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LECTURE 09: INTRODUCTION TO MS ACCESS

Choose a job you love, and you will never have to work a day in your life.
Confucius

LEARNING OUTCOMES

After the completion of the lecture and mastering the lecture materials, students should be able to

1. explain Microsoft Access as a relational database management system.
2. explain structure of Microsoft Access
3. apply Microsoft Access (Table, Searching, Sorting, Indexing, Asdding, Editing and Deleting Records)

LECTURE OUTLINE

1. INTRODUCTION
   1. Definition
   2. Databse Use
2. MS ACCESS OBJECTS
   1. Tables
   2. Forms
   3. Queries
   4. Reports
3. MS ACCESS USE
   1. The Ribbon
   2. The Quick Access toolbar
   3. Backstage View
   4. The Navigation Pane
4. MANAGING DATABASE
   1. To open the existing database
   2. Working with objects
   3. Saving objects

1. INTRODUCTION

1. Definition

- **Microsoft Access** is an information management tool that helps store information for reference, reporting, and analysis.
- Microsoft Access is a relational database management system which allows to link together data stored in more than one table.
- A database is a computer program for storing information in an easily retrievable form.
- A database is used mainly to store text and numbers (for example, the Library catalogue , which includes the author, title, class number and accession number for each book).

- **Microsoft Access** helps you analyze large amounts of information, and manage related data more efficiently than **Microsoft** Excel or other spreadsheet applications.
- Most modern databases also allow the storage of other types of information such as dates, hyperlinks, pictures and sounds.

2. Database Use

- A database is also used to select information quickly and easily (for example, a list of the books written by a particular author or those on a certain subject).
- Finally, it may allow you to produce printed summaries (reports) of the information selected.
- When setting up a database, it is important to plan its use in advance.

- Among the things which should be considered, if the database to be used by other people in particular, are:
  - What information you will need to store.
  - What information you want to get out.
  - Who the data is intended for and how other users will use it.
  - Whether you want to restrict access to parts of the data to some users only.
  - Who is allowed to add or change data.

2. MS ACCESS OBJECTS

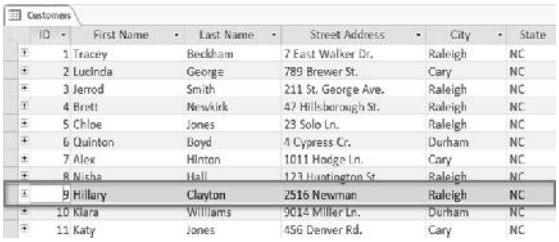
- Databases in Access are composed of four objects: **tables**, **forms**, **queries** and **reports**. Together, these objects allow you to enter, store, analyze, and compile your data however you want.

1. Tables

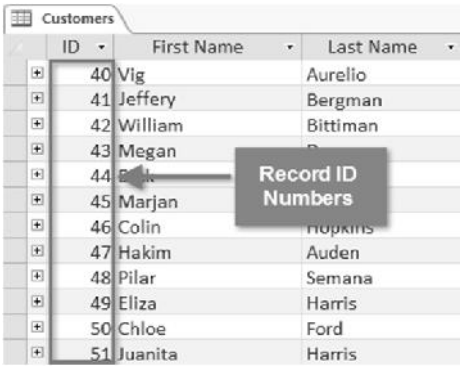
- In Access, all data is stored in **tables**, which puts tables at the heart of any database as a collection of data organized into many connected **lists**.
- Tables are organized into vertical **columns** and horizontal **rows**.

- In Access, rows and columns are referred to as **records** and **fields**. A **field** is more than just a column; it's a way of organizing information by the **type** of data it is. Every piece of information within a field is of the same **type**. For example, every entry in a field called **First Name** would be a name, and every entry in field called **Street Address** would be an address.

- Likewise, a **record** is more than just a row; it's a unit of information. Every cell in a given row is part of that row's record.



- Notice how each record spans several fields. Even though the information in each record is organized into fields, it belongs with the other information in that record. See the **number** at the left of each row? It's the **ID number** that identifies each record. The ID number for a record refers to every piece of information contained on that row.



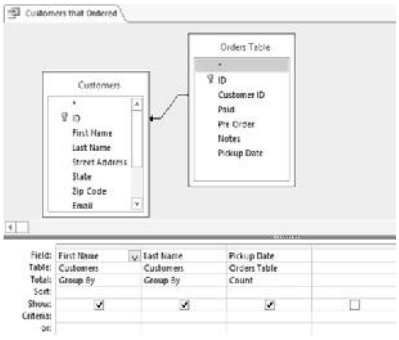
- Tables are good for storing **closely related information**. Let's say you own a bakery and have a database that includes a table with your customers' names and information, like their phone numbers, home addresses, and email addresses.
- Because these pieces of information are all details on your customers, you'd include them all in the same **table**.
- Each customer would be represented by a unique **record**, and each type of information about these customers would be stored in its own field. If you decided to add any more information—say, a customer's birthday—you would simply create a new field within the same table.

2. Forms

- **Forms** are used for **entering**, **modifying**, and **viewing** records.
- The reason forms are used so often is that they're an easy way to guide people toward entering data correctly. When you enter information into a form in Access, the data goes exactly where the database designer wants it to go: in one or more related tables.

3. Queries

- Queries are a way of **searching** for and **compiling** data from one or more tables. Running a query is like asking a detailed **question** of your database. When you build a query in Access, you are **defining specific search conditions** to find exactly the data you want.
- Queries are far more powerful than the simple searches you might carry out within a table.



- While a **search** would be able to help you find the name of one customer at your business, you could run a **query** to find the name and phone number of every customer who's made a purchase within the past week.
- A well-designed query can give information you might not be able to find just by looking through the data in your tables.

3. Reports

- **The object of Reports is used** to **present** the data **in print such as** a computer printout of a class schedule or a printed invoice of a purchase.
- Reports are useful that allow to present components of database in an easy-to-read format.

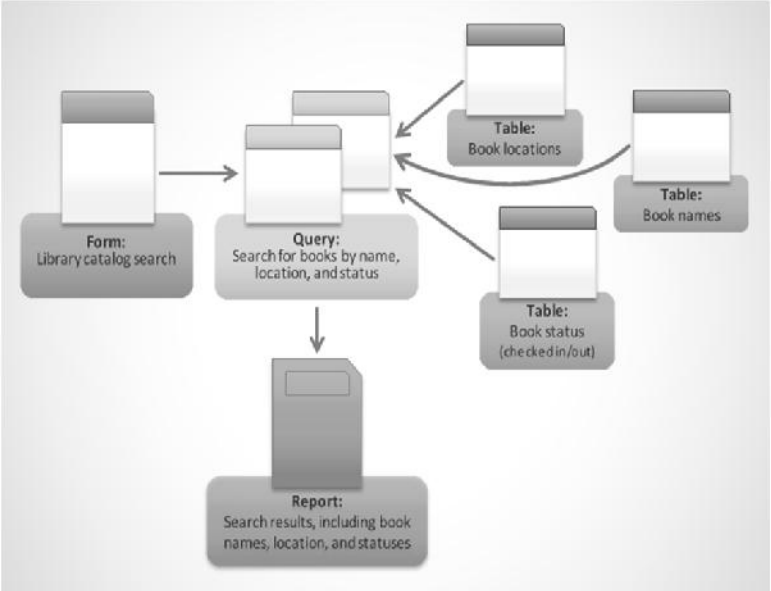
- A report's appearance can be customized to make it visually appealing. Access offers you the ability to create a report from any **table** or **query**.

December Orders

Orders

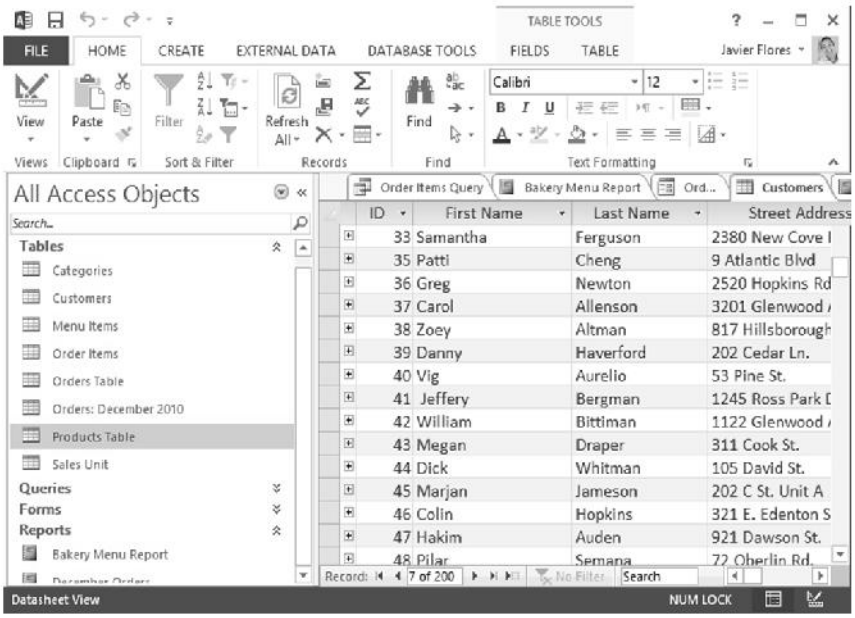
First Name	Last Name	Phone Number	Pickup Date
Andrzej	Wujek	919-555-0450	12/4/2010
Dick	Whitman	919-555-5042	12/4/2010
Xy'nya	Bell	919-555-0758	12/9/2010
Xiaoxi	Zheng	919-555-2786	12/10/2010
Hakim	Auden	919-555-0045	12/14/2010
Zoey	Altman	919-555-6688	12/15/2010
Raphaelle	Duvalier	919-555-1547	12/15/2010
Zoey	Altman	919-555-6688	12/16/2010

- **Putting it all together**. Every piece of data a **query**, **form**, or **report** uses is stored in one of your database **tables**. Forms allow you to both **add** data to tables and **view** data that already exists. Reports **present** data from tables and also from queries, which then **search for** and **analyze** data within these same tables.



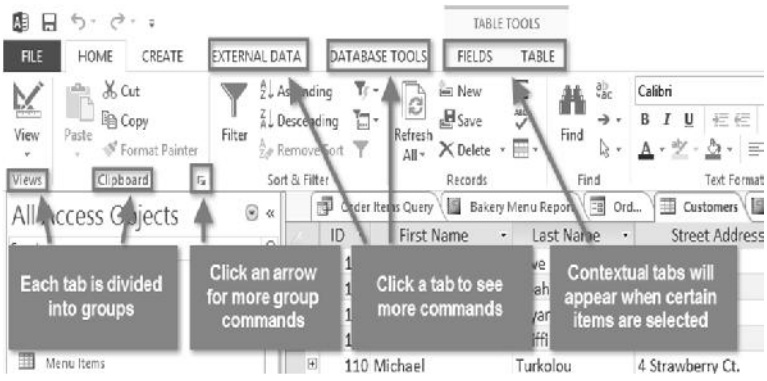
3. MS ACCESS USE

- A sample database (Access 2013 sample database) will be used throughout this exercise, and Access 2013 needs to be installed on your computer in order to open the example.
- The environment of Access 2013 consists of the **Ribbon** and the **Quick Access toolbar**—where commands are found to perform common tasks in Access—as well as **Backstage view**.
- If you are new to Access, you should first take some time to become familiar with the **Access 2013 interface**.



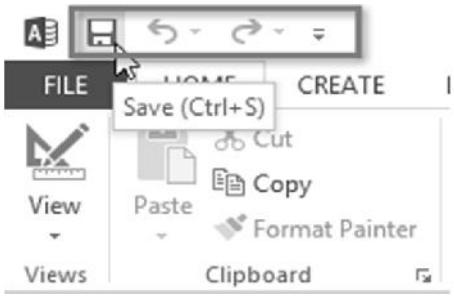
1. The Ribbon

- **The Ribbon** contains **multiple tabs**, each with several **groups of commands**. You will use these tabs to perform the most **common tasks** in Access.



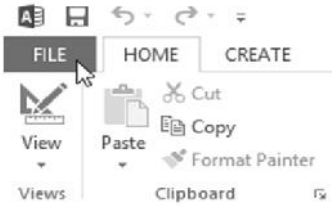
2. The Quick Access toolbar

- The **Quick Access toolbar**, located above the Ribbon, lets you access common commands no matter which tab you are on. By default, it shows the **Save**, **Undo**, and **Repeat** commands. If you'd like, you can **customize** it by **adding additional commands**.



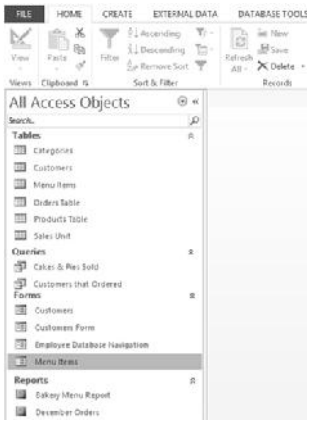
3. Backstage View

- **Backstage view** gives you various options for saving, opening, and printing your database. **To access Backstage view:**
  1. Click the **File** tab on the **Ribbon**.
  2. **Backstage view** will appear.



4. The Navigation Pane

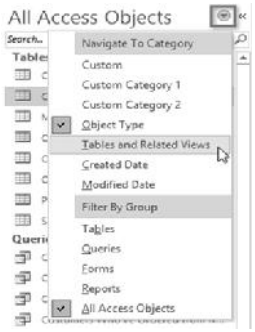
- The **Navigation pane** is a list containing every object in your database. For easier viewing, the objects are organized into groups by type. You can **open**, **rename**, and **delete** objects using the Navigation pane.
- The Navigation pane is designed to help you manage all of your objects; however, if you feel that it takes up too much of your screen space you can **minimize** it.



- To minimize the Navigation pane, click the **double arrow** in the upper-right corner.
- The Navigation pane will be minimized. Click the **double arrow** again to maximize it.

- By default, objects are sorted by **type**, with tables in one group, forms in another, and so on.
- However, you can sort the objects in the Navigation pane into groups of your choosing. There are four sort options:
  1. **Custom** allows you to create a custom group for sorting objects. After applying the sort, simply drag the desired objects to the new group.
  2. **Object Type** groups objects by type. This is the default setting.
  3. **Tables and Related Views** groups forms, queries, and reports with the tables they refer to.
  4. **Created Date** or **Modified Date** sorts objects based on when they were created or last edited.

- To sort objects in the Navigation pane:
  1. Click the **drop-down arrow** to the right of **All Access Objects**, then select the desired sort from the drop-down menu.
  2. The objects in the Navigation pane will now be sorted to reflect your choice.

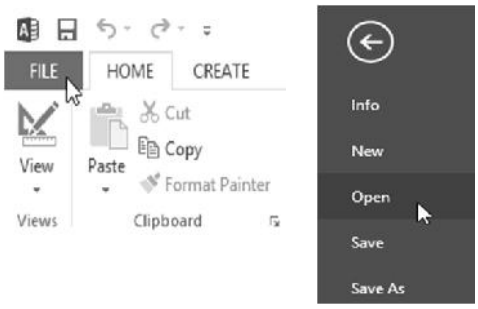


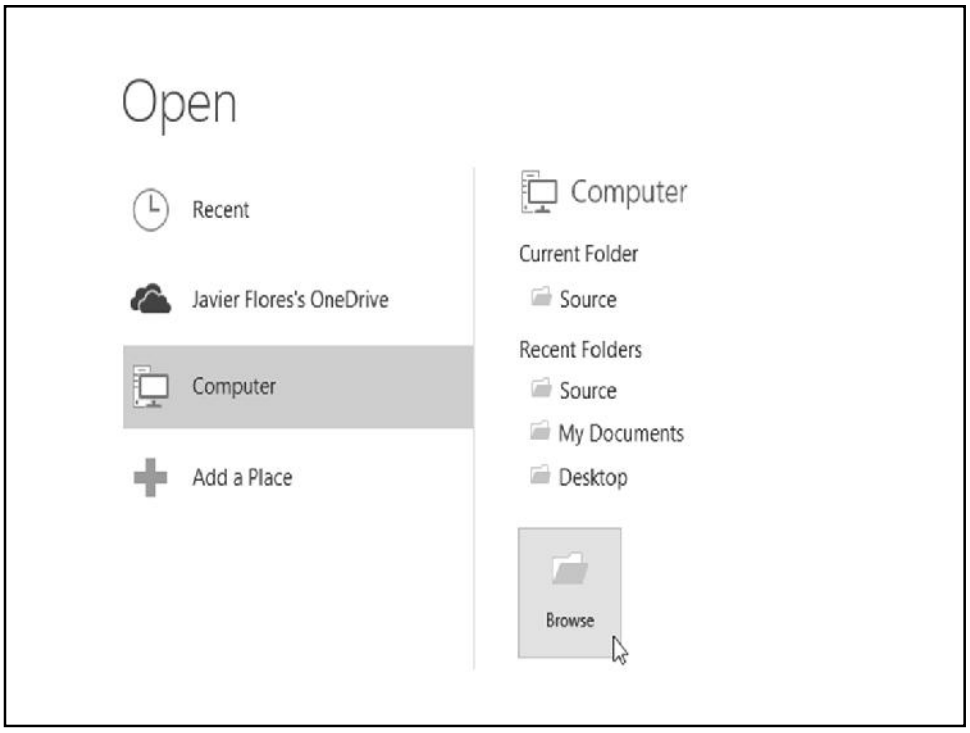
- To further customize the appearance of the Navigation pane, you can **minimize groups** of objects you don't want to see. Simply click the **upward double arrow** next to the group name. To show a group, click the **downward double arrow**.

4. MANAGING DATABASE

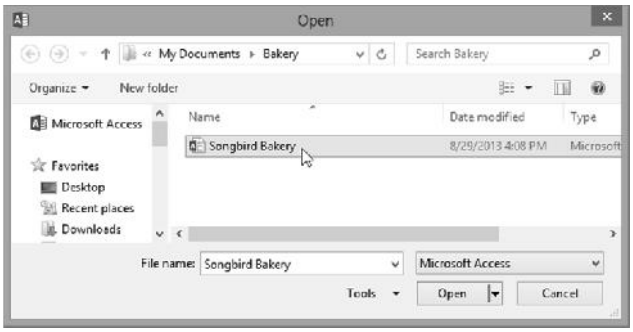
1. To open an existing database:

- Before you enter data or modify your objects, you will need to open your database.
  1. Select the **File** tab to go to **Backstage view**.
  2. Click **Open**.
  3. Select **Computer**, then click **Browse**.



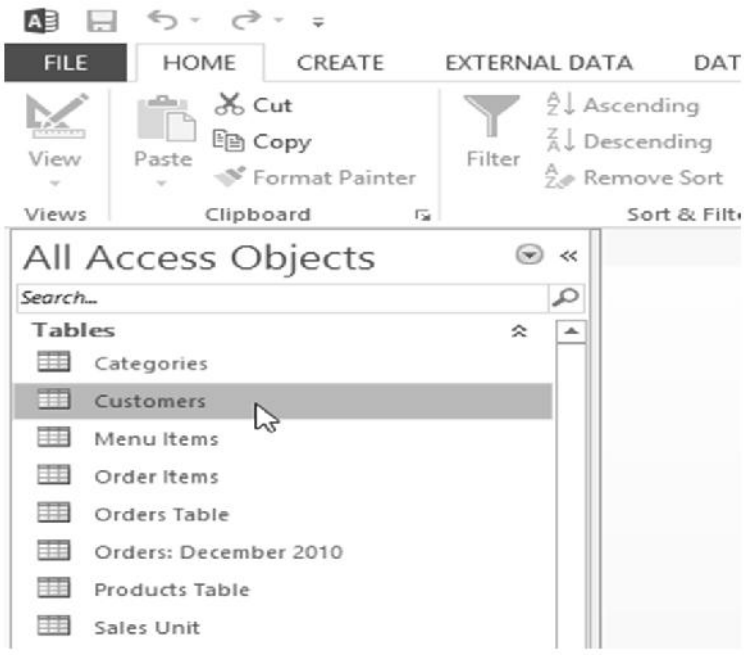


4. The **Open** dialog box will appear. Locate and select the database, then click **Open**.
5. One or more **warning messages** may appear when you open your database. If the database contains customized functions, a yellow bar with a security warning may appear below the Ribbon. If you trust the source of your database, click **Enable Content** for your database to display correctly.

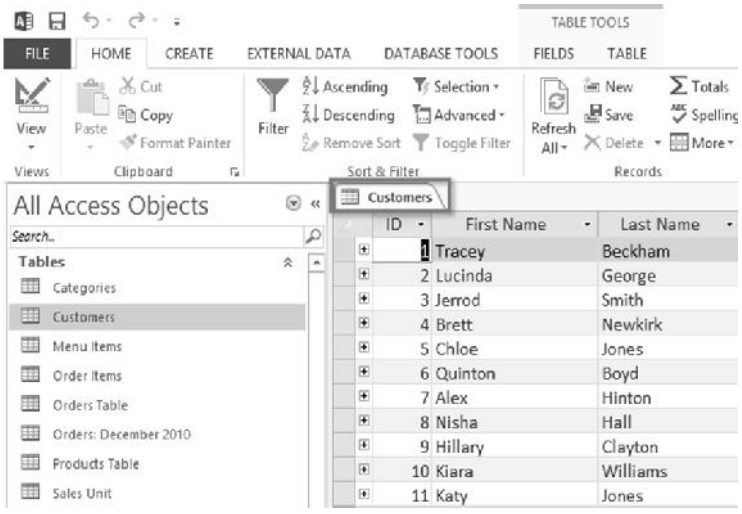


2. Working with objects

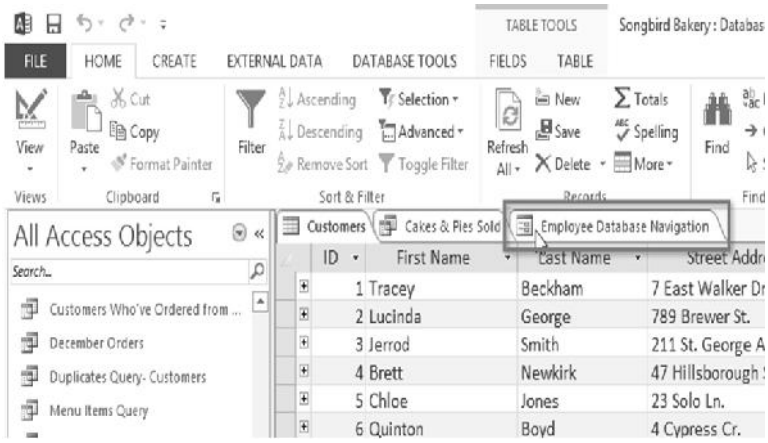
- It's helpful to think of your database as a large binder or folder in which you store your data. The data itself is contained in database **objects**. Access treats each of these objects as separate documents, which means you will have to **open** and **save** them individually in order to work with them.
- You may have noticed that this lesson contains no instructions for saving a database. This is because you cannot save an entire database at once. Rather, you must individually save the objects contained within the database.
- To open an object:
  1. In the **Navigation pane**, locate and double-click the desired object.



2. The object will appear as a **tab** in the **Document Tabs bar**.

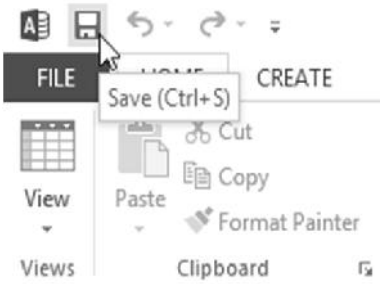


- By default, the most recently opened object will appear in the main window as the **current object**. To view another open object, click its tab in the **Document Tabs bar**.

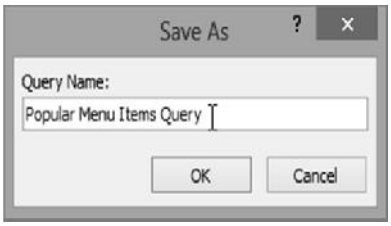


3. Saving objects

- You'll need to **save** any changes you make to each object before closing your database. Remember, saving early and often can prevent your work from being lost. However, you will also be prompted to save any unsaved work when you attempt to close your database.
- To save a new object:
  1. Select the object you want to save by clicking its tab in the **Document Tabs bar**.
  2. Click the **Save** command on the **Quick Access toolbar**, or press **Ctrl+S** on your keyboard.



  3. The first time you save an object, you will be prompted to name it. Enter the desired object name, then click **OK**.
  4. The object will be saved. Click the **Save** command again to save any changes to the object.



- To close an object:
  1. Select the object you want to close, then click the **X** on the right of the **Document Tabs bar**.
  2. If there are any unsaved changes to the object, you will be prompted to save it. Select **Yes** to save, **No** to close it without saving your changes, and **Cancel** to leave the object open.


THANK YOU
http://leavingbio.net/the%20Structure%20and%20Functions%20of%20Flowers%5B1%5D.htm
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