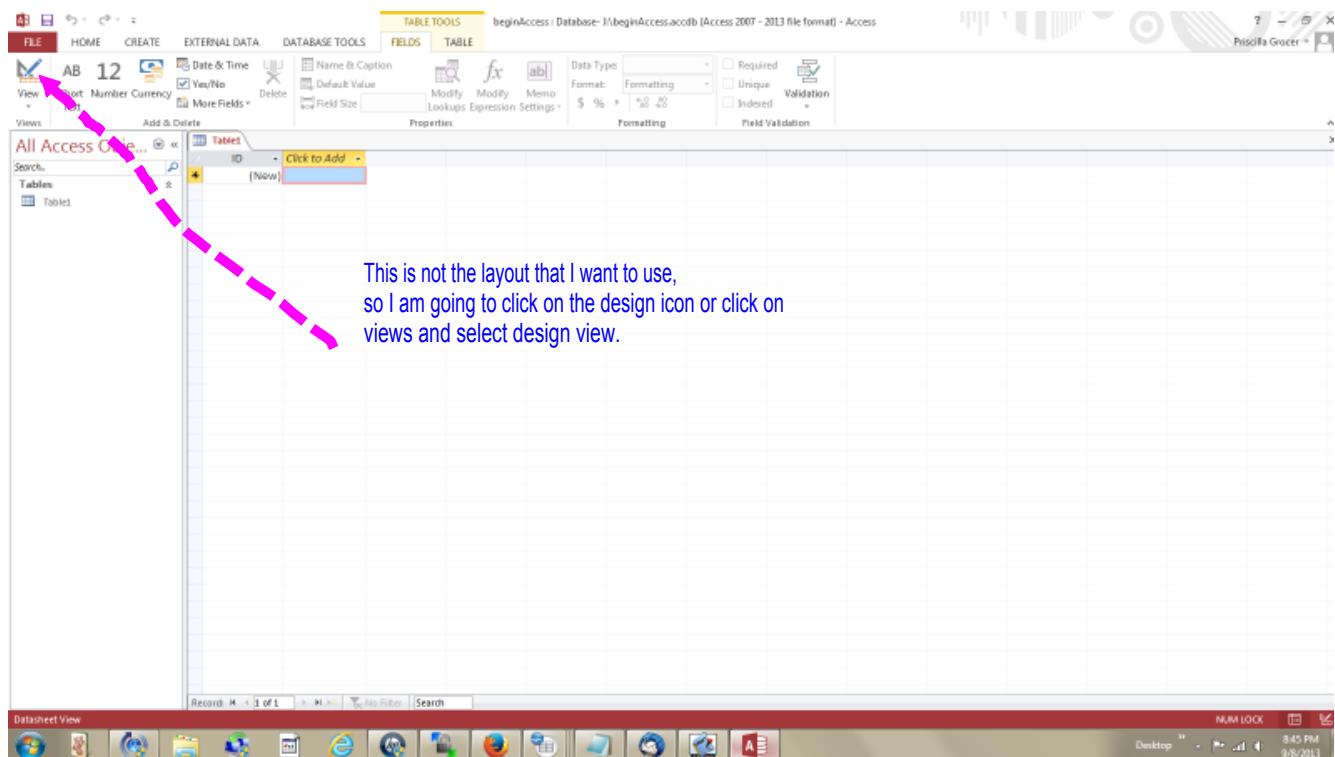
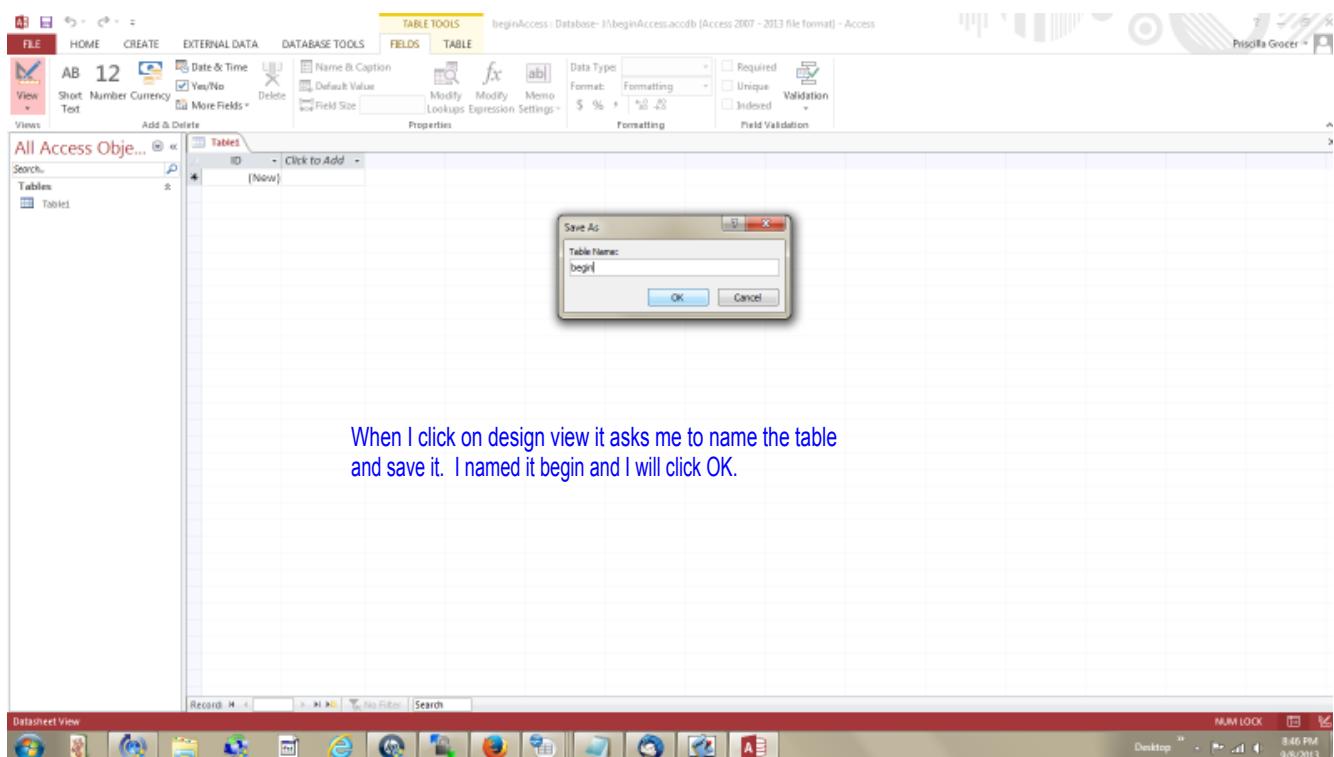
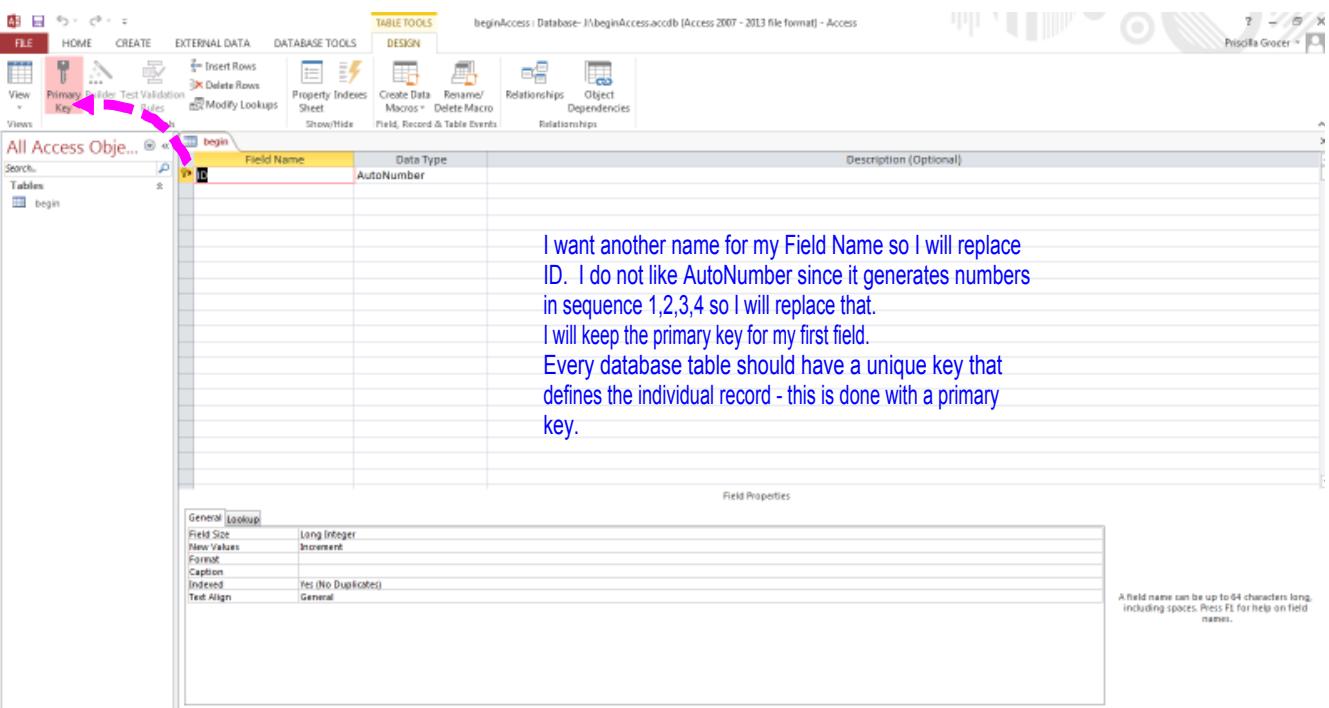


I named the database and then browsed to find where I wanted to store it. I decided on the root of the J drive. Then I click on Create.





When I click on design view it asks me to name the table and save it. I named it begin and I will click OK.



I want another name for my Field Name so I will replace ID. I do not like AutoNumber since it generates numbers in sequence 1,2,3,4 so I will replace that.
I will keep the primary key for my first field.
Every database table should have a unique key that defines the individual record - this is done with a primary key.

Field Properties

General	Lookup
Field Size	Long Integer
New Values	Increment
Format	
Caption	
Indexed	Yes (No Dupicates)
Text Align	General

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

I named the field idno and I decided to make it a short text field with a size of 5 (instead of the default size for short text which is 255). So I have a 5 character field that can have numbers, letters or special characters in the field.

Note that when I name a field, I should not embed spaces in the name. I cannot have id no. I can use underscore between (id_no) or camel case (idNo).

This is the field size of 5. It was originally 255.

The maximum number of characters you can enter in the field. The largest maximum you can set is 255. Press F1 for help on field size.

I did not use name because that is a reserved word that I cannot use.

I have now added another field called namz. It is also a short text field and it has a field size max of 40.

Field Name	Data Type	Description (Optional)
idno	Short Text	
namz	Short Text	

Field Properties

The data type determines the kind of values that users can store in the field. Press F1 for help on data types.

General [Lookup]

Field Size: 40

Format
Input Mask
Caption
Default Value
Validation Rule
Validation Text
Required: No
Allow Zero Length: Yes
Indexed: No
Unicode Compression: Yes
IME Mode: No Control
IME Sentence Mode: None
Text Align: General

The next field is workCode and it is a 1 character short text field.

Field Name: workCode
Data Type: Short Text
Description (Optional):

General	Lookup
Field Size:	1
Format:	
Input Mask:	
Caption:	
Default Value:	
Validation Rule:	
Validation Text:	
Required:	No
Allow Zero Length:	Yes
Index:	Yes (Duplicates OK)
Unicode Compression:	Yes
IME Mode:	No Control
IME Sentence Mode:	None
Text Align:	General

The data type determines the kind of values that users can store in the field. Press F1 for help on data types.

The next field I am going to call salary and I am going to make it a number field.

Field Name	Data Type	Description (Optional)
idno	Short Text	
namez	Short Text	
workCode	Short Text	
salary	Number	

Field Properties

General Lookup

Field Size: 255

Format:

Input Mask:

Caption:

Default Value:

Validation Rule:

Validation Text:

Required:

Allow Zero Length:

Indexed:

Unicode Compression:

IME Mode:

IME Sentence Mode:

Text Align:

The data type determines the kind of values that users can store in the field. Press F1 for help on data types.

All Access Obj... < begin

Field Name	Data Type	Description (Optional)
idno	Short Text	
name	Short Text	
workCode	Short Text	
salary	Number	

Field Properties

General [Lookup]

For number I can pick from this list.

The size and type of numbers to enter in the field. The most common settings are Double and Long Integer. If a field will be joined to another table's number field in a many-to-one relationship, this setting must be Long Integer.

Design view. F6 = Switch panes. F1 = Help.

I choose double here to allow for decimals. When I do hourly pay I will choose single because the size is far less.

Field Name	Data Type	Description (Optional)
Idno	Short Text	
name	Short Text	
workCode	Short Text	
salary	Number	

Field Properties

General

Field Size: Double
Format: Auto
Decimal Places: Auto
Input Mask:
Caption:
Default Value: 0
Validation Rule:
Validation Text:
Required: No
Indexed: No
Text Align: General

The size and type of numbers to enter in the field. The most common settings are Double and Long Integer. If this field will be joined to an AutoNumber field in a many-to-one relationship, this setting must be Long Integer.

All Access Obj... begin

Field Name	Data Type	Description (Optional)
idno	Short Text	
name	Short Text	
workCode	Short Text	
salary	Number	
hourlyPay	Number	

Field Properties

General [Lookup]

Field Size: Single
Format: Auto
Decimal Places: Auto
Input Mask: None
Caption: None
Default Value: 0
Validation Rule: None
Validation Text: None
Required: No
Indexed: No
Text Align: General

The label for the field when used on a view. If you don't enter a caption, the field name is used as the label. Press F1 for help on captions.

Design view. F6 = Switch panes. F1 = Help.

I decided people could not work part of an hour so I made this an integer.

Field Name	Data Type	Description (Optional)
idno	Short Text	
namez	Short Text	
workCode	Short Text	
salary	Number	
hourlyPay	Number	
hoursWk	Number	

Field Properties

General

Format: Integer

The label for the field when used on a view. If you don't enter a caption, the field name is used as the label. Press F1 for help on captions.

Design view F6 = Switch panes, F1 = Help.

The last field is a two character state.

Now I have completed the layout so I want to start entering in data according to this layout.

Field Properties

General

Field Size: 3

The maximum number of characters you can enter in the field. The largest maximum you can set is 255. Press F2 for help on field size.

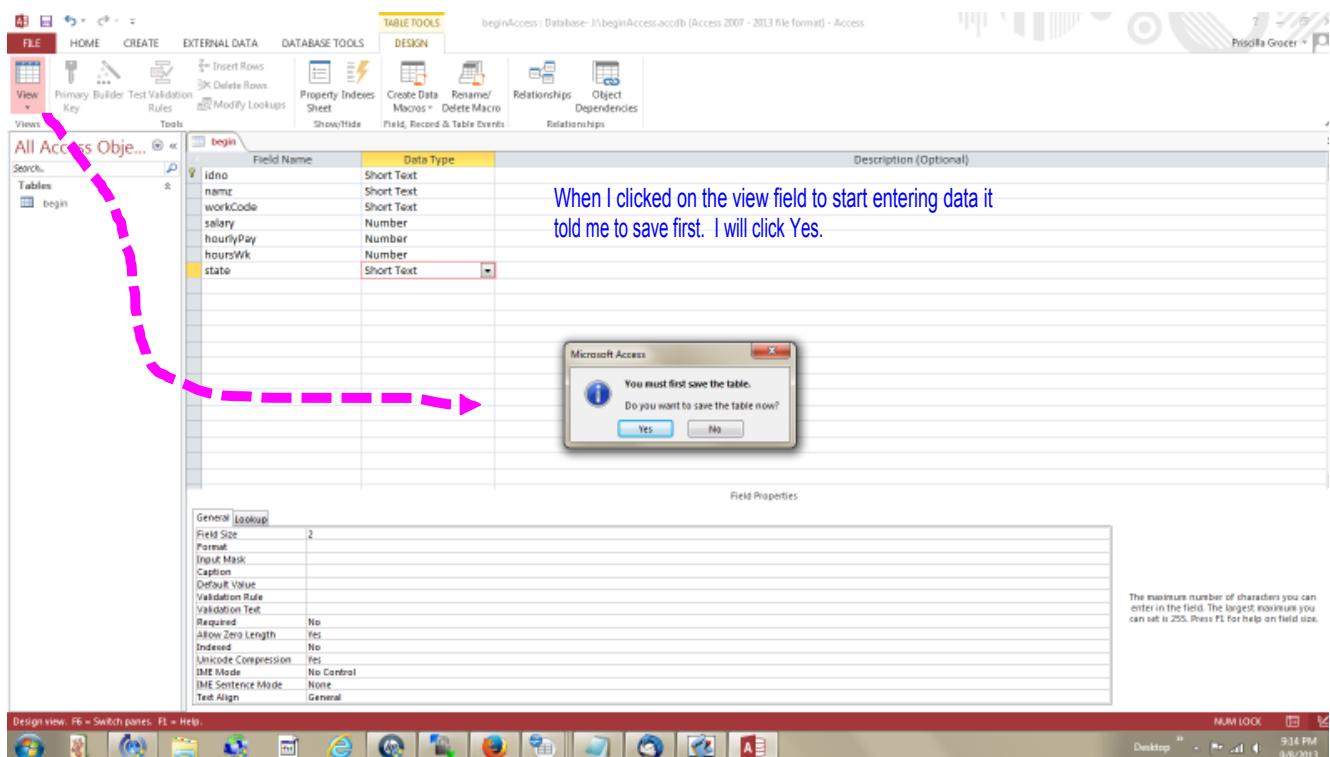
Design view. F6 = Switch panes. F1 = Help.

NUM LOCK

Desktop

9:32 PM

9/8/2013



I can now start to enter data.

Note that the view icon is a toggle when I am in design it shows the view and when I am in view it shows the design.

idno	name	workCode	salary	hourlyPay	hoursWk	state
*			0	0	0	

All Access Obj... ex

begin

	idno	name	workCode	salary	hourlyPay	hoursWk	state	Click to Add
1	11111	Jane French	S	52000	0	0	MA	
2	12121	Linda Souza	S	60000	0	0	RI	
3	12345	John Doe	H	0	35	50	MA	
4	13579	David Costa	H	0	45	40	MA	
5	22222	Susan Ash	S	75000	0	0	MA	
6	23456	Peter Lyons	S	70000	0	0	MA	
7	24680	Rachell Lynch	H	0	30	45	MA	
8	33333	Amy Richards	H	0	45	40	MA	
9	34567	Ralph Brown	S	65000	0	0	RI	

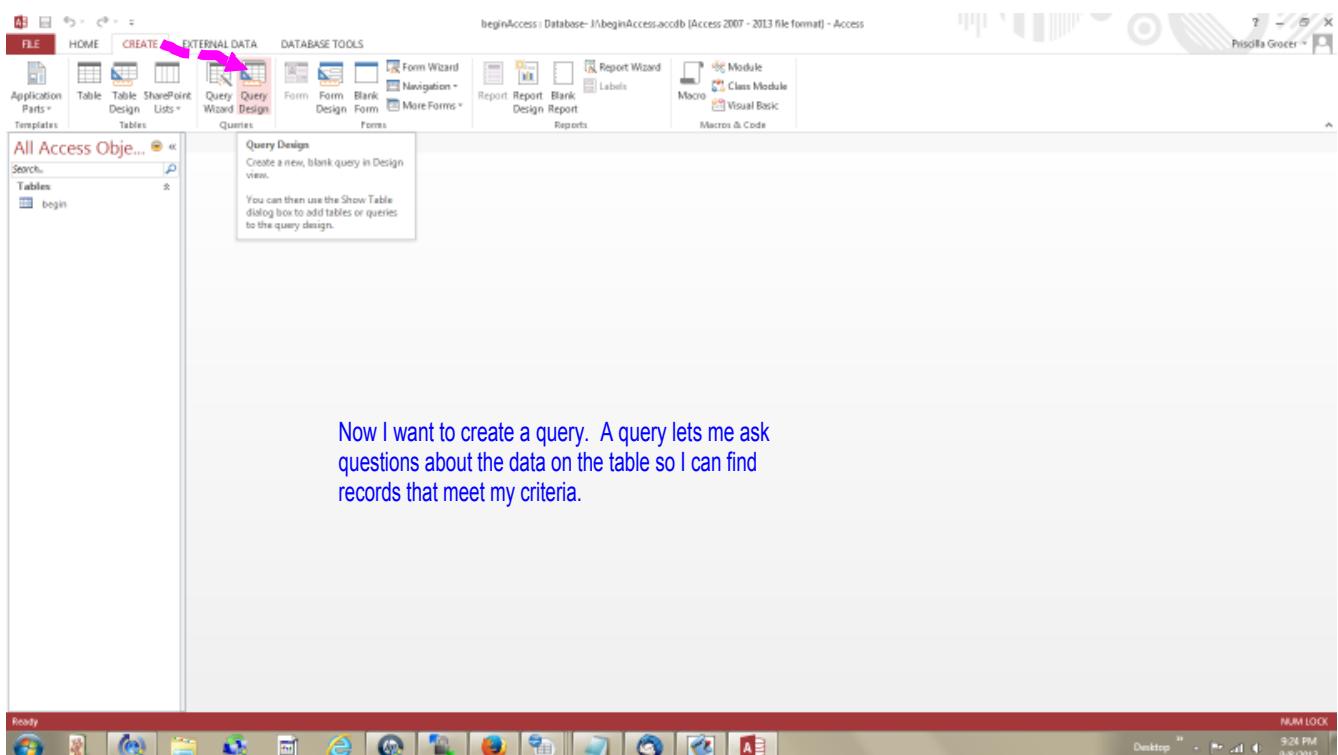
Datasheet View

Record: 4 of 9 | < > | No Filter | Search |

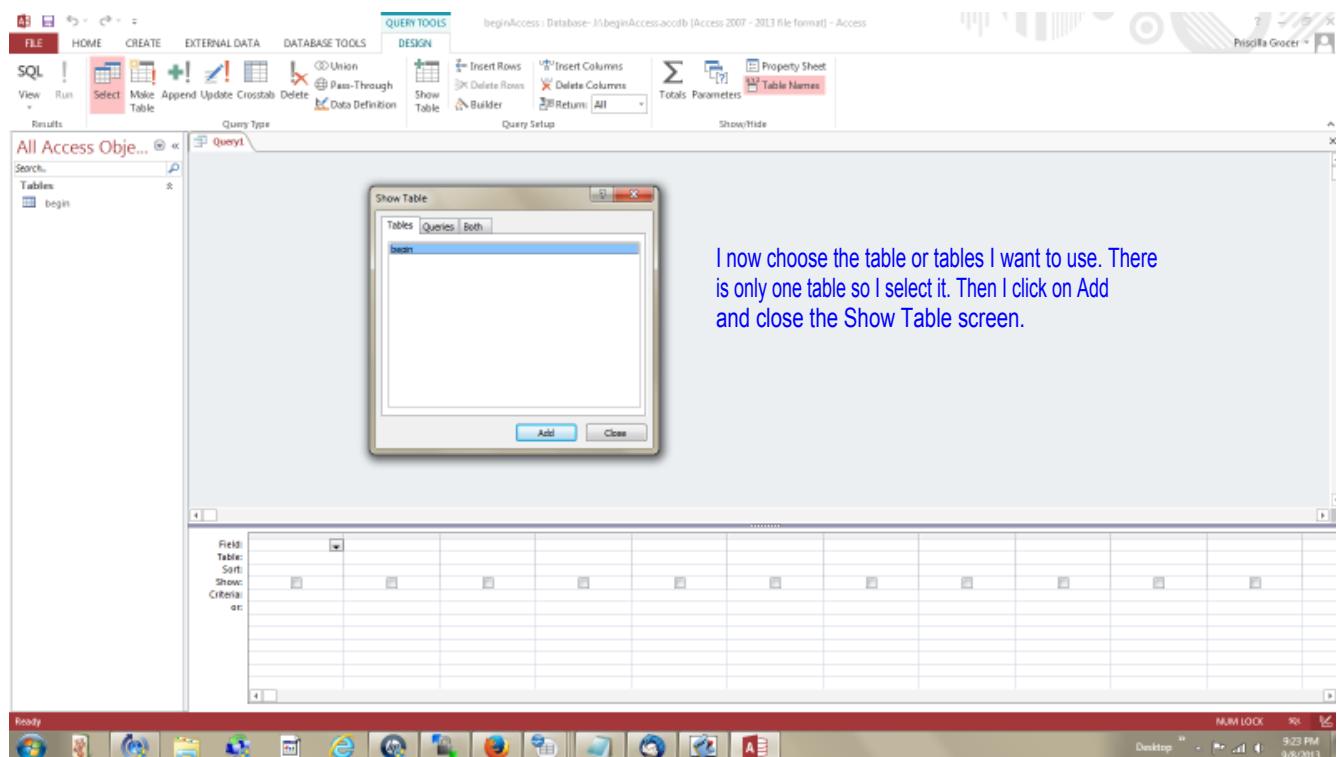
NUM LOCK

Desktop 9:22 PM 9/6/2013

Here is the data that I entered.



Now I want to create a query. A query lets me ask questions about the data on the table so I can find records that meet my criteria.



I now choose the table or tables I want to use. There is only one table so I select it. Then I click on Add and close the Show Table screen.

I bring fields down to the field line either by double clicking, dragging or putting the cursor in the field and choosing from the list available through the arrow.

Here I only want to see three fields so that is all I brought down and my criteria is that I only want to see records where the state is MA. Note that MA is a character field so it must be enclosed in quotes.

Field	Table	Sort	Criteria
idno	begin		
name	begin		
state	begin		"MA"

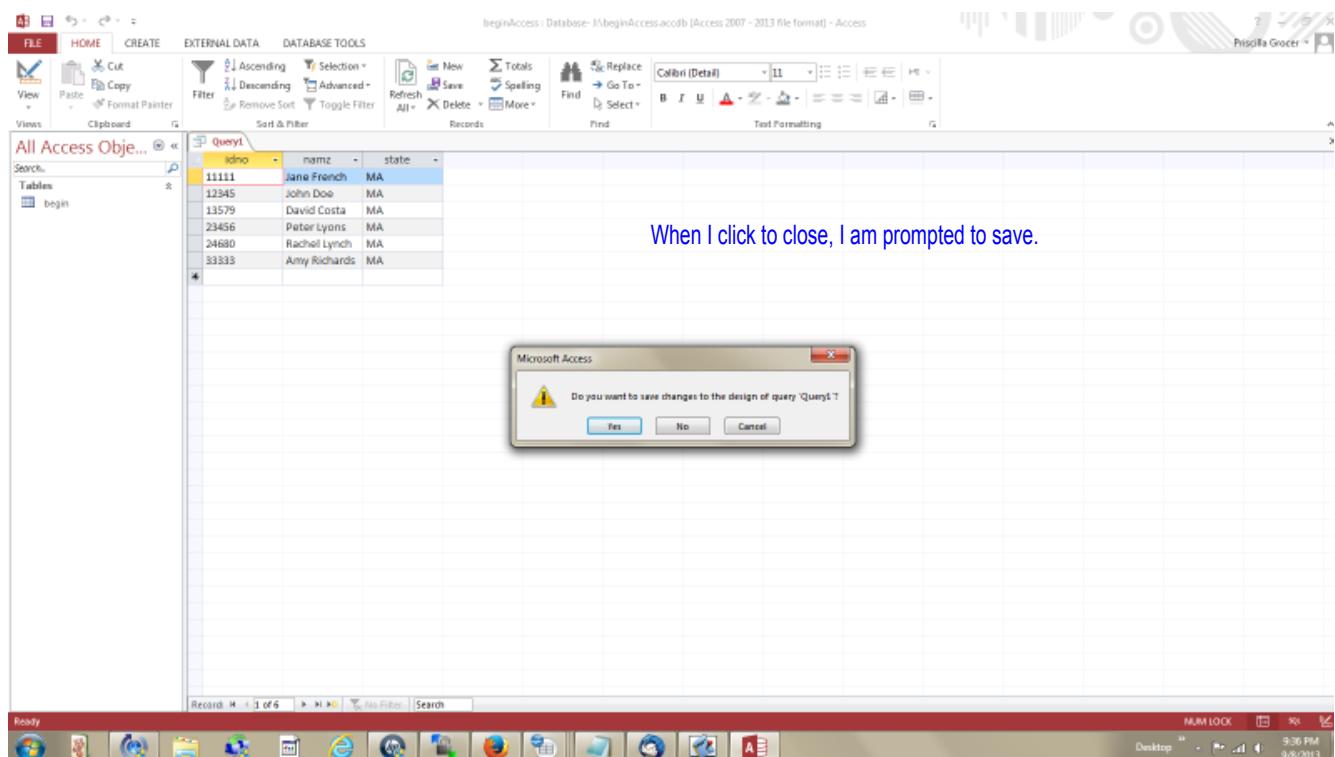
The logic flowchart shows that if the state is MA the record will be listed. If it is not, the state will not be listed.

The screenshot shows a Microsoft Access 2010 window with the following details:

- Menu Bar:** FILE, HOME, CREATE, EXTERNAL DATA, DATABASE TOOLS.
- Toolbar:** Includes Cut, Copy, Paste, Format Painter, Filter, Sort & Filter, Refresh All, New, Save, Totals, Replace, Find, Go To, Select, Text Formatting.
- Table View:** Shows the "begin" table with columns idno, name, and state. The data is as follows:

idno	name	state
12345	Jane French	MA
13579	John Doe	MA
29456	David Costa	MA
24680	Peter Lyons	MA
33333	Rachel Lynch	MA
	Amy Richards	MA

- Note:** A blue note overlay states: "Note that only records that meet the criteria of state = MA are listed."
- Status Bar:** Shows "Ready", the Windows taskbar with various icons, and system status like NUM LOCK, Desktop, battery level, and date/time (9/8/2013, 9:38 PM).

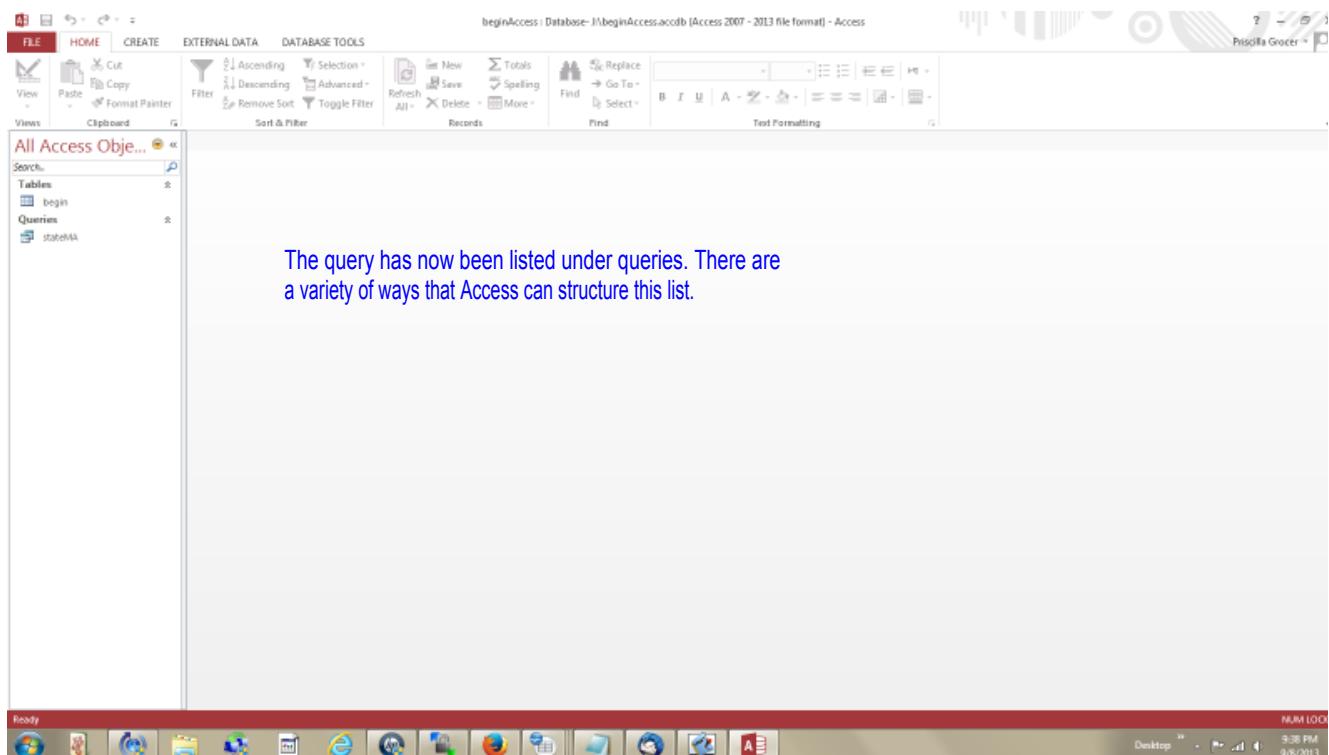


The screenshot shows a Microsoft Access 2010 interface. A 'Save As' dialog box is open in the foreground, prompting the user to name the query. The query results grid displays six records with columns: idno, name, and state. The records are:

idno	name	state
11111	Jane French	MA
12345	John Doe	MA
13579	David Costa	MA
23456	Peter Lyons	MA
24680	Rachel Lynch	MA
33333	Amy Richards	MA

The 'Save As' dialog box contains the text 'Query Name:' followed by 'stateMA'. The 'OK' button is highlighted.

I am going to name the query stateMA.



I created another query where I want a workCode of S and a salary > 50000. These are in an AND relationship.

AND relationship:
Both criteria must be true for the record to appear on the list.

Non numeric/text fields are enclosed in quotes.
Numeric fields are NOT enclosed in quotes.

The screenshot shows a Microsoft Access window titled "beginAccess / Database- J:\beginAccess.accdb [Access 2007 - 2013 file format] - Access". The ribbon tabs are FILE, HOME, CREATE, EXTERNAL DATA, and DATABASE TOOLS. The HOME tab is selected. The toolbar includes icons for New, Save, Totals, Spelling, Refresh, Filter, Selection, Advanced, Sort & Filter, and More. The main area displays a grid of data from a query named "Query1". The columns are labeled idno, name, workCode, salary, hourlyPay, and hoursWk. The data shows four records:

idno	name	workCode	salary	hourlyPay	hoursWk
21221	Linda Souza	S	60000	0	0
22222	Susan Ash	S	75000	0	0
23456	Peter Lyons	S	70000	0	0
34567	Ralph Brown	S	65000	0	0
*			0	0	0

A blue annotation text box is overlaid on the screen, containing the following text:

All record have both a workCode of S and a salary greater than 55000.

The taskbar at the bottom shows various application icons and the system clock indicating 9:49 PM on 9/8/2013.

The screenshot shows the Microsoft Access 2010 interface with the 'Query Tools' ribbon selected. A query named 'Query1' is open, showing a design grid for the 'begin' table. The grid has four columns: 'idno', 'name', 'salary', and 'hourlyPay'. The 'salary' column has a criteria of ' >60000 ', and the 'hourlyPay' column has a criteria of ' $>=35$ '. A pink dashed arrow points from the text 'Note when I have an or relationship, one condition is on the criteria line and the other condition is on the or line.' to the 'hourlyPay' criteria cell.

Now I want to see all employees that have a salary > 60000 or have an hourly pay >=35.

Note when I have an or relationship, one condition is on the criteria line and the other condition is on the or line.

SECURITY WARNING: Some active content has been disabled. Click for more details. [Enable Content](#)

All Access Obj... [Query1](#)

begin

idno	name	workCode	salary	hourlyPay

OR relationship
One or the other has to be true.

```

graph TD
    A{salary > 60000} -- N --> Start(( ))
    A -- Y --> B{hourlyPay >= 35}
    B -- N --> Start
    B -- Y --> C[list]
    C --> D{hourlyPay >= 35}
    D -- N --> Start
    D -- Y --> E[list]
    E --> F{salary > 60000}
    F -- N --> Start
    F -- Y --> G[list]
  
```

If I get an Y to the first decision I list and do not care about the second. If I get a N to the first decision, then I have a second chance so I check the hourlyPay decision. If it is Y I list otherwise, I do nothing.

The screenshot shows a Microsoft Access 2010 window with the following details:

- Toolbar:** Standard Access toolbar with FILE, HOME, CREATE, EXTERNAL DATA, and DATABASE TOOLS tabs.
- Home Tab:** Contains buttons for View, Paste, Cut, Copy, Format Painter, Filter, Sort & Filter, Refresh, New, Save, Totals, Find, Replace, Spelling, Delete, More, and Text Formatting.
- Query Grid:** A table titled "Query1" with columns: idno, nam2, salary, hourlyPay. The data is as follows:

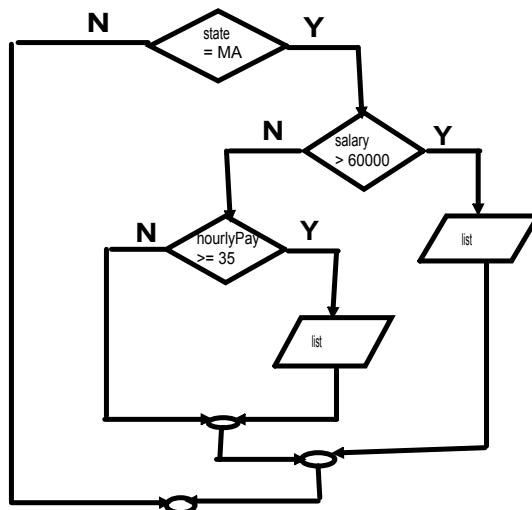
idno	nam2	salary	hourlyPay
12345	John Doe	0	35
13579	David Costa	0	45
22222	Susan Ash	75000	0
23456	Peter Lyons	70000	0
33333	Amy Richards	0	45
34567	Ralph Brown	65000	0
		0	0

- Message Bar:** SECURITY WARNING: Some active content has been disabled. Click for more details. Enable Content.
- Left Panel:** Shows the navigation pane with "All Access Objets" expanded, showing Tables (begin), Queries (AllRelationship, stateVA), and Forms (None).
- Bottom Status Bar:** Ready, Record: 1 of 6, SQL, NUM LOCK, Desktop, 11:51 AM, 9/11/2013.

In the center of the screen, there is a blue annotation text: "All of the records have a salary greater than 60000 or a hourly pay greater than or equal to 35 as specified in my criteria."

Now I want to do a situation where one thing has to be true and also either of two other things have to be true.

For example I want state = "MA" and either salary > 60000 or hourlyPay >= 35.



If state = MA, I continue and ask about salary and if that is true, I list.
If salary is a N, then I have a second chance because either of these two conditions has to be true. The second chance means I now ask about hourlyPay. If it is ≥ 35 then I list, otherwise I do nothing.
If state is not M, I do nothing.

All Access Obj... **Query**

When something has to be true, I list it on both the criteria and the OR line.
 So I have state = MA and salary > 60000
OR
 state = MA and hourlyPay >=35

Field	Table	idno	name	state	salary	hourlyPay
From:	begin	[]	[]	[]	[]	[]
Sort:						
Show:						
Criteria:	on			"MA"	>60000	[]
						>=35

state = MA has to be true and either of the other two options has to be true.
 Note that if MA was not on the OR line you would have
 state = MA and salary > 60000
OR
 just hourlyPay >=35 and I do not care about the state.

A screenshot of the Microsoft Access application interface. The window title is "beginAccess : Database C:\Users\Pris\Documents\courses\2009forward\CIS17\begin\Access.accdb (Access 2007 - 2013 file format) - Access". The ribbon tabs are FILE, HOME, CREATE, EXTERNAL DATA, and DATABASE TOOLS. The HOME tab is selected. The left pane shows the "All Access Objects" navigation pane with "Tables" expanded, showing "begin" as the selected table. The main area displays a query results grid titled "Query1". The grid has columns: idno, name, state, salary, and hourlyPay. The data is as follows:

idno	name	state	salary	hourlyPay
12345	John Doe	MA	0	35
13579	David Costa	MA	0	45
23456	Peter Lyons	MA	70000	0
33333	Amy Richards	MA	0	45
			0	0

The entire grid is highlighted with a thick pink dashed oval. Inside this oval, there is handwritten blue text that reads:

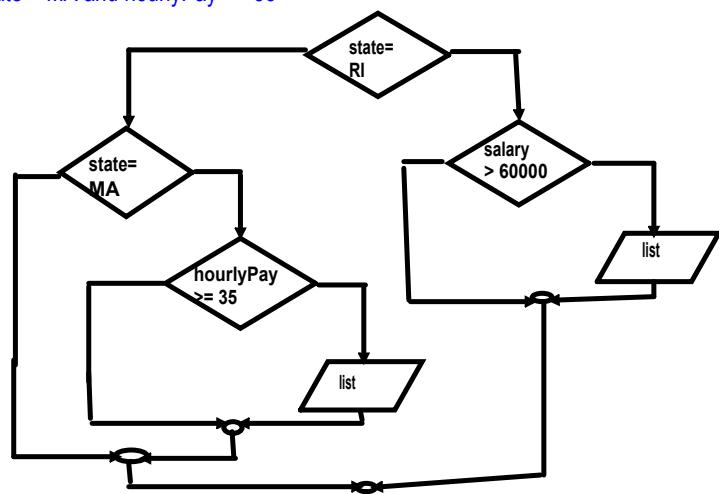
All of the records listed have state = "MA".
In addition they either have salary > 60000
OR
hourlyPay >= 35

The status bar at the bottom shows "Ready", the taskbar has various icons, and the system tray shows "NUM LOCK" is on, the date and time as "12:25 PM 9/11/2013", and a battery icon.

What if I have state = RI AND salary > 60000

OR

state = MA and hourlyPay >= 35



The screenshot shows the Microsoft Access 2010 interface with the 'Query Tools' ribbon selected. In the 'DESIGN' tab, the 'Query Type' dropdown is set to 'Query'. The 'Tables' pane on the left shows a table named 'begin' with fields: idno, name, workCode, salary, hourlyPay, hoursWk, and state. The main workspace displays a query grid with the following criteria:

Field:	idno	name	state	salary	hourlyPay
Table:	begin	begin	begin	begin	begin
Sort:					
Show:	<input checked="" type="checkbox"/>				
Criteria:	OR		"RI"	>=60000	
			"MA"		>=35

Annotations in blue text are overlaid on the screen:

- state = RI and salary > 60000 are on the criteria line
- state = MA and hourlyPay >= 35 are on the or line
- either set will result in listing

The screenshot shows a Microsoft Access window displaying a query results grid. The grid has columns: idno, namz, state, salary, and hourlyPay. The data is as follows:

idno	namz	state	salary	hourlyPay
13579	John Doe	MA	0	35
22222	Susan Ash	RI	75000	0
33333	Amy Richards	MA	0	45
34567	Ralph Brown	RI	65000	0
			0	0

Annotations with pink arrows and text explain the WHERE clause logic:

- A solid pink arrow points from the first row to the 'state = RI and salary > 60000' text.
- A dashed pink arrow points from the second row to the 'state = MA and hourlyPay >= 35' text.
- A dashed pink arrow points from the third row to the 'state = MA and hourlyPay >= 35' text.
- A dashed pink arrow points from the fourth row to the 'state = MA and hourlyPay >= 35' text.
- A dashed pink arrow points from the fifth row to the 'state = MA and hourlyPay >= 35' text.

state = RI and salary > 60000 are on the criteria line
state = MA and hourlyPay >= 35 are on the or line