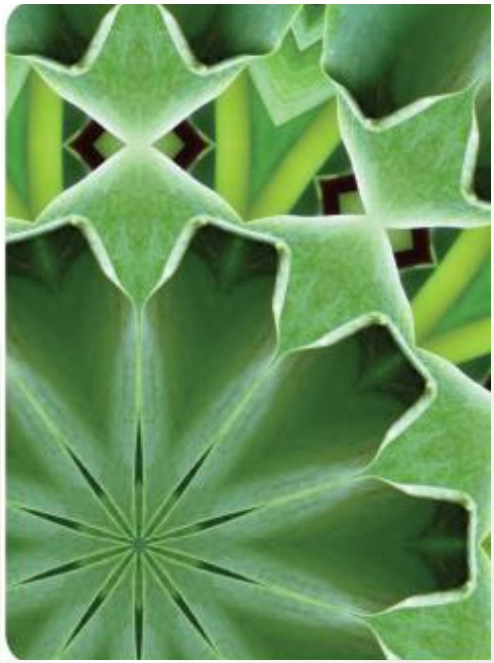
MICROSOFT®
Office 2007
Windows XP Edition

Access Tutorial 1

Creating a Database



NEW PERSPECTIVES

FIRST COURSE

Objectives

- Define the terms field, record, table, relational database, primary key, and foreign key
- Create a blank database
- Identify the components of the Microsoft Access window
- Create and save a table in Datasheet view
- Enter field names and records in a table datasheet
- Open a table using the Navigation Pane

Objectives

- Open an Access database
- Copy and paste records from another Access database
- Navigate a table datasheet
- Create and navigate a simple query
- Create and navigate a simple form
- Create, preview, navigate, and print a simple report
- Learn how to manage a database by compacting, backing up, and restoring a database

Organizing Data

- Your first step in organizing data is to identify the individual **fields**
  - The specific value, or content, of a field is called the **field value**
  - **Record**
- Next, you group related fields together into **tables**

Figure 1-1 Data organization for a table of customers

fields

records

Customer table

Customer ID	First Name	Last Name	Phone
11005	Owen	Hawes	616-392-0622
11008	Melissa	Caputo	269-985-1122
11014	Amol	Mehta	616-396-1972
11015	John	Weiss	616-637-7783
11027	Karen	O'Brien	517-483-9244
11053	Hwan	Tang	616-396-8401

Databases and Relationships

- A collection of related tables is called a **database**, or a **relational database**
- You connect the records in the separate tables through a **common field**
- A **primary key** is a field, or a collection of fields, whose values uniquely identify each record in a table
- When you include the primary key from one table as a field in a second table to form a relationship between the two tables, it is called a **foreign key** in the second table

Databases and Relationships

Database relationship between tables for customers and contracts — Figure 1-2

Customer table

Customer ID	First Name	Last Name	Phone
11005	Owen	Hawes	616-392-0622
11008	Melissa	Caputo	269-985-1122
11014	Amol	Mehta	616-396-1972
11015	John	Weiss	616-637-7783
11027	Karen	O'Brien	517-483-9244
11053	Hwan	Tang	616-396-8401

Contract table

Contract Num	Customer ID	Contract Amt	Signing Date
3012	11027	$300	2/18/2010
3015	11005	$1,500	3/1/2010
3027	11008	$1,250	4/7/2010
3032	11014	$6,500	6/22/2010
3033	11005	$2,250	7/8/2010
3050	11015	$1,000	8/27/2010
3060	11005	$4,000	11/30/2010
3062	11053	$20,000	1/11/2011

primary keys

common field

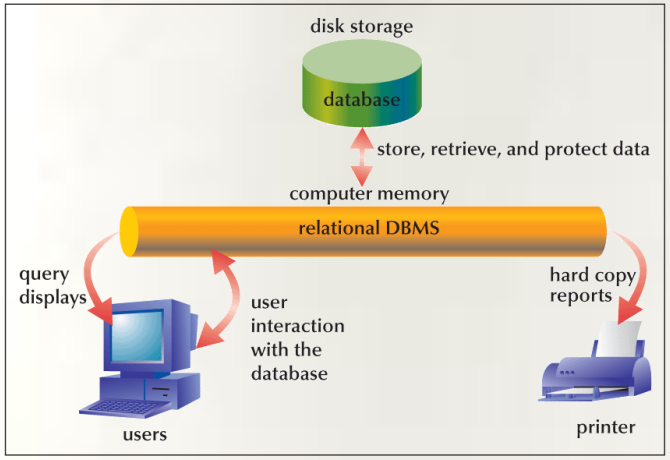
foreign key

three contracts for Owen Hawes

Relational Database Management Systems

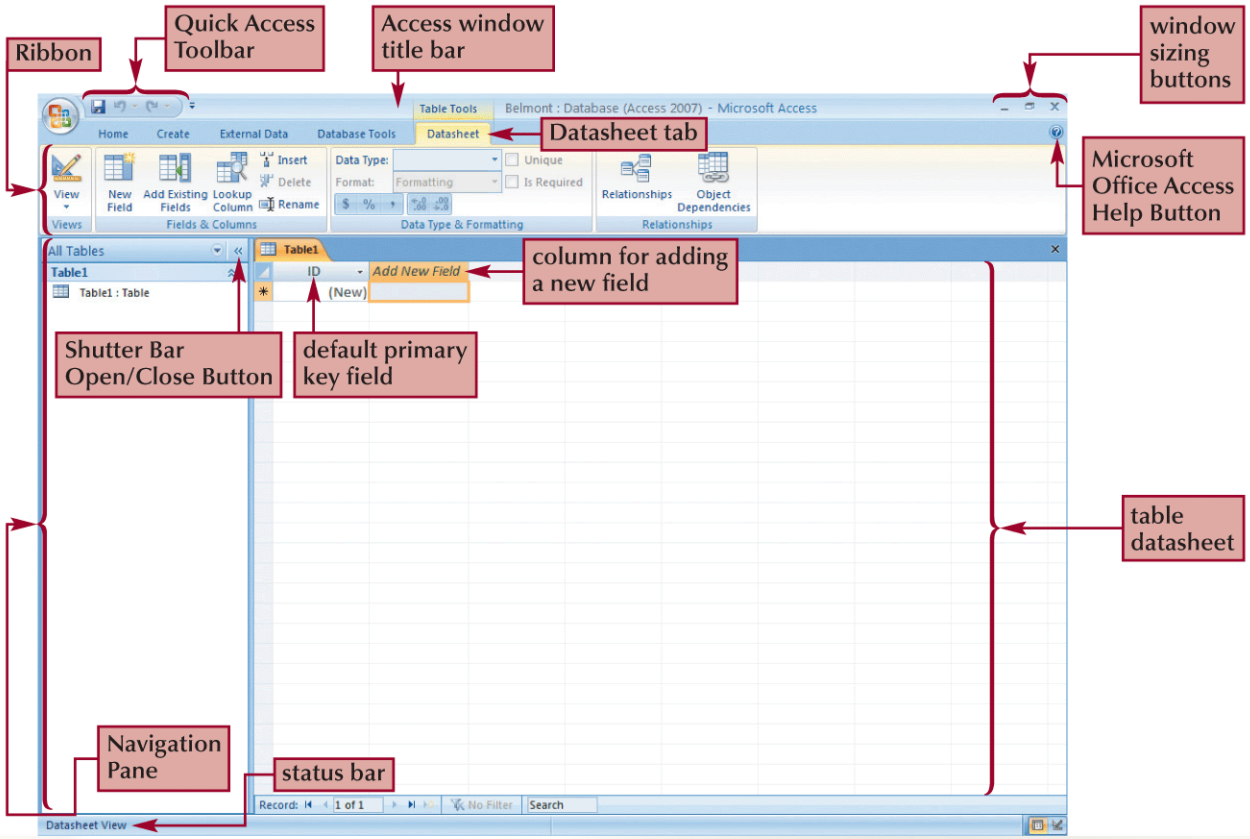
- A **database management system (DBMS)** is a software program that lets you create databases and then manipulate data in them
- In a **relational database management system**, data is organized as a collection of tables

Figure 1-3 Relational database management system



Exploring the Microsoft Access Window

Microsoft Access window — Figure 1-5



Creating a Table in Datasheet View

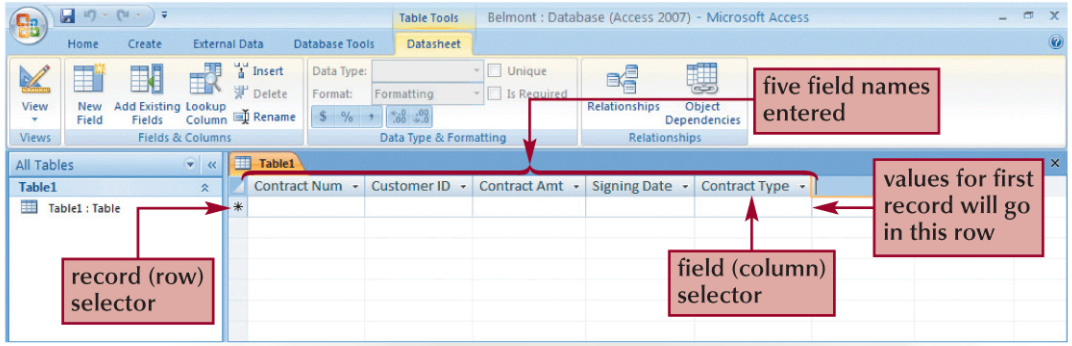
- Click the Create tab on the Ribbon
- In the Tables group, click the Table button
- Accept the default ID primary key field with the AutoNumber data type, or rename the field and change its data type, if necessary
- Double-click the Add New Field column heading, and then type the name for the field you are adding to the table
- Press the Tab key or the Enter key

Creating a Table in Datasheet View

- Add all the fields to your table by typing the field names in the column headings and pressing the Tab key or the Enter key to move to the next column
- In the first row below the field names, enter the value for each field in the first record, pressing the Tab key or the Enter key to move from field to field
- After entering the value for the last field in the first record, press the Tab key or the Enter key to move to the next row, and then enter the values for the next record. Continue this process until you have entered all the records for the table
- Click the Save button on the Quick Access Toolbar, enter a name for the table, and then click the OK button

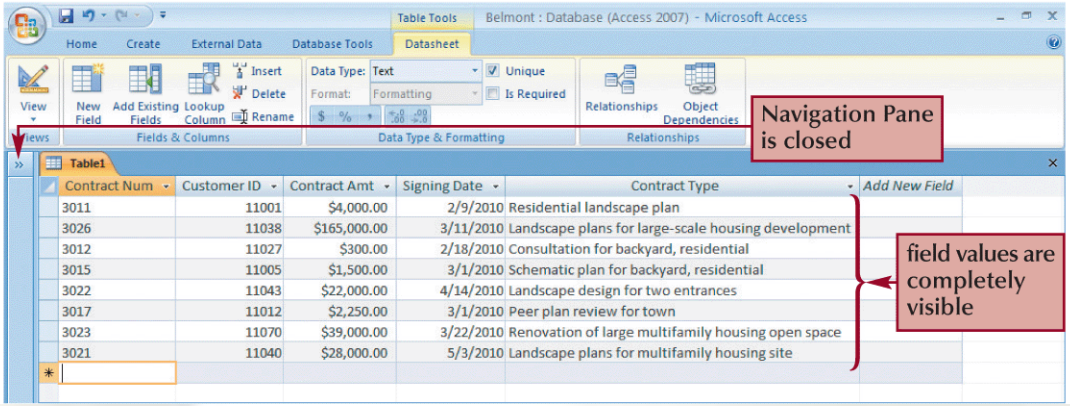
Creating a Table in Datasheet View

Figure 1-11 Table with field names entered



Entering Records

Datasheet with eight records entered — Figure 1-14



Saving a Table

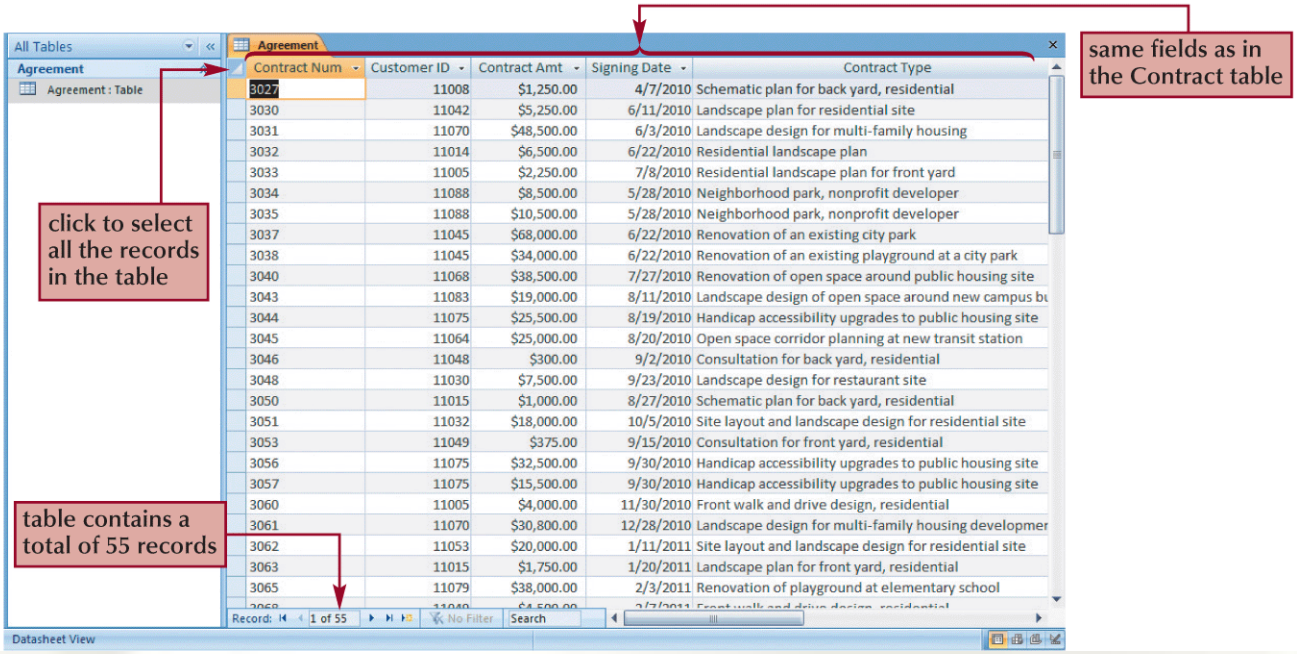
- Click the Save button on the Quick Access Toolbar. The Save As dialog box opens
- In the Table Name text box, type the name for the table
- Click the OK button

Opening a Database

- Start Access and display the Getting Started with Microsoft Office Access page
- Click the More option to display the Open dialog box
- Navigate to the database file you want to open, and then click the file
- Click the Open button

Opening a Database

Agreement table in the Oren database — Figure 1-18



Contract Num	Customer ID	Contract Amt	Signing Date	Contract Type
3027	11008	$1,250.00	4/7/2010	Schematic plan for back yard, residential
3030	11042	$5,250.00	6/11/2010	Landscape plan for residential site
3031	11070	$48,500.00	6/3/2010	Landscape design for multi-family housing
3032	11014	$6,500.00	6/22/2010	Residential landscape plan
3033	11005	$2,250.00	7/8/2010	Residential landscape plan for front yard
3034	11088	$8,500.00	5/28/2010	Neighborhood park, nonprofit developer
3035	11088	$10,500.00	5/28/2010	Neighborhood park, nonprofit developer
3037	11045	$68,000.00	6/22/2010	Renovation of an existing city park
3038	11045	$34,000.00	6/22/2010	Renovation of an existing playground at a city park
3040	11068	$38,500.00	7/27/2010	Renovation of open space around public housing site
3043	11083	$19,000.00	8/11/2010	Landscape design of open space around new campus bu
3044	11075	$25,500.00	8/19/2010	Handicap accessibility upgrades to public housing site
3045	11064	$25,000.00	8/20/2010	Open space corridor planning at new transit station
3046	11048	$300.00	9/2/2010	Consultation for back yard, residential
3048	11030	$7,500.00	9/23/2010	Landscape design for restaurant site
3050	11015	$1,000.00	8/27/2010	Schematic plan for back yard, residential
3051	11032	$18,000.00	10/5/2010	Site layout and landscape design for residential site
3053	11049	$375.00	9/15/2010	Consultation for front yard, residential
3056	11075	$32,500.00	9/30/2010	Handicap accessibility upgrades to public housing site
3057	11075	$15,500.00	9/30/2010	Handicap accessibility upgrades to public housing site
3060	11005	$4,000.00	11/30/2010	Front walk and drive design, residential
3061	11070	$30,800.00	12/28/2010	Landscape design for multi-family housing developmer
3062	11053	$20,000.00	1/11/2011	Site layout and landscape design for residential site
3063	11015	$1,750.00	1/20/2011	Landscape plan for front yard, residential
3065	11079	$38,000.00	2/3/2011	Renovation of playground at elementary school

Navigating a Datasheet

- The **navigation buttons** provide another way to move vertically through the records

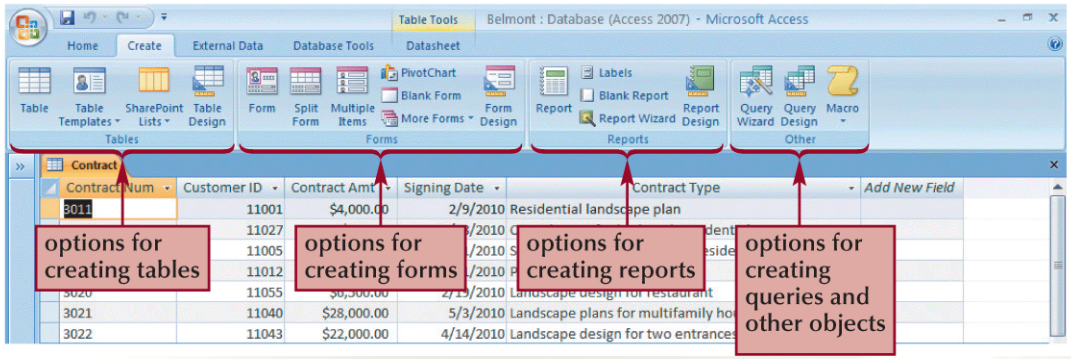
Navigation buttons — Figure 1-20

Navigation Button	Record Selected	Navigation Button	Record Selected
	First record		Last record
	Previous record		New record
	Next record		

Creating a Simple Query

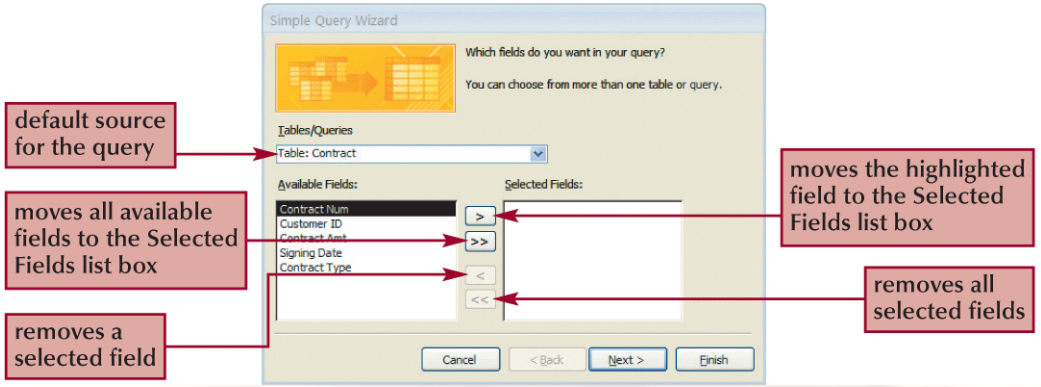
- A **query** is a question you ask about the data stored in a database
- The **Simple Query Wizard** allows you to select records and fields quickly

Figure 1-21 Create tab on the Ribbon



Creating a Simple Query

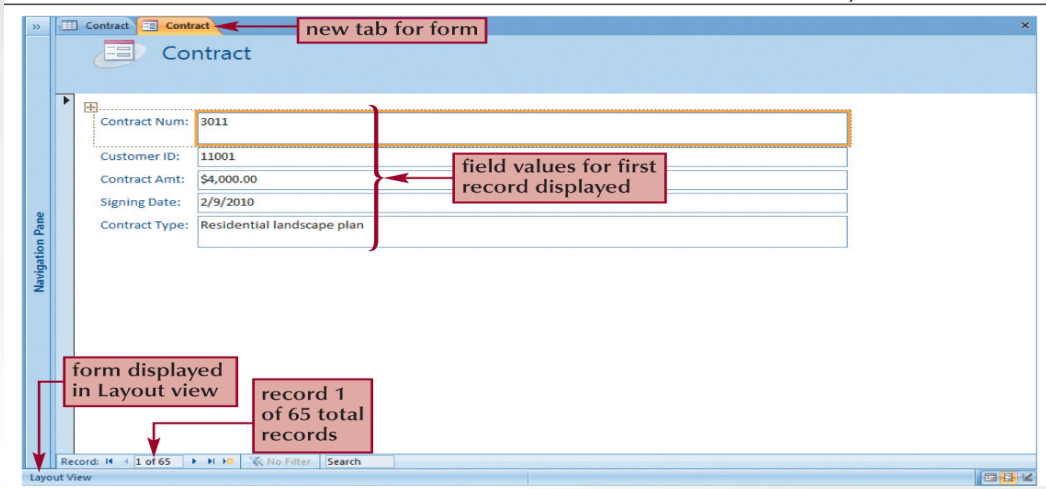
Figure 1-22 First Simple Query Wizard dialog box



Creating a Simple Form

- A **form** is an object you use to enter, edit, and view records in a database
- You can design your own forms, use the Form Wizard, or use the **Form tool** to create a simple form with one mouse click

Form created by the Form tool — Figure 1-24

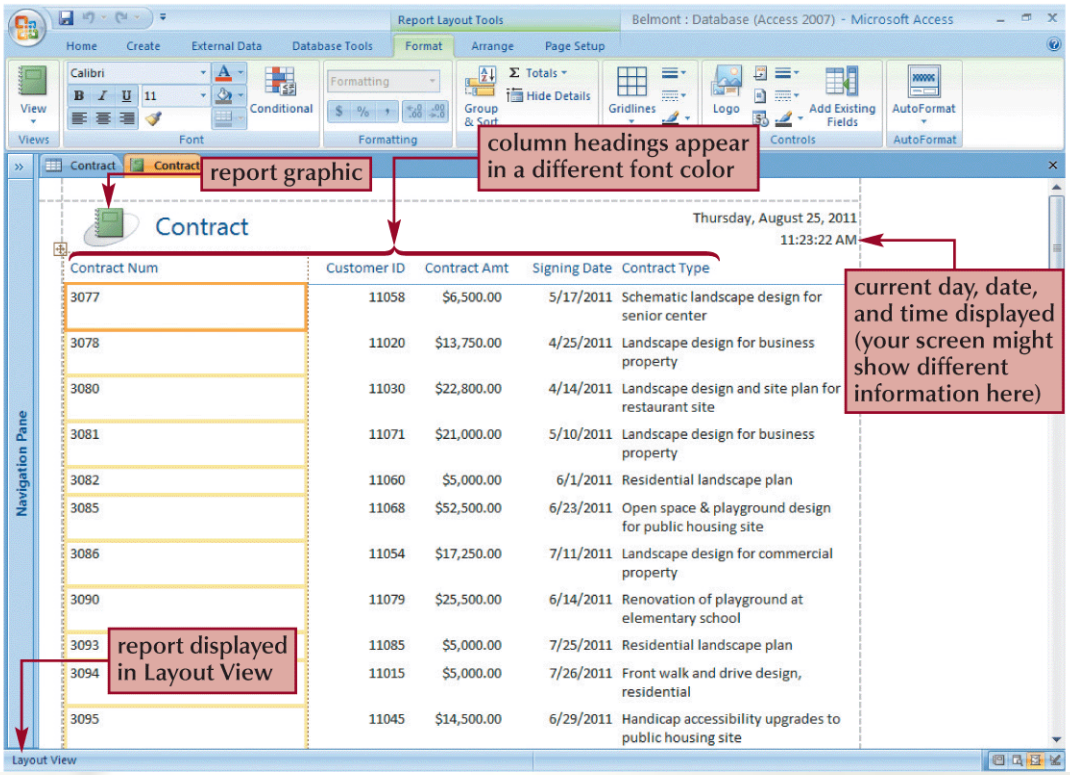


Creating a Simple Report

- A **report** is a formatted printout (or screen display) of the contents of one or more tables in a database
- The **Report tool** places all the fields from a selected table (or query) on a report, making it the quickest way to create a report

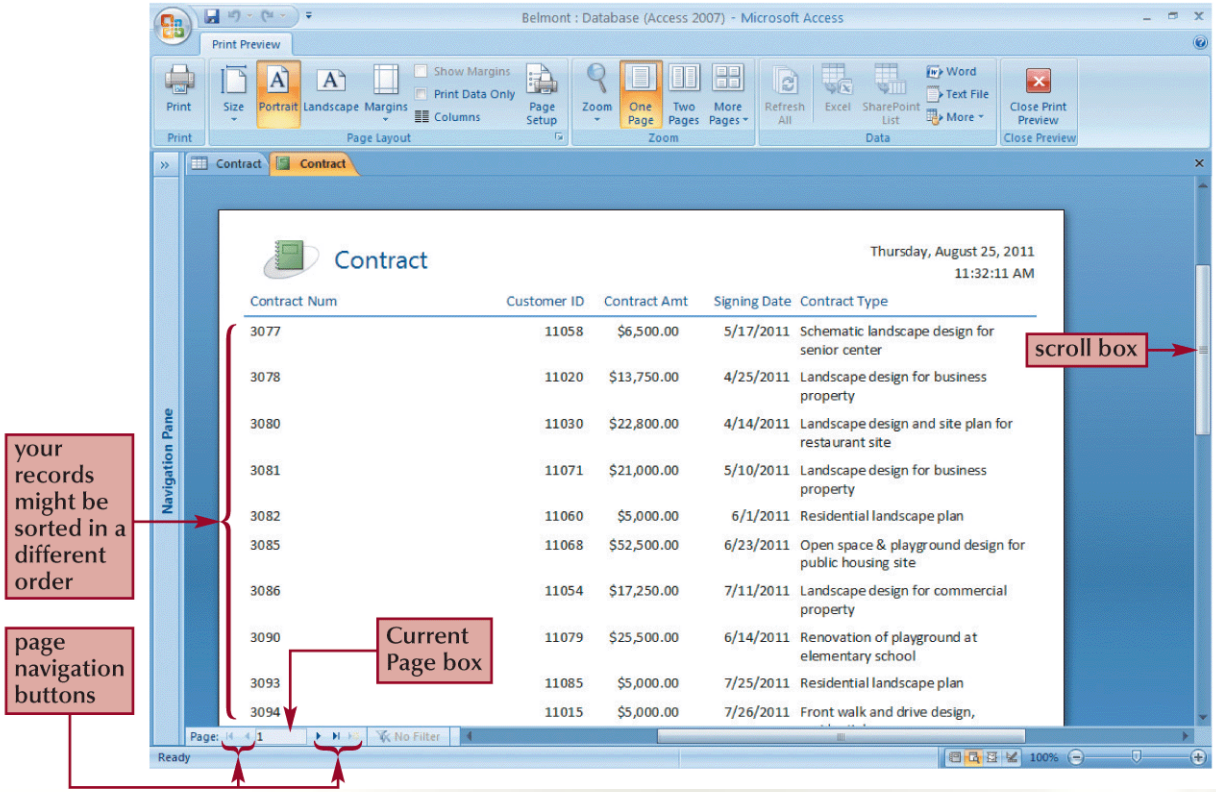
Creating a Simple Report

Report created by the Report tool — Figure 1-25



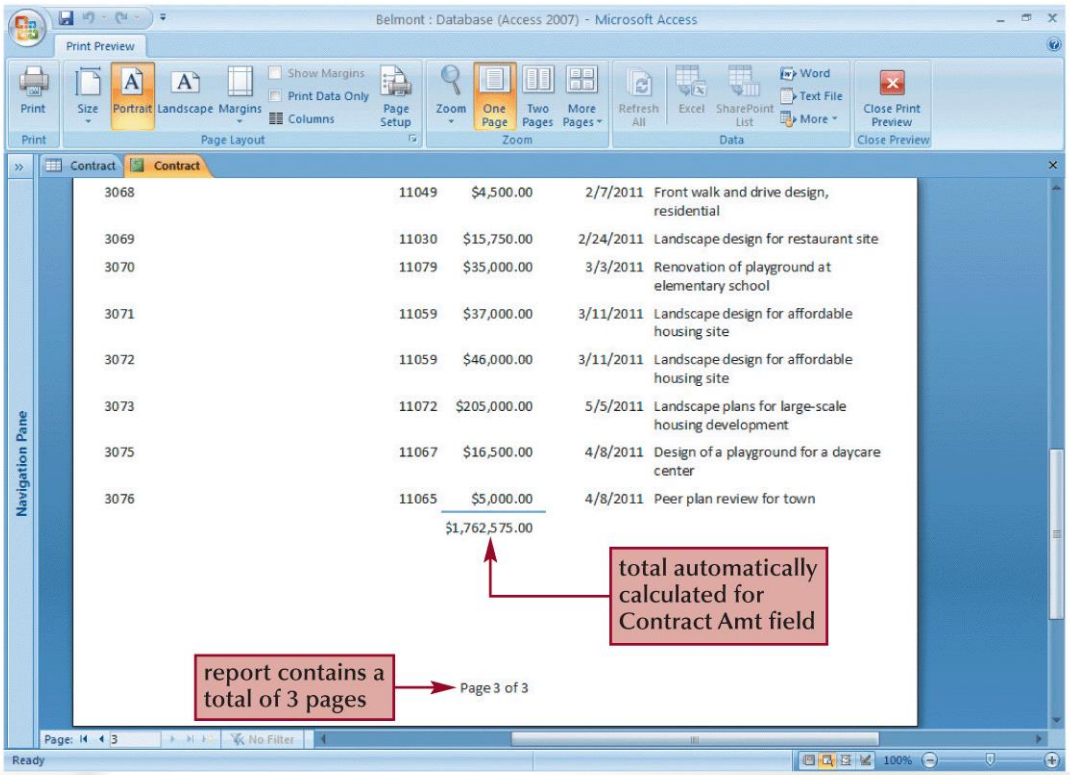
Creating a Simple Report

Figure 1-26 First page of the report in Print Preview



Creating a Simple Report

Viewing the last page of the report — Figure 1-27



Printing a Report

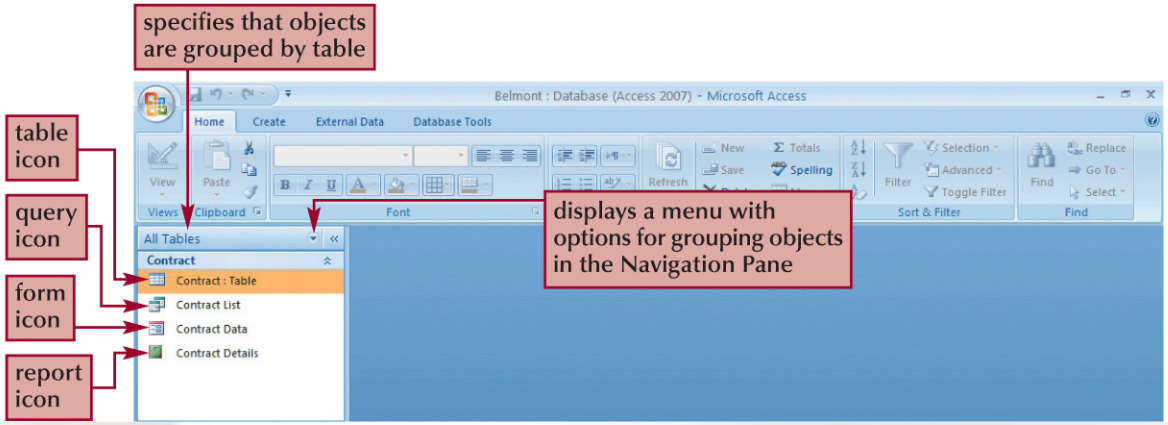
- Open the report in any view, or select the report in the Navigation Pane
- To print the report with the default print settings, click the Office Button, point to Print, and then click Quick Print

or

- To display the Print dialog box and select the options you want for printing the report, click the Office Button, point to Print, and then click Print (or, if the report is displayed in Print Preview, click the Print button in the Print group on the Print Preview tab)

Viewing Objects in the Navigation Pane

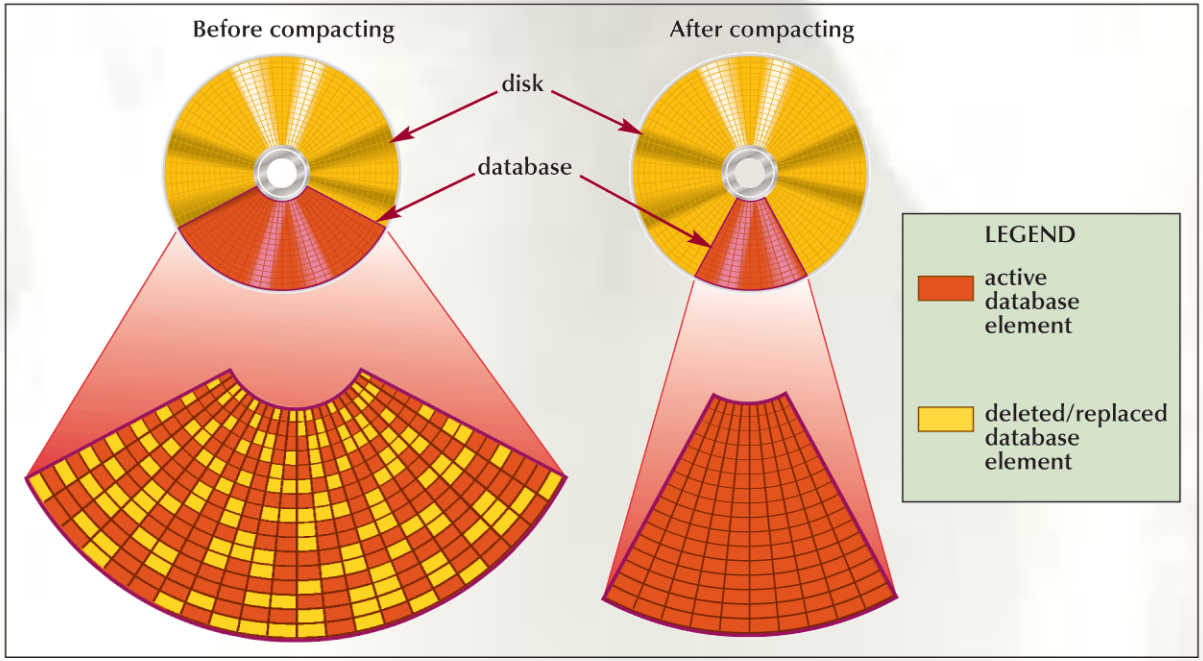
Belmont database objects displayed in the Navigation Pane — Figure 1-28



Compacting and Repairing a Database

- **Compacting** a database rearranges the data and objects in a database to decrease its file size

Figure 1-29 Compacting a database



Compacting and Repairing a Database

- Make sure the database file you want to compact and repair is open
- Click the Office Button, point to Manage, and then click Compact and Repair Database

Backing Up and Restoring a Database

- **Backing up** a database is the process of making a copy of the database file to protect your database against loss or damage
- The Back Up Database command enables you to back up your database file from within the Access program, while you are working on your database
- To restore a backup database file, you simply copy the backup from the drive on which it is stored to your hard drive