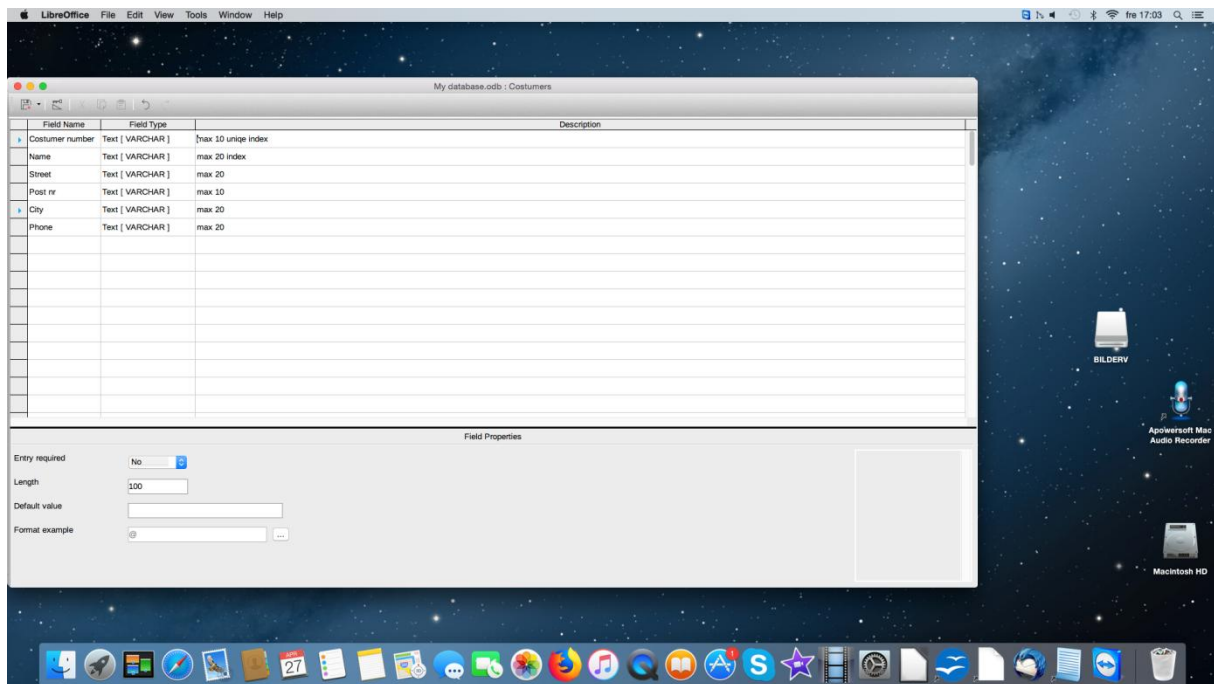
Now you get text as suggestion for type of data.

Text means you can write most signs in field but you can not make mathematic calculations on field.

Press right arrow

You shall write there is never going to be more than 10 signs needed in field. Even if number of costumer is not more than four signs you ought to round off up. Field shall be able to sort (index) and there must not be more than 1 post with a certain number of costumer (unique).

Registrate data as in picture.



Click bottom for save in line of meny on top and save as costumers.

Answer yes to question about primary key.

Now you get another field ID which is a keyfield.

Close fielddefinitions for costumers.

Open table with customers by clicking twice on costumers.

If you shold do something wrong you maybe need to delete what you have saved. This you do by marrking a table, click right and choose delete.

Now you shall have a register with conditions you have given.
Write costumers.

Increase coloumns by dragging lines between coloumns.

ID	Kundnr	Namn	Gadress	Pnr	Ort	Telnr
1	1001	Andersson	Algatan 3	12345	ALSTAD	044-123123
2	1002	Bengtsson	Badgatan 5	23231	BUSSTAD	099-226688
3	1003	Classon	Cedervägen 9	66554	CLARSTAD	068-191818

Adjust with of fields until it looks good

Close window with your table of costumers.

Create picture of costumertable

Click Create view

Check costumers is marked.

Click Add and Close

Field	Kundnr	Namn	Gadress	Pnr	Ort	Telnr			
Alias									
Table	Kunder	Kunder	Kunder	Kunder	Kunder	Kunder			
Sort									
Visible	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Function									
Criterion									
Or									
Or									
Or									
Or									

Click twice on all hedlines of fild except ID.

Save by bottom in row of menu as Picture table of costumers.

Close Picture table of customers.

Open picture table of customers and make columns bigger by drawing vertical lines.

Kundnr	Namn	Gadress	Pnr	Ort	Telnr
1001	Andersson	Algatan 3	12345	ALSTAD	044-125123
1002	Bengtsson	Badgatan 5	23231	BUSSTAD	099-226688
1003	Classon	Cedervägen 9	66554	CLARSTAD	088-191818

Record 1 of 3

Increase columns by dragging vertical lines

Close Picture table of customers and check the picture again.

Create register of cars

Click Create table in design view.

First write headlines of fields.

First field headline is Regnr. Dont't use dot in field headline.

Press arrow right.

Suggestion for type of data is Text.

Registrate all data as in picture.

The screenshot shows a database design tool interface. At the top is a toolbar with icons for file operations, design view, and other functions. Below the toolbar is a table with the following fields:

Field Name	Field Type	Description
Regnr	Text [VARCHAR]	max 10 tkn unikt index
Märke	Text [VARCHAR]	max 20 tkn index
Årsmodell	Text [VARCHAR]	max 10 tkn index
Färg	Text [VARCHAR]	max 10 tkn index
Ägarens personnr	Text [VARCHAR]	max 20 tkn

Below the table is the 'Field Properties' pane for the selected field 'Ägarens personnr'. It contains the following settings:

- Entry required: No (dropdown menu)
- Length: 50 (text input)
- Default value: (empty text input)
- Format example: @ (text input) with a dropdown menu

Click bottom Save in row of menu and save as Cars.

Answer yes on question primary key.

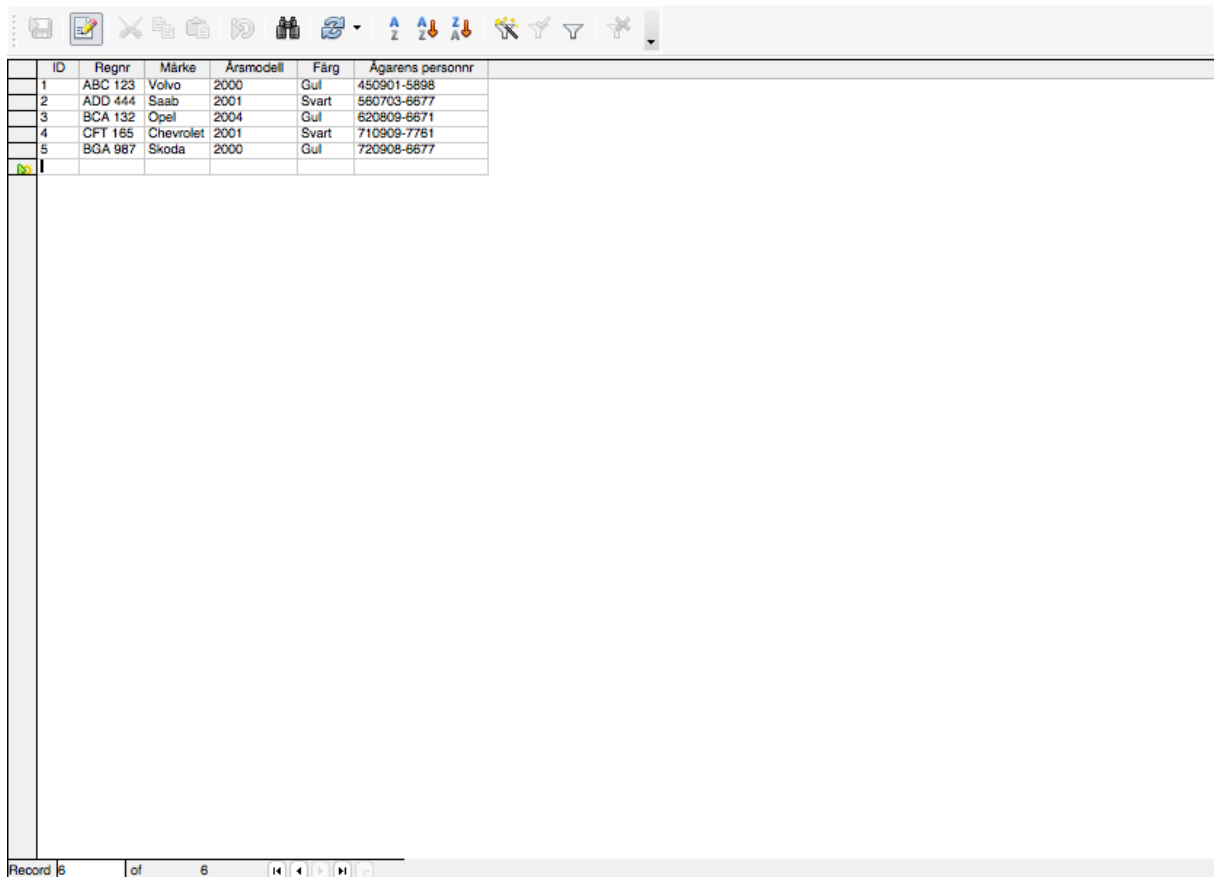
Now you get a field ID as keyfield.

Close fielddefinition for cars.

Open register cars by clicking twice on Cars.

Now you get a table with conclusions you have given.

Registrate cars and drag lines if needed.



ID	Regnr	Märke	Årsmodell	Färg	Ägarens personnr
1	ABC 123	Volvo	2000	Gul	450901-5898
2	ADD 444	Saab	2001	Svart	560703-6677
3	BCA 132	Opel	2004	Gul	620809-6671
4	CFT 165	Chevrolet	2001	Svart	710909-7761
5	BGA 987	Skoda	2000	Gul	720908-6677

Close windows with cars.

Create picture of car register

Click Create view

Check cars is marked.

Click Add and Close

Field	Regnr	Märke	Årsmoell	Färg	Ågarens personnr				
Alias									
Table	Bilar	Bilar	Bilar	Bilar	Bilar				
Sort									
Visible	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Function									
Criterion									
Or									
Or									
Or									
Or									

Click twice on field headlines except ID.

Click bottom in in row of bottoms and save as Picture cars. Close picture.

Open picture cars and drag lines if nesessary.

Regnr	Märke	Årsmoell	Färg	Ågarens personnr
ABC 123	Volvo	2000	Gul	450901-5898
ADD 444	Saab	2001	Svart	560703-6677
BGA 132	Opel	2004	Gul	620809-6671
CFT 165	Chevrolet	2001	Svart	710909-7761
BGA 987	Skoda	2000	Gul	720908-6677

Close Picture cars

Create register of articles

Start with headlines of fields.

Click Create table in design view

Write all data notice Saldo will be numeric.

The screenshot shows a database design tool interface. At the top is a toolbar with icons for file operations, design view, and other functions. Below the toolbar is a table structure with three columns: Field Name, Field Type, and Description. The table contains five rows of data:

Field Name	Field Type	Description
Artikelnr	Text [VARCHAR]	max 10 tkn unikt index
Benämning	Text [VARCHAR]	max 20 tkn index
Saldo	Number [NUMERIC]	Anger antal i lager
Pris	Text [VARCHAR]	max 10 tkr

Below the table structure is a section titled "Field Properties". It contains four rows of properties:

- Entry required: A dropdown menu set to "No".
- Length: A text input field containing "50".
- Default value: An empty text input field.
- Format example: A text input field containing "@" followed by a button with three dots.

Click bottom to save in row of bottoms and save as articles.

Answer yes to question about primary key.

Now you get another field ID as keyfield.

Close definitions of articles.

Open register articles.

Now you have a register with conditions you have choozen.

Write articles and drag lines. Close window and save

Create picture of table of articles

Click create view and mark articles

Click add and close

Click twice on all headlines except ID

Save as Picture article table and close

Open picture article table and close

Create table of photoes

Click Create table in design view.

Write your field headlines.

Write data as in picture.

The screenshot shows a database design tool interface. At the top is a toolbar with icons for file operations, design, and navigation. Below the toolbar is a table structure editor with three columns: 'Field Name', 'Field Type', and 'Description'. The table contains the following fields:

Field Name	Field Type	Description
Plats	Text [VARCHAR]	max 10 tkn unikt index
Beskrivning	Text [VARCHAR]	max 40 tkn
Fototyp	Text [VARCHAR]	max 20 tkn index
Datum	Date [DATE]	
Fotograf	Text [VARCHAR]	max 20 tkn

Below the table structure editor is a 'Field Properties' section, which is currently empty.

Notice type of data for Datum will be DATE.

Click bottom in row of bottoms and save as photo.

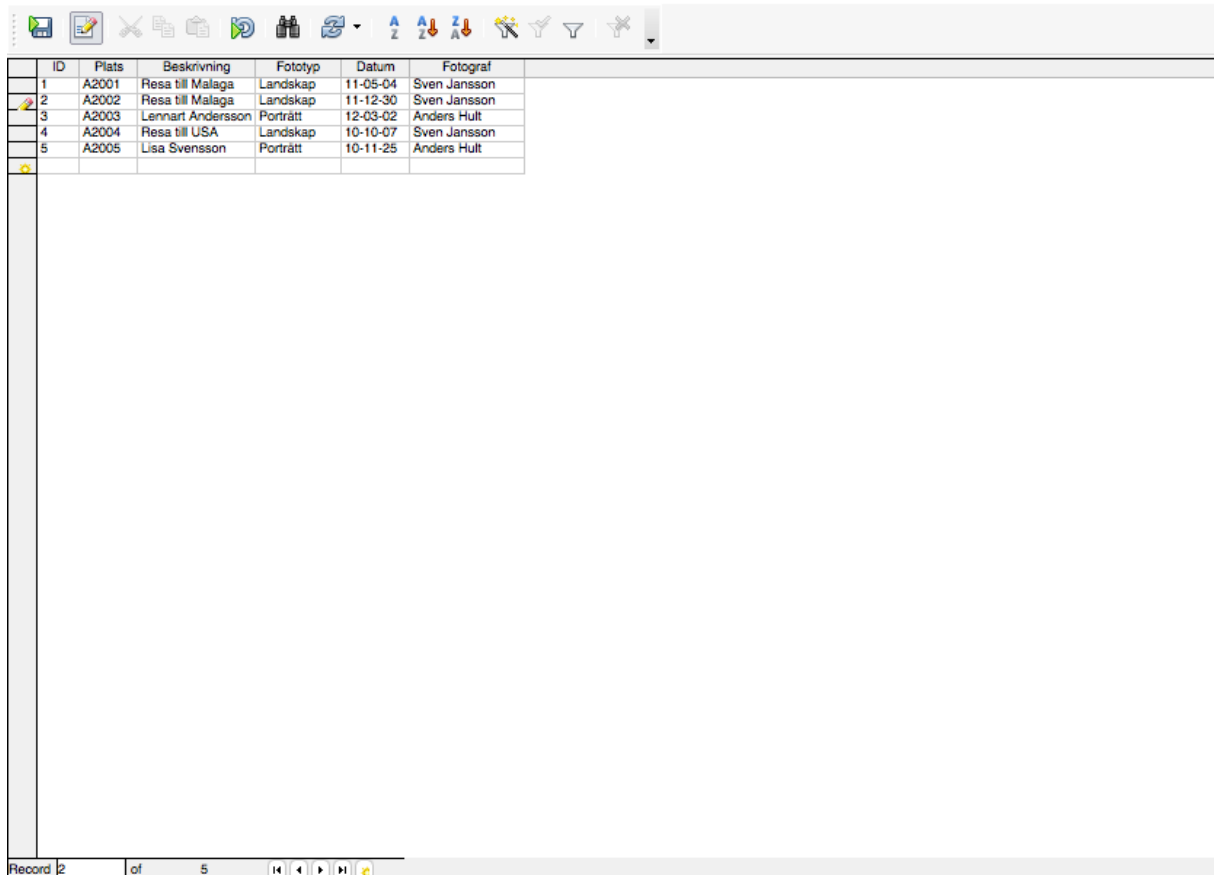
Answer yes on question about primary key.

You get another fieldheadline ID as keyfield.

Close fielddefinitions for photo.

Open table with photoes by clicking twice.

Register as in picture and drag lines.



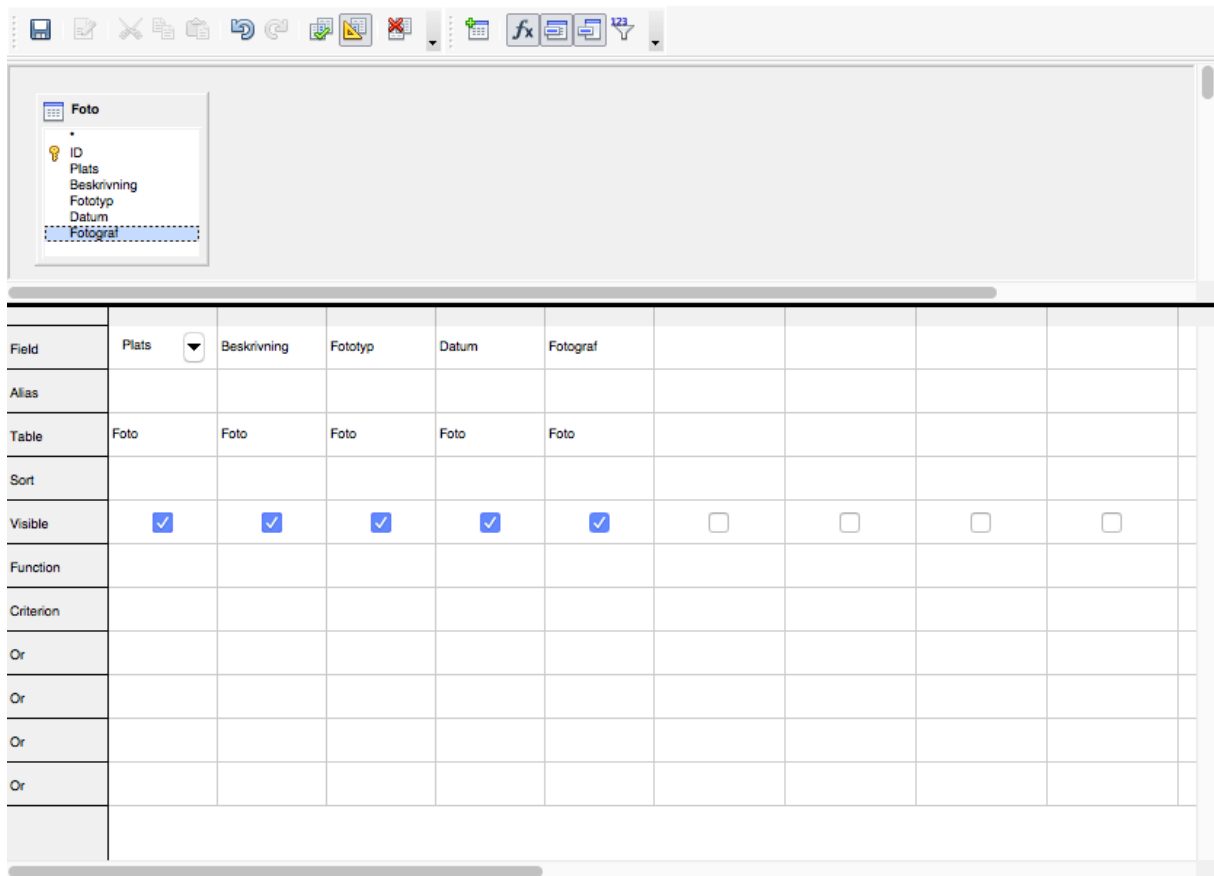
ID	Plats	Beskrivning	Fototyp	Datum	Fotograf
1	A2001	Resa till Malaga	Landskap	11-05-04	Sven Jansson
2	A2002	Resa till Malaga	Landskap	11-12-30	Sven Jansson
3	A2003	Lennart Andersson	Porträtt	12-03-02	Anders Hult
4	A2004	Resa till USA	Landskap	10-10-07	Sven Jansson
5	A2005	Lisa Svensson	Porträtt	10-11-25	Anders Hult

Close window and save.

Create picture of photo table

Mark Photo and click Create view

Click Add and Close



Click twice on all headlines of fields except ID.

Save as Picture phototable and close.

Open picture photo table and drag lines if needed.

Close

Create table CD-records

Click Create table in design view.

Write data as in picture

Field Name	Field Type	Description
Plats	Text [VARCHAR]	max 10 tkn inikt index
Artist	Text [VARCHAR]	max 20 tkn index
Titel	Text [VARCHAR]	max 20 tkn
Musiktyp	Text [VARCHAR]	max 20 tkn index
Ärtal	Text [VARCHAR]	max 10 tknindex

Field Properties

Entry required

No

Length

50

Default value

Format example

@

Click bottom Save and save as CD-records.

Answer yes on question about primary key.

Now you get ID as keyfield.

Close fielddefinition for CD-records.

Open table CD-records.

Register records and drag lines if nessesarary.

	ID	Plats	Artist	Titel	Musiktyp	Årtal
1	C101	Mozart	Violinkonsert	Klassisk	1798	
2	C102	Hydn	Violinkonsert	Klassisk	1803	
3	C103	Elvis Presley	Jailhouse Rock	Rock and roll	1962	
4	C104	Jussai Björling	Carmen	Opera	1942	
5	C105	Jerry Williams	Rock	Rock and roll	1969	

Record 5 of 5

Save register and close.

Create picture CD-records

Click Create view and mark CD-records.

Click Add and Close.

Field	Plats	Artist	Titel	Musiktyp	Årtal				
Alias									
Table	CDskivor	CDskivor	CDskivor	CDskivor	CDskivor				
Sort									
Visible	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Function									
Criterion									
Or									
Or									
Or									
Or									

Click twice on every field headline except ID.

Save as Picture CD-records

Close

Open Picture CD-records.

Plats	Artist	Titel	Musiktyp	Årtal
C101	Mozart	Violinkor	Klassisk	1798
C102	Hydn	Violinkor	Klassisk	1803
C103	Elvis Presli	Jailhouse	Rock and roll	1962
C104	Jussi Björlin	Carmen	Opera	1942
C105	Jerry Willis	Rock	Rock and roll	1969

Drag lines and close.

Forms

Until now we have been working with all tables in tableform. Fieldheadlines are in first row and below these every post is shown as a row.

If a register consists of many fields it may be difficult to view a whole post. Maybe you choose to view one post. This way to study and create posts is called to use a form

Costumer forms

Now you shall create a form to your costumer register.

Mark Forms

Choose costumers.

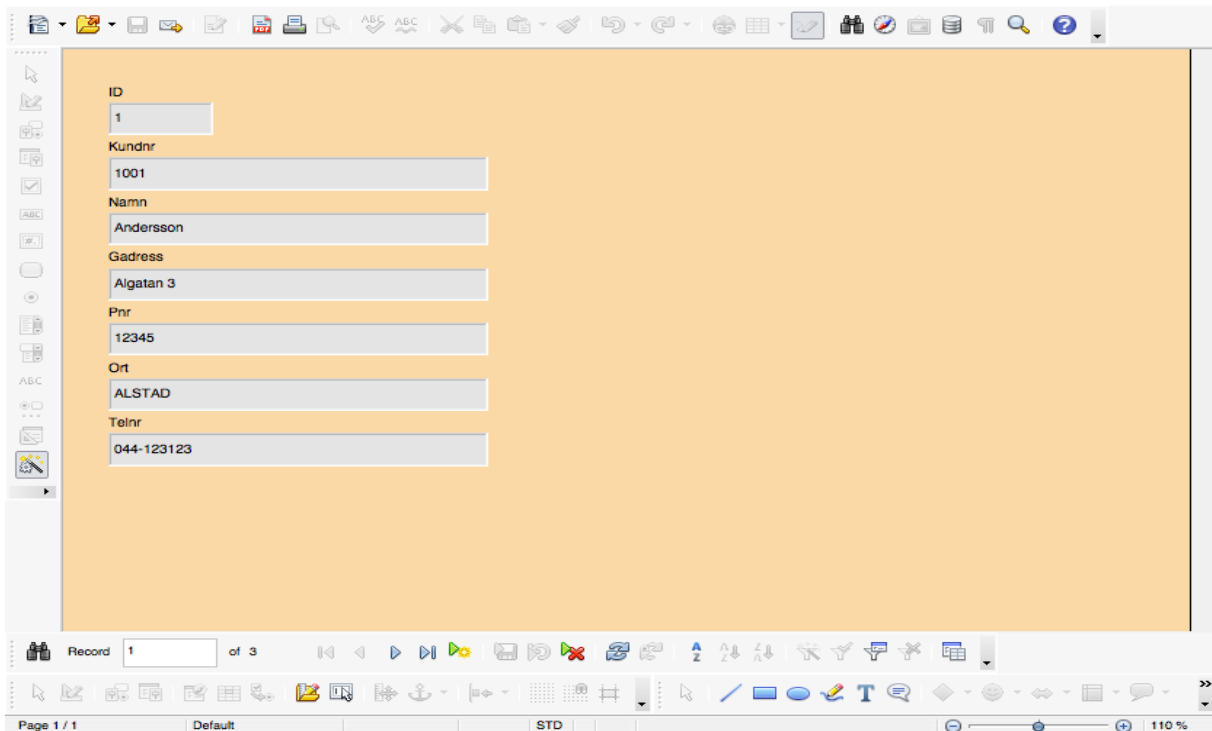
Click Use wizard to create form.

Click twice on all fieldheadlines.

Click next

Click next and choose second bottom.

Click Finish.



The screenshot shows a database application window with a form for a customer register. The form has a light orange background and contains the following fields:

ID
1

Kundnr
1001

Namn
Andersson

Gadress
Algatan 3

Pnr
12345

Ort
ALSTAD

Telefonnr
044-123123

The form is displayed in a window with a standard toolbar at the top and a status bar at the bottom. The status bar shows "Page 1 / 1", "Default", "STD", and "110 %".

Now you have got a form showing first post in table costumers.

Here you have the 6 fields with data.

Click green bottom on top of screen to see a number of bottoms down screen

Scroll in your costumer table by clicking right and left arrow in lower edge on screen.

Arrow right with vertical line give last post and arrow left with vertical line give first post.

Click bottom new record to the right of bottom last post..

Find out another costumer post and registrate it.

Close and save.

Make Table marked.

Check last post is in register.

Carform

Click Form

Klicka Use wizard to create form.

Choose cars.

Click twice on all fieldheadlines and click Next.

Click Next and press second bottom.

Click Finish

ID	6
Regnr	CCD 333
Märke	Flat
Årsmodell	2009
Färg	Turkos
Agarens personnr	720908-8866

Now you can see first post in table.

Click green bottom to see bottoms down the screen

Scroll in your register by right and left arrow.

Click bottom new record to the right of bottom last post.

Find out another post and write it.

Close and check last post is in table.

Articleform

Mark Form

Click Use wizard to create form

Choose articles.

Click twice on all fieldheadlines and click Next or double arrows.

Press second bottom and click Finish

The screenshot shows a software window with a light orange background. On the left is a vertical toolbar with various icons. The main area contains a form with the following fields:

ID	1
Artikelnr	3001
Benämning	Skiftnyckel
Saldo	32
Pris	45:-

At the bottom of the window, there is a status bar with the text 'Record 1 of 4' and 'Page 1 / 1'. The zoom level is set to 110%.

Now you have form showing first post in table.

Click green bottom

Scroll in table.

Click bottom new record to the right of bottom last post.

Find out another article and write it.

Close and save.

Mark Table.

Check the post in register.

Photoform

Mark Form

Click Use wizard to create form.

Choose Photo.

Click twice on all fieldheadlines and click Next

Click Next and choose second bottom..

Clicka Finish.

The screenshot shows a software window with a light orange background. On the left is a vertical toolbar with various icons. The main area contains a form with the following fields and values:

Field	Value
ID	1
Plats	A2001
Beskrivning	Resa till Malaga
Fototyp	Landskap
Datum	11-05-04
Fotograf	Sven Jansson

At the bottom of the window, there is a status bar showing 'Record 1 of 5' and a zoom level of '110 %'.

Now you see first post in register.

Scroll in your table.

Click bottom new record to the right of bottom last record.

Find out another photopost and registrate it by form.

Close window.

Make Table marked.

Check your last photopost is in table.

CD-form

Mark Form

Click Use Wizard to create form

Choose CD-records.

Click twice on all fields and click Next.

Click Next and choose second bottom.

Click Finish

The screenshot shows a data entry form with the following fields and values:

Field	Value
ID	1
Plats	C101
Artist	Mozart
Titel	Violinkonsert
Musiktyp	Klassisk
Artal	1796

Scroll in your register with right and left arrow.

Click bottom with arrow right and star.

Find out another CD registrate.

Close and save.

Mark Table.

Check your last CD is in register.

Collect information

Now we are going to try some dufferent ways to collect information from our registers.

We work with very small registerts but if you will solve problems with LOB it often is bigger ones there is. You ought to test with small ones before you put time on registrating big ones.

How many articles are in store

Click table and open articles

	ID	Artikelnr	Benämning	Saldo	Pris
1	3001	Skitfnyckel	32	45:-	
2	3002	Skruvmejsel	91	23:-	
3	3003	Plattång	73	31:-	
4	3004	Bormaskin	9	789:-	
5	3005	Såg	14	155:-	

Record 1 of 5

Mark Query

Click Use wizard to create query.

Choose articles.

Click twice on fieldheadline Balance

Click Next.

Click detail or summery

Mark Summery query

Choose get the sum of articles Balance

Click Finish

Now you see there are 220 articles in store.

Wich yellow cars has car dealer

Mark Queries

Klicka Use wizard to create query.

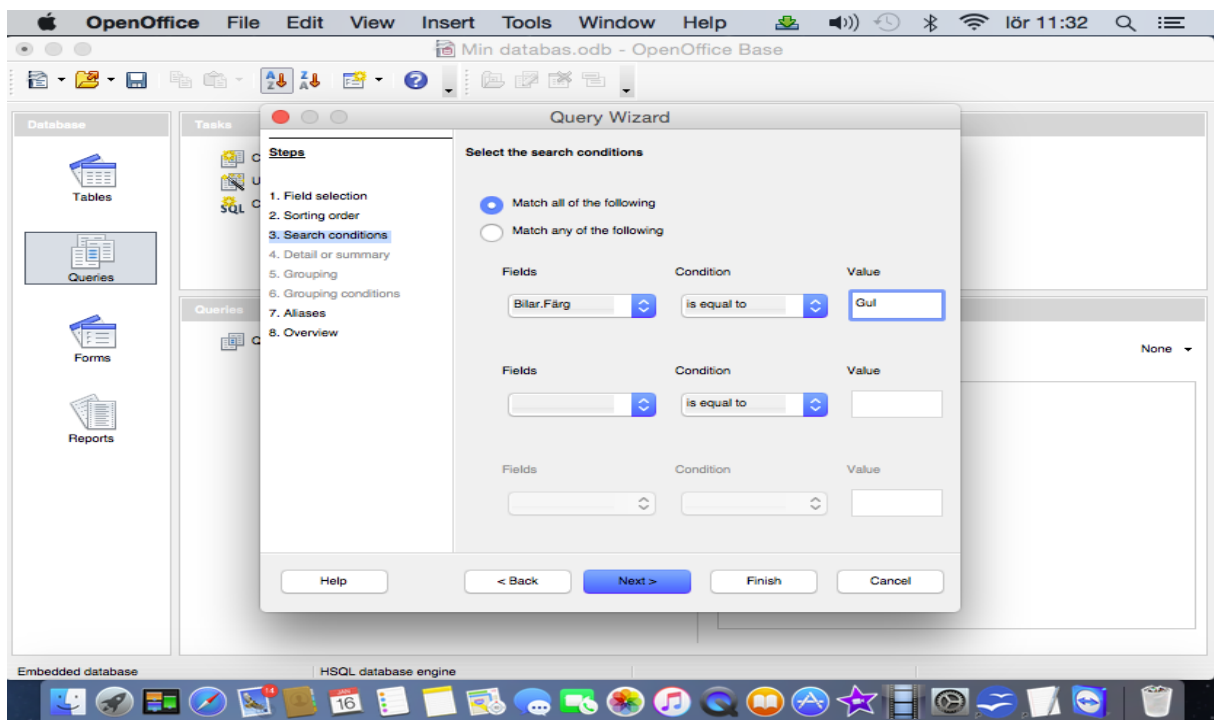
Choose cars

Click twice on all fieldheadlines except ID and person number of owner.

Click Next

Click Next

Make sure you havet these adjustments.



Click Next twice

Check Display Query is marked

Click Finish

	Regnr	Årsmodell	Märke	Färg
	ABC 123	2000	Volvo	Gul
	BCA 132	2004	Opel	Gul
	BCA 778	2003	Skoda	Gul

Record 1 of 3

Now you see there are three yellow cars.

Which photoes has Sven Jansson done

Mark Query

Click Use wizard to create query

Choose Photoes

Click twice on all fieldheadlines except ID.

Click Next

Click Next

Mark Photographer

Will be Sven Jansson

Click next twice.

Click Finish

Display Query

Plats	Beskrivning	Fototyp	Datum	Fotograf
A2001	Resa till Malaga	Landskap	11-05-04	Sven Jansson
A2002	Resa till Malaga	Landskap	11-12-30	Sven Jansson
A2004	Resa till USA	Landskap	10-10-07	Sven Jansson

Record 1 of 3

Du får nu veta vilken plats foton har som Sven Jansson tagit.

Relations

Which CD-records are there with Jailhouse rock

Suppose we know Elvis Presley and Jerry Williams have recorded Jailhouse Rock and we want computer to tell us which records in a big number of records which have Jailhouse Rock.

The most simple way is of course to add our CD-register with field tunes. Though if every CD has 10 tunes our register should have 50 posts and many data should be registrated 10 times instead of one.

Check your table.

ID	Plata	Artist	Titel	Musiktyp	Årtal
1	C101	Mozart	Violinkonsert	Klassisk	1796
2	C102	Hydn	Violinkonsert	Klassisk	1803
3	C103	Elvis presley	Rock and roll	Rock and roll	1962
4	C104	Jussi Björling	Carren	Opera	1942
5	C105	Jerry Williams	Rock	Rock and roll	1969

Record 1 of 5

Create a table for tunes.

Mark Table

Click Create table in design view

Field Name	Field Type	Description
Plata	Text [VARCHAR]	max 10 tkn
Melodi	Text [VARCHAR]	max 30 tkn

Field Properties

Entry required:

Length:

Default value:

Format example:

Save as tunes with bottom in menu row and answer yes about primary key.

Close and Registrate tunes

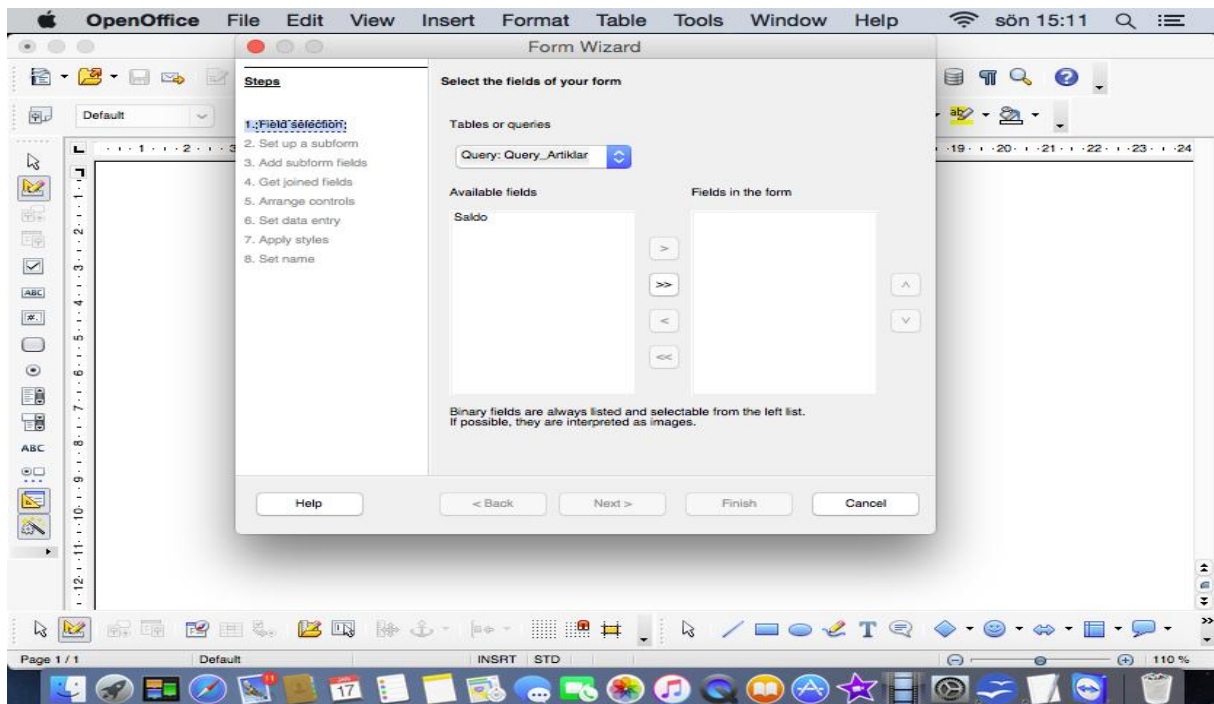
.

ID	Plats	Melodi
1	C101	Andante
2	C101	Allegro
3	C101	Finale
4	C102	Intermezzo
5	C102	Symfoni
6	C102	Symfoni nr 23
7	C103	Jailhouse rock
8	C103	Love me tender
9	C104	Kärlekens lov
10	C104	Final
11	C105	Jailhouse rock
12	C105	I can jive

Save and Close.

Mark Form

Use wizard to create form



Choose CD-records.

Choose all fieldheadlines from CD-records except ID

Clicka next and mark Add subform

Notice you can read : You are creating a relation one to many or 1:N

Click Next

Choose Table.Tunes

Click Next and Choose place and tune.

Click Next

Choose Place as subform field and Place as Mainform field

Click Next

Choose second bottom to show main form and third to show subform.

Click Next twice and Finish.

The screenshot shows a database form with the following fields:

ID	Title
2	Violinkonsert

Below these fields, there are two more sections:

Place	Musiktyp
C102	Klassisk

Artist	Arta
Hydn	1803

At the bottom, there is a subform showing a list of records:

Place	Musiktyp
C102	Intermezzo
C102	Symfoni
C102	Symfoni nr.

The status bar at the bottom indicates "Record 2 of 5" and "Page 1 / 1".

Scroll in register and check that tunes are shown in form below.

Close form.

Mark Query

Mark Use wizard to create query.

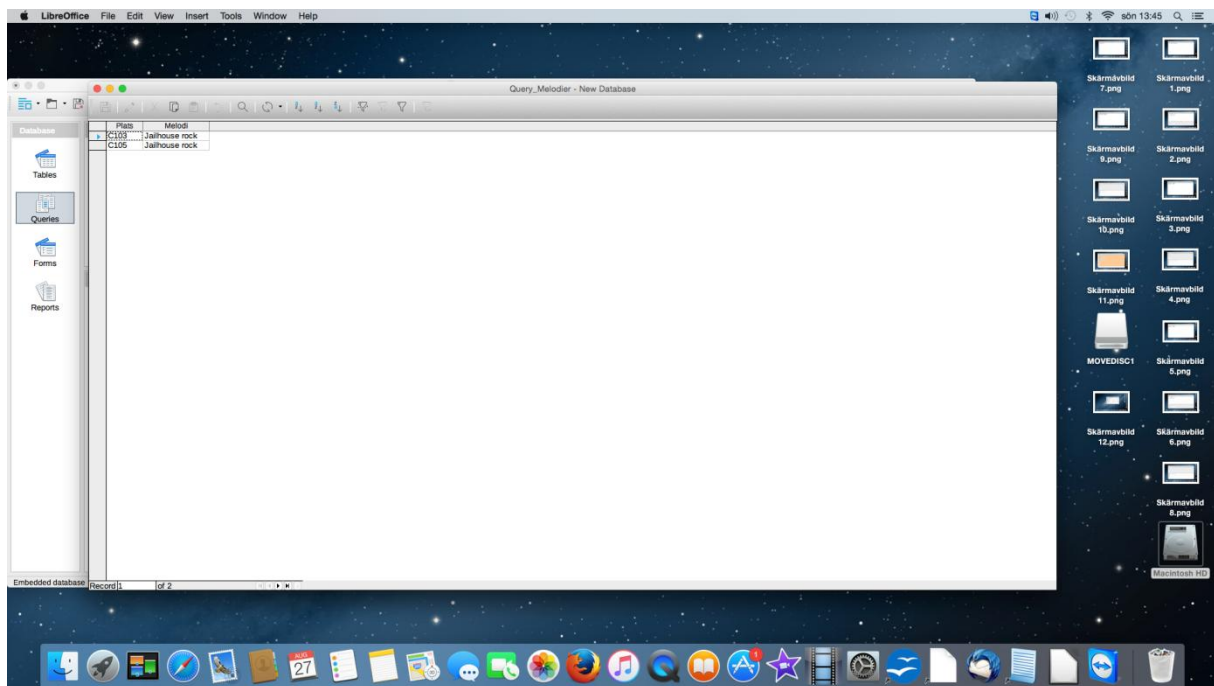
Choose tunes.

Click twice place and tune

Click next twice

Tune is equal to Jailhouse rock

Click Next twice and finish.



Now we know CD with Jailhouse rock are in places C103 and C105.

Now you can return to form of records and see all information about the two records which contain Jailhouse rock

Conclusion

You may create two tables with a relation to get a better handling of these.

One field must have the same definitions in both tables.

Even study window courses about access if you are interested in handling tables.