Microsoft Access

- **Motivation**:
  - **When do we use Ms-Access** :

    - Let's say one may want to join one company to work. If she gets acceptance, then the company has to record information about this lady to the database of the company. for instance
      - *starting work File* (*name, date, referee*),
      - *Qualification file* (*name, qualification, college/university*),
      - *Personal Information File* (*name, age, height, weight,...*)
      - *Educational file* (*name, When, where,...*)
      - *Family Information File* (*name, father, mother...*) and so on.

  - **Q**:

    - Where can we record the above categories of data best, in Excel or in Access?

  - **A**:

    - *Microsoft Access (database program) is the best fit.*

Terms used with Ms-Access

- **Microsoft Access**
  - Is a *database management program* used to organize, track, and retrieve data in a database.

- **Database**
  - is an organized collection of data from which specific information can be easily extracted.
  - Consists of objects like table, query, form, reports…

- **Table**:
  - Is a grouping of related data organized in fields (Columns) and records (rows).

- **Field**
  - Is a column on a datasheet and defines a data type for a set of values in a table.

- **Record**
  - Is a row on a datasheet and is a set of values defined by fields.

…Terms used…

- **Primary key**:
  - One or more fields (columns) whose values uniquely identify each record in a table. A primary key cannot allow Null values and must always have a unique index. A primary key is used to relate a table to foreign keys in other tables.

- **Query:**
  - Is a question about the data stored in your tables, or a request to perform an action on the data.
  - Can Bring together data from multiple tables to serve as the source of data for a form, report, or data access page.
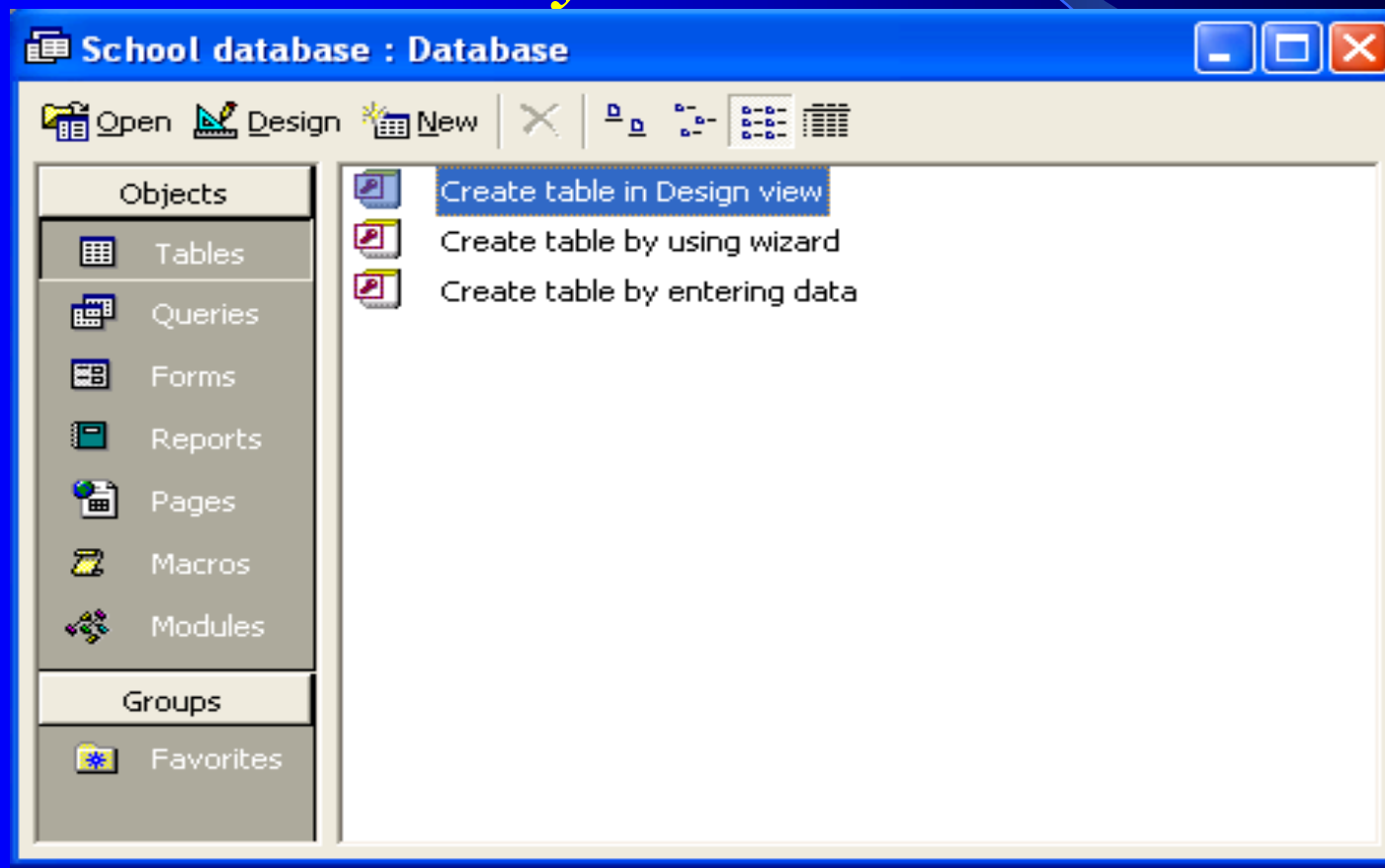
- **Form:**
  - Is a type of a database object that is primarily used to enter or display data in a database.
  - Forms are used as an alternative way to enter data into a database table.

- **Reports:**
  - Organize and group the information in a table or query and provide a way to print the data in a database.

Starting Ms Access

- *Start → All programs →Ms Access →*Create (Save) a *new or Open existing* database.
  - The *Database Layout* will be as follows:

School database : Database

Open   Design   New

Objects
- Tables
- Queries
- Forms
- Reports
- Pages
- Macros
- Modules

Groups
- Favorites

Create table in Design view
Create table by using wizard
Create table by entering data

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Creating Tables

❖ *There are 3 ways to create a table.*

1. *Creating a Table in Design View:*Allows you to define the *fields* in a table first.

   ❖ Click "*Create Table in design view*"→click **Open** (on the database window)

   ❖ The Design view has two panes:-

   ➢ *Top pane* (for entering Field name, Data Type and Description of the field)

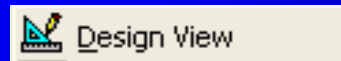   ➢ *Bottom Pane* (For specifying the field Properties).

   ❖ Set the table field names, data types and descriptions

   ❖ Set a Primary key(select the field name, click [key] button on standard toolbar).
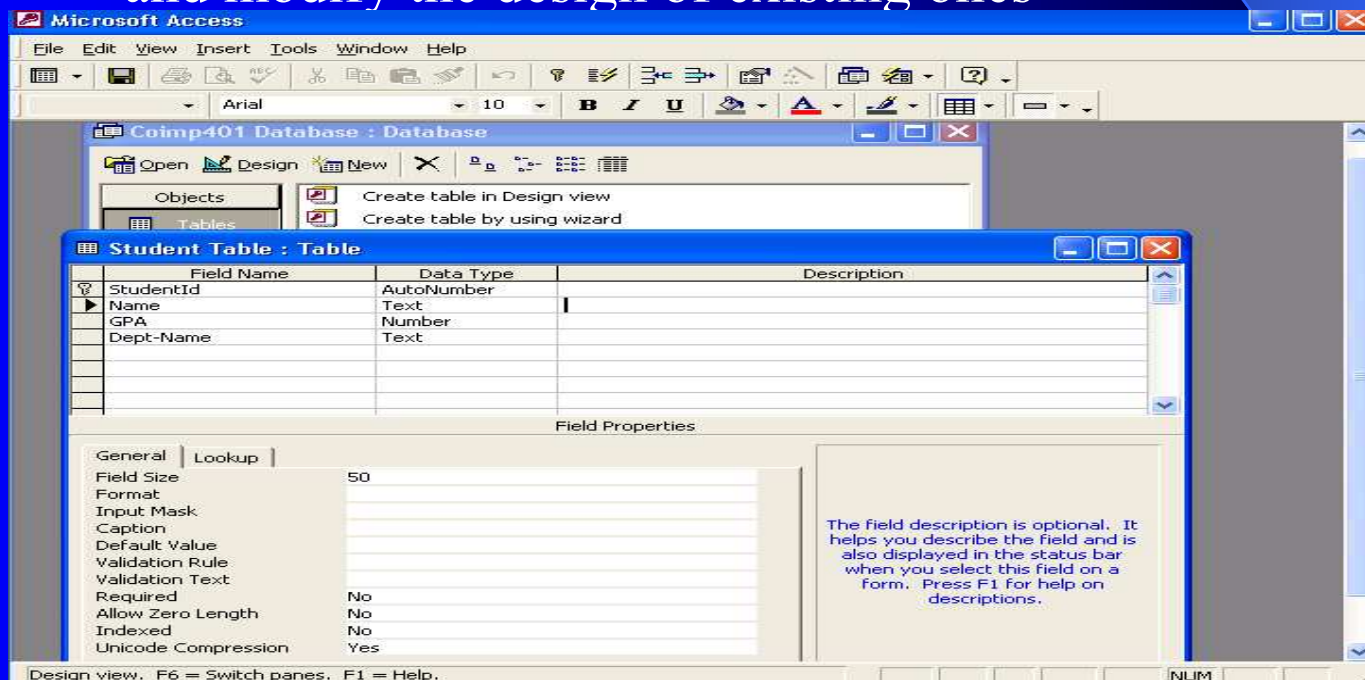
   ❖ Click File→Save, Type table name→OK

...Creating Tables

➢ A Table (or a database object in general) can be viewed in two layouts. *Design View* and *Datasheet View*

 Design View   Datasheet View

A) The Design view:- A window that shows the design of tables, queries, forms and reports.

➢ With this view, we can also create new database objects and modify the design of existing ones

...Creating Table

- *Field Name*:- the name of the field should represent the content of the field such as, Name, Age, Department, etc…
- *Data Type:-* The type of value that will be entered in to the field.
  - *Text:-* text type allows any combination of letters and numbers (maximum of 255 characters per field record)
  - *Memo:-* A text type that stores up to 64,000 characters.
  - *Number:-* Any number that can be stored.
  - *Currency:-* Set the Monetary values.
  - *Date/Time:-* Values of Time, Date or combination of them.
  - *AutoNumber:-* A unique integer that will be automatically assigned for each record in a field.
  - *Yes/No:-* Use this option only for True/False, Yes/No, On/Off, or other values that must be one of two.
- *Description (optional)*:- Enter a brief description of what the contents of the field are.
- To switch b/n *design view* and *data sheet view* click the buttons

 and

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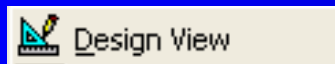
Setting Field Properties

- After you assign a data type to a field Access will automatically sets default field properties for the table.
- The field properties control the way the field looks and behaves.
- To set the field properties to a field:-
    – Click the name of the field you wish to change at the top pane.
    – Go to the field properties and change what you want to change.
- *N.B: To know or read about all the field properties,Click the field property press F1.*
- **_Setting of primary Key_**:-Right click the field name Primary key. Or Click the field name Edit Primary Key.

…Creating Tables

B) Data sheet view:- Allows you to update, edit and delete information from a table.
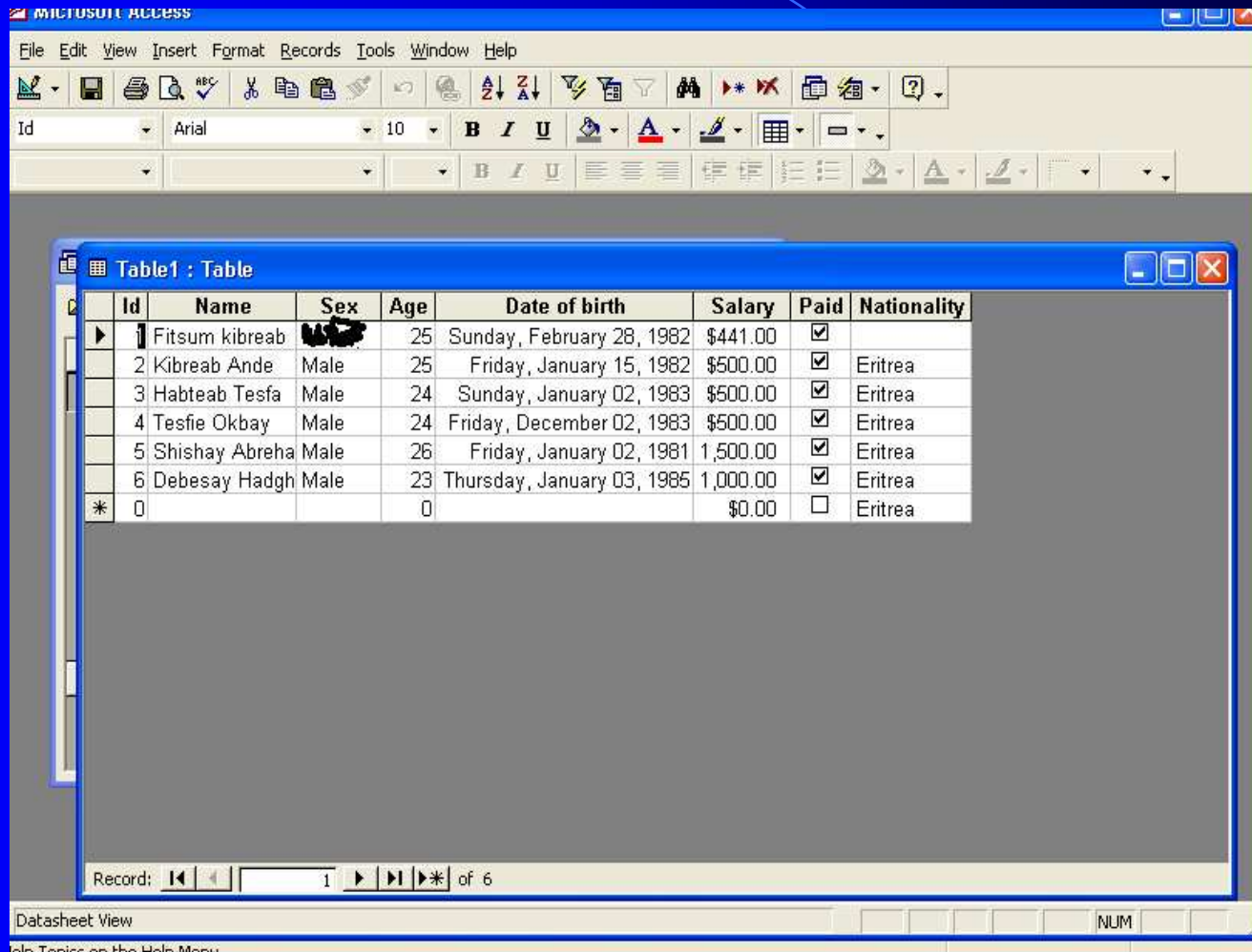
...Creating Tables

2. ***Create table using wizard***:- step you through the creation of a table.

  ➢ Click "*Create Table by using wizard*"➔ click Open (on the database window)

  ➢ Follow the Table Wizard as you wish.

3. ***Create table by entering data:-*** you will directly enter the data in a table with unlabeled columns:

  ❖ Click "*Create table by entering data*"➔click open

  ❖ Rename the columns fields: ***Format➔Rename column***

  ❖ Enter the data.

  ❖ Save the table.

  ❖ Set primary key.

Datasheet Records

- *Adding Records:-* type the new record beside the asterisk(*), or Click the new record Button.
- *Deleting Records:-* Place the cursor in any field of the record → Edit → Delete Record.
- *Adding Columns:-* Highlight the column before which the field to be inserted→Insert→Column.
- *Deleting Columns:-* **Select the entire column→Edit →Delete Column.**
- **Freezing and unfreezing columns:-**select the column to be frozen *Format →Freeze Column*

  And to unfreeze them, Format→Unfreeze All Columns.
- **Hiding and Unhiding Columns:**
  - **Format→Hide Columns**
  - **Format→Unhide Columns**
- **Finding and Replacing data in a table:-**
  - **Edit→Find and Edit→Replace.**