



Database Management

- An Introduction to Databases



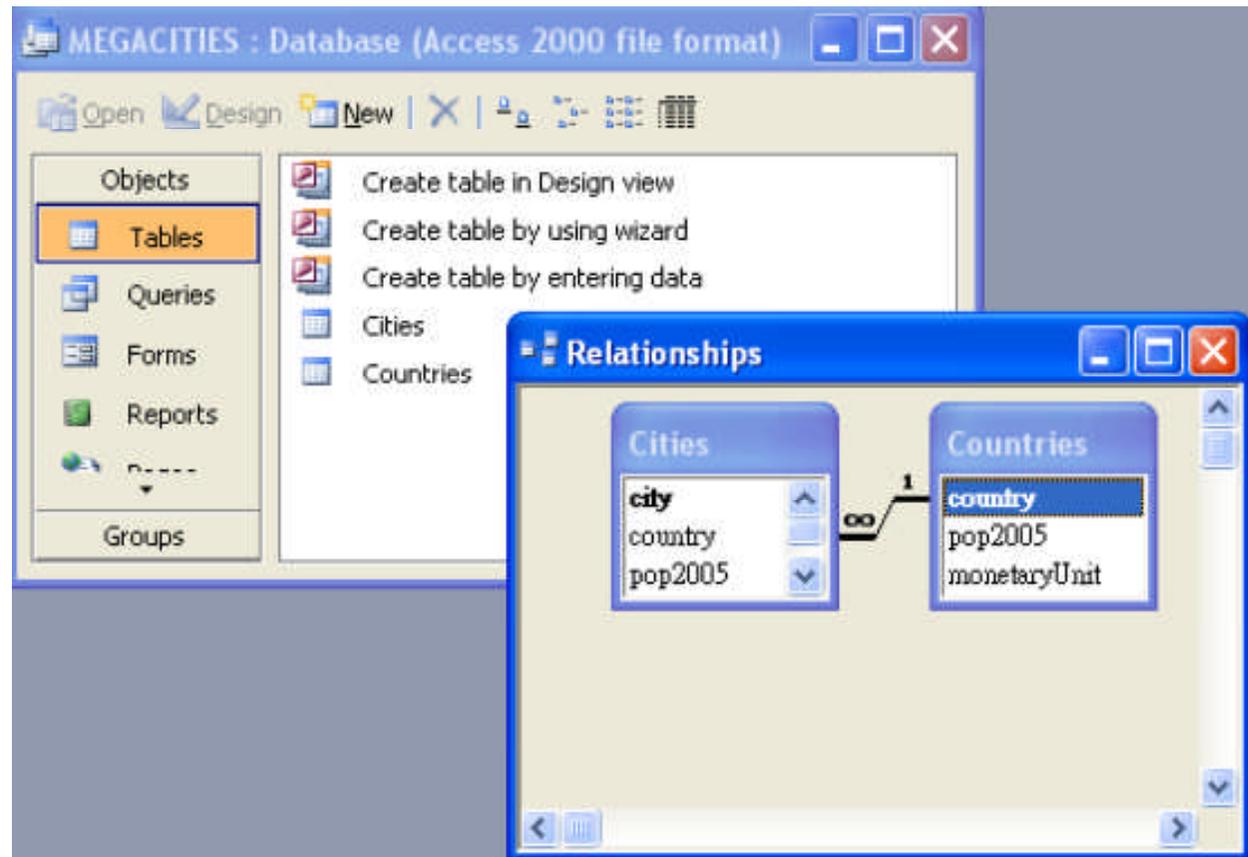
Database Management

- Database (**Relational database**)
 - A database is a collection of one or more (**usually related**) tables that has been created with database-management software.
 - Microsoft Access is one of the best known database-management products.
 - Some other prominent ones are that Oracle, SQL server, and DB2.



MS Access: MEGACITIES.MDB

- Tables
 - Cities
 - Countries
- The relationship between cities and Countries are many-to-1 relationship.





Database Terminology

- A **table** is a rectangular array of data.
- Each column of the table, called a **field**, contains the same type of information.
- Each row, called a **record**, contains all the information about one entry in the database.



Sample Table – Cities Table

	city	country	pop2005	pop2015
	Bombay	India	18.2	22.6
	Calcutta	India	14.3	16.8
	Delhi	India	15.1	20.9
	Dhaka	Bangladesh	12.4	17.9
	Jakarta	Indonesia	13	17.5
	Lagos	Nigeria	11	17
	Mexico City	Mexico	19	20.6
	New York	USA	18.5	19.7
	Sao Paulo	Brazil	18.2	20
	Tokyo	Japan	35.2	36.2

Row / record

column / Field



Sample Table – Countries Table

country	pop2005	monetaryUnit
Bangladesh	141.8	taka
Brazil	186.4	real
China	1316.8	yuan
India	1103.4	rupee
Indonesia	222.8	rupiah
Japan	128.1	yen
Mexico	107	peso
Nigeria	131.5	naira
Russia	143.2	ruble
USA	298.2	dollar



Database Management

- Database Explorer
 - Accessing a Database with a Data Table



Database Management Software (DBMS)

- Used to create databases
- Databases can contain one or more related tables
- Examples of DBMS include Access and Oracle



Database Explorer

- Is used to view a database
- The Standard and Professional editions of Visual Basic contain Server Explorer that also allows the programmer to view information located on other computers.



Using the Database Explorer

1. Click on Database Explorer from the View Menu. (The Explorer will appear on the left side of the screen.)
2. Right-click on “Data Connections”, and select “Add Connection”.
3. Set the Data Source to “Microsoft Access Database File.”
4. Click on the “Browse ...” button and select the file MEGACITIES.MDB from the folder Programs\Ch10\MajorDatabases, and press Open.
5. Clear the contents of the “User name” text box.



Database Explorer continued

6. Press the Test Connection button. The message box stating “Test Connection Succeeded” will appear. Press the OK button on that message box, and then press the OK button on the Data Link Properties box.
7. An icon should appear in Database Explorer. Click on the + sign to the left of the icon to expand this entry. four subentries will appear: Tables, Views, and Stored Procedures, and Functions.
8. Expand the Tables entry to reveal the subentries, the tables Cities and Countries.
9. Expand an entry to reveal the fields of the table. (See slide 10.)
10. Double-click on a table to show the table in a grid. (See slide 11.)



Figure A – Database Explorer

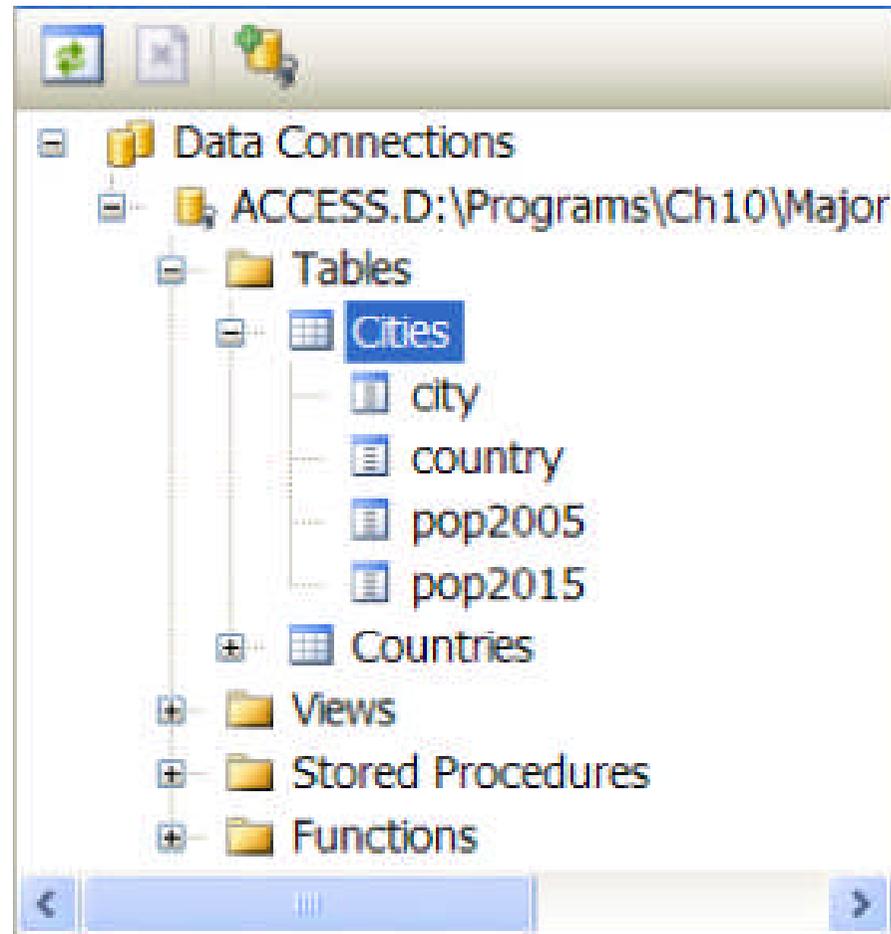




Figure B – The Cities Table

	city	country	pop2005	pop2015
▶	Bombay	India	18.2	22.6
	Calcutta	India	14.3	16.8
	Delhi	India	15.1	20.9
	Dhaka	Bangladesh	12.4	17.9
	Jakarta	Indonesia	13	17.5
	Lagos	Nigeria	11	17
	Mexico City	Mexico	19	20.6
	New York	USA	18.5	19.7
	Sao Paulo	Brazil	18.2	20
	Tokyo	Japan	35.2	36.2
*				