





The image shows a slide with a white background and a vertical strip of the abstract painting from the previous slide on the left. The title "Objectives" is in large blue font. Below it is a bulleted list of five items: "Understand relational databases", "Open a database", "Enter data", "Edit data", and "Create a database". The list ends with the text "(continued)" in italics. In the top right corner, there is a small white box with a red border containing "UNIT A" and "Access 2007". At the bottom left, there is a small black triangle followed by the text "Microsoft Office 2007-Illustrated". At the bottom right, the number "2" is displayed.



Objectives *(continued)*

- Create a table
- Create primary keys
- Relate two tables
- Print a datasheet


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Understanding Relational Databases

- Lists of information are related to one another
- Access provides tools that allow sorting, grouping, analyzing and reporting data in many different ways

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Advantages of Access

- Minimizes duplicate data, increasing accuracy and consistency
- Data entry is faster and easier
- Data can be viewed and sorted in many ways
- Data is more secure
- Data can be shared and edited by several users simultaneously

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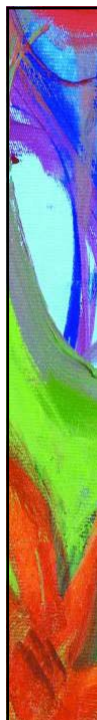





Access vs. Excel

feature	Excel	Access
Layout	Provides a natural tabular layout for easy data entry	Provides a natural tabular layout as well as the ability to create customized data entry screens
Storage	Limited to approximately 65,000 records per sheet	Stores any number of records up to 2 GB
Linked tables	Manages single lists of information	Allows links between lists of information to reduce data redundancy
Reporting	Limited to the current spreadsheet arrangement of data	Creates and saves multiple presentations of data
Security	Limited to file security options such as marking the file "read-only" or protecting a range of cells	Allows users to access only the records and fields they need
Multuser capabilities	Does not easily allow multiple users to simultaneously enter and update data	Allows multiple users to simultaneously enter and update data
Data entry	Provides limited data entry screens	Provides the ability to create extensive data entry screens called forms

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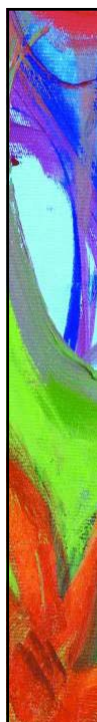





Opening a Database

- Access can be opened from the Start menu
- Access can be opened by clicking the Access icon on the desktop
- Access can be opened by double-clicking a specific database file in My Computer or Windows Explorer

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Terminology to Know

term	description
Field	The smallest unit of data organization; consists of a specific category of data such as a customer's name, city, state, or phone number
Record	A group of related fields that describe a person, place, or thing
Key field	A field that contains unique information for each record, such as a customer number for a customer
Table	A collection of records for a single subject
Database	A collection of tables associated with a general topic
Relational database	An Access database with multiple tables that are linked together by a common field
Objects	The parts of an Access database that help you view, edit, manage, and analyze the data, such as tables, queries, forms, reports, macros, and modules

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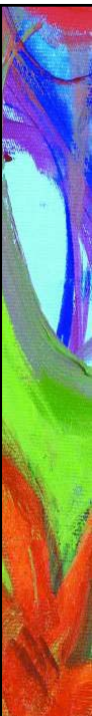
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Entering Data

- Focus:
 - Always highlighted in a different color to make it easier to find on the page
 - Refers to which data would be entered or edited if you started typing

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Moving the Focus to Navigate Data

Options

- [Tab]
- [Enter]
- Navigation buttons:
 -  Previous record
 -  Next record

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Editing Data

- Access automatically saves new data and changes to existing data as soon as you move to another record OR close the datasheet
- The edit record symbol (looks like a pencil) appears in the record selector box when you are editing a record


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Keyboard Shortcuts for Editing

editing keystroke	action
[Backspace]	Deletes one character to the left of the insertion point
[Delete]	Deletes one character to the right of the insertion point
[F2]	Switches between Edit and Navigation mode
[Esc]	Undoes the change to the current field
[Esc][Esc]	Undoes all changes to the current record
[F7]	Starts the spell check feature
[Ctrl][']	Inserts the value from the same field in the previous record into the current field
[Ctrl][:]	Inserts the current date in a Date field

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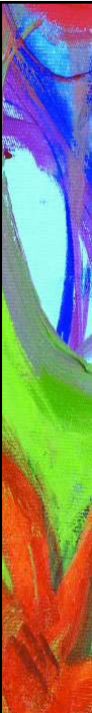
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Resizing & Moving Datasheet Columns

- Left-click and drag column separators to manually widen or narrow columns
- Double-click the column separator to automatically adjust width to the widest entry in the field
- Click the field name and drag it left or right to move a column

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
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Creating a Database





- Start by using an Access template or by opening a blank database
- Navigation Pane: Allows you to move between objects
- The 4 primary objects are tables, queries, forms and reports
- A table is the most important object; it stores all of the data

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The 4 Primary Access Objects

object	Navigation Pane icon	purpose
Table		Contains all of the raw data within the database in a spreadsheet-like view; tables are linked with a common field to create a relational database, which minimizes redundant data
Query		Allows the user to select a subset of fields or records from one or more tables; queries are created when a user has a question about the data
Form		Provides an easy-to-use data entry screen
Report		Provides a professional printout of data that can contain enhancements such as headers, footers, graphics, and calculations on groups of records


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Creating a Table

- Start by using an Access template or by creating a table from scratch
- 3 essential tasks in creating a table:
 - * Naming the table
 - * Naming the fields
 - * Selecting data type for each field (e.g., numbers, text, dates)

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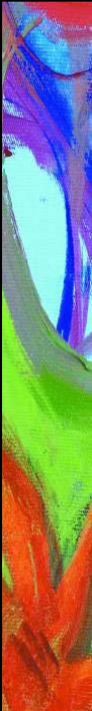


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The 10 Key Data Types in a Table

- Text
- Memo
- Number
- Date/Time
- Currency
- AutoNumber
- Yes/No
- OLE Object
- Attachment
- Hyperlink

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Creating Primary Key Fields

- Primary key field: Contains data that uniquely identifies each record; no 2 records can have the same entry in this field
- Primary key field relates one table to another in a one-to-many relationship; one record in the 1st table is related to many records in the 2nd table

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Designating the Primary Key Field

Field Name	Data Type
TourID	AutoNumber
TourName	Text
TourStartDate	Date/Time
Duration	Number
City	Text
StateAbbrev	Text

Primary Key button Designated Primary Key Field Field Name property Data Type property


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Understanding Field Properties

- Properties = characteristics of a field
- 2 properties required for every field: Field Name and Data Type
- You can add other properties, such as Field Size, Format and Caption
- More properties = more restrictions = more data entry accuracy

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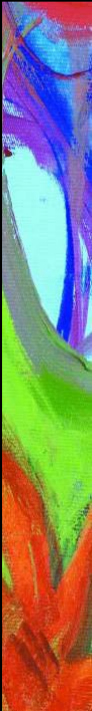
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Relating Two Tables

- Tables must be linked before queries, forms or reports can be created that utilize fields from more than one table
- Tables are linked in a one-to-many relationship

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One-to-Many Relationships

- The primary key field is in the table on the “one” side of the relationship
- A foreign key field is a field in the “many” table

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One-to-Many Line

- The one-to-many line shows the link between the primary key field of the table on the “one” side and the foreign key field of the table on the “many” side
- The infinity symbol indicates the “many” side

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One-to-Many Relationship Window

The screenshot shows the Relationships window with three tables: States, Tours, and TourCategories. The States table has a primary key on StateAbbreviation. The Tours table has a foreign key on StateAbbreviation. The relationship between States and Tours is a one-to-many relationship, indicated by a '1' on the States side and an infinity symbol (∞) on the Tours side. A line connects the StateAbbreviation field in the States table to the StateAbbrev field in the Tours table. Another line connects the Category field in the Tours table to the Category field in the TourCategories table.

States table

Tours table


Tour Categories table

“One” side of the one-to-many relationship

“Many” side of the one-to-many relationship

Lines between tables show which fields are related


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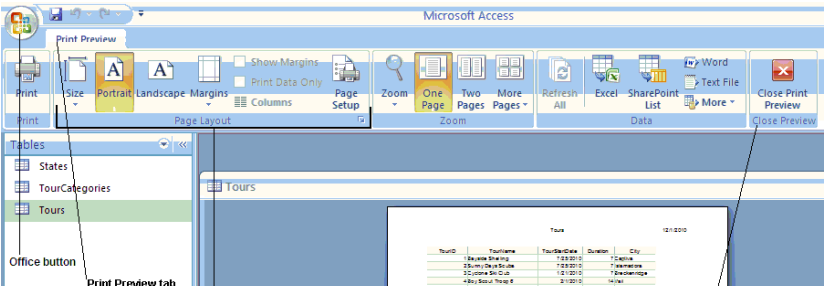
Printing a Datasheet

- Use Print Preview before printing
- Click the Office button, then click Print Preview
- You will be able to see if the datasheet fits on the page; if it does not, you can adjust column sizes, page orientation and/or page margins

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Datasheet in Print Preview



Page Layout buttons used to make any needed adjustments before printing

Close Print Preview button

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Summary

- Use Access to create and work with relational databases
- The database window helps you work with Access objects
- Access objects help you find, enter, and manage information
- Access Help provides additional information

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