

University of Puerto Rico
Mayagüez Campus
Monzón Computer Center

PRINCIPLES OF ACCESS

User's Service Unit
By: Anidza Valentín Rodríguez

I. Introduction

Microsoft Access is an interactive data base system that allows the organization, search and presentation of data and information in an easy and effective way.

II. How to open Access?

The first step in opening the Access program is to go to the **START** command. Select **PROGRAMS** and from that menu, select Access. If on the contrary you already have the shortcut on the desktop, double-click the icon.

III. How to create a data base?

After opening Access, you'll notice a menu on the right side of the screen. This menu is called the *Task Pane*. The *Task Pane* offers some common options to begin a new data base or open an existing one. To start a new data base, go to the **NEW** option from the Task Pane. Here you'll find a link to *Blank Database*. When you select this option, the File New Database window will open, so you can choose where to save your work and with what name it will be saved. To finish this step, press the **CREATE** command.

Note: Every data base will be saved with the **.MDB** extension.

After it has been created, a new window will appear (Fig. 01) with the objects used to create data bases.

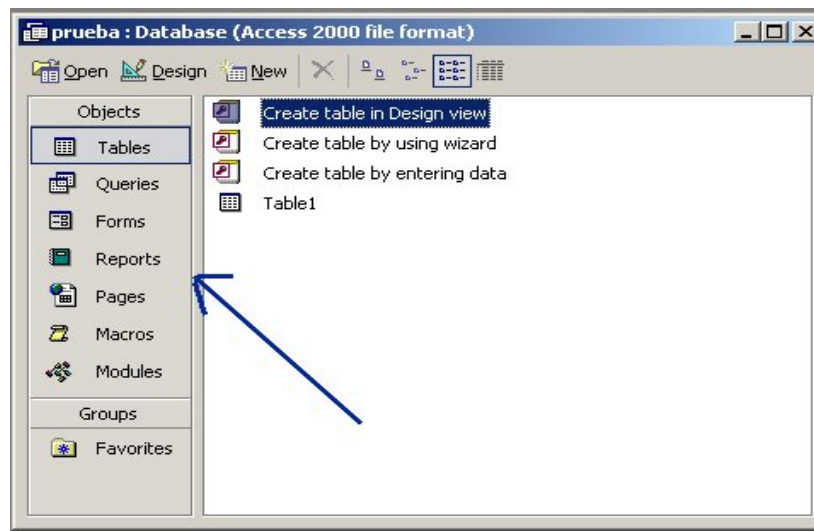


Fig. 01

IV. Objects used to create a Data Base

Data bases are composed of various objects. These objects are: Tables, Queries, Forms, Reports, Macros and Modules. To work efficiently with these objects you'll need to follow the following steps:

1) **TABLE** – to create a table, make a double-click on the “*Create Table in Design View*” option. This option will create a table in design view with the following fields:

- a) *Field Name*: identifies the field's name; can have a maximum of 64 characters. It is recommended that the first letter be written in upper case
- b) *Data Type*: identifies the type of data the field is going to have, for example: text, numeric, date, hour, memo, etc.
- c) *Description*: field's description, it's recommended to include its function and characteristics.

For each field created, the *General* option, located below the fields, is created. This option has all the field's properties. Some of these options have default values. Among them:

- Field Size*: establishes the field's size
- Format*: present the numbers and dates in an specific format
- Input Mask*: presents a specific format for the data field.
- Caption*: specifies a caption different from the default one for new reports and forms.
- Default Value*: value given automatically to the field
- Validation Rule*: limits the data entry
- Validation Text*: message that will appear explaining the validation rule for the field
- Required*: YES/NO field that establishes if the data entry for that field is required.
- Indexed*: YES/NO field that allows an enhancement in the velocity of searches in the most frequently used fields.

After selecting the field's properties, you must establish the Primary Key. To do this, select the field, then go to EDIT and select the Primary Key option. While doing this procedure, you'll notice that a key will appear next to the field. Once you're finished with the table you must save it (FILE-SAVE). After saving it, you can see the table in design view. To see it in this view, go to VIEW and then select DATASHEET VIEW. In this table, the rows will be the records and the column will be the fields.

2) **QUERY** – there are two (2) methods to create queries:

a) Create Query in Design View

When you double-click this option, you'll start creating a query manually. The first window that will appear is called SHOW TABLE. In here, all the tables that have been created on the data base will be displayed. To choose the tables from which the fields are needed, select it and press ADD. You'll notice that each time you press the ADD command, the table appears at the back window titled QUERY1: SELECT QUERY. After selecting all the tables you wish to use, press CLOSE. The second step is to select which fields you want to include in the query. To do this, go directly to the desired field located inside the table and double click it. Automatically, the name will be displayed in the FIELD area and the table's name in TABLE. Repeat this step until every field is added. To finish, save your query using SAVE AS.

b) Using the wizard




By double-clicking this option, a wizard will appear to help you create a query. The first option presented is to select the tables from which you want the fields. Each time you choose a table, every field contained in that specific table will be displayed in the "Available Fields" area. To choose which fields to include in the query, select the field and press the  command, but if you want to add all the fields to "Selected Fields", just press . After all the fields are selected, if you want to eliminate one of them, make the same procedure of selecting the field and press . If you want to include various fields from different tables, repeat the whole procedure. You're going to work table by table, choosing one by one. After selecting the fields from


table 1 and putting them on “Selected Fields”, continue to the “Tables/Queries” part and choose the next table or query to display the fields. During this same process they will be added to the list already started in “Selected Fields”. Press NEXT to continue with the next window that will display the option to write the name of the query. It also offers two (2) more options:

a) **Modify the query design:** makes visible all the chosen options like if you had made the query in design view.



b) **Open the query to view information:** displays the query’s result in a table. When you have finished selecting all your options, press FINISH. The window will close automatically and the query’s name will appear in the initial window. A table with the query’s results will also be displayed.

3) FORM- used to see, modify and enter data to specific fields in a more efficient and effective way than using the datasheet. The forms are connected to a table or tables from where the data will be used, saved or eliminated. There are two (2) ways to create forms:

a) Create Form in Design View

To create a form, press the NEW icon . A new window titled NEW FORM will be displayed. Here, the Design View option will appear selected by default, and the second option gives a drop down list of all the queries and tables that can be used to create the form. Once you’ve selected both options, press OK. A blank form will appear and on the side a little list with the table’s or query’s fields that were earlier selected. To insert objects on the form, use the Toolbox which includes text box, labels, command buttons, combo box, option button, among others.


b) Using the wizard

By double-clicking this option, a little window will appear with a wizard that will help you create a form. The first option offered is to select the tables from which you want the fields. Each time you choose a table, every field contained in that specific table will be displayed in the “*Available Fields*” area. To choose which fields to include in the form, select the field and press  to pass it to the “Selected Fields” area or the  command to pass all the



fields at once. Press NEXT to continue. This next window offers some layout options for the form. You can select them one by one to see a preview. When you select your choice, press NEXT to continue with the third window that offers styles for the form. They can also be selected one by one to see a preview of them. Press NEXT to continue to the last window. You'll have to enter the form's name and it also gives the options to open the form to view or enter information or to modify the form's design. To finish the wizard, press FINISH.

4) **REPORTS** – they are a very effective way to present the information contained on the data base through a printer. There are two (2) ways to create reports:

a) Create Report in Design View

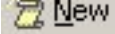
To create a report, select the NEW icon . Automatically a window titled NEW REPORT will appear. In this window the *Design View* option will appear marked by default and the second option is to choose from which table or query you want the data. Once the two options are selected, press OK. A blank form will appear and on the side, a little window with all the fields correspondent to the table or query previously chosen. To put the object on the form, use the *Toolbox*, which includes text box, labels, command buttons, combo box, option button, among others.

b) Using the wizard

By double-clicking this option, a little window will appear with a wizard that will help you create a form. The first option offered is to select the tables from which you want the fields. Each time you choose a table, every field contained in that specific table will be displayed in the “*Available Fields*” area. To choose which fields to include in the form, select the field and press  to pass it to the “*Selected Fields*” area or the  command to pass all the fields at once. Press NEXT to continue. The next window displays options regarding grouping levels, so, select the field in which it will be grouped and press NEXT. This new window will ask in which order you want to sort the records and after selecting your choice, specify if the records will appear in

descending or ascending order. When finished, press NEXT to continue. Here, two options are displayed regarding the reports layout: the first one offers options about the records layout and the second one is the orientation, if you want it in portrait or landscape. After selecting your options, press NEXT so you can choose the report's style. Press NEXT to pass on to the last windows of the wizard where you'll be asked to enter the report's name with which it will be saved. It also gives the options to open the report to view the result or to modify the report's design. To finish the wizard, press FINISH.

5) **MACROS** – is a combination of one or more actions to perform a particular operation. In other words, a command or series of commands that we want Access to perform automatically. Access allow us to automate the majority of tasks using macros or *Visual Basic* (Visual Basic for Applications), a program language for Microsoft applications. Macros are useful in small applications and for simple tasks as open and close objects in a data base. With macros, you can simply select a series of actions from the list so the macro does what you want.

To start making a macro, press the NEW command  . Automatically the design window will open and you can start making your macro. This window is divided in four (4) parts:

- a) *Macro Name Column*: enter the macro's name
- b) *Condition Column*: allows writing the condition needed to pass on to the next action.
- c) *Action Column*: here you select the type of action the macro will execute. You'll find a list with all the actions that can executed.
- d) *Comment Column*: for a brief description of the macro's action.

After completing every part, save the macro with the *Save* command and enter the name with which it will be called.

To execute the macro, look for it in the macro's list and make a double click in your choice. If there is no error in the macro's design, it will perform the action for which it was created.