

King Fahd University of Petroleum and Minerals
MIS-105--- Introduction to Computer Applications
Lab#9: Introction to Microsoft Access
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Forms and Queries

In the first half of this lab we'll work mainly on the *form views* adding more controls to the form we developed/designed in the previous lab. We'll also add some records in table through the form interface. The second half of the lab discusses *queries* which let you see/choose data form a data source based on a certain criteria.

CASE STUDY: A STUDENT DATABASE...contd

Setting a Primary key and Adding more fields

- Please open the **MyFirstDatabase** which you have just downloaded from your course website.
- Click on the **Tables object button**.
- Select/click on the table **Students** (if not already selected).
- Click on the **Design button** given on the Database window toolbar.
- Right click the field selector column for **StudentID** and select the **Primary key** option.
- Click in the text box for the **Field Size property**, change it to 6 and the **Required property** to **Yes**.
- Click in the **Input Mask property** and type **8#####** to require your ID number always start with the digit **8** and any digits in the remaining places as opposed to letters.
- Add a field **Campus** and select the data type Text.
- Save the table.

Adding a field with a drop down list

- Add a field **Major** and select **Lookup Wizard** as data type.
- The first screen in the Lookup Wizard asks you want to look up the data. Click the option button that indicates that **I will type in the values that I want**. Click **Next**.
- The number of columns in the dialog box should be **1**. Click the text box and enter the first major **Business** and press **Tab** or the **down arrow key**.
- Enter the majors **Communications, Education, Engineering, Liberal Arts, Undecided**.
- Click **Next**. The Wizard asks you for a label to identify the column which is already entered.
- Click **Finish** to exit the Wizard and return to the **Design View**.
- Click the Save button to save the table. Close the table.

Adding the New controls

- Click the **Forms button** in the database. If necessary, click the **Students form** to select it.
- Click the **Design command button** to open the form in Design view.
- Click the **Maximize button** so that the form takes the entire screen.
- If the field list is not displayed, pull down the **View menu**. Click the field list to display the field list for the table on which the form is based. You can move and size the field list just like any other Windows object.
- Click and drag the **Campus** and **Major** fields from field list to the form.
- Save the form.

Inheritance

A bound control inherits its properties from the associated field in the underlying table. A combo box(drop down list), for example, appears automatically next to any bound control that was defined through a Lookup Wizard in the data type.

Creating an Option group

- Click on the **Option Group button** on the Toolbox toolbar.
- Click and drag in the form where you want the option group to go, then release the mouse.
- You should see the **Option Group Wizard dialog box**. Enter **main** as the label for the first option, then press the **tab key** to move to the next line. Type **North** and then press the **Tab** to move to the next line. Enter **South** as the third and the last option. Click **Next**.
- The option button to select **Main** (the first label that was entered) is selected as a default. Click **Next**.
- **Main, North and South** will be assigned the values **1, 2** and **3** respectively. Click **Next**.
- Click the **drop-down arrow** to select the field in which to store the value selected through the option group, then scroll until you can select **Campus**. Click **Next**.
- Make sure that the option button is selected as the type of control.
- Click the **option button** for the **Sunken style**. Click **Next**.
- Enter **Campus** as the caption for the group. Click the **Finish command button** to create the option group on the form. Click and drag the option group to position it on the form under the GPA control.
- Point to the border of the option group on the form, click the right mouse button to display a shortcut menu, and click **Properties**. Click the **All tab**. Change the name to **Campus**.
- Save the form.
- Close the dialog box. Close the field list.

Adding Command Buttons

- Click the **Command Button** tool. Click and drag in the form where you want the button to go, then release the mouse. This draws a button and simultaneously opens the **Command Button Wizard**.
- Click **Record Operations** in the **Categories list box**. Choose the **Add New Record** as the operation. Click **Next**.
- Click the **Text option button** in the next screen. Click **Next**.
- Type **Add Record** as the name of the button, then click the **Finish command button**. The **completed command button** should appear on your form.
- Make a second button. Select the **Record Navigation** in the **Categories list box**. Choose **Find Record** as the operation. Click the **Text option button**. Click **Next**.
- Type **Find Record** as the name. Click **Finish command button**.
- Repeat the above procedure to create the buttons for deleting a record (Record Operations) and closing the form (Form Operations).
- Save the form.

Aligning the Command Buttons

- Select the four command buttons by pressing and holding the **Shift key** as you click each button. Release the **Shift key** when all buttons are selected.
- Pull down the **Format menu**. Click **Size** to display the cascade menu. Click **To Widest** to set a uniform width.
- Pull down the **Format menu** again, Click **Horizontal Spacing**, then click **Make Equal** so that each button is equidistant from the other buttons.
- Pull down the **Format menu** a final time, click **Align**, then click **Bottom** to complete the alignment.
- Save the form.

Reset the Tab Order

- Click anywhere in the **Detail section**. Pull down the **View menu**. Click **Tab Order** to display the **Tab Order dialog box**. (Click the double arrow at the bottom of the menu if you don't see the Tab Order command.)
- Click the **Auto Order command button** so that the tab key will move to fields in left-to-right, top-to-bottom order as you enter data in the form. Click OK to close the **Tab Order dialog box**.
- Save the form.

Inserting the Clip Art

- Click in the **Form Header area**. Pull down the Insert menu and click the picture command to display the Insert Picture dialog box.
- Change to any folder containing pictures.
- Select a picture, then click OK.
- Right click the newly inserted picture object and select Properties.

- Select the Size Mode Property and select Stretch from the associated list.
- Click and drag the sizing handles on the frame to size the object appropriately for the header area.
- Save the form.

Adding Records

- Click the **View button** to switch to the **Form view**.
- Add at least TWO records.

Working with Queries

A *query* lets you see the data you want and in the required sequence. It lets you select specific records from **one table(single table query)** or from **several tables(multiple table queries)**. A query can show some or selected fields of all the selected records. It also lets you **perform calculations** to display data that is not explicitly stored in the underlying table(s), such as student's GPA.

The query is created by the Simple *Query Wizard* or directly in the *Design view*. The results of a query are displayed in the *dynaset*, which contains the records that satisfy the criteria specified in the query.

A *dynaset* looks and acts like a table, but it isn't a table; it is a **dynamic subset** of a table that selects and sorts records as specified in the query.

There are various types of queries like **select query, update query, append query, make table query, delete table query.**

Query Window

The **Query Window** has several views. Two of them are:

- **Design view**
- **Datasheet view**

The *Design view* lets you design a query in a *design grid* (see figure1) while the *Datasheet view* displays the resulting *dynaset*.

Selection Criteria

To specify selection criteria in the design grid, enter a value or expression in the criteria row of the appropriate column.

Note: Values entered in multiple columns of the same criteria row implement an **AND condition** while values entered in different criteria rows are connected by an **OR condition**. **Relational operators** (>, <, >=, <=, =, and <>) can also be used.

Single Table Queries

1. List those students in **Ascending order** whose **Major** is **“Undecided”**. Show **LastName, FirstName, PhoneNumber, Major, and Credits**.

SELECT Queries with AND/OR

2. List those students in **Ascending order** whose **Major** is **“Undecided”** **AND** having **Credits greater than 30**. Show **LastName, FirstName, PhoneNumber, and Credits**.
3. List the **FirstName, LastName** and **Address** of those students who were born between **1973** and **1974**.
4. List **SSN, Gender** and **Major** of those studying in **Main** and **Southern Campus**.

SELECT Query with Parameters

5. You as a person in the Registrar’s Office want to have a look on the **list of those students having credits completed between two values**. You don’t want to fix the values in the grid as you have to run the query again and again. You want to list **SSN, Major** and **Campus**.

Query with Calculated Control

6. A list of students with **SSN, FirstName, LastName, Major, QualityPoints, Credits** and **GPA**.