

Introduction to Microsoft Access

Before you begin ...

You need to have a good idea what information you want to have in the database.
You need to have a good idea what you want to do with the information in the database.

Both of these will help you to decide how the database will be constructed, and what types of fields will be created.

For the purposes of this handout, we are going to use a fairly simple and fairly common structure for our database – an address book, where we can keep track of names, addresses, phone numbers, and a couple of other important pieces of information.

Starting Access

When you start Access, you are prompted to either start a new blank database, start the database Wizard, or to open an existing database. Let's create a brand new blank database. Click on Blank Database, then click the *OK* button. Now give the database a name of your choice, and click the *Create* button. You will now get a blank window with 7 tabs along the left. In this handout, we will only discuss the Tables, Queries, and Reports tabs.

Creating Fields in a new Database

Before we can actually enter information into the database, we need to define the kind of information that will go into the database, and the names of the "fields" that will be in the database.

For our database, there are going to be 5 fields:

NAME	Representing the name of the person in our address book
ADDR	Representing their mailing address
CITY	Representing the city they live in
SALARY	Representing the amount of money the person makes
DOB	Representing the person's date of birth

Make sure that the Tables tab is active, then double-click the *Create table in Design View* button to the right. This will bring up a new window which will allow us to enter the names of the 5 fields, the type of data to be stored within these fields, and a brief description of what the field will be used for.

Type the word NAME in the first row under Field Name. You can then press the Enter key to move to the Data Type field. The data type will be TEXT by default, which is exactly what we want for this field. You can then press the Enter key to move to the Description field, where you can type whatever description you'd like. When you press the Enter key again, you will move to the second row.

Here are the Data Types for each of our 5 Fields

NAME	TEXT	(Due to the fact that we will put letters into this field)
ADDR	TEXT	
CITY	TEXT	
SALARY	CURRENCY	(Numbers ONLY with 2 decimal places and '\$' symbol)
DOB	DATE/TIME	(Access has a specific type for dates and times)

When you have finished entering the definitions into the table, click on the X in the upper right corner of the window. You will be asked if you wish to save the table. Click the *Yes* button, and save the table as TABLE1. Don't worry about the question for primary keys – we'll deal with that at a later time.

Congratulations! You have successfully defined your database! Now, we have to put information for our friends into the database.

Putting Information into a Database

Double-click on the TABLE1 icon. You have "opened" the table, and will be able to see all of the information contained in the table, listed underneath the column headings which represent our fields in the database. Right now, the table is empty. Click in the first row just under the heading NAME. You should now see a cursor.

Type Steve Shaw then press the Enter key.

Type 12 Red Oak Lane then press the Enter key.

Type Wakefield then press the Enter key.

Type 45000 then press the Enter key.

Type 6/8/70 then press the Enter key.

You have now entered all of the information for our first person, Steve Shaw. Using the same procedure above, enter the information for the following 4 other people:

Adam Abbate	34 Main Street	Charlestown	35500	4/13/81
Henry Harris	328 Old North Road	Kingston	100000	1/15/54
Barbara Barton	101 Pine Street	Wakefield	12500	6/27/83
Nancy Niger	95 Main Street	Narragansett	150000	11/1/60

If you make any typing mistakes along the way, you can select the mistakes with the mouse and retype them. When you have finished entering the information into the table, click on the X in the upper right corner of the window, and the table will close.

Asking Questions of the Database

You use queries to view, change, and analyze data in different ways. You can also use them as the source of records for forms and reports. As you can imagine, this database of people can become quite large. If you are popular, you could have 100 or more names in your address book! It would be quite inconvenient to have to manually search for information, but why bother, when you can get the machine to do the work for you!

For example, suppose that we wanted to get a list of people who lived in Wakefield. We can design a "query" that will ask the database to do the work for us.

Click on the Queries tab at the left of the Database window.

Double-click the *Create Query by Using Wizard* button.

Click the >> button, which will tell Access that when this query is run, we want to see ALL of the fields in the database.

Click the *Next* button.

For now, let's get a detailed query. Click on "Detail" at the top of the window, and then click the *Next* button.

Now we need to give this query a name. Let's call it WAKEFIELD PEOPLE.

We now need to modify the query to look for specific people. Click on the "Modify the query design" button.

Click the *Finish* button.

Under the column labeled CITY, in the row matching CRITERIA, place the following formula:
="Wakefield"

Close the window, and save the changes to the query.

To run the query, double-click it! The query is **NOT** case sensitive (thank goodness!).

There are a great number of different criteria that we could use within our queries to get lists of different people.

If we wanted a list of people who made more than \$75000, we would place the formula >75000 under the SALARY field.

If we wanted a list of people who were born before January 1, 1975, we would place the formula $<1/1/1975$ under the DOB field.

If we wanted a list of people who lived in Wakefield AND made more than \$25000, we would place the formula $=\text{"Wakefield"}$ under the CITY field AND we would place the formula >25000 under the SALARY field!

As you can imagine, there are a great number of possibilities for the queries, depending upon what type of list you need to make. Some of the more advanced features of queries include using multiple tables and changing the database itself based on the result of a query.

Generating Reports

A report is an effective way to present your data in a printed format. Because you have control over the size and appearance of everything on a report, you can display the information the way you want to see it. Some of the more advanced things that you can do with reports are (1) creating mailing labels, (2) sorting and grouping records, (3) calculating totals, (4) inserting graphics, and (5) using multiple columns.

To start learning about Reports, let's make a report for the entire database first, and then try some more complicated things later.

Click on the Reports tab at the left of the Database window.

Double-click the *Create Report by Using Wizard* button.

Click the $>>$ button, which will tell Access that when this report is run, we want to see ALL of the fields in the database.

Click the *Next* button.

We don't need to worry about grouping levels at this time. Click the *Next* button.

We are now given a choice of how we want the records sorted. Let's sort them by name. From the first pull down menu, select NAME (you can sort alphabetically or reverse alphabetically), then click the *Next* button.

Choose the Tabular layout for the report, then click the *Next* button.

Choose the Casual style for the report header, then click the *Next* button.

Name the report EVERYBODY and click the *Finish* button.