Lab 6

MS Office Access

**Microsoft Office Access**, previously known as **Microsoft Access**, is a relational database management system (RDBMS) from Microsoft that contains different objects (like tables, forms, queries, reports etc.) to store and manage data. It is a member of the Microsoft Office suite. It uses a collection of table to represent both data and relationships among those data. To create a database in Access, open MS Office Access, click on File, click on new, select blank database in the task pane on the right hand side of the screen, type file name, and click on create button.

**Tables**

Tables allow us to organize the data so that it‟s easy to find later. We can use a collection of table to represent both data and relationships among those data. Each table contains information in the form of rows and columns. Each row represents a single **record** and each column represents a **field**. A field is a category, such as name, phone number, user ID into which you enter information. A record is all the pieces of information from the various fields that apply to one entity, such as an employee, a student etc. an employee record, for example, might include Employee ID, Phone, E-mail address and Department, the intersection of row and a column is referred to as a **cell**.

To create a table, click on **Tables** under the **Objects** listing. To the right, you‟ll see several methods listed for creating a table: *create table in Design view*, *create table by using wizard*, and *create table by entering data*.

**Create table in Design view** allows you first to define the structure of your table in one area and then to enter data in another. Even if you use another method, you‟ll likely need to turn to Design view to refine the structure and layout of the table. It‟s the most useful method to become familiar with. To create a table in design view, double-click create table in Design view. The Design view screen allows you to enter field names, define the data type for each, and add an optional description. Field name is a category heading, such as Address or Phone Number. Data Type is the type of data being entered, such as text, numbers, currency, date/time etc. Description describes the category. You can either set a primary key yourself, or you can let Access do it for you.

**Create table by using Wizard** lets you to walk through the steps to create tables, but offers less creative control to the user.

**Create table by entering data** allows you to create a table by entering data. To refine the table, it will probably need to use Design View.

**Forms**

A form is a type of a database object that is primarily used to enter or display data in a database. You can also use a form as a switchboard that opens other forms and reports in the database, or as a custom dialog box that accepts user input and carries out an action based on the input. To create a form, click on **Forms** under the **Objects** listing. To the right, you‟ll see two methods listed for creating a table: *create form in Design view*, and *create form by using wizard*.

**Create form in Design view** allows you to define the structure of the form. Even if you use another method, you‟ll likely need to turn to Design view to refine the structure and layout of the form.

**Create form by using wizard** is another method for creating a form. The form wizard allows you to walk through the steps to create forms.

**Queries**

Queries allow you to extract data from tables or other queries in the database. To create a query, click on **Queries** under the **Objects** listing. To the right, you‟ll see two methods listed for creating a query: *create query in Design view* and *create query by using wizard*.

**Create query in Design view** allows you to define the structure of the query. Even if you use another method, you‟ll likely need to turn to Design view to refine the structure of the query.

**Create query by using wizard** is another method for creating a query. It allows you to walk through the steps to create queries.

**Reports**

Your create reports that print selected information from the tables or queries. To create a report, click on **Reports** under the **Objects** listing. To the right, you‟ll see two methods listed for creating a report: *create report in Design view* and *create report by using wizard*.

**Create report in Design view** allows you to define the structure of the report. Even if you use another method, you‟ll likely need to turn to Design view to refine the structure of the report.

**Create report by using wizard** is another method for creating reports. It allows you to walk through the steps to create reports.

MS Access Data Types:

Data type is the characteristic of a field in the table that determines what type of data it can hold. Data types include **Text**, **Memo**, **Number**, **Date/Time**, **Currency**, **Autonumber**, **Yes/No**, **OLE Object**, **Hyperlink**, and **Lookup Wizard**.

 **Text:** Text allows for the storage of any kind of data, characters, digits and special characters. It has a default length of 50 characters with a maximum length of 255. It is normally used to store data such as names, addresses, or any number not used in calculations, like telephone numbers or zip codes.

 **Memo:** Memo is used for texts of more than 255 characters such as comments or explanations. It has a maximum length of 65,536 characters. Access recommends that to store formatted text or large documents.

 **Number:** It is for numerical data used in mathematical calculations. Within the number type we can use **Byte**, **Integer** and **Long Integer** to store numbers without decimal point and the types **Single**, **Double** and **Decimal** allow decimals.

 **Date/Time**: It is used for the introduction of date and time from the year 100 to 9999.

 **Currency**: It is used for monetary values and numerical data used in mathematical calculations.

 **Autonumber:** It is unique sequential number (increasing one by one), or a random number that Access assigns every time it adds a new record to a table.

 **Yes/No**: It represents **Yes** and **No** values, and fields that contain one of two values (Yes/No, True/False or Activated/Deactivated, or Male/Female).

 **OLE Object**: It represents an object such as a Microsoft Excel spreadsheet, a Microsoft Word document, graphics, images, sounds, or other binaries.

 **Hyperlink**: It represents text or a combination of text and numbers stored as text and used as a hyperlink address. A Hyperlink is a text or graphic that you click to go to a file, a location in a file, a web page on the Internet, or a web page on an intranet.

 **Lookup Wizard**: It creates a field that allows you to choose a value from a list. Access can fill the list with values from a table or with values you type.