CA 101, Introduction to Microcomputers

LAB Modules

Introduction to MS Access

Microsoft Access gives you and your students the opportunity to learn and strengthen skills as you gather data, create worksheets, analyze and chart the results, and integrate your findings into reports and assignments.

Database management system (DBMS)

A database management system is a program that sets up (structures) a database and provides tools for data entry and retrieval.

There are seven main components of a database in MS Access:

1. **Tables.** Use tables to store database information. Table is the heart of the database, since it contains the actual data and all other objects are based on the table. We use tables to store all the data in the database. Each row of the table contains one *record*. Records are made up of *fields* that contain a particular piece of data in the table
2. **Forms.** Use forms to enter or edit the data in your tables. Forms let you view one record at a time. Easier to access and use when entering or modifying data than a table
3. **Reports**. Use reports to deliver a professional presentation or written report to your class.
4. **Queries**. Filter data so that you retrieve selected records or fields from the database.
5. **Pages.** Create HTML pages from a database quickly and efficiently.
6. **Macros**. Automate tasks that you perform on a regular basis in a database.
7. **Modules**. Automate a group of related procedures in Access 2000.
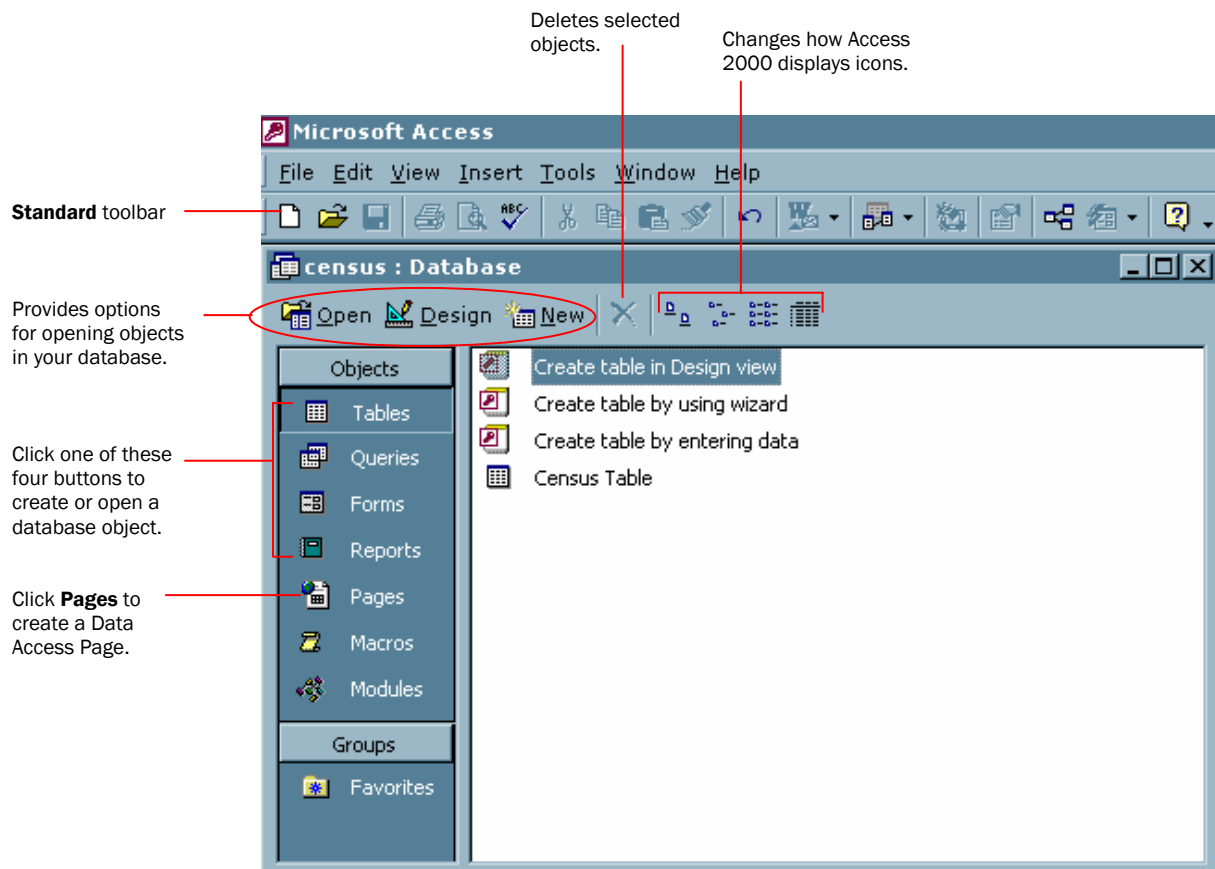
The first object to add to your database is a **table.** You use tables to store all the data in the database. Each row of a table contains one record. Records are made up of *fields* that contain a particular piece of data in the table.

Every table in Access must have a field that uniquely identifies each record in the table**.** This field is called the *primary key*. You can recognize the primary key in a table by the ID appended to it. The primary key ensures that you can retrieve data accurately and efficiently when you pull information from the database. MS. Access automatically assigns a primary key to each of your records for you when you use an Access Table Wizard.

Viewing tables

There are **two ways** to view your table: **Datasheet view and Design view**.
When you double-click a table object from the Access database window, it opens in Datasheet view.
Use Datasheet view when you want to view, add, or delete data from a table. You can also reformat your table to change the size and order of the field columns in this view.

1-   **Datasheet view**

Click **Find** to search for a record.

Use **Sort Ascending** and **Sort Descending** to sort records by a selected field.

Click **New Record** and **Delete Record** to add or delete records.

Form View Toolbar

Click **View** to switch to Design view.

Click a box to select a record.

Microsoft Access

File Edit View Insert Format Records Tools Window Help

Census Table : Table

List ID	City	Neighborhood	Birthdate	Ethnicity	Income Range	Education	Gender
2	Seattle	Phinney Ridge	12/3/60	Caucasian	$40,000-$49,000	HS Diploma	M
3	Seattle	Ballard	1/4/52	African American	$50,000-$59,000	MA	M
4	Seattle	Wallingford	1/22/36	Caucasian	$30,000-$39,000	BA	F
5	Seattle	Wallingford	12/10/75	Asian American	$80,000-$89,000	BS	F
6	West Seattle	Admiral	8/15/55	Caucasian	$70,000-$79,000	BA	M
7	Seattle	Beacon Hill	5/10/60	Mexican American	$70,000-$79,000	JD	F
8	Seattle	Greenwood	6/12/59	Asian American	$50,000-$59,000	PHD	M
9	Seattle	Greenlake	5/12/75	Caucasian	$10,000-$19,000	HS Diploma	F
10	Seattle	Greenlake	8/20/67	Caucasian	$50,000-$59,000	BA	M
11	Seattle	Ravenna	7/30/57	Asian	$30,000-$39,000	AA	F
12	Seattle	Capital Hill	9/15/67	Native American	$40,000-$49,000	BA	M
13	Seattle	Madrona	5/8/55	Caucasian	over $100,000	MD	F
14	Seattle	Greenwood	12/3/42	Caucasian	$50,000-$59,000	BA	Male
15	Seattle	Laurelhurst	12/1/54	Caucasian	$60,000-$69,000	MA	Female

Record: 1 of 14

Use these buttons to move to different records in a table.

2-   **Design view**

Use Design view when you want to change the structure of a table. You can add or delete fields, change a field caption or size, or select the type of data you plan to enter into a field in Design view.

Click one of these buttons to insert or delete...

Click the **Database Window** button to open the main...

Use this button to set or change your primary...

Click **View** to switch to Datasheet view.

Microsoft Access

File   Edit   View   Insert   Tools   Window   Help

Census Table : Table

Field Name	Data Type	Description
ListID	AutoNumber	
Household Members	Number	
City	Text	
Neighborhood	Text	
Birthdate	Date/Time	
Ethnicity	Text	
MaritalStatus	Text	
Household Income	Text	
Education	Text	
Gender	Text	

Field Properties

General	Lookup
Format	Short Date
Input Mask	99/99/00;0
Caption	Birthdate
Default Value	
Validation Rule	
Validation Text	
Required	No
Indexed	No

Identifies the properties of the currently selected field.

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

Use this area to add notes to yourself about each field.

Read this note for information about the currently...

Lab Module # 4   Microsoft Access
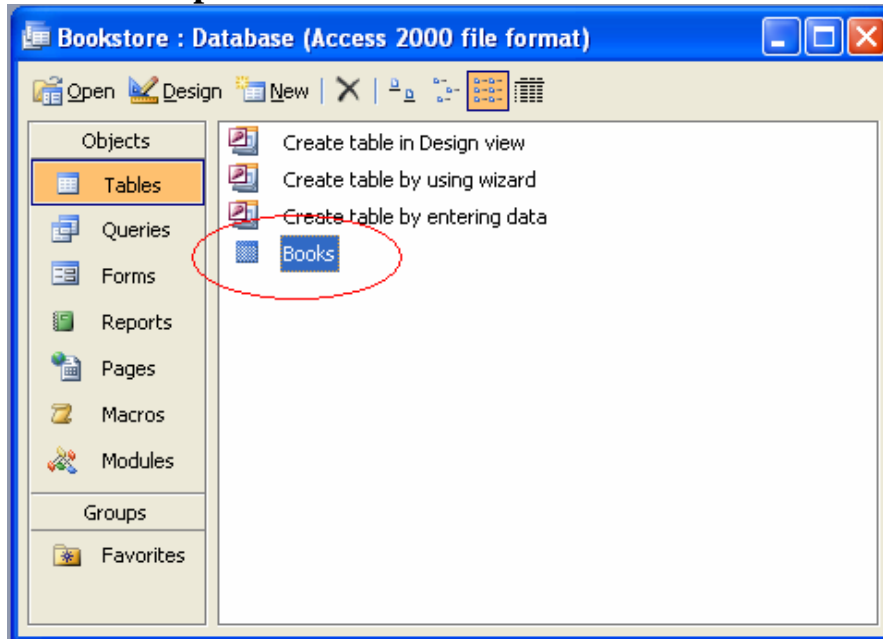
Objective:
To open an existing Access Database; to add, edit and delete records with a Table in that Database.

Step # 1   Start M.S. Access
- Click the **start button** to display the start menu
- Click the **Program menu** and then click **Microsoft Access**
- Open en existing program **Bookstore database,** click **open command button** to open the database

Step # 2   Open the Books table

- You should see the database window for the bookstore database with table button already selected. Double click the "Books" table to open the table
- Practice with the navigation buttons above the status bar to move from one record to next. Click ➔ or ⬅ to move forward to next record or return to the previous record.
- Click |⬅ to move to the first record in the table or ➔ | to the last record in a table.
- Click in any field of the first record. The status indicator at the bottom of the Book table indicates the record 1 of 22.

Step # 3   Add a new record
- Pull down the **Insert menu** and click the **New Record** (or **new record button**). The record selector moves to the last record (record 23). The insertion point is positioned in the first field (ISBN Number)
- Enter 0-13-034260-2 as ISBN Number. The title is Exploring Office XP. Type your name in the Author field. The price is $54.00. The book was published by Prentice Hall in 2003. *Be sure to press enter when you have completed the data entry*
- The status bar should show 23 records.

Step # 4   Edit a record
- Press **Ctrl + Home** to move to the first record. Click in the **Title** field, pull down the **Edit menu** and click **Find** (click the **Find button** on the tool bar)
- Enter **COBOL** in the *Find What* text box.
- Select "**Any part of field**" in the *Match* pull-down menu.

- Click the **Find Next** command button. Access moves to record number 14.
- Click **cancel** to close the Find dialog box
- Press **Tab** key to move from the **Title** field to the **Price** field. The current price, $52.95, is already selected .Type $58.95 , then press **enter key**

Step # 5   Delete a record
- Use the find command to search for the book **A guide to SQL** (adjust the Find and replace dialog box as shown in the figure below:)
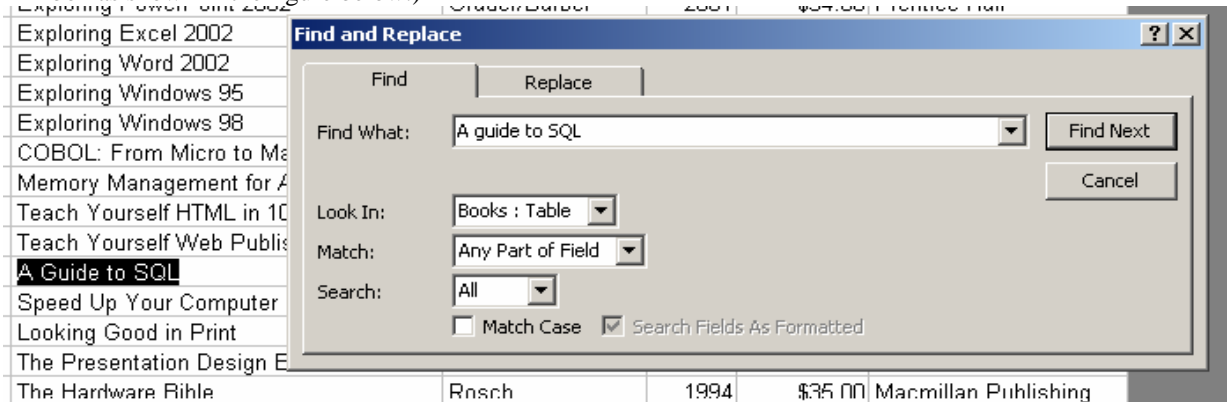
- Now Pull down the **Edit Menu** and click the **Selected Record command** to highlight the entire record
- Press the **Del Key** (or click the **Delete Key button**) to delete the record. You will see the dialog box, indicating that you are about to delete the record and asking you to confirm the deletion. Click **Yes.**
- Pull down the Edit Menu. The Undo command is **dim**, indication that you cannot undelete a record. Press **ESC** to continue working.

Step # 6   Open a book Form
- Click the **Form button** in the database window. Double click the **Books Form** to open the form.
- Click add **Record command button** or use **Alt + A**
- Click the text box for **ISBN number** , then use the **Tab Key** to move from field to field \
- Enter the text in **Price field** to view the data validation that is build into Access. Click **OK** when you see error message, then enter the indicated price Click the Drop-Down arrow on the publishers list box to display the available publishers and to select the appropriate one.
- Close the Books form to return the Database window.

Step # 7   Run a Query
- Click the **Query button** in the database window. Double click the **Publisher Query** to run the query. You will see a box asking to enter the name of a publisher
- Type the **McGraw Hill** and press **enter** to see the results of a query, which should contain three books by this publisher.
- You can use query to display information, as was just done , and /or you can modify data in the underlying table. Click the **Publisher field** fro the blank record in the last row. Type the **McGraw Hill** to begin entering data for a new rerecord.
- Click the close button to close the query and return to Database window.

Step # 8   Open a Report   ➔ *printer should be installed for this part*
Click the Report button in the Database window to display the available reports
Double click the icon for the **Publisher report.** Type "**McGraw Hill"** in the parameter dialog box. Press **enter**.
Click the Maximum button in the report window so that the report takes the entire screen
Click the **Zoom button** to toggle to 100 % so that you can read the report, which should contain four records.

Two books were in the database initially, one book was enter through a form, and one book was entered through query. All of the books in the report are published by **McGraw Hill**

Click the **Print button** if printer is available

Click the **Close button** to close the **Report Window**.