COMPUTER SCIENCE
12

(MS Access and C)

CHAPTER 7: Forms and Reports

Topics

- Form
- Types of Forms
- Create Form by Wizard
- Create Form in Design View
- Editing Forms
- Controls
- Sub Form & its Creation
- Conditional Formatting
- Reports
- Switch Board

Form

- A window that consists of visual components
- Forms are used to interact with database through GUI
- Form is constructed from collection of individual design elements
- These elements are called **controls** or **control objects** or **tools**
- Examples are Buttons, Check Box, List Box, Radio Button

Uses of Form

- Add data in the database
- Modify data in the database
- Delete data from the database
- Retrieve and view data from the database
- Search the required data from the database

Advantages of Form

Easier to use	• Used by the user easily • Contains simple graphical components
User Friendly	• Forms contains graphical components • Users can use by clicking different components with mouse
No Technical Knowledge	• User can manipulate with no technical knowledge • Visual components enable the user to interact • User interact without writing technical statement
Time Saving	• Forms require less time to enter data in tables • Access provide master detail form to enter many records
Flexibility	• MS Access provides different types of forms to display data in different styles

Types of Form

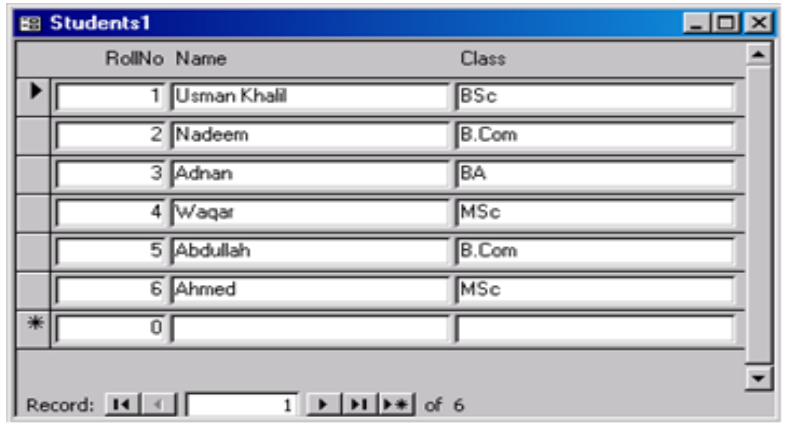
MS Access provides the following type of forms

1. Columnar Form

- Used to display **one** record at a time
- Displays textboxes and labels
- Labels represents the name of fields
- Provides different buttons to navigate at bottom

2. Tabular Form

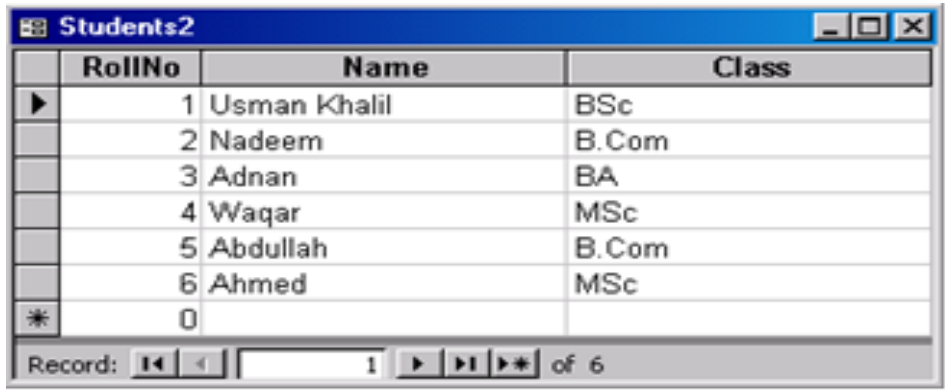
- Used to display **many** records at a time
- Each row display one record of table
- Labels are displayed on top of each column
- Provides different buttons to navigate at bottom



Types of Form (Cont.)

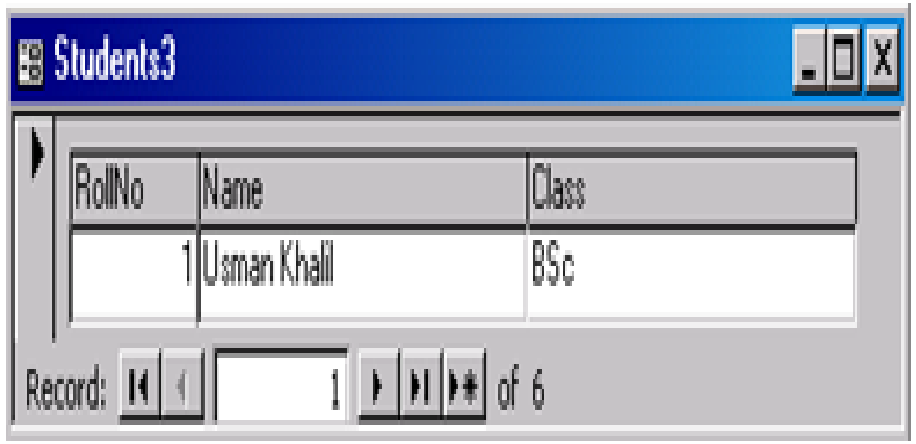
3. Datasheet Form

- It is used to display many records at a time
- Display records in datasheet view of Access
- Each row shows one record
- Labels are displayed on top
- Provides different button to navigate at bottom



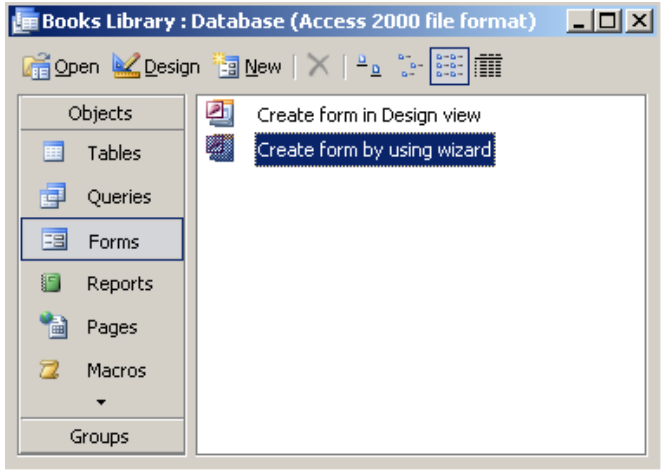
4. Justified Form

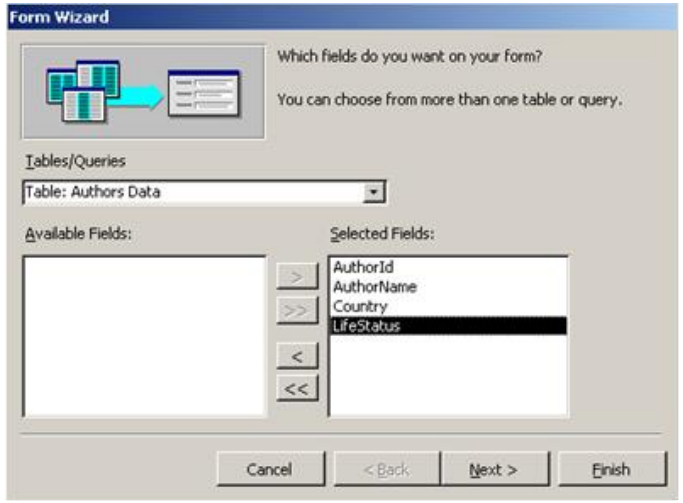
- Used to display one record at a time
- Fields are justified according the form window
- Labels are displayed on the top of each column
- Provides different buttons to navigate at bottom



Creating Form by using Wizard

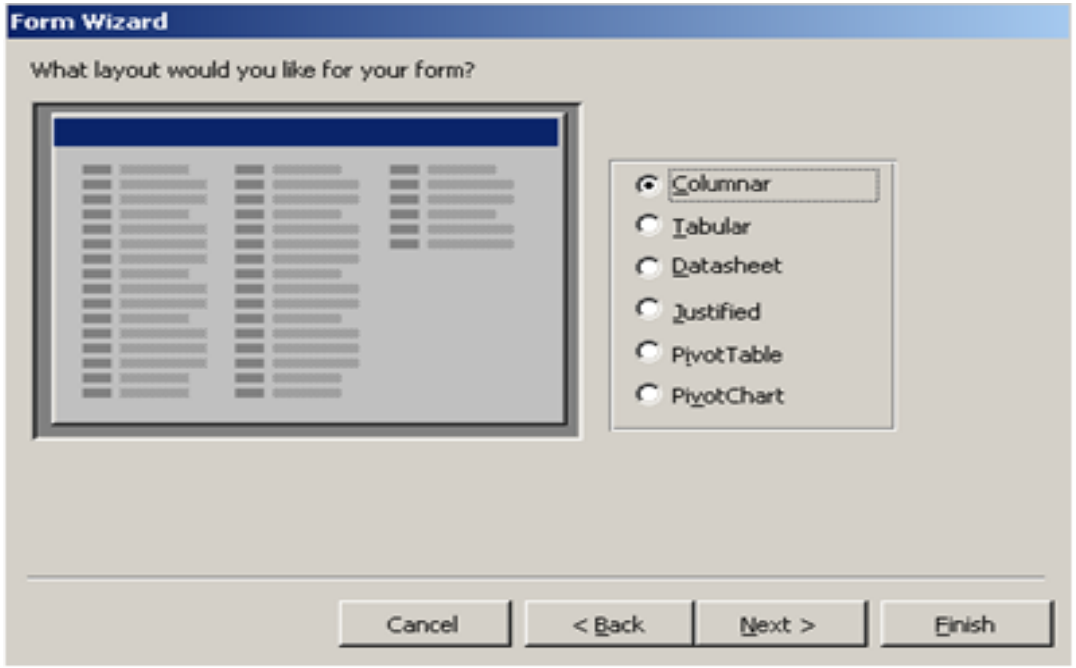
1. Open the database. The main window will appear.
2. Click on **Forms** button in **Objects** list.
3. Double click Create form by using wizard. The Form wizard will appear
4. Select the desired table from **Tables/Queries** list box. The fields of the selected table will appear in **Available Fields** box.
5. Click on any field to include in the form Click on button.
6. The field will move to Selected Fields box
7. Click on **Next** button.

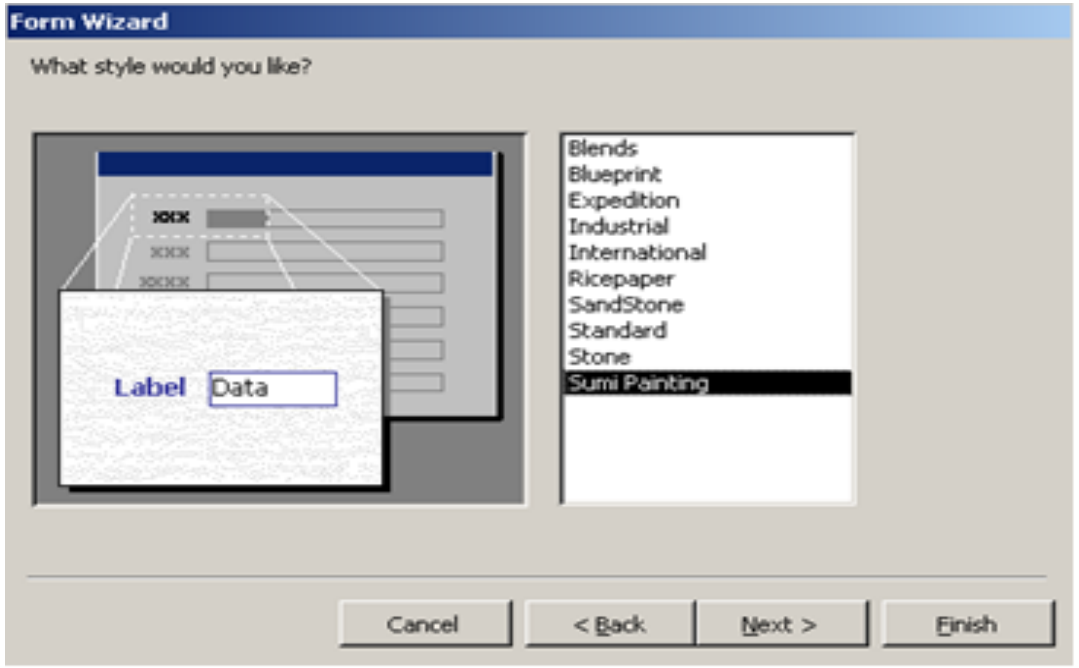




Create Form by using Wizard

8. Select any layout for the form.
9. Click **Next** button.
10. Select any style for the form.
11. Click **Next** button.

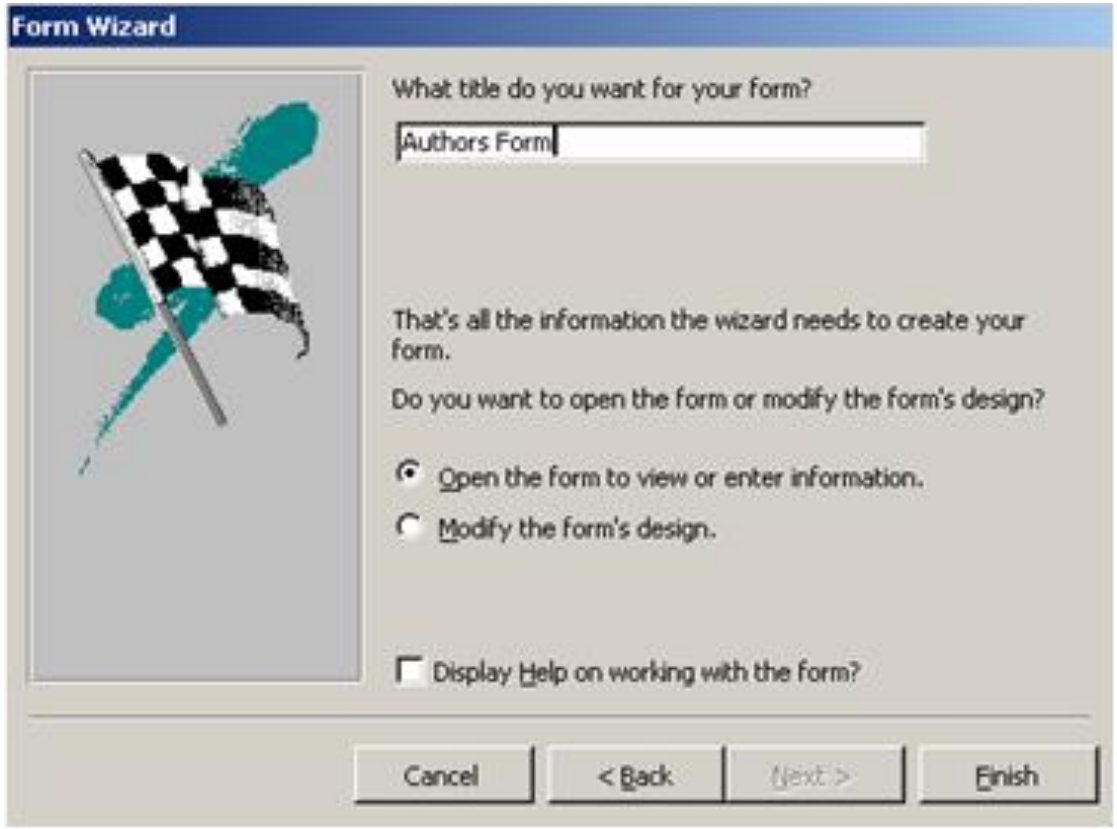




Create Form by using Wizard

The following window will appear:

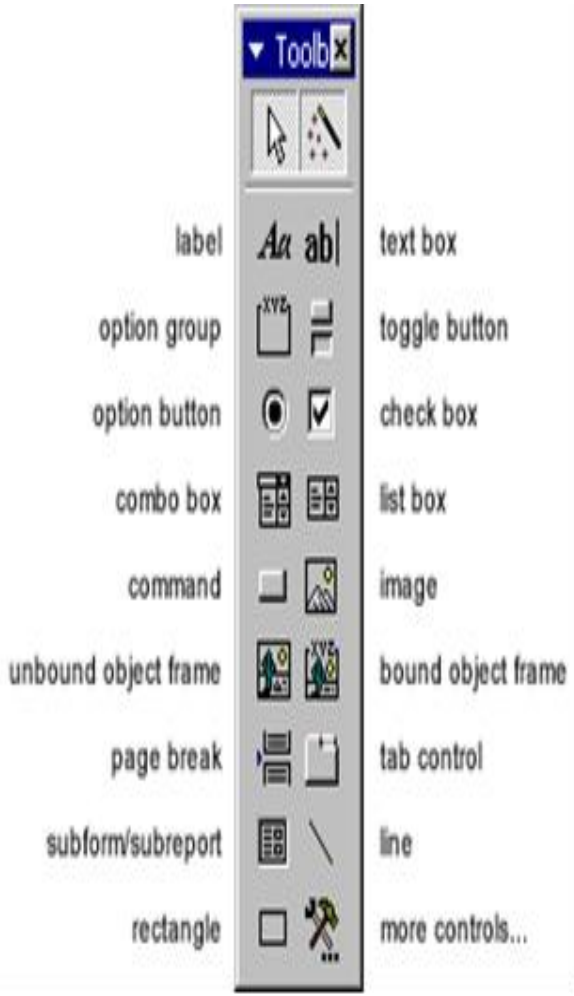
12. Enter any title.
13. Select Open the form to view or enter information radio button.
14. Click **Finish** button.



Creating Form using Design View

- ❖ Forms can be created in design view using different controls.
- ❖ Allows the user to design the form according to his particular requirements.
- ❖ A toolbox is available in design view that provides
  - different control such as textboxes and buttons etc.
- The following procedure is used to create a form in design view:

1. Click **New** button on the form database window.
2. Select **Design View** and choose table or query to which the form will be associated.
3. Select **View > Toolbox** from menu bar to view the floating toolbar with additional options.
4. Add controls to form by clicking and dragging field names from **Field List** floating window. MS Access creates a text box for the value and label for the field name.

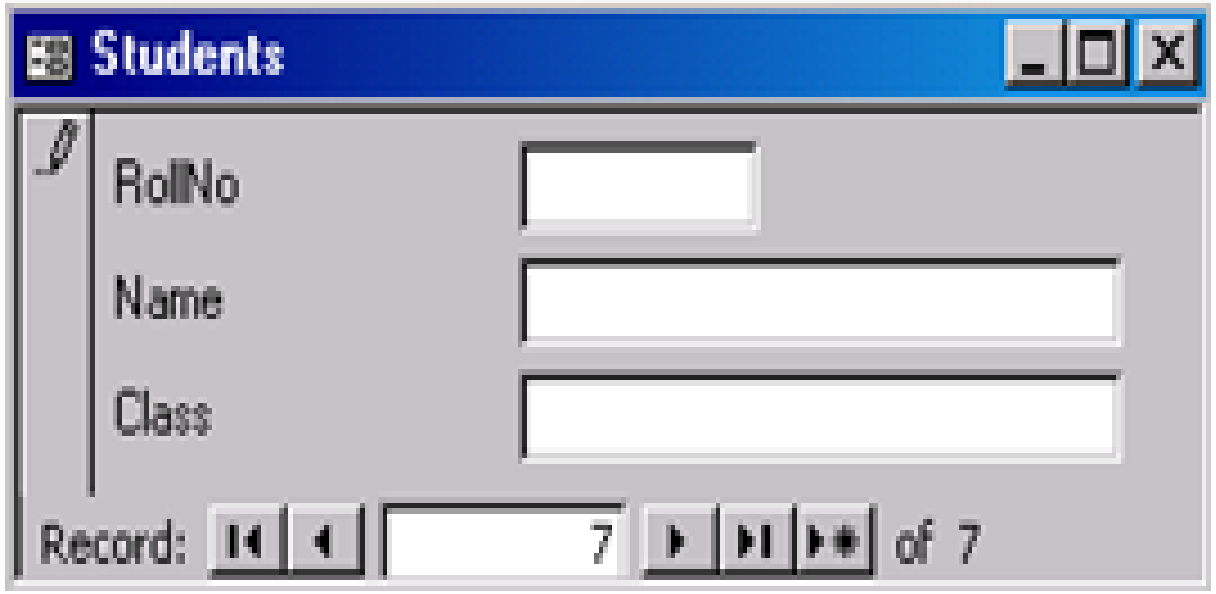


Add Records through Forms

The following procedure is used to add new records through forms:

1. Open the database.
2. Click on **Forms** button in **Object** list.
3. Double click the form to open
4. Click the **New Record** button 

   The fields of form will become empty



5. Enter new data in the fields.
6. Close the form. The data entered in fields will be saved automatically

Editing Form

The following procedure is used to edit records through forms:

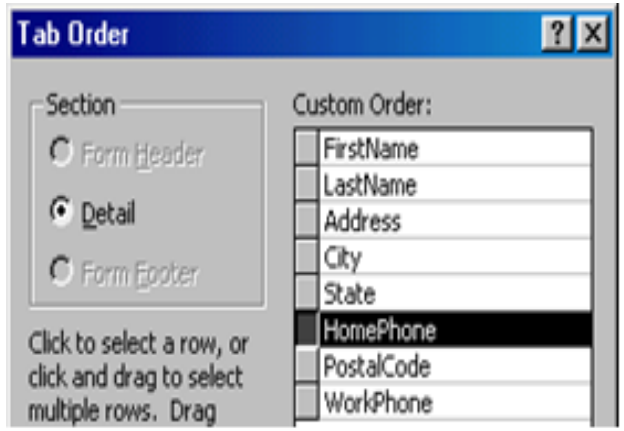
1. Open the database.
2. Click on **Forms** button in **Object** list.
3. Double click the form to open.
4. Go to the record to be edited by using navigation buttons at the bottom.
5. Change the contents of the fields.
6. Close the form. The changes will be updated automatically.

Options for Editing in Forms

Grid Lines	• Displays a series of lines and dots in design view • Option can turned on and off by selecting **View > Grid**
Snap to Grid	• Used to align form object to grid • Option can be turned on and off from **Format > snap** to grid
Resizing the object	• Click and drag the handles on the edges and corner of the element with mouse
Change Form Object	• Right Click on the object with the mouse • Selecting Change to Option • Select an available object type from the list
Label / Object Alignment	• Each form object and its corresponding label are bounded • Both move together when any of them is moved with mouse • User can change the position of the object

Options for Editing in Forms (Cont.)

Tab Order



- The user can change the order as follows:

  Select **View > Tab Order...** from menu bar.
- Click the gray box before the row whose tab order is to be changed.
- Drag it to a new location and release the mouse button

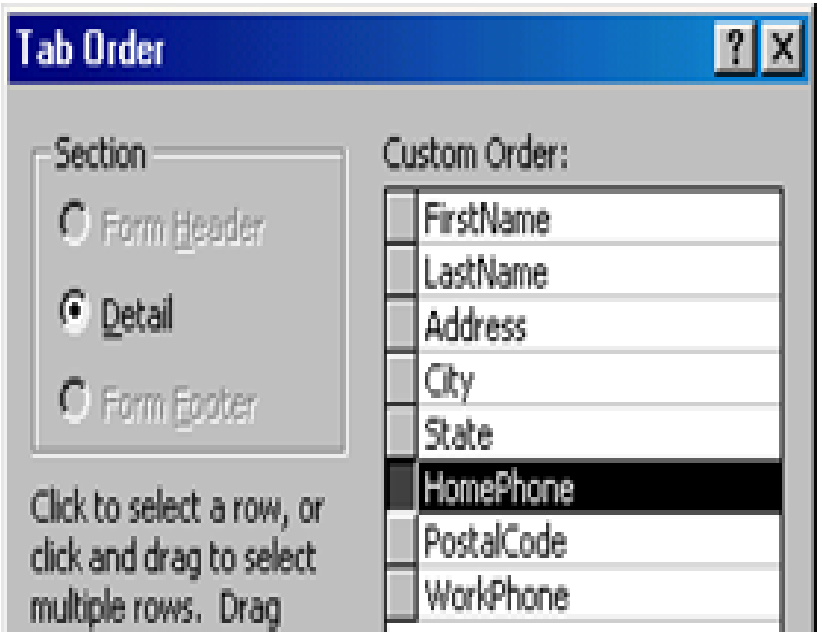
Form Appearance

The form appearance can be changed as follows:

- Click **Fill/Back Color** button on formatting toolbar and click any color on palette.
- Change the color of individual form objects by highlighting the object and selecting a color from **Font/Fore Color** palette on formatting toolbar.
- The font and size, font effect, font alignment, border, border width and special effect can also be modified using formatting toolbar.

Options for Editing in Forms (Cont.)

Page Header and Footer



- Headers and footers added to a form will only appear when it is printed. This option can be used as follows:
- Select **View > Page Header/Footer** on the menu bar.
- Select **Insert > Page Numbers** to add Page numbers to these sections.
- Select **Insert > Date and Time...** to add date and time.
- Select **View > Page Header/Footer** to hide these sections from view in Design View.

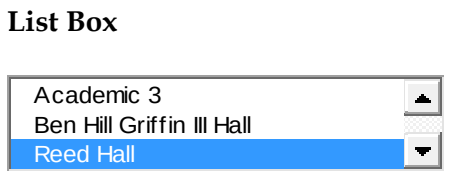
List Box & Combo Box

Combo Box

- Used to display list of items in forms
- Occupies less space
- Consist of textbox and dropdown list
- User can select desired item from list
- Contains an arrow on right side
- User can click arrow to see list of all available items

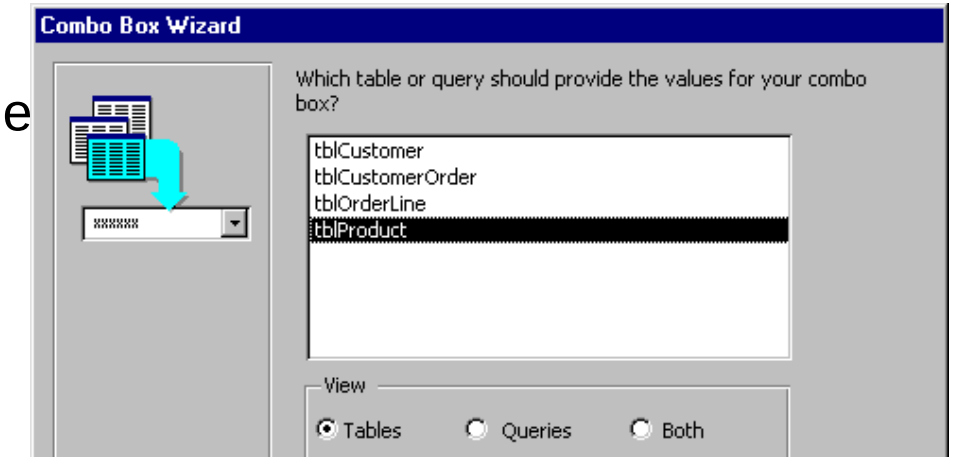
List Box

- Used to display list of items in forms
- User can select from available items
- User can select one or multiple items
- List box occupies specified space
- Scroll bar appear if items are more than one



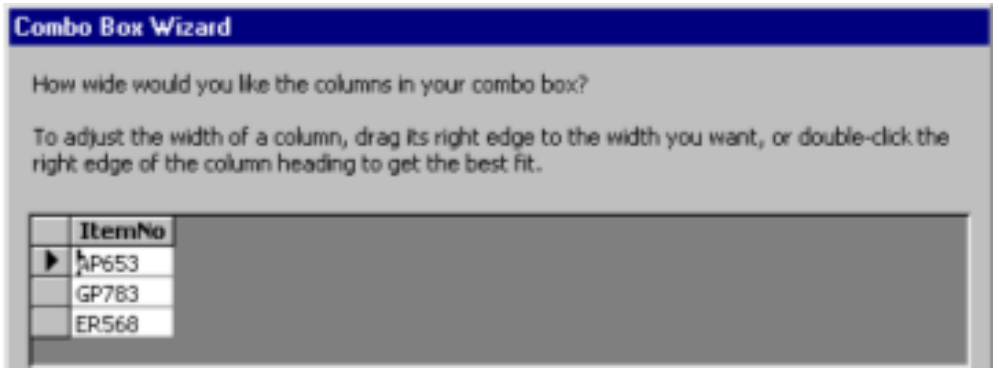
Adding Combo Box & List Box

1. Open the form in **Design View**.
2. Select **View > Toolbox** to view the toolbox.
3. Make sure that **Control Wizards** button is pressed.
4. Click the list or combo box tool button and draw the outline on form. The combo box wizard dialog box will appear.
5. Select source type for the list or combo box values and click **Next >**.
6. The next option depends on the selected choice in the first dialog box. The following box will be displayed if the user selected look up values from a table or query



Adding Combo Box & List Box

7. Select the table or query from which the values of the combo box will come.
8. Click **Next >** and choose fields from the table or query.
9. Click **Next >**.
10. Set the width of combo box by clicking and dragging th right edge of column.
11. Click Next >.
12. The next dialog box tells Access what to do with the value that is selected.
13. Select the field in which the value should be stored.
14. Click **Next >**.
15. Type the name that will appear on the box's label.
16. Click **Finish**.



Check Box & Radio Button revised

Check Box

- Used to display yes/no,true/false or on/off option
- Used multiple option at same time
- Can select by clicking on it
- A tick sign appears on checkbox
- Check box is deselect click again

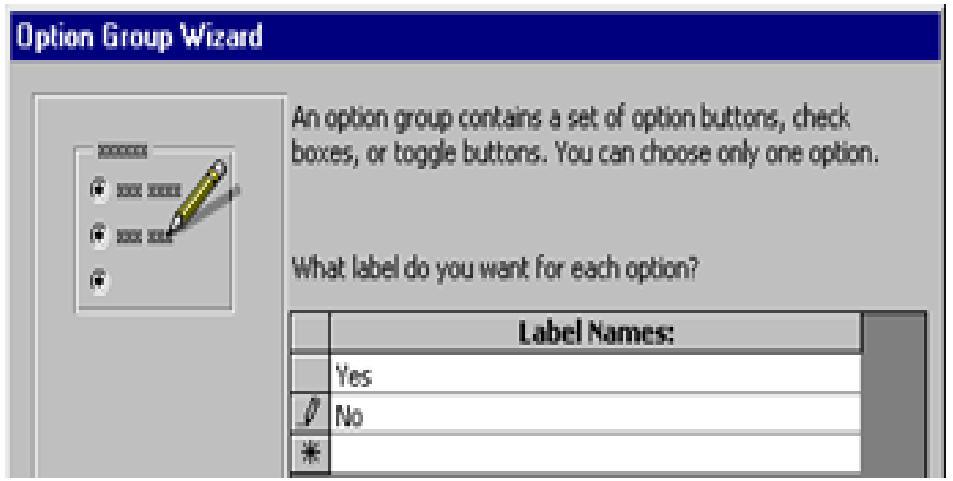
Radio Button

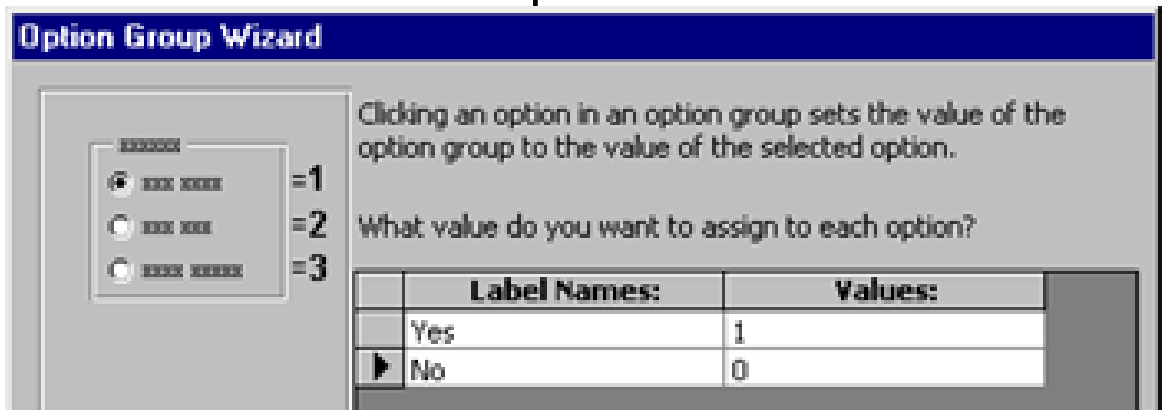
- Radio button is also known option button
- Used to display Yes / No option
- When user select only one option
- User can select by click on it
- A dot sign appears in radio button
- A radio button can be deselect by click it again

Adding Check Box & Radio Button to Form

The following procedure is used to add a checkbox or option group to a form:

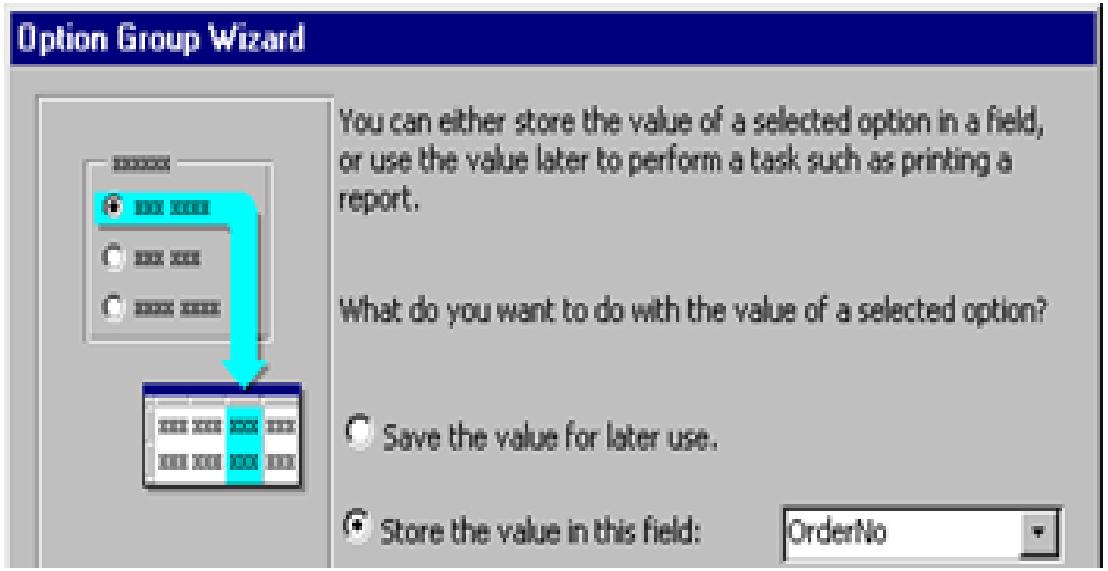
1. Click **Option Group** tool on toolbox and draw the area where the group will be placed on form with mouse. The option group wizard dialog box will appear.
2. Enter labels for the options.
3. Click the tab key to enter additional labels.
4. Click **Next >** after finishing labels.
5. Select a default value if there is any and click **Next >**.
6. Select values for the options and click **Next >**.

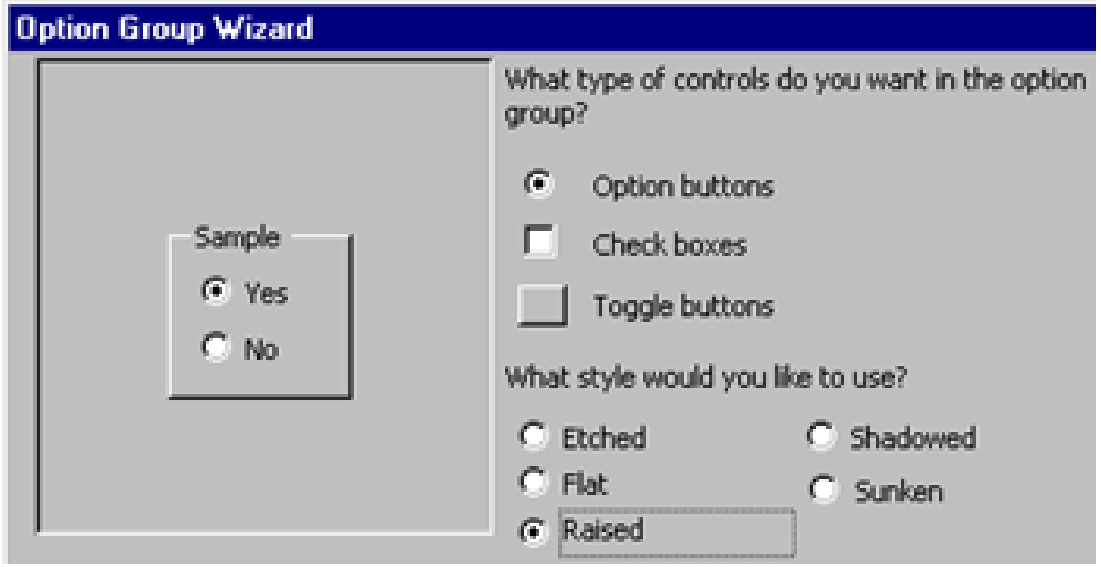




Adding Check Box & Radio Button to Form

9. Choose what should be done with the value and click **Next >**
10. Choose the type and style of the option group and click **Next >**.
11. Type the caption for the option group and click **Finish**.





Command Button

- Used to execute different commands by clicking on it
- Caption of the command button indicates the type of command executed by the button

Procedure to add a command button to a form

1. Open the form in Design View.
2. Ensure that Control Wizard button on the toolbox is pressed.
3. Click the command button icon on toolbox and draw the button on the form. The Command Button Wizard will appear.
4. The action categories are displayed in the left list on first dialog window. The right list displays the actions in each category.
5. Select an action for the command button and click Next >.
6. The next few pages of options will vary based on the selected action. Continue selecting options for the command button.
7. Choose the appearance of button by entering caption text or selecting a picture.
8. Check Show All Pictures box to view full list of available images. Click Next >.
9. Enter a name for the command button and click **Finish** to create the button.

Sub Forms

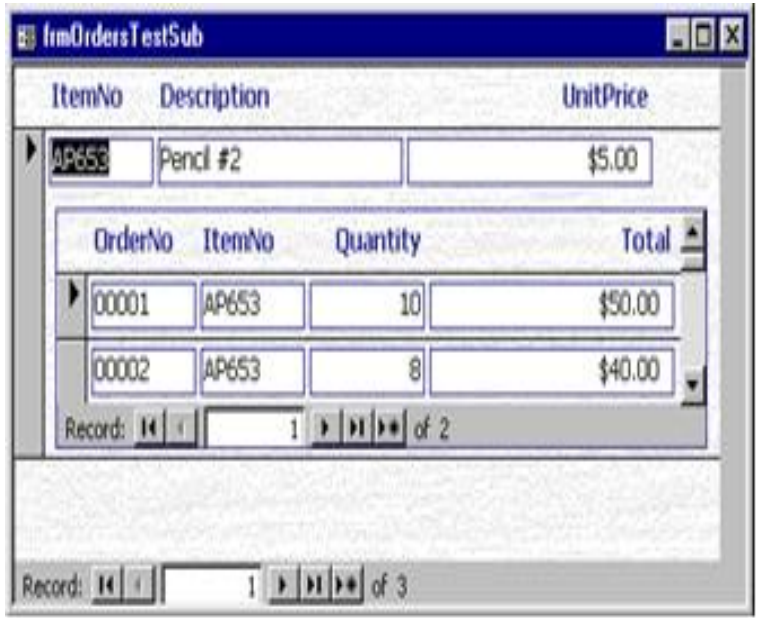
A form that is placed in a parent form

Parent form is also called Main form

Sub Form is also called child form

Sub Forms can be created in three ways

- Create Form and sub form at once
- Creating a sub form using sub form wizard
- Creating sub form using drag and drop method



Create Form & Sub Forms at Once

This method is used if no form has already been created

Main form and sub form can be created automatically

Using the form wizard if:

Table relationships are set properly

OR

A query involving multiple tables is selected

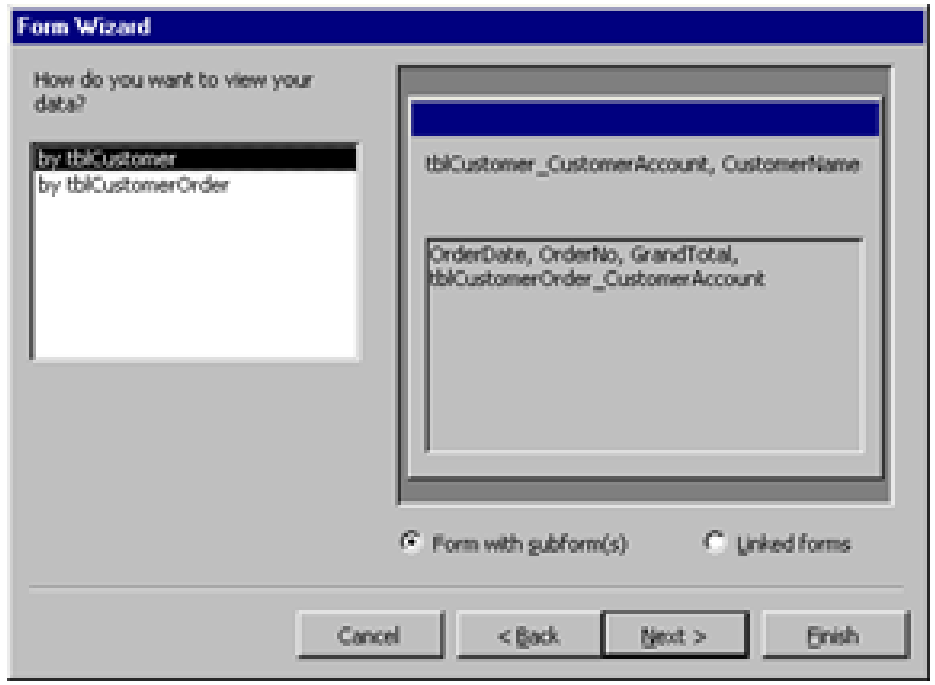
Create Form & Sub Forms at Once (Cont.)

The following procedure is used to create a sub form within a form:

1. Double click **Create form** by using wizard on database window.
2. Select the first table or query from which the main form will display data from Tables/Queries menu.
3. Select fields that should appear on form by highlighting the field names in Available
4. Fields list on left and clicking single **arrow > button** OR click **double arrows >>** to choose all of the fields.
5. Select another table or query from Tables/Queries drop-down menu and choose the fields that should appear on form.
6. Click **Next** after selecting all fields.
7. Select Form with sub form(s) if the forms should appear on same page
8. Click **Next.**

Create Form & Sub Forms at Once (Cont.)

9. Select a tabular or datasheet layout for the form and click **Next**.
10. Select a style for the form and click **Next**.
11. Enter the names for the main form and sub form.
12. Click **Finish** to create the forms.
13. New records can be added in both tables or queries at once by using the new combination form



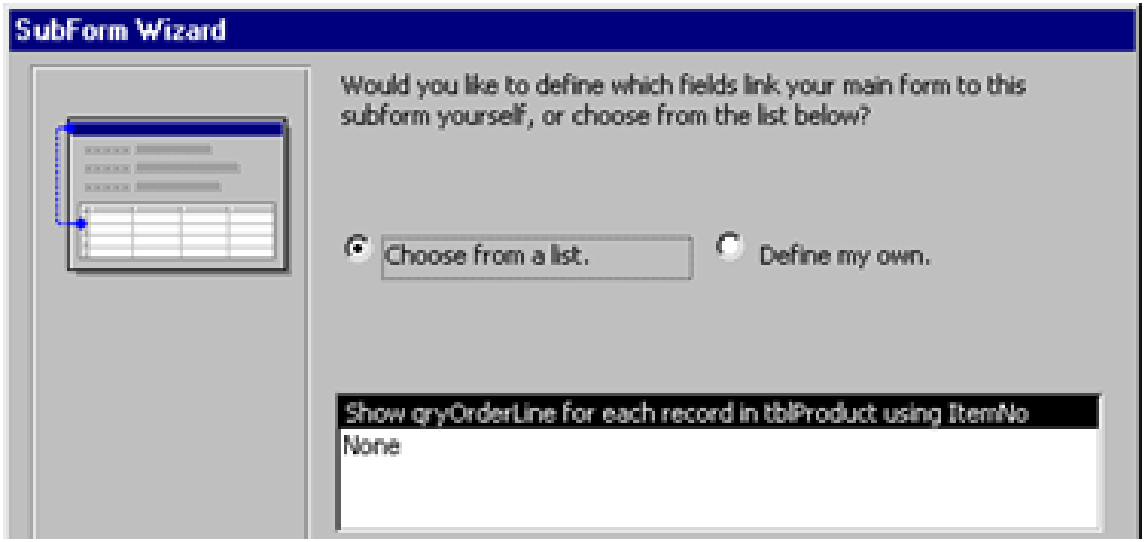
Create Sub Forms using Wizard

If main form or both forms already exist, sub form wizard can be used to combine the forms. The following procedure is used to create a sub form using **sub form wizard**:

1. Open main form in Design View.
2. Make sure that Control Wizard button on the toolbox is pressed.
3. Click Sub form /Sub report icon on toolbox and draw the outline of sub form on main form. The Sub form Wizard dialog box appears Select Use existing Tables and Queries if the sub form has not been created yet. OR select the existing form that will become the sub form.
4. when mouse button is released.

Create Sub Forms using Wizard (Cont.)

5. Click **Next.**
6. The next dialog window will display table relationships assumed by MS Access. Select one of these relationships or define different relationship.
7. Click **Next.**
8. Enter the name of sub form and click **Finish.**

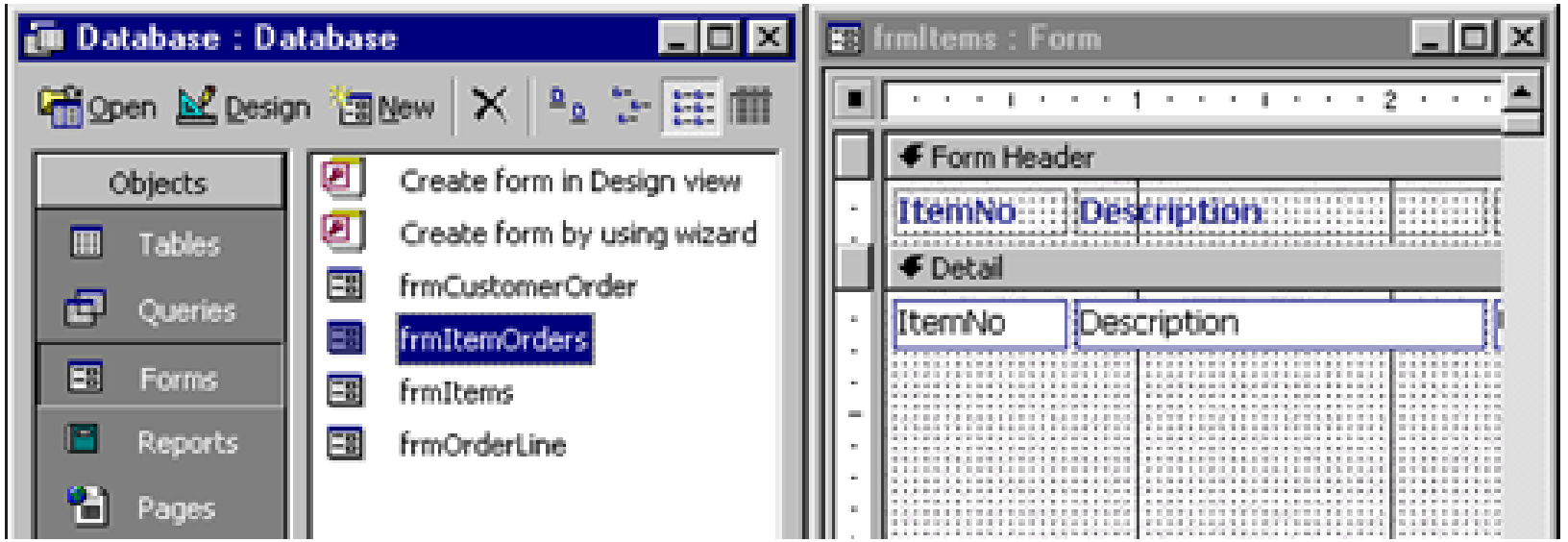


Create Sub Forms using drag-and-drop

This method is used to create sub forms if two forms already exist. The relationships of tables must have already been set.

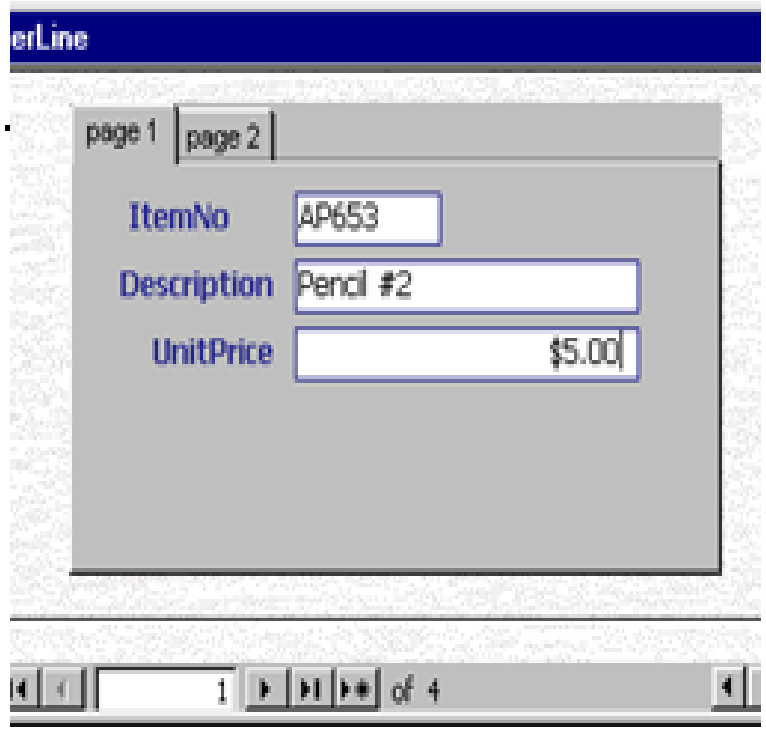
- The following procedure is used to create sub form using drag-and-drop method:

1. Open main form in Design View.
2. Select **Window > Tile Vertically** to display database window and form side-by-side.
3. Drag form icon beside the name of sub form on detail section of main form design.



Create multiple page Form using Tabs

The following procedure is used to create a tab control:

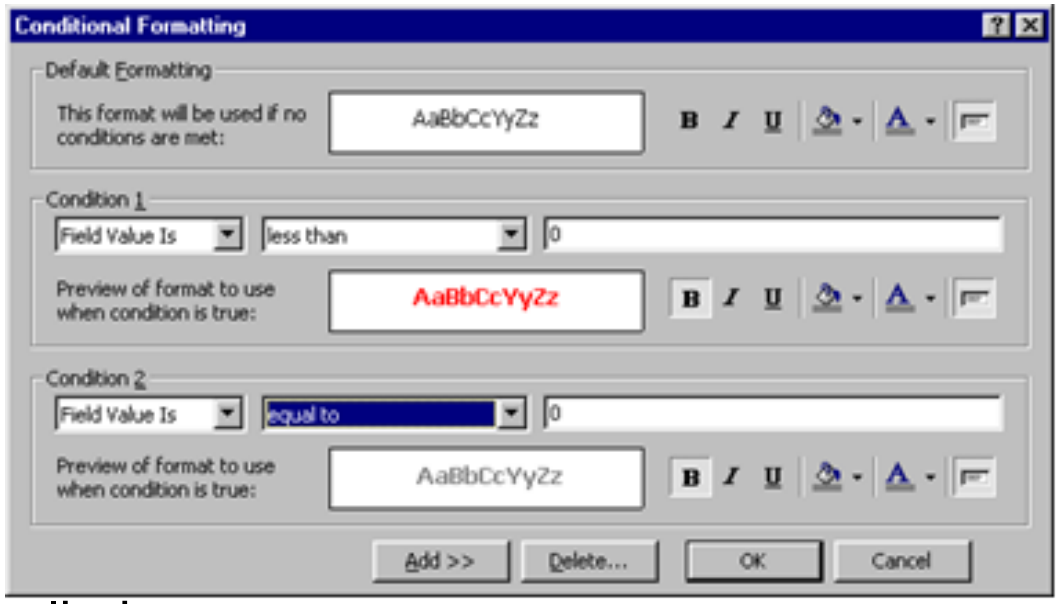


1. Click Tab Control icon on toolbox and draw control on the form.
2. Add new controls to each tab page
3. Click the tabs to change pages.
4. Existing form controls cannot be added to the tab page by dragging and dropping.
5. Right-click on the control and select Cut from shortcut menu.
6. Right-click on the tab control and select Paste. The controls can then be repositioned on the tab control.
7. Right-click in the tab area and choose Insert Page or Delete Page to add new tabs or delete tabs.
8. Right-click on the tab control and select Page Order to reorder the tabs.
9. Double-click on a tab and change Name property under Other tab to rename tabs.

Conditional Formatting

- Special type of formatting.
- It is performed when a particular condition is met.
- This formatting depends on control's value
- It can be added to textboxes, lists and combo boxes.

The following procedure is used to add conditional formatting to a control element:

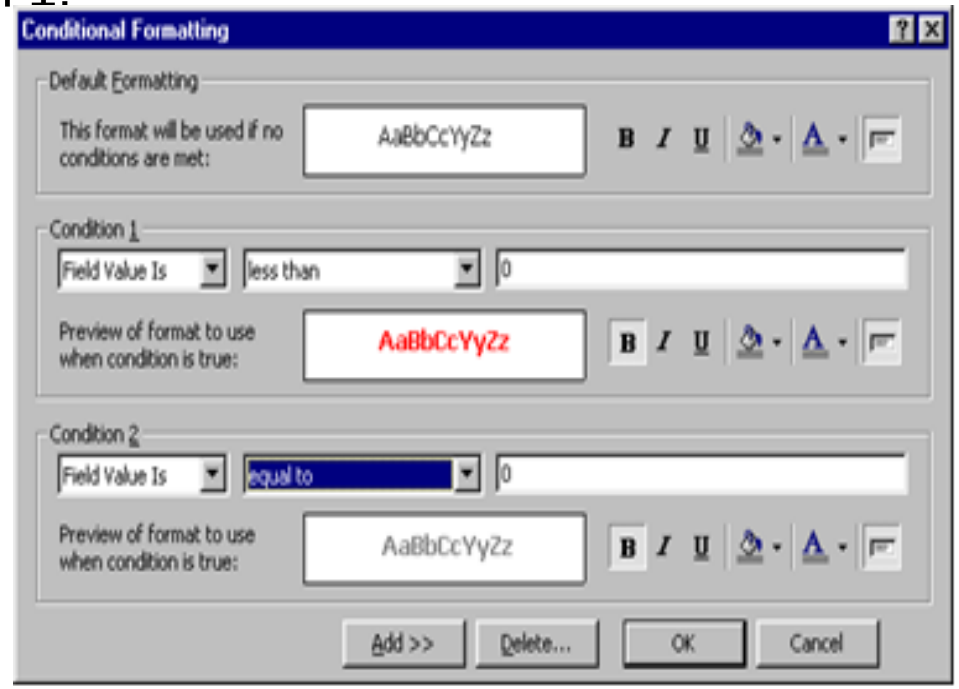


1. Select the control on which the formatting is to be applied.
2. Select **Format >** Conditional Formatting.

Conditional Formatting

3. Select one of the following condition types under Condition 1:

- **Field Value Is** applies formatting based on the value of control. Select a comparison type from the second drop-down menu and enter a value in the final text box.
- **Expression Is** applies formatting if the expression is **true**. Enter a value in text box and the formatting will be added if the value matches the expression.
- **Field Has Focus** will apply the formatting as soon as the field has focus.



4. Click **Add >>** button to add additional conditions.
5. Click **Delete...** and check **conditions to erase** to delete conditions.

Tex Box using Password

- A textbox can be used as password field by modifying the properties of the textbox.
- Each character should appear as an asterisk as the user types information in textbox.
- The asterisks appear in the textbox as the user types in it
- Actual characters will be saved in the database instead of asterisks.

The following procedure is used to use a textbox as password field:

1. Select the text field in Design View.
2. Click Properties.
3. Select **Data** tab.
4. Click in **Input Mask** field and click button **[...]**.
5. Choose **Password** from list of input masks and click **Finish**.

Change type of control

- The type of a control can be changed without deleting it.
- The change of type saves time.
- the user does not have to delete a control and create a new control of different type.
- Only limited controls can be converted to other type of controls.

The following procedure is used to change the type of a control:

1. Select the control on the form in Design View.
2. Choose Format > Change To from the menu bar.
3. Select one of the control types that is not grayed out

Multiple Primary Key

The following procedure is used to define composite primary keys:

- Move the mouse over the gray column next to the field names and note that it becomes an arrow.
- Click the mouse, hold it down and drag it over all fields that should be primary keys and release the button.
- Click the primary key button.

Reports & its uses

- Output of database application
- User can generate different types of reports by manipulating database
- Information on the reports can be arranged in different styles
- Information displayed on the report can be from multiple tables or queries
- Reports may contain graphs and charts
- User cannot edit the data displayed on the reports
- Reports are generated for printing purpose
- Reports can also be stored on the disk

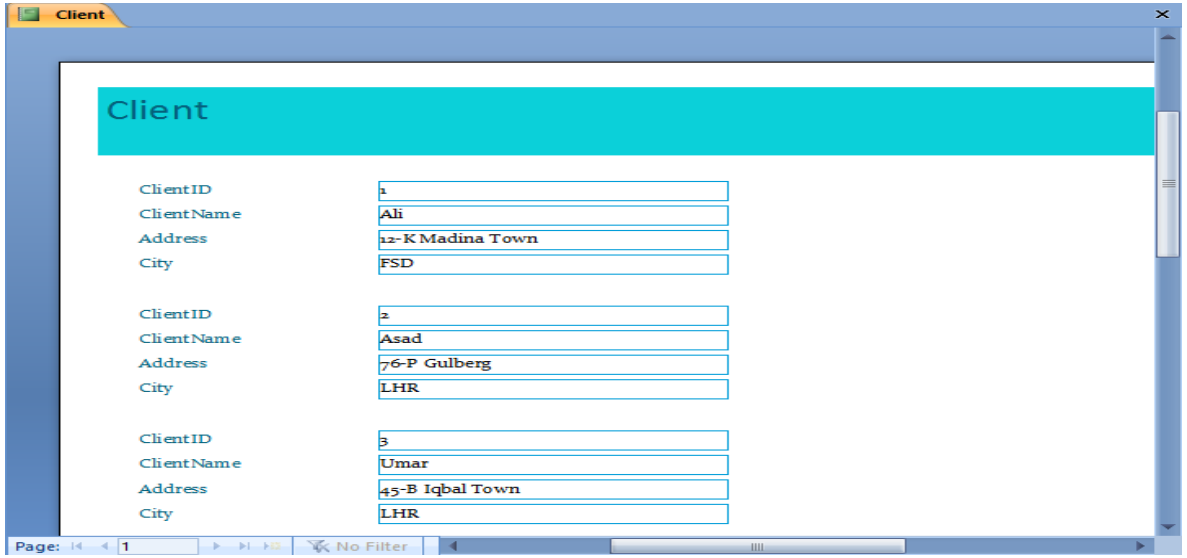
Uses of Reports

- Reports present the required information in formatted style
- Reports provide flexibility to present the same data in different ways
- Reports can display information with graphics and charts
- Reports are very important in making important decisions
- Reports can be used to improve the database application
- Reports can display the result of query

Types of Report

1. Columnar Reports

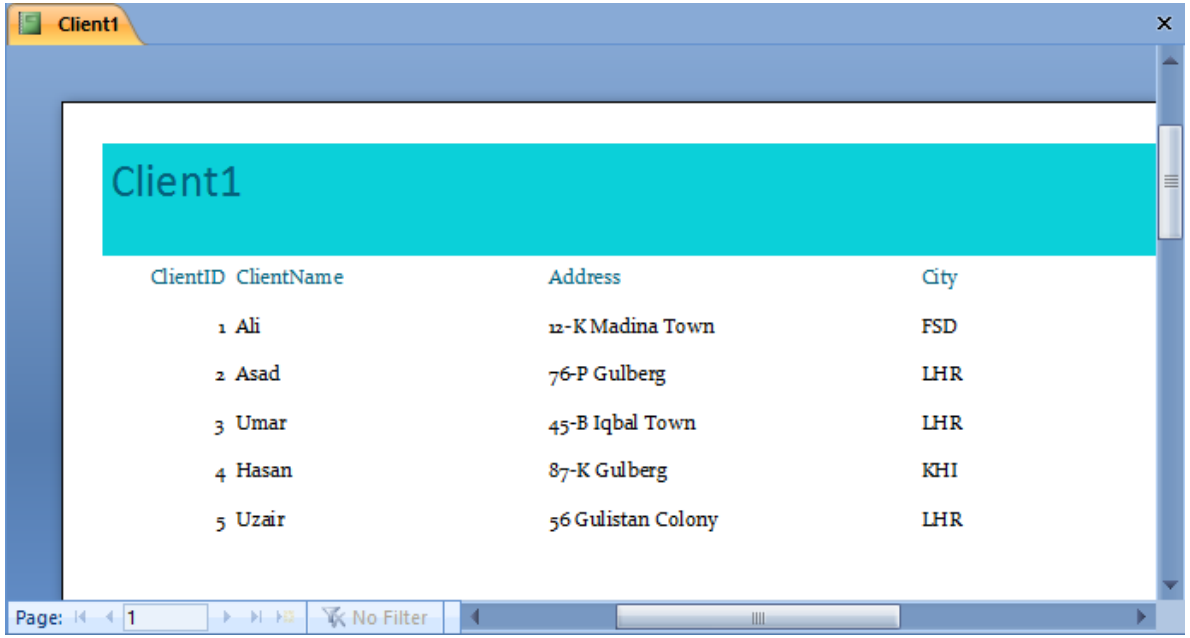
- Display each field in a separate row with the field name on the left and the field data on the right
- The labels indicate the name of the field
- The text box to the right of label provides the values
- The columnar report spreads the information for a single record over many rows



Types of Report

2. Tabular Reports

- The **tabular report** displays the fields in a row
- Tabular reports present each field as a column and each record as one line
- Only selected fields are displayed so it is more concise than the columnar report
- They are similar to viewing data in a datasheet



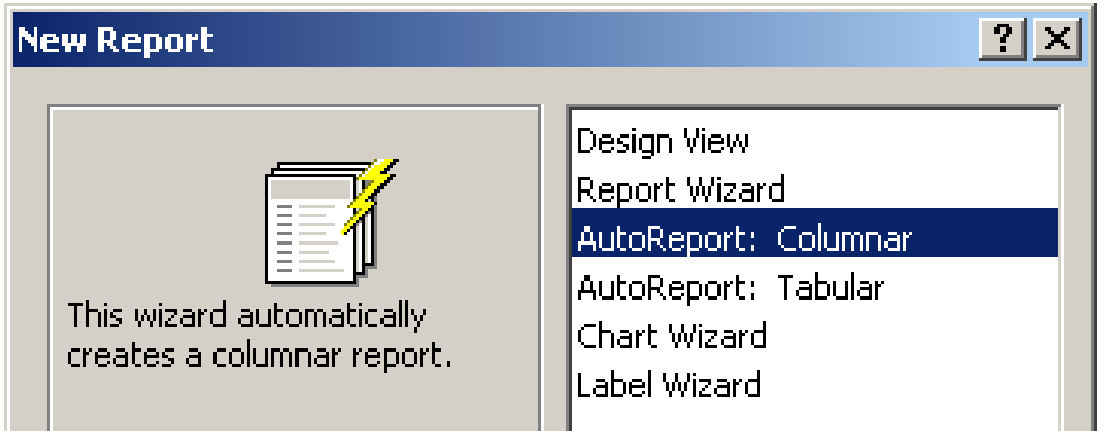
Difference Between Form & Report

Form	Report
Basic purpose is to input data in tables	Basic purpose of reports is to display data from tables
Data in form can be deleted	Data in report cannot be deleted
Data in form can be modified	Data in reports cannot be modified
Forms are used on computer screen only	Reports are normally used to print on paper
Data in form cannot be formatted	Data in report can be formatted in different styles
User can add new data through form	User cannot add new data through report

AutoReport

AutoReport creates a columnar report based on specified table or query

The following procedure is used to create a report



Procedure

1. Open the desired database.
2. Click on **Report** button from **Objects** list.
3. Click on **New** button. **New Reports** dialog box will appear.
4. Select **columnar or tabular** report option.
5. Click on the list box at the bottom of the dialog box. A list will appear.
6. Select the desired table or query.
7. Click **OK** button. The report will appear

Saving and Closing AutoReport

The AutoReport is not saved to the database automatically.

The following procedure is used to save the report:

1. Select **File > Close**. You are prompted to save the report.

2. Click **Yes**. The Save As dialog box will appear.

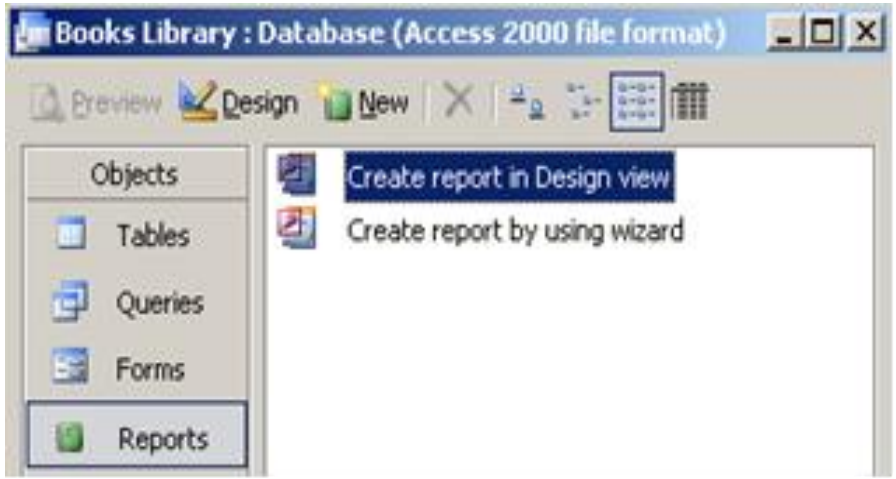
3. Enter a name and click **OK**. The report is saved to the Database Window

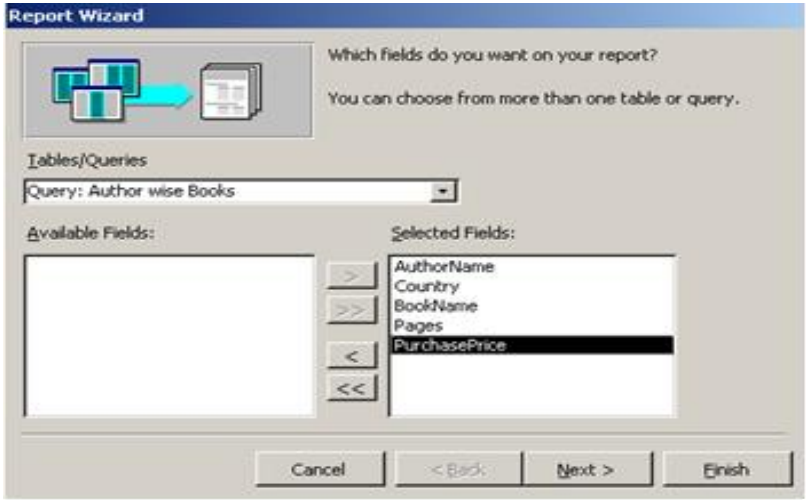
Single Table Report

The following procedure is used to create a single-table report using report wizard:

1. Open a database.
2. Click Reports button in Object list.
3. Double click **Create report by using wizard**.

The report wizard will appear.





Single Table Report (Cont.)

4. Select a table from **Tables/Queries** list box. The fields of the selected table or query will appear in **Available Fields** box.

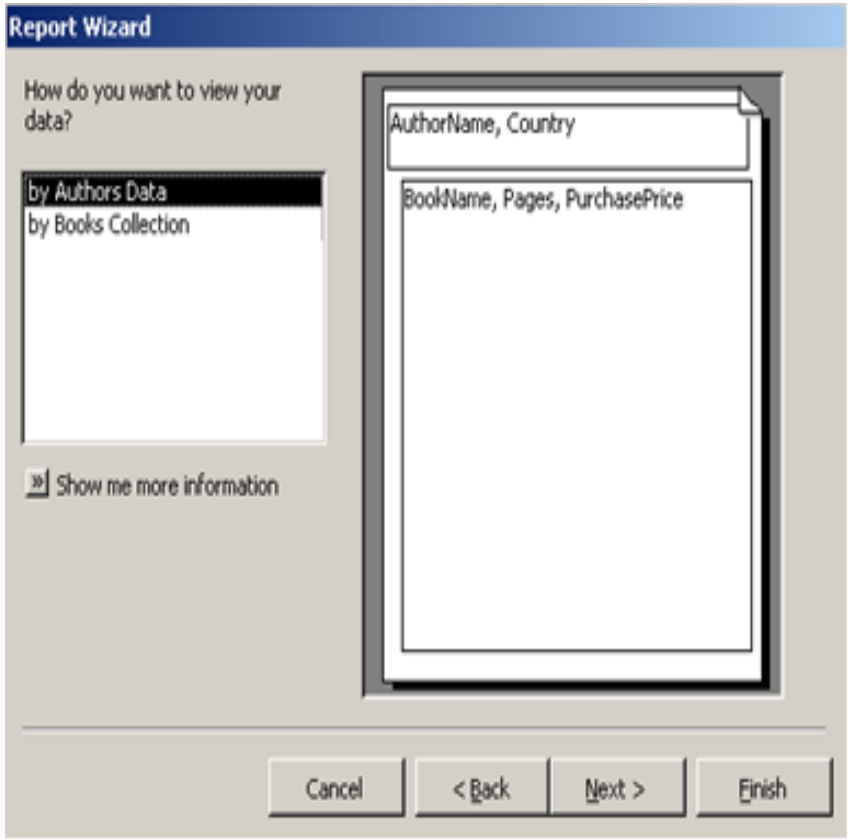
5. Click on any field to include in the report.

6. Click on > button. The field will move to

   Selected Fields box. OR

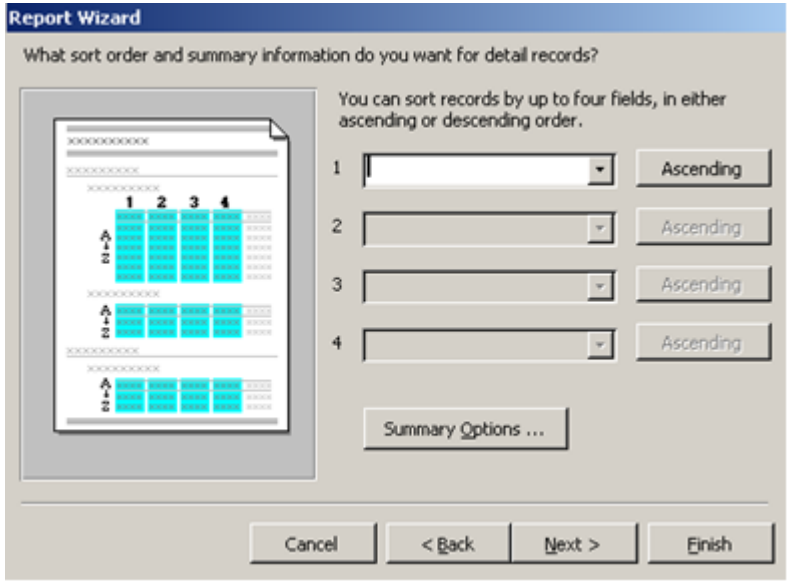
7. Click on >> button to include all fields in the report.

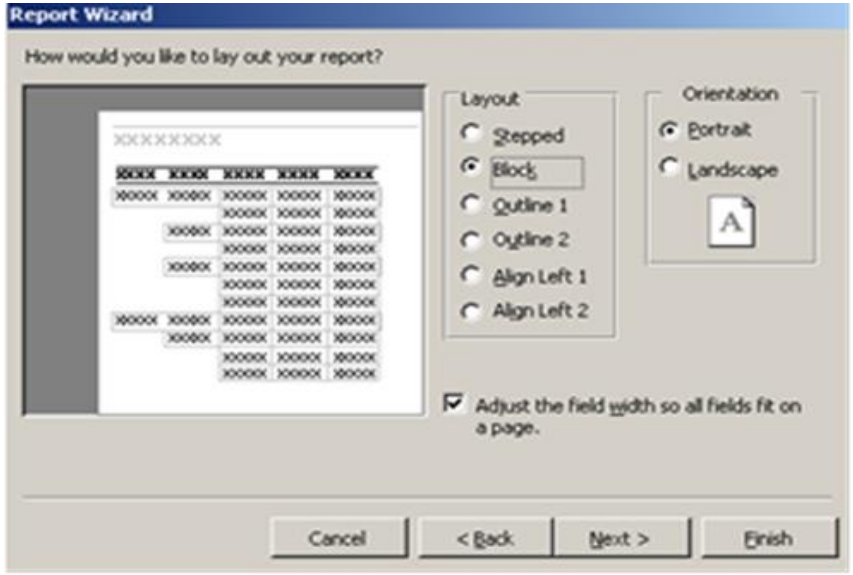
8. Click on **Next** button.



Single Table Report

9. Select any field to specify grouping level if necessary.
10. Click **Next** button. The next window will appear.
11. Select any field according to which data record will be sorted in report.
12. Click **Next** button





Single Table Report

13. Select layout option and orientation option.
14. Click **Next** button.
15. Select any style for the report and Click **Next**
16. Type the name of the report.
17. Click **Finish** button. The report will appear

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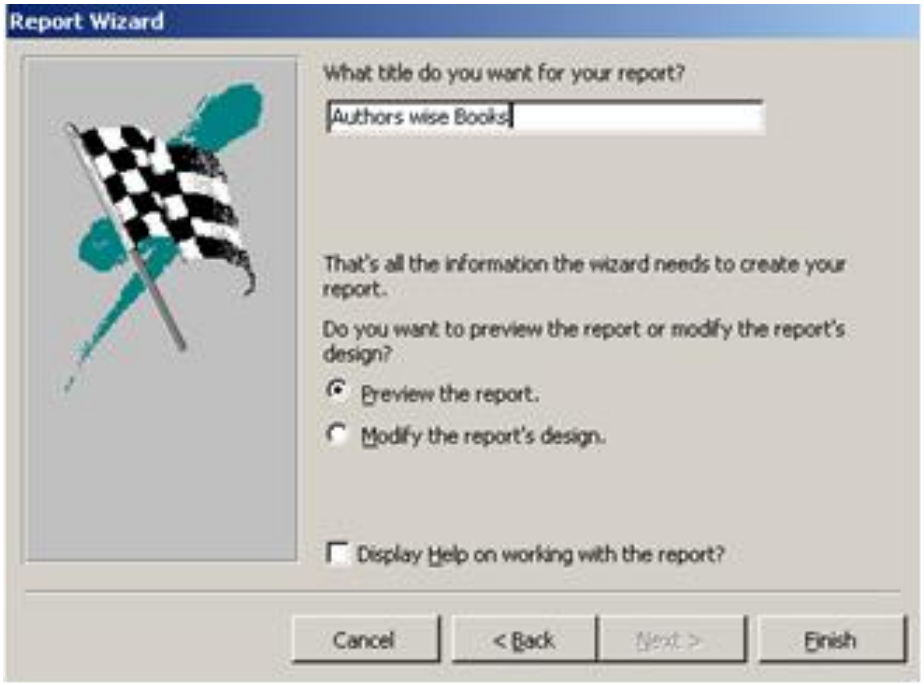

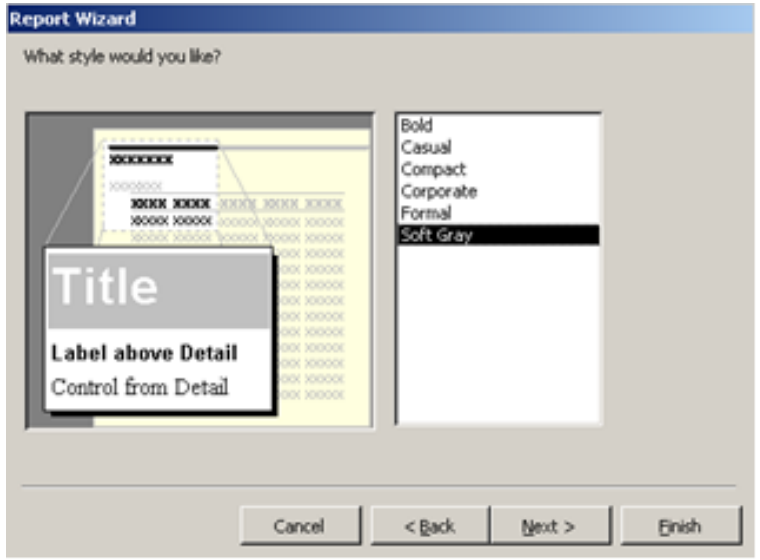

Two Table Report

The following procedure is used to create a two-table report using report wizard:

1. Open a database.
2. Click on Reports button in Object list.
3. Double click Create report by using wizard. The report wizard will appear.
4. Select a table from Tables/Queries list box. The fields of the selected table or query will appear in Available Fields box.
5. Click on any field to include in the report
6. Click on  button. The field will move to **Selected Fields** box. OR
7. Click on  button to include all fields in the report.
8. Select the second table from **Tables/Queries** list box.
9. Move the fields of second table in **Selected Fields** box.

Two Table Report (Cont.)

10. Click on Next button.
11. Select any field to specify grouping level if necessary.
12. Click **Next** button. The next window will appear.
13. Select any field according to which data record will be sorted in report.
14. Click **Next** button.
15. Select layout option and orientation option. Click **Next** button.
16. Select any style for the report.
17. Type the name of the report.
18. Click **Finish** button. The report will appear on the screen.

Create Report using design view

The following procedure is used to create a report in **Design View**:

1. Click **New** button on Reports Database Window.
2. Highlight **Design View** and choose the data source of report from drop-down menu.
3. Click **OK**.
4. A blank grid with a **Field Box** and form element toolbar will appear. It is similar to **Design View** for forms.
5. Design the report. For example, double-click the title bar of Field Box to add all fields to the report at once.
6. Use the handles on the elements to resize them.
7. Move them to different locations.
8. Modify the look of the report by using options on formatting toolbar.
9. Click **Print View** button at the top left corner of the screen to **preview** the report.

Printed Reports

The following procedure is used to print reports:

1. Select **File > Page Setup** to modify page margins, size, orientation and column setup.

2. Select **File > Print** from the menu bar OR click **Print** button on toolbar.

Linking

The process of linking in MS Access creates a link to an object in another database. The table is not copied to the current database

The following procedure is used to create a link:

1. Open the destination database.
2. Select **File > Get External > Link Tables**... from the menu bar.
3. Choose the database in which the table is located and click **Link**. A window listing the tables in the database will appear.
4. Highlight the table or tables that should be linked and click **OK**. A link to the table will appear in Database Window as a small table icon preceded by small right arrow.

Switch Board

- Switch Board is a form that is used to navigate database
- It perform different tasks in database application
- It contains user defined commands with buttons, labels, images or hyperlinks
  - Commands invoke different actions to carry out various tasks such as
    - Opening forms
    - Running queries
    - Printing reports etc.

Creating Switch Board

The following procedure is used to create a switchboard in MS Access:

1. Open the Access database.
2. Select **Tools > Database Utilities > Switchboard Manager**.
3. If no Switchboard form exists, Access will display a message telling you that no Switchboard exists and will ask if you want to create one.
4. Click **Yes** to display **Switchboard Manager** screen

Switch Board (Cont.)

5. Click **Edit** to edit options.
6. Change **Switchboard** default name from Main Switchboard to any other name.
7. Click **New** to display Edit Switchboard Item dialog box.
8. Type a brief description of the first item to be added in Text field.
9. Select the appropriate option from the drop-down list in **Command** field.
10. If you choose **Open Form In Edit Mode**, the Switchboard Manager will display a list of database's forms.
11. Choose the form and click **OK.**
12. Repeat this process until all items are added to Switchboard form.
13. Click **Close.**

Running Switch Board

The following procedure is used to run switchboard in MS Access:

1. Right-click on database window and choose Startup from context menu.
2. Click drop-down arrow for **Display Form/Page** option.
3. Choose **Switchboard** and click **OK**. The next time you open the database, MS Access will run the Switchboard form.

Thank you!