



PDHonline Course G237 (1 PDH)

Microsoft ACCESS Database Basics

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Microsoft ACCESS Database Basics

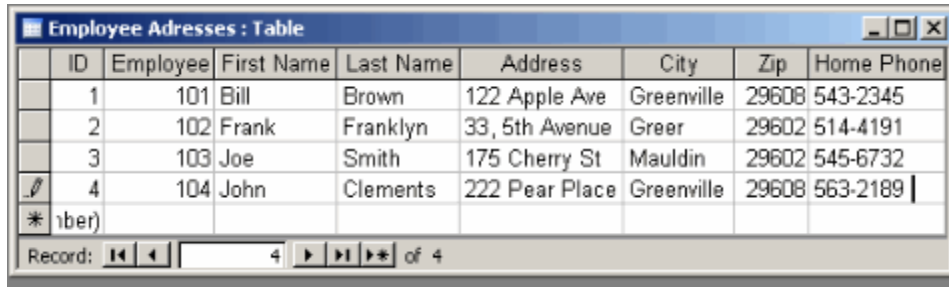
John Andrew, PE

Course Content

This one (1.0 PDH) Professional Development Hour course describes basic elements in Microsoft's, "Access" database creating software with many illustrations.

Engineering records of many types are kept for decades and should be readily retrievable for: engineering, legal, and tax purposes. Engineering organizations keep a list of drawings and revisions of drawings for all projects. The purchasing department keeps records of all equipment to be purchased for each client and track the delivery dates. All stages of manufacturing operations are planned and controlled to meet delivery requirements including records of all product: serial numbers, bills of materials, quality control data, and delivery dates.

A database is a computerized system for collecting, modifying, and accessing small and large lists of similar data. A list of factory equipment: generic names, descriptions, manufacturers, addresses, phone numbers, and prices is an example of a database. The employee list below is another example.

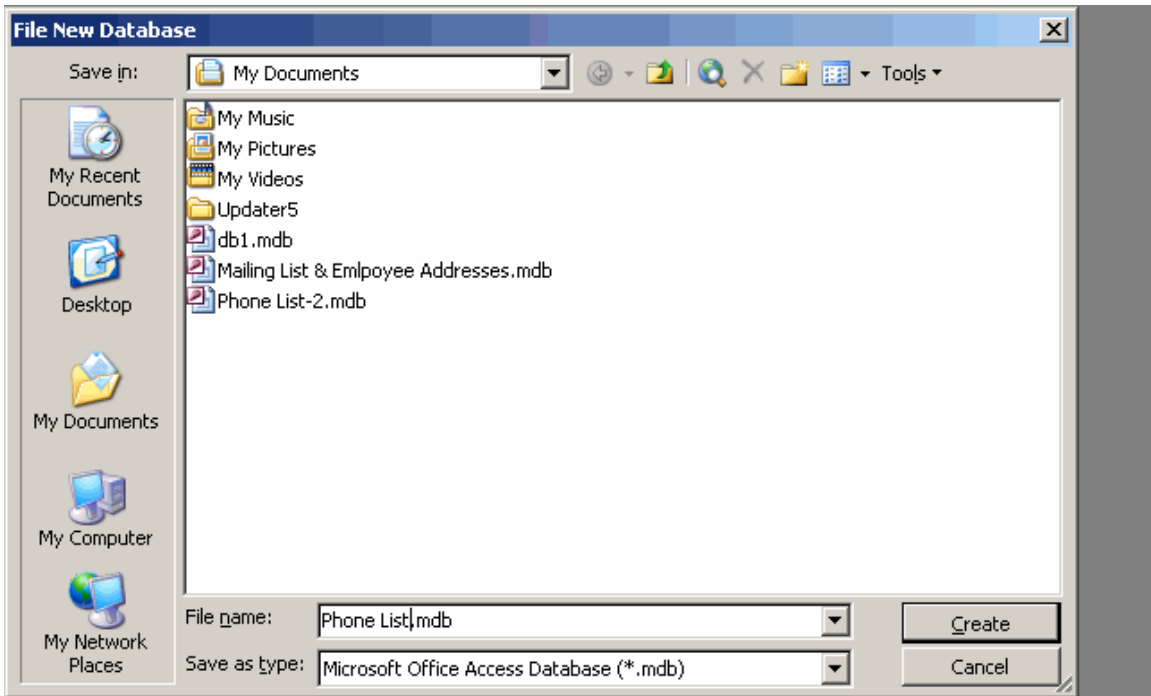
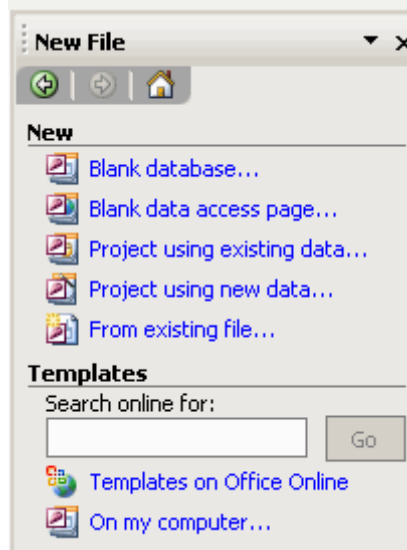
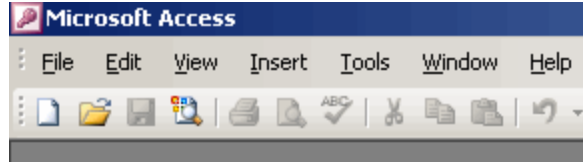


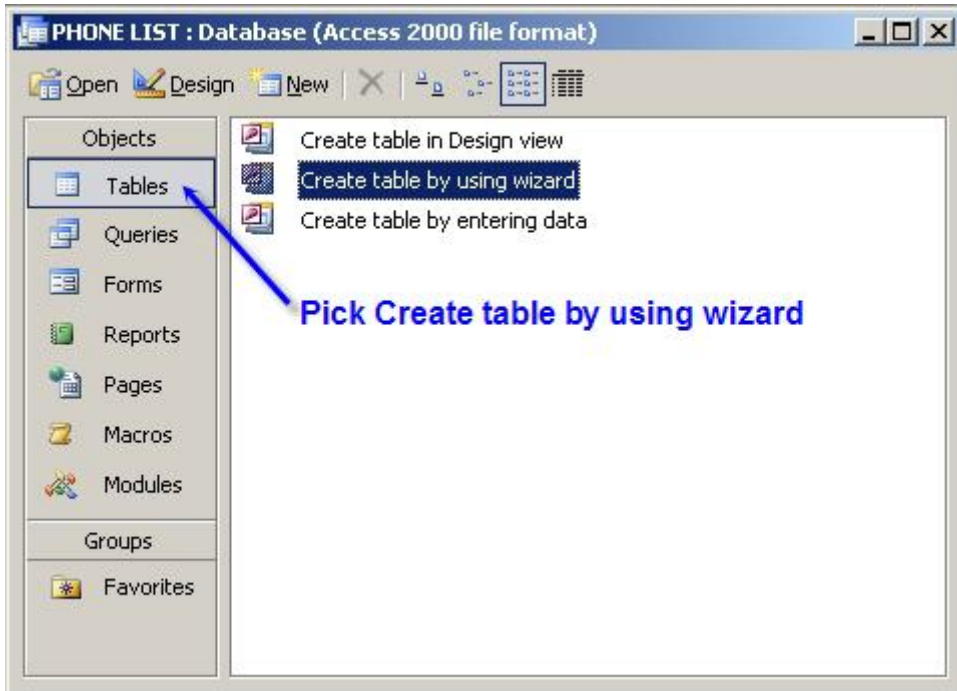
ID	Employee	First Name	Last Name	Address	City	Zip	Home Phone
1	101	Bill	Brown	122 Apple Ave	Greenville	29608	543-2345
2	102	Frank	Franklyn	33, 5th Avenue	Greer	29602	514-4191
3	103	Joe	Smith	175 Cherry St	Mauldin	29602	545-6732
4	104	John	Clements	222 Pear Place	Greenville	29608	563-2189

Create the above Microsoft Access Database Table

The rows in the above database table are called, "Records" and the items in the columns are, "Fields". A Field column contains one category of data such as: Item number, First Name, Last Name, Hourly Wage, etc.

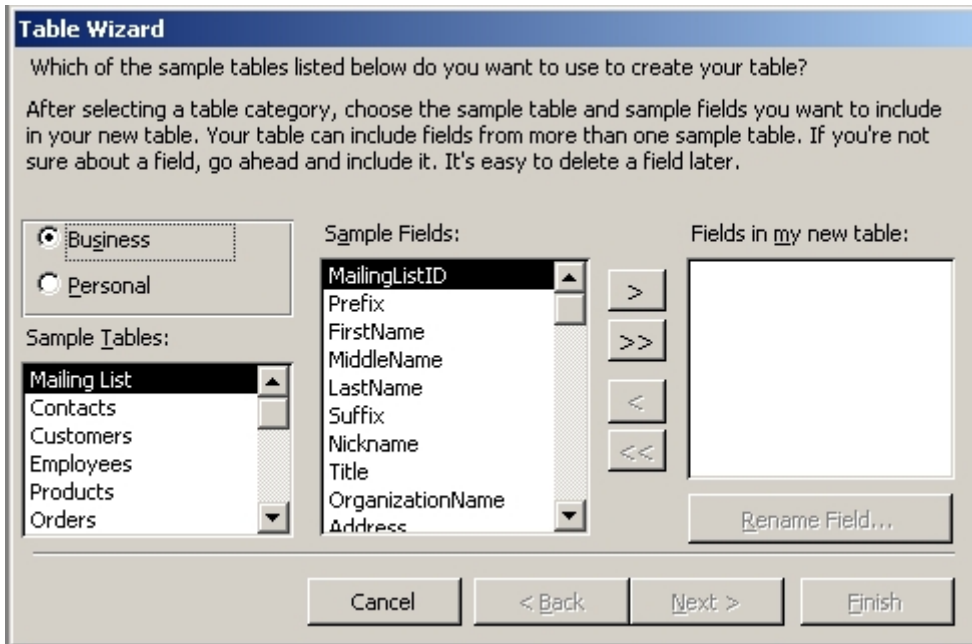
1. Open Microsoft Access > File > New > Blank Database...





2. File name: > Phone List > Create.

3. Objects > Tables > Create table by using wizard > Enter.



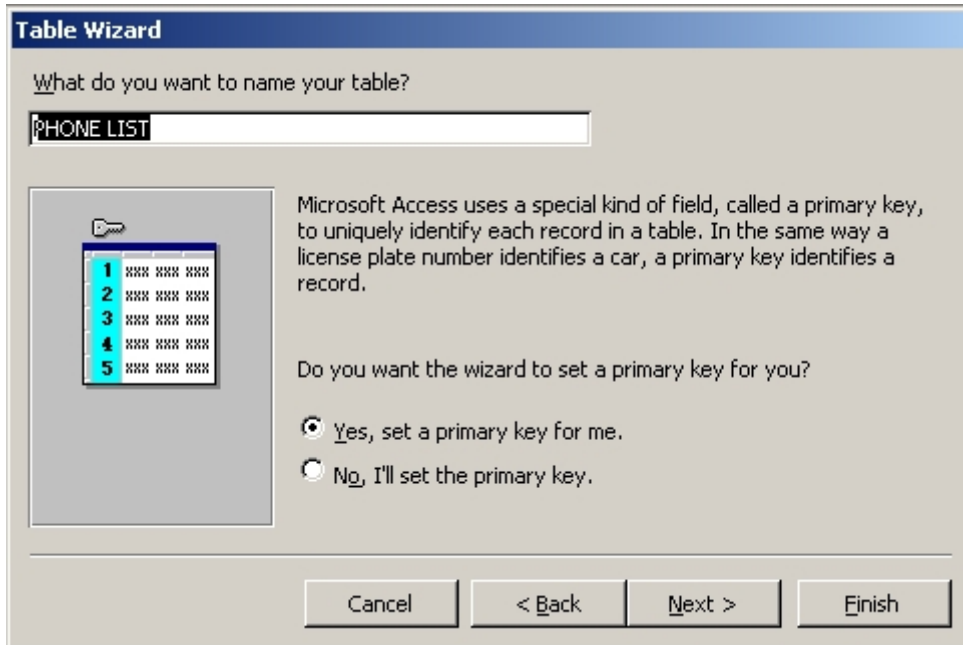
4. The, "Table Wizard" above will open with, Sample Tables and Sample Fields.

5. Under Sample Tables pick: Mailing List

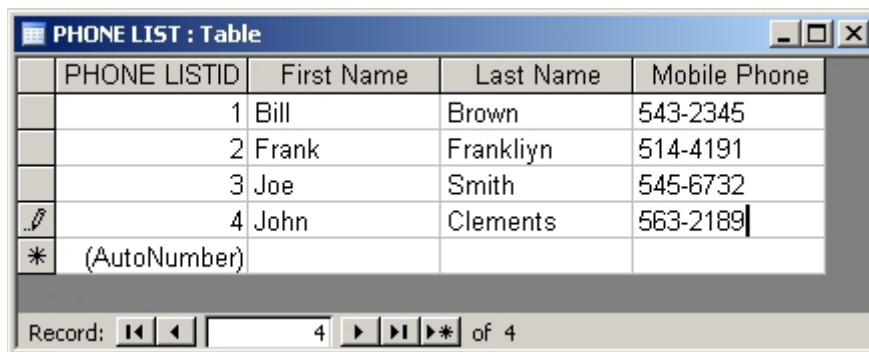
6. Under Sample Fields pick: MailingListID > FirstName > LastName > MobilePhone.

Note that wizard field names can be changed by editing and new field names, not listed in the, "Sample Fields" list can be inserted at the top of any column.

Edit field name, "MailingListID" to read, "PHONE LISTID".

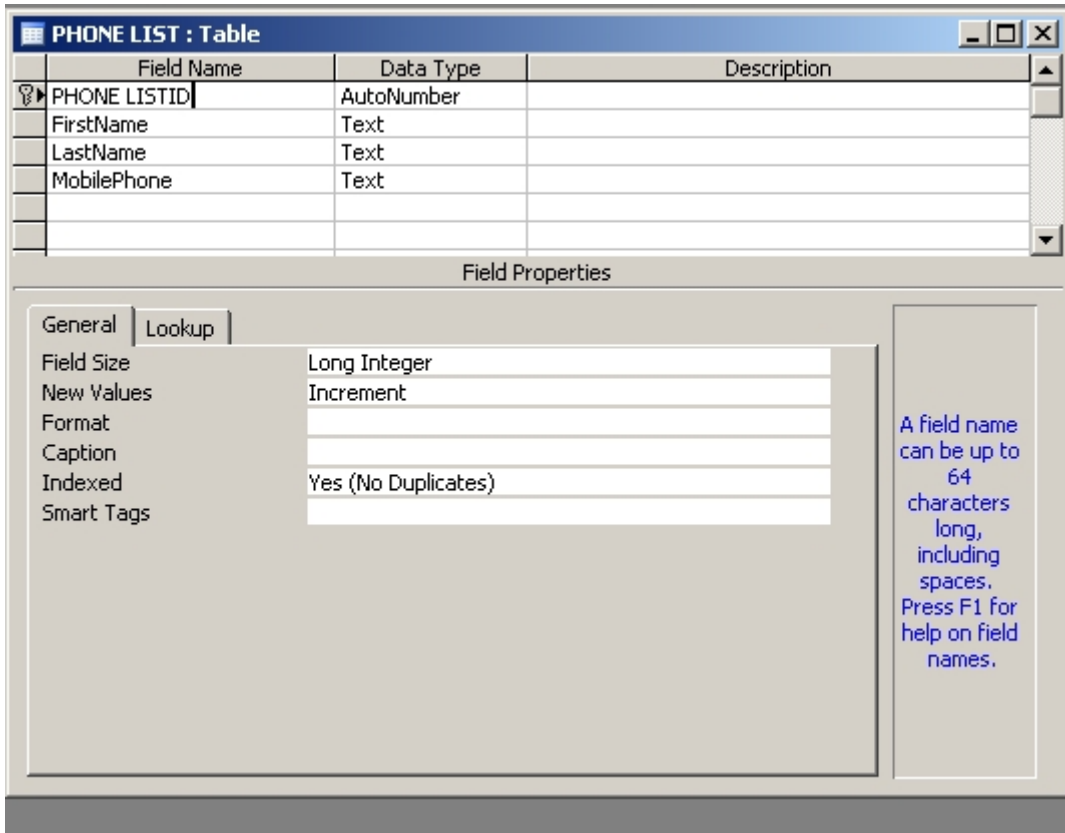


7. What name do you want for your table? > type, "PHONE LIST" > Next > Finish.



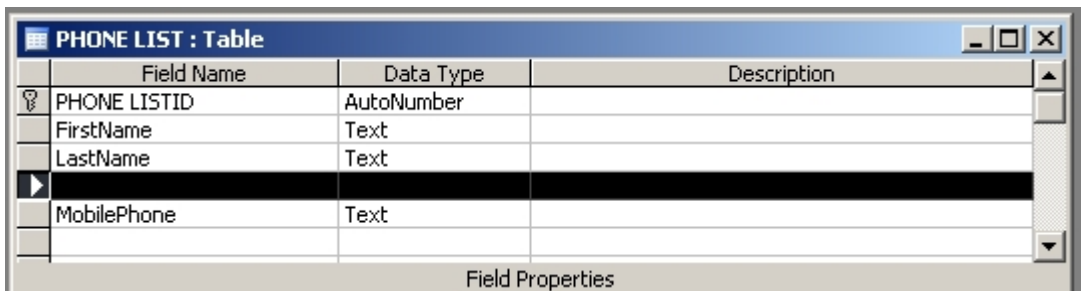
8. Type the First Names, Last Names, and Mobile Phone numbers as shown above. The cursor location allows editing, "Record" number 4 above.

9. Select "Design View".

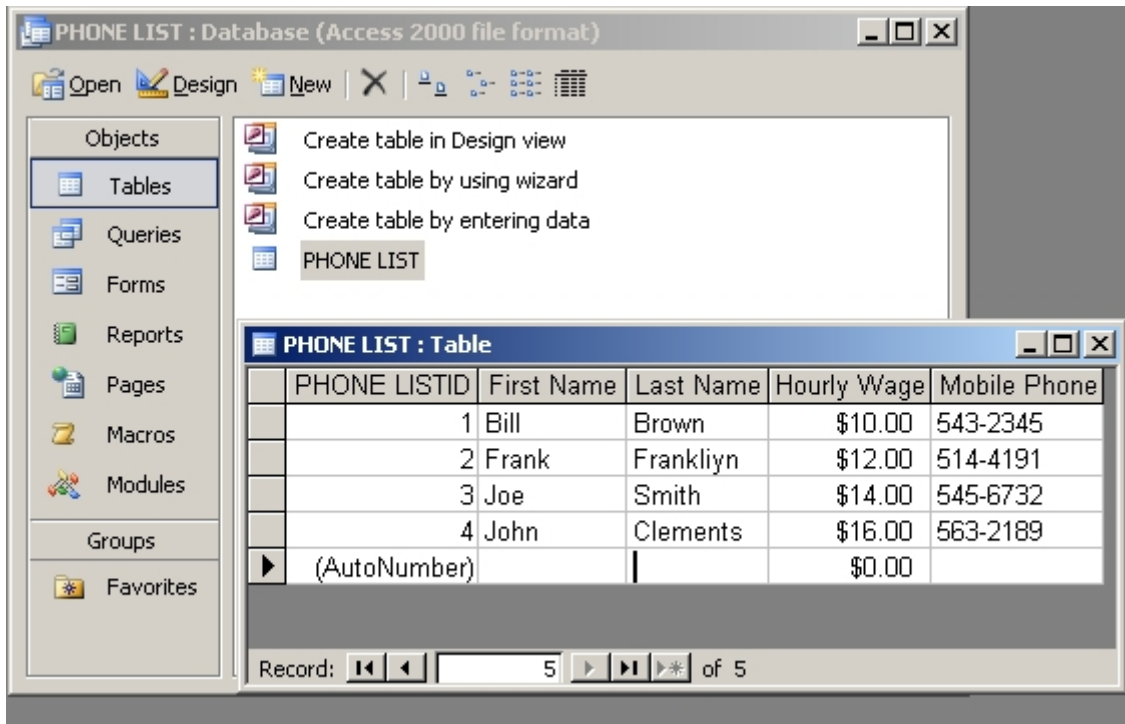


10. Place mouse pointer in the cell on the left side of, “Last Name” and, “Insert” a new field name as shown below.

Type under Field Name > Hourly Wage > Data Type > Currency, see below.



11. Place the mouse pointer on the, “X” in the top right corner above > Close > Save > Yes.



12. The revised database, "Table" with 4 "Records" is shown above.

Import an Excel table into an Access Database

a. An Access Database Table can be: Selected > Copied > Pasted into an Excel Spreadsheet.

b. Also an Excel Spreadsheet Table can be inserted into an Access Database.

Import a list of items from an EXCEL table file into an ACCESS table file by either of the two methods described below.

Method-1

1. A list is a series of rows that contains related data or a series of rows that you designate to function as a datasheet by using the, "Create List" command.

2. Format: each column has a label in the top row and contains similar facts, First Name, Last Name, Phone Number, etc., and there are no blank rows or columns within the list.

3. To import a list of items from an EXCEL table file into an ACCESS table file: Open a blank or existing ACCESS database > Select drop-down menu:

4. "Insert" > Table > Import Table > Browse for an Excel table file > Import > O Show Worksheet > TABLE > Next > Next > O In a new table > Next > Field Name > Field1 > Indexed > No > Next > O Let Access add primary key > Next Import to, Table > [TABLE] > Finish.

Method-2

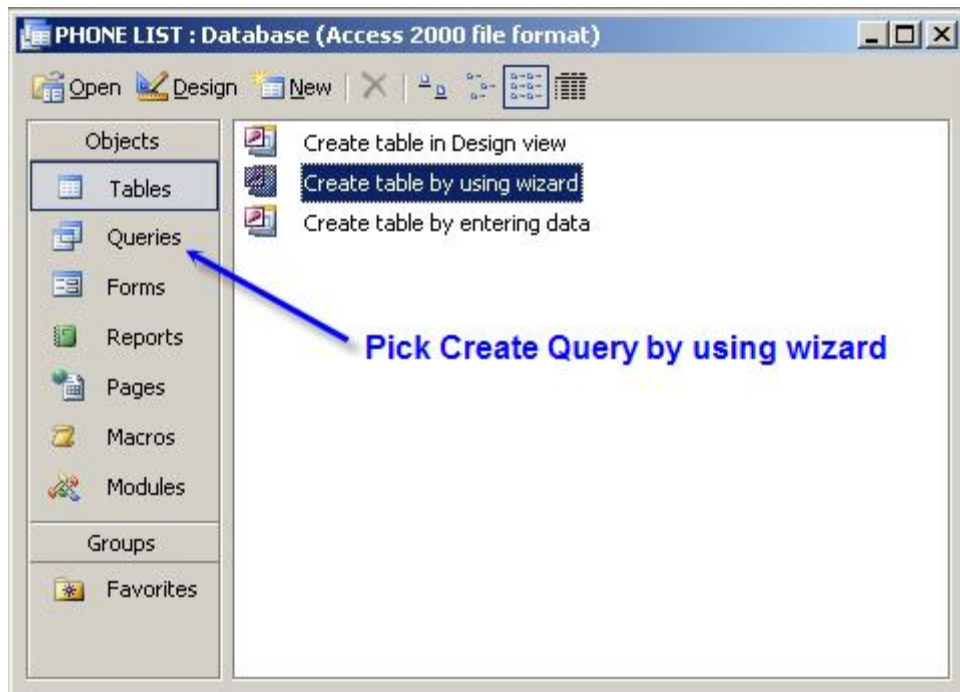
1. Make sure the Microsoft Excel data is in a list as described above.

2. Close the Excel workbook that contains the data you want to use in Microsoft Access.
3. In Access, open the database that you want to insert the above Excel data list.
4. On the, "Access File" menu, point to, "Get External Data", and then click Import.
5. In the Import dialog box, click Microsoft Excel in the Files of type box.
6. In the, "Look in list", locate the file you want to import, and then double-click the file.
7. Follow the directions in the Import Spreadsheet Wizard.

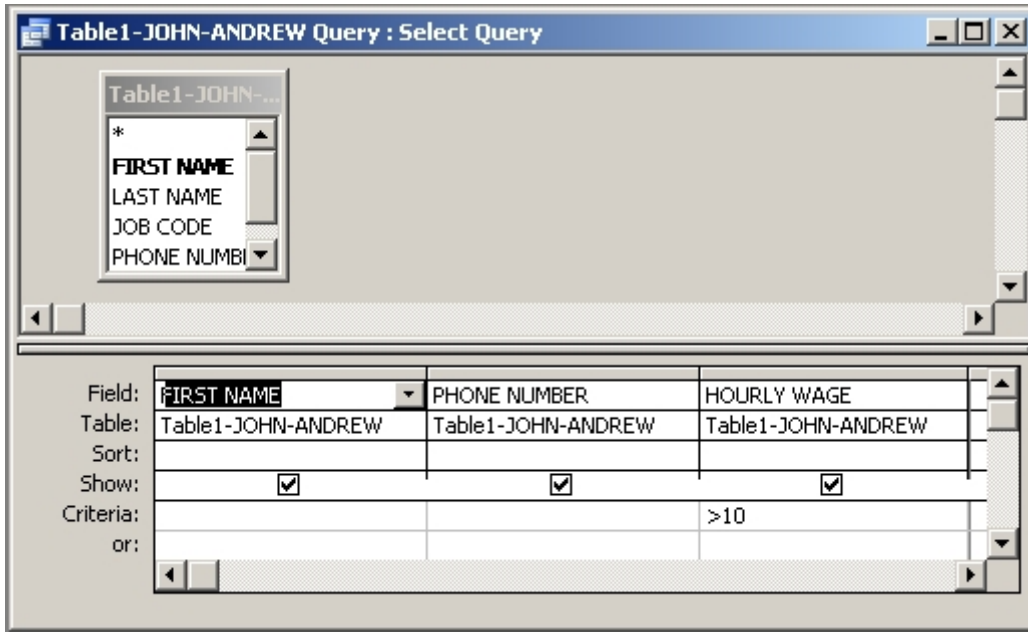
Making an ACCESS Query

Access makes it possible to ask simple or complex questions concerning a database and receive instant answers.

Asking the question, "Which company employees earn more than \$12.00 per hour?" is an example of a database query.



1. Pick Create Query by using wizard, as shown above.
2. Select Fields > FIRST NAME > PHONE NUMBER > HOURLY WAGE, as shown below.



3. Pick the cell, Criteria / HOURLY WAGE > type the amount > 10, as shown above.

4. Pick the (X) Close button in the top right corner of the, “PHONE LIST” Query and save the file. See the illustration above.

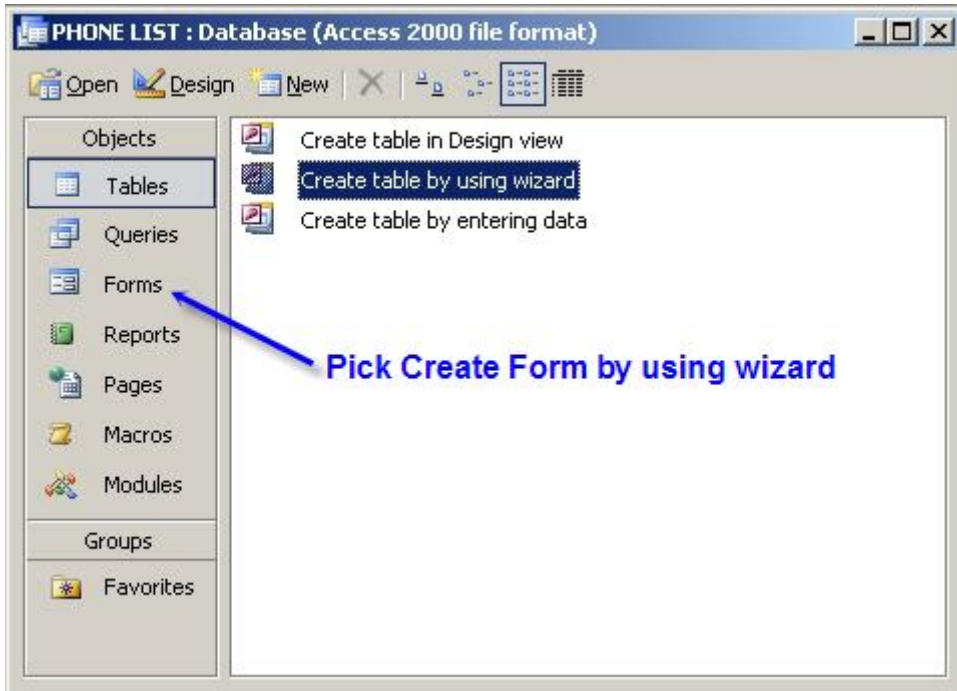
	First Name	Hourly Wage	Mobile Phone
▶	Bill	\$10.00	543-2345
	Frank	\$12.00	514-4191
	Joe	\$14.00	545-6732
	John	\$16.00	563-2189
*		\$0.00	

5. Under, “Objects” pick, “Queries” and click on the query title to open the one shown above.

Creating ACCESS Forms

ACCESS makes it convenient for the user to create attractive and useful forms for viewing and updating data one record at a time.

The answer to the question, “Show me all the information available about employee Bill Brown” would be found in a Form.



Pick, "Forms" and follow the steps in the above, "Wizard" to create the Form format shown below.

The screenshot shows a data entry form titled 'Table1-JOHN-ANDREW1'. It contains the following fields and values:

FIRST NAME	Bill
LAST NAME	Brown
JOB CODE	15
PHONE NUMBER	444-5555
HOURLY WAGE	\$15.00

Record: 1 of 5

The form for record number 1 of 5 is shown above.

The screenshot shows a data entry form titled 'Table1-JOHN-ANDREW1'. It contains the following fields and values:

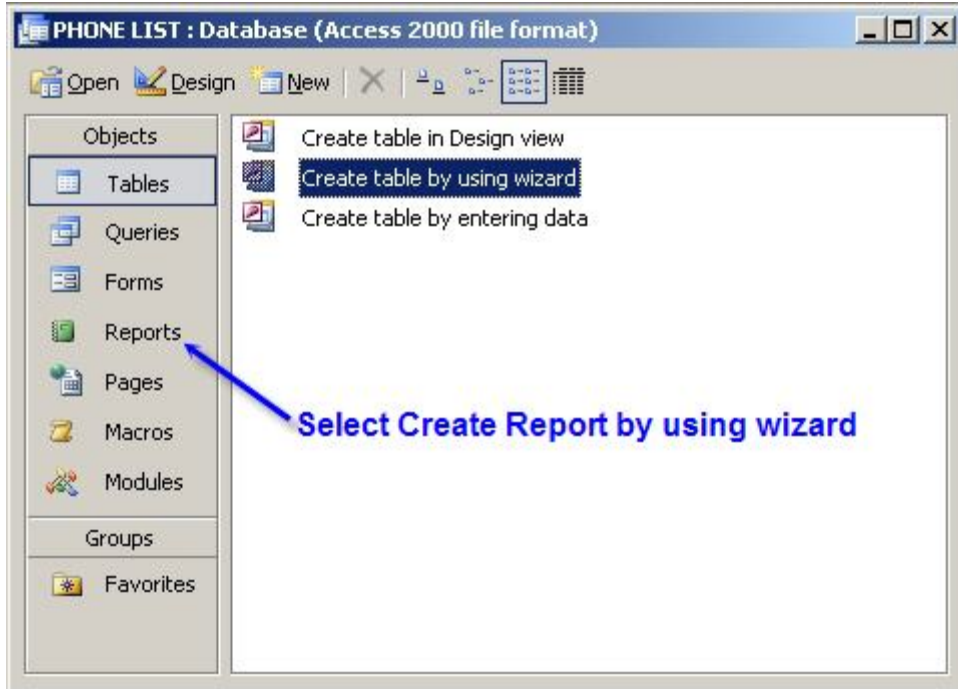
FIRST NAME	Fred
LAST NAME	Jones
JOB CODE	12
PHONE NUMBER	555-6666
HOURLY WAGE	\$18.00

Record: 3 of 5

The form for record number 3 of 5 is shown above.

Creating an ACCESS Report

A summary of prescribed record fields from a database may be printed in a sophisticated, "Report".



Pick, "Reports" and follow the steps in the above, "Wizard" to create the Report format shown below.

PHONE LIST

<i>FIRST NAME</i>	<i>LAST NAME</i>	<i>JOB CODE</i>	<i>PHONE NUMBER</i>
Joe	Smith	20	222-3333
Sam	Spade	10	333-4444
Bill	Brown	15	444-5555
Fred	Jones	12	555-6666
Frank	Andrews	12	555-7777

Combining Two Databases

Open the Access, "PHONE LIST" database created above.

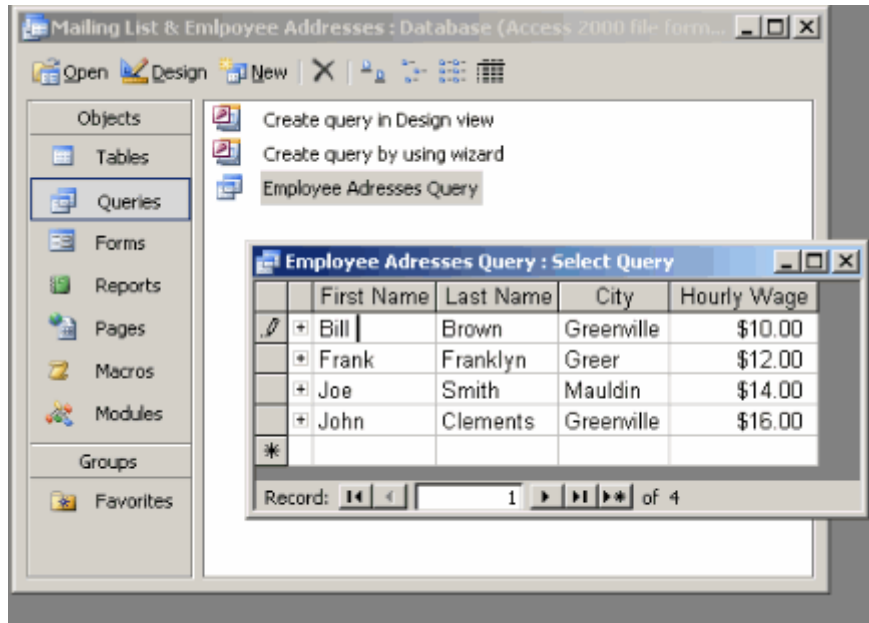
ID	Mailing ListID	First Name	Last Name	Hourly Wage	Home Phone
1	1	Bill	Brown	\$10.00	543-2345
2	2	Frank	Franklyn	\$12.00	514-4191
3	3	Joe	Smith	\$14.00	545-6732
4	4	John	Clements	\$16.00	563-2189

Add the, "Employee Addresses" database shown below.

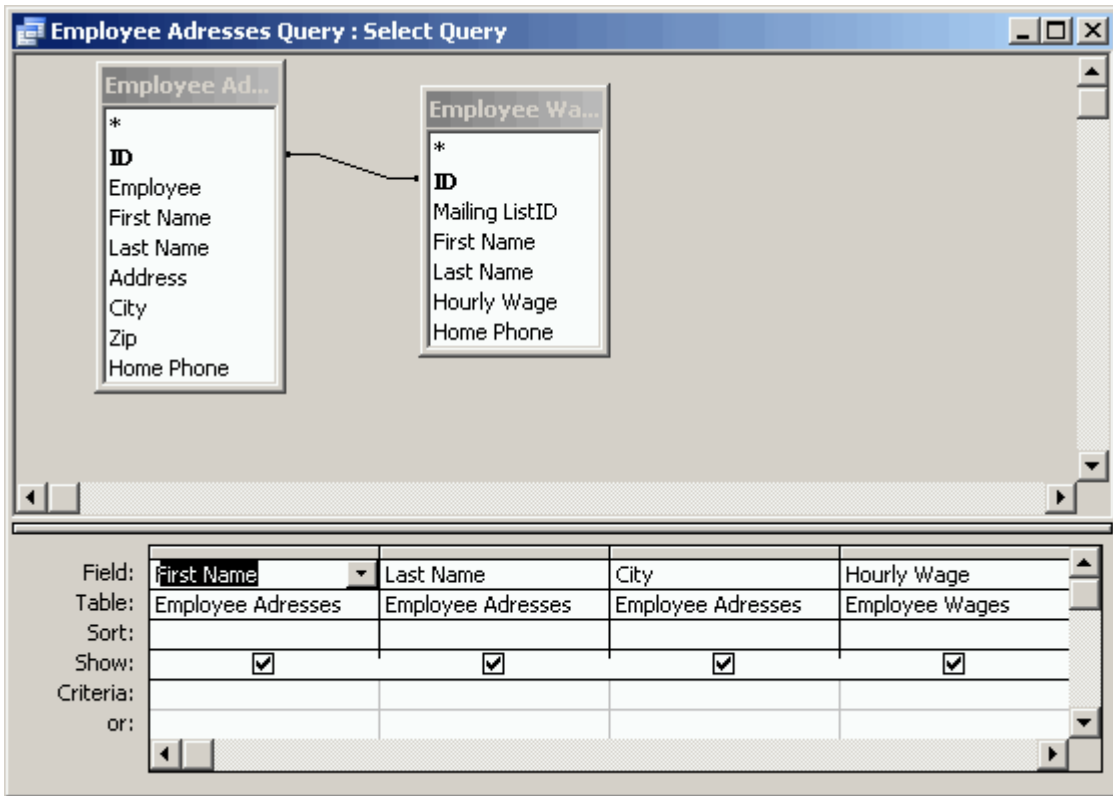
ID	Employee	First Name	Last Name	Address	City	Zip	Home Phone
1	101	Bill	Brown	122 Apple Ave	Greenville	29608	543-2345
2	102	Frank	Franklyn	33, 5th Avenue	Greer	29602	514-4191
3	103	Joe	Smith	175 Cherry St	Mauldin	29602	545-6732
4	104	John	Clements	222 Pear Place	Greenville	29608	563-2189

Create a Query that includes information from both of the above databases:

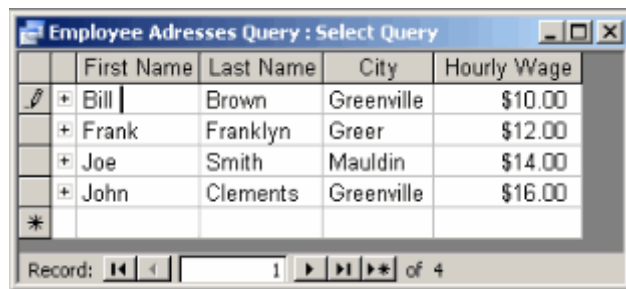
Give me a new table with each employee's **hourly wage** from the first database and their **city** from the second database as seen below.



- Under "Objects" pick: Queries > Create Query by using wizard > Enter > Table: Employee Addresses > Pick all fields (>>) > Pick Design View > Under, "Objects" pick "Tables" > Drag the other table, "Employee Wages" into this Query > (A line links the two databases as illustrated below).



2. Remove the check mark under each item not included in the above query by clicking on a check mark.
3. Click the “Show:” check boxes: ID, Employee, Address, Zip, Home Phone.
4. Transfer the second database, “Hourly Wage” field from the second database into the modified first database.
5. Pick the hourly wage field and drag it down into the empty field next to, “City”.
6. Pick X at the top right to close and save changes.
7. Open the new query as shown below.



ACCESS Database Back-up and Recovery

It is always advisable to make a back-up copy of your database every day or more often.

Mistakes, viruses, hardware problems, etc can destroy a database.

To back-up a database that is open, pick drop down menu:

File > Back Up Database. (You may have to wait a few seconds for, “Back Up Database” to open)

If the, “Live Database” you are using becomes damaged or lost, the Back-up can be opened to recover the latest saved copy.

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This is the end of, “Microsoft ACCESS Database Basics, Course Content”.