

## Section 2

# Designing Databases

In this section, you will build a new database. It will be necessary to name fields, define the data types, and set sizes for fields. Once the database design is complete, you are ready to add data to the new database. You will learn to modify the database design and to edit data stored in the database.

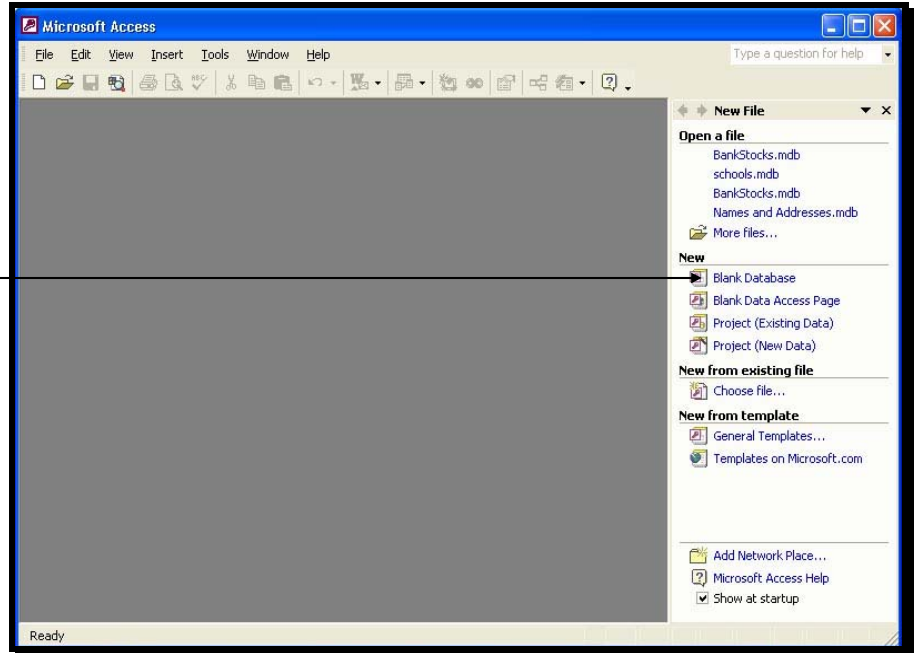
## Database Design

Before you create a new database in Access, you are required to assign a name to the new file. In this exercise, you will define a database and name it **Acme**. This database will contain product inventory information for the Acme Toys, Tricks and Games Company.

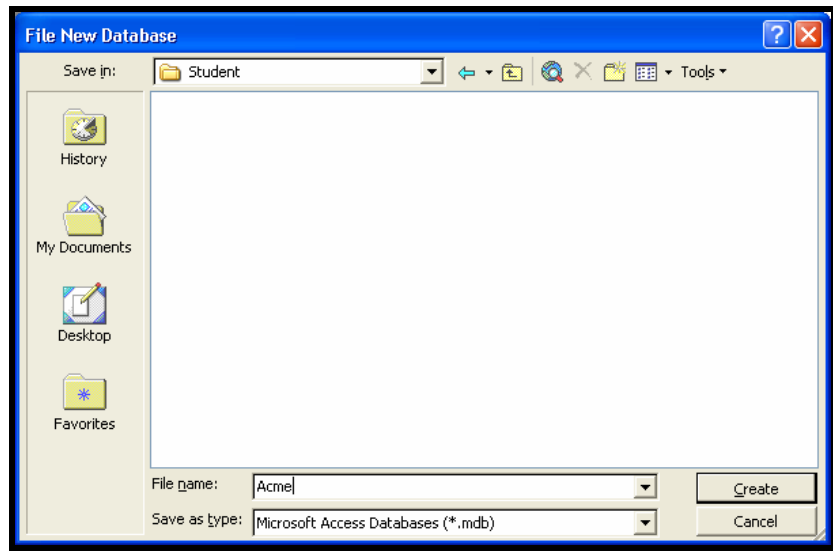
One of the first new features you will see in Access 2002 is the Task Pane. This feature is new in all Office XP applications. The Task Pane provides an alternative way to complete tasks normally accomplished with the menu or toolbar shortcuts.

1. Launch **Microsoft Access** from the **[Start]** button.  
*The Microsoft Access Task Pane appears on the right of the screen.*

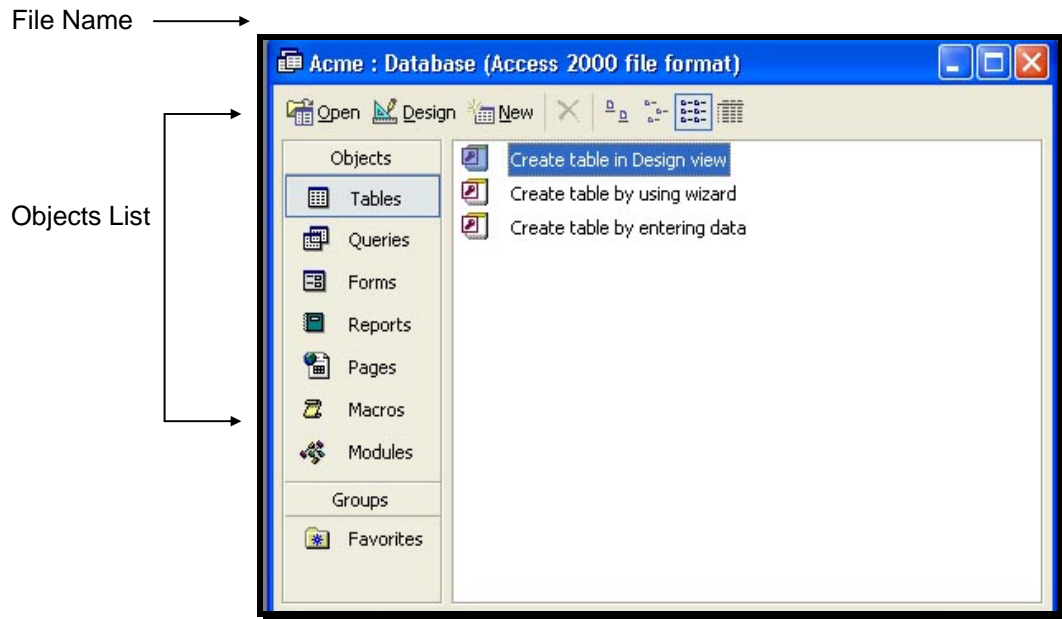
Blank Database



2. In the Task Pane, click on **Blank Access database**.  
*The **File New Database** dialog box appears. This is where you will assign a name for the new database.*



3. Double-click the **Student** file folder, if necessary.  
*The **Student** folder now appears in the **Save in:** text box; the file name **BankStocks.mdb** should also appear.*
4. Type **Acme** in the **File name:** text box.
5. Click [**C**reate].  
*A Database window appears displaying **Acme** as the database name.*

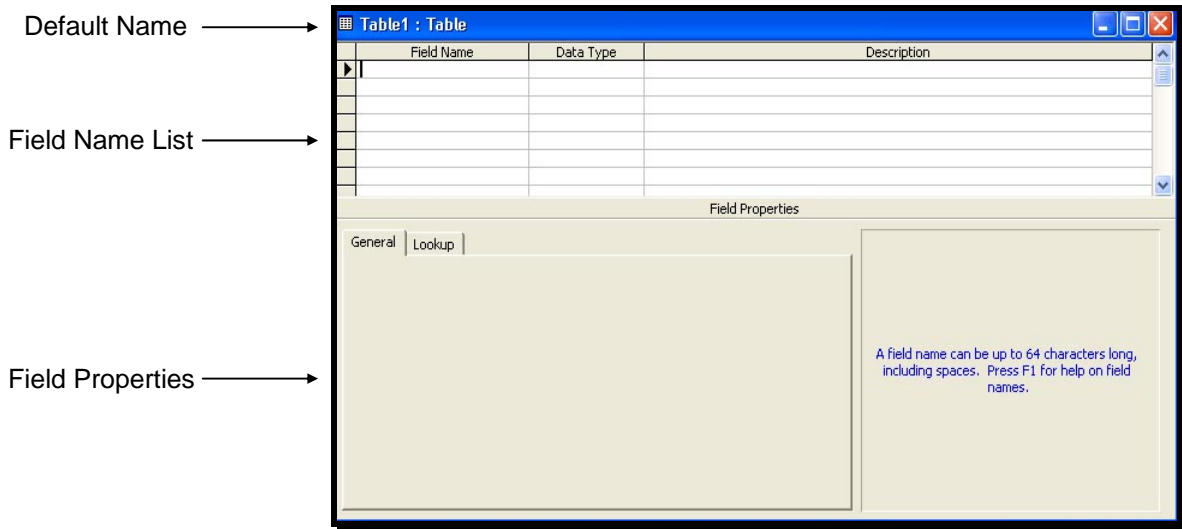


## Objects

There are many objects associated with a database. Tables, forms, queries and reports are all objects that are stored within a single database file. In this exercise, you will define a table object for the Acme database. A table allows you to store data in fields and records. In this exercise, you will design a new table.

### Create a Table

1. Click the **Tables** object.
2. In the Database Window, double-click the first option to **Create table in Design view**.  
*The Table Window opens in Design View. A default name of Table1 is assigned to the table.*



## Designing a Table

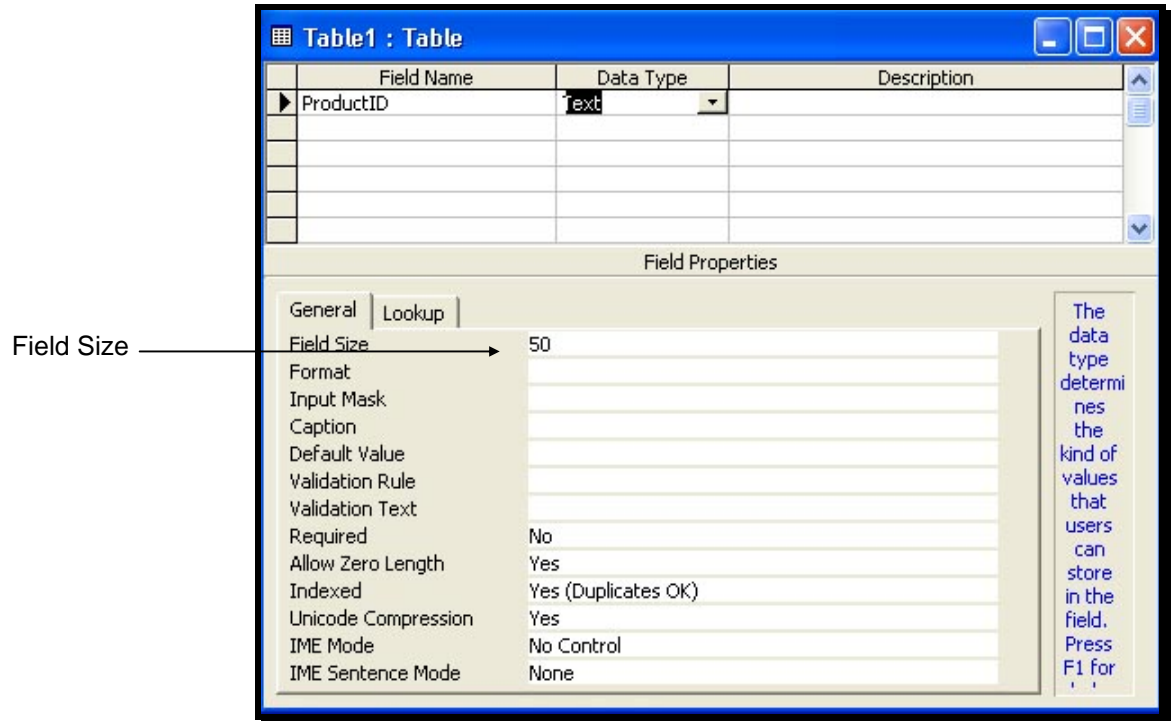
A Table Window is displayed when building a table object. The current table window is called the Design View. To build a new table, you will be creating a table structured with fields.

Table structure is a combination of field names, data types, sizes and field properties and keys. **Fields** are a specific type of data common to all of the inventory in the database. Each product's id, product name, price, quantity on hand, open orders, order date, etc, should be included in the table. A common field name is assigned to each of these pieces of data.



Data Types	Description	Size
Text	Letters, numbers, symbols	Default 50, maximum 255
Memo	Explanatory text	64,000+
Number	Numbers and decimals	Default Long Integer
Date/Time	Date and/or time	Access sets size
Currency	Dollar signs, dollars and decimals	Access sets size
AutoNumber	Assigns a unique number to each record	Access sets size
Yes/No	Logical field for yes or no	Access sets size
OLE Object	Pictures	Determined by the size of the graphic
Hyperlink	Websites or email addresses	Similar in size to a text field
Lookup Wizard	This wizard allows the user to use data typed in or from other tables displayed in a drop down box for easy data entry.	Similar in size to a text field

Field **size** is determined by the number of characters that will be allowed in the field. Access will not allow certain field types to exceed a set number of characters. A logical field type can only be represented by one character, while a date field is pre-defined for eight characters. The field size is displayed in the **Field Properties** window located at the bottom of the Table Window, as shown in the following illustration.



In determining field size, it is wise to review the type of data that will be entered into each field. For example, if you have a telephone number field, it should be wide enough to accommodate an area code. If your data set includes 9-digit zip codes, the zip code field should be wide enough to accommodate ten characters (the hyphen must be counted as one character).

## Section 2

### Summary Exercises

#### Part One

1. Open the **Acme** database.
2. Create a new table in Design View.
3. Add the fields as shown in the table below.

Field Names	Type	Width
CustomerID	Text	3
CompanyName	Text	30
ContactName	Text	30
Address	Text	12
City	Text	20
State	Text	2
Zip code	Number	Long Integer
Phone	Text	14
Website	Hyperlink	
Credit Limit	Currency	

4. In the **Field Properties** window, enter the appropriate captions to make the field names display as two words instead of one. Example, the field name **CompanyName** should have the caption: **Company Name**.
5. Set **CustomerID** as the primary key for the table.
6. Save the table design as **AcmeCustomers**.
7. Save the table with the changes.
8. Close the table.

## Part Two

1. A field is defined by \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
2. A field must be given a name that cannot exceed \_\_\_\_\_ characters.
3. Each field name must be \_\_\_\_\_. A field name may only be used once in a database file.
4. A field made up of alphabetic, numeric characters or allowed symbols is called a \_\_\_\_\_ data type.
5. A field made up of only numeric digits is called a \_\_\_\_\_ data type.
6. Field Size can be defined in the \_\_\_\_\_ section of the Table Window.
7. Field Size cannot be changed once you begin adding data to the table. ( True / False )
8. You can select the size for a Date/Time field by typing the desired width in the Field Size text box in the Field Properties section of the Window. ( True / False )
9. To modify the table design, click the \_\_\_\_\_ button on the toolbar in the Database Window.
10. What are two ways to save a table?