# Instructor’s Manual Exploring Microsoft Access 2019, Chapter 1

## Available Instructor Resources

|  |  |  |
| --- | --- | --- |
| **Resource** | **File Name** | **Found** |
| **Student Data Files** | [Various](#_PROJECTS_AND_EXERCISES), click link to see file list | Online Instructor Resource Center |
| **Solution Files** | [Various](#_PROJECTS_AND_EXERCISES), click link to see file list | Online Instructor Resource Center |
| **Answer Keys** |  | Online Instructor Resource Center |
| Matching | a01\_answerkey\_match.docx |
| Multiple Choice | a01\_answerkey\_mc.docx |  |
| Concepts Checks | a01\_answerkey\_concepts.docx |  |
| **Scorecards** | a01p1Replace \_scorecard.xlsx | Online Instructor Resource Center |
| **Scoring Rubrics** | a01 \_rubric.docx | Online Instructor Resource Center |
| **Annotated Solution Files** | a01p1Replace\_annsolution.pdf | Online Instructor Resource Center |
| **Scripted Lecture (Script)** | a01\_script.docx | Online Instructor Resource Center |
| Scripted Lecture Data | a01\_script\_data.accdb |
| Scripted Lecture Solution | a01\_script\_solution.accdb |  |
| **PowerPoint Presentation** | a01\_powerpoint\_accessible.pptx | Online Instructor Resource Center |
| **Testbank** | a01\_testbank.docx | Online Instructor Resource Center |
| **Instructor's Manual (lesson plans incl.)** | a01\_instructormanual.docx | Online Instructor Resource Center |
| **Assignment Sheet** | a01\_assignsheet.docx | Online Instructor Resource Center |
| **Prepared Exam (Chapter & App)** |  | Online Instructor Resource Center |
| Prepared Exam-Chap instruction | a01\_exam\_chap\_instruction.docx |
| Prepared Exam-Chap Data | a01\_exam\_chap\_data.accdb |
| Prepared Exam-Chap Solution | a01\_exam\_chap\_solution.accdb |
| Prepared Exam-Chap Annotated Sol. | a01\_exam\_chap\_annsolution.pdf |
| Prepared Exam-Chap Scorecard | a01\_exam\_chap\_scorecard.xlsx |
| Prepared Exam-App instruction | a01\_cumexam\_instruction.docx |  |
| Prepared Exam-App Data | a01\_cumexam\_data.accdb |  |
| Prepared Exam-App Solution | a01\_cumexam\_solution.accdb |  |
| Prepared Exam-App Annotated Sol. | a01\_cumexam\_annsolution.pdf |  |
| Prepared Exam-App scorecard | a01\_cumexam\_scorecard.xlsx |  |
| **File Guide** | a01\_fileguide.xlsx | Online Instructor Resource Center |
| **Objective Map** | a01\_objectivesmap.xlsx | Online Instructor Resource Center |
| **Grader Project** |  |  |
| Grader Instruction | a01\_grader\_instruction.docx | Online Instructor Resource Center |
| Grader Data | a01\_grader\_data.accdb |
| Grader Solution | a01\_grader\_solution.accdb |
| Grader Annotated Solution | a01\_grader\_annsolution.pdf |  |
| Grader Scorecard | a01\_grader\_scorecard.xlsx |  |

## CHAPTER OBJECTIVES

### When students have finished reading this chapter, they will be able to:

* Open, save, and enable content in a database
* Recognize database object types
* Modify, add, and save data
* Use database utilities
* Work with filters
* Perform sorts
* Create a database

## CHAPTER OVERVIEW

The students will be asked to create and modify accurate and effective charts. The students will learn that the chart is a visual representation of numerical data that compares data and helps reveal trends or patterns to help people make informed decisions. Students will create effective charts that depict data in a clear, easy-to-interpret manner. Students will learn that a chart needs to contain enough data to be useful without overwhelming the audience.

### The major sections in this chapter are:

1. **Databases Are Everywhere.** In this section, the student will learn the fundamentals of organizing data in a database. The student will also learn the purpose of Access database objects and will examine the Access interface.
2. **Filters and Sorts.** In this section, students will learn how to use filters to create subsets of information that match specified criteria, how to organize data by sorting, and how to locate records in a table based on criteria.
3. **Access Database Creation.** In this section, students will learn to create a blank database, and how to create a database from a template.

## CLASS RUN-DOWN

1. Have students turn in homework assignments.
2. Talk about the chapter using the discussion questions listed below.
3. Use a PowerPoint presentation to help students understand the chapter content.
4. Explain the concept of a database using familiar databases, such as a library catalog or telephone book.
5. Demonstrate and explain the objects in a database.
6. [Run through the Scripted Lecture for the chapter. Give special attention to areas in which students might be challenged.](#_WHEN_USING_SCRIPTED)
7. Have students complete the Capstone Exercise for Access Chapter 1.
8. Use MyITLab for in-class work or to go over homework.
9. Give students the homework handout for the next class period.

## LEARNING OBJECTIVES

### At the end of this lesson students should be able to:

* Open a Database
* Enable Content in a Database
* Save a Database with a New Name
* Recognize Database Object Types
* Understand Relationships between Tables
* Modify, Add, and Delete Records in a Table
* Back up a Database
* Print Information
* Use a Selection Filter to Find Exact Matches
* Use a Selection Filter to Find Records Containing a Value
* Use Filter by Form
* Sort Table Data
* Create a Blank Database
* Create a Database Using a Template
* Customize a Database Template
* Create a Table Using an Application Part

## KEY TERMS

**Application part–**A feature that enables you to add a set of common Access components to an existing database, such as a table, a form, and a report for a related task.

**Back Up Database–**A utility that creates a duplicate copy of the entire database to protect from loss or damage.

**Compact and Repair Database–**A utility that reduces the size of a database and fixes any errors that may exist in the file.

**Database–**A collection of data organized as meaningful information that can be accessed, managed, stored, queried, sorted, and reported.

**Database Management System (DBMS)–**A software system that provides the tools needed to create, maintain, and use a database.

**Datasheet view–**A grid containing fields (columns) and records (rows) used to view, add, edit, and delete records.

**Design View (form/report)–**A view that gives users advanced design settings not available in Layout view (such as changing the tab order of a form), providing more control over the form and report design. Also used to create a new report or form from scratch by adding fields and controls manually to a blank object.

**Design view (query)–**A detailed view of a query’s structure and is used to create and/or modify a query’s design by specifying the tables, fields, and criteria required for output.

**Design view (table)–**A view that gives users a detailed view of the table’s structure and is used to create and modify a table’s design by specifying the fields it will contain, the fields’ data types, and their associated properties.

**Field–**The smallest data element contained in a table, such as first name, last name, address, and phone number.

**Field property–**A characteristic of a field that determines how it will look and behave.

**Filter–**A feature that enables users to specify conditions to display only those records that meet those conditions.

**Filter By Form–**A more versatile method of selecting data, enabling users to display records based on multiple criteria.

**Form–**A database object that is used to view data, add data to, or edit data in a table.

**Macro–**A stored series of commands that carry out an action; often used to automate simple tasks.

**Microsoft Access–**A relational database management system in which you can record and link data, query databases, and create forms and reports.

**Module–**An advanced object written using the VBA (Visual Basic for Applications) programming language.

**Navigation Pane–**An Access interface element that organizes and lists the objects in an Access database.

**Object–**An item, such as a picture or text box, that can be individually selected and manipulated in a document.

**Primary key–**The field (or combination of fields) that uniquely identifies each record in a table.

**Query–**A question about the data stored in a database; answers provided in a datasheet.

**Record–**A group of related fields representing one entity, such as data for one person, place, event, or concept.

**Relationship–**A connection between two tables using a common field.

**Report–**A database document that outputs meaningful, professional-looking, formatted information from underlying tables or queries.

**Selection filter–**A method of selecting that displays only the records that match a criterion you select.

**Sort–**A feature that lists records in a specific sequence.

**Table (Access)–**The location where all data are stored in a database; organizes data into columns and rows.

**Template (Access)–**A predefined database that includes professionally designed tables, forms, reports, and other objects that you can use to jumpstart the creation of your database.

## DISCUSSION QUESTIONS

* What would happen if a major company, such as a life insurance company lost all their data?
* Why would you want to create a database that only allowed users to enter data, but not modify or delete entries?
* When should the Back Up Database utility be used?
* What is the benefit of a common field between related tables?
* Why do tables need a primary key?

## WHEN USING SCRIPTED LECTURE IN CLASS, DEMONSTRATE HOW TO:

* Open a Database
* Save a Database with a New Name
* Navigate Through Records
* Understand Relationships between Tables
* Add Records in a Table
* Modify Records in a Table
* Delete Records from a Table
* Back Up a Database
* Print Database Information
* Use a Selection Filter to Find Exact Matches
* Use a Selection Filter to Find Records Containing a Value
* Use Filter By Form
* Sort Table Data
* Create a Database Using a Template
* Customize a Database Template

## CONNECTIONS PRACTICAL PROJECTS AND APPLICATIONS

* Divide students into groups. Have each group come up with as many types of databases as they can, i.e. online store, auto shop, sales representatives, company health insurance records. Have them share their results with the class.
* Have students create a database table listing family names (first name only) and birthdays.
* Explain how a hospital database might help doctors and their patients.
* Explain the advantages a large department store would have from maintaining a database of products for sale.

## TEACHING NOTES

### Databases Are Everywhere!

In this section, the student will learn the fundamentals of organizing data in a database, explore Access database objects and the purpose of each object, and examine the Access interface.

#### Opening, Saving, and Enabling Content in a Database

* A database is a collection of data organized as meaningful information that can be accessed, managed, stored, queried, sorted, and reported.
* Access is a database management system, a software system that provides the tools needed to create, maintain, and use a database.
* Backstage view provides access to commands to open or create databases.
* **Teaching Tips:** To ensure a database file is trusted on the computer you are working on, enable the content.
* **Teaching Tips:** Use the Save As command on the Backstage view to resave a database using a new name.

#### Recognizing Database Object Types

* An object is a component created and used to make the database function. Tables, queries, forms, and reports are examples of objects.
* The Navigation Pane is an interface element that organizes and displays a list of the objects in an Access database.
* All data are stored in database tables, which organize data into columns and rows.
* A field, represented by a column, is a category of information stored in the table.
* Rows in a table contain records, which are a set of all the fields about one person, place, event, or concept.
* A primary key is a field or combination of fields that uniquely identify each record in the table.
* Queries are questions asked about the data in a database.
* A form enables users to add, modify, and delete table data while preventing data entry errors.
* A report contains information from underlying tables or queries presented in a professional-looking, formatted format.
* Field properties define the characteristics of a field.
* A relationship connects two tables using a common field.
* **Teaching Tips:** Buttons displaying a double arrow pointing left or right are used to hide and unhide the Navigation Pane.
* **Teaching Tips:** Demonstrate the Access interface.
* **Teaching Tips:** Demonstrate how to switch between open objects on the Navigation Pane.
* **Teaching Tips:** Demonstrate a table in Datasheet view and Design view.
* **Teaching Tips:** Explain how the Navigation bar provides information about the table, including the number of records in the table, and the current record number.
* **Teaching Tips:** Show how to use the Find command to search a single field.
* **Teaching Tips:** Demonstrate a table in Design view, and how to change to other views.
* **Teaching Tips:** Demonstrate how to rename a table.
* **Teaching Tips:** Demonstrate the Relationships view.

#### Modifying, Adding, and Saving Data

* Databases are kept current when records are modified to update, add, or delete records.
* **Teaching Tips:** Demonstrate how to add records to a table in Datasheet view.
* **Teaching Tips:** Demonstrate how to delete records in a table.
* **Teaching Tips:** Explain how data is entered and updated, the changes are automatically saved to the storage location specified when the database was saved.
* **Teaching Tips:** Users will only be prompted to save if the changes are made to the design of the table.

#### Using Database Utilities

* A database utility makes the process of maintaining the database easier.
* Utilities included with Access are Back Up Database, Compact and Repair a Database, Print Information, and Split Database.
* Preview work before printing, so you have the opportunity to correct errors without wasting paper.
* **Teaching Tips:** Explain the need to back up a database before making changes to tables.
* **Teaching Tips:** Demonstrate the Back Up Database utility.
* **Teaching Tips:** Demonstrate the Compact and Repair a Database utility.
* **Teaching Tips:** Demonstrate how to print reports.
* **Teaching Tips:** Demonstrate how to print a table in Datasheet view.

### Filters and Sorts

In this section, students will learn how to use filters to create subsets of information that match one or more criteria, how to organize data by sorting on single or multiple categories, and how to locate records in a table based on criteria.

#### Working with Filters

* A filter enables you to display records that meet specific conditions.
* A Selection Filter displays in Datasheet view only the records that exactly match a selected criterion.
* Filter By Form allows users to display records based on multiple criteria.
* **Teaching Tips:** Demonstrate using a Selection filter to find an exact match on any field in Datasheet view.
* **Teaching Tips:** Explain the use of the Toggle Filter command to remove the filter and display all the records in the table.
* **Teaching Tips:** Only one filter can be applied at a time. Applying another filter to a filtered dataset removes the first filter.
* **Teaching Tips:** Show how to find records that contain a criterion using a Selection filter.
* **Teaching Tips:** Demonstrate how to use the Filter by Form method of selecting data.
* **Teaching Tips:** Explain that one advantage of Filter By Form is that comparison operators can be used as criterion. Example: Employees hired after a specific date.

#### Performing Sorts

* Sorting lists records in a specific sequence, adds organization to data, and makes records easier to understand.
* The first field selected for sorting is the primary sort. Additional sorts are secondary. A table is sorted in the order in which the columns are listed.
* **Teaching Tips:** Demonstrate how to sort data in a table by one criterion.
* **Teaching Tips:** Demonstrate moving a field to make a column the primary sort field.

### Access Database Creation

In this section, students will learn to create a database from a blank database, how to create a database from a template, and how to modify a database to their specifications.

#### Creating a Database

* Two methods of creating a database are creating a blank database and creating a database from a template.
* A template is a predefined database that includes professionally designed tables, forms, reports, and other objects that you can use to simplify the creation of your new database.
* A database can be used to create a template to enable it to be reused in the future with the same tables, forms, and reports already created.
* An application part is a set of common Access components provided by Microsoft that users can add to an existing database, such as tables, forms, or reports.
* **Teaching Tips:** Demonstrate creating a blank database.
* **Teaching Tips:** Demonstrate creating a database from a template.
* **Teaching Tips:** In Backstage view, show students the available database templates.
* **Teaching Tips:** Demonstrate that a database template can be used as any other Access database.
* **Teaching Tips:** Demonstrate adding an application part to a database.

## OBJECTIVE TESTS IN MYITLAB

To find an objective test to help your students practice for tests, have them sign in to MyITLab:   
[www.myitlab.com](http://www.myitlab.com).

## ADDITIONAL WEB RESOURCES

1. Intro to Access: <https://support.office.com/en-us/article/video-what-is-access-f2338765-ff59-4cfc-b8ba-74059fcb1874?wt.mc_id=otc_access>
2. Get Started with Databases: <https://support.office.com/en-us/article/video-get-started-with-databases-457013e7-f75d-48a9-bc8a-4b816436a5a0?ui=en-US&rs=en-US&ad=US>
3. Get to Know Database Objects: <https://support.office.com/en-us/article/video-get-to-know-database-objects-020bfb91-394e-4555-84a4-5b0fd673e6d6?ui=en-US&rs=en-US&ad=US>
4. Create a Database in Access: <https://support.office.com/en-us/article/create-a-database-in-access-f200d95b-e429-4acc-98c1-b883d4e9fc0a?wt.mc_id=otc_access>
5. Add a Primary Key: <https://support.office.com/en-us/article/add-a-primary-key-to-a-table-in-access-c6055b7f-4dfe-4516-901c-95272d74a6ff?ui=en-US&rs=en-US&ad=US>
6. Back Up Your Database: <https://support.office.com/en-us/article/backup-your-database-in-access-43c2c55d-b799-40b7-a724-12e50c106bf4?ui=en-US&rs=en-US&ad=US>
7. Create a Query, Form, or Report in Access: <https://support.office.com/en-us/article/create-a-query-form-or-report-in-access-04eb597f-cb77-47be-83ed-1b8325b34cde?ui=en-US&rs=en-US&ad=US>
8. Access Video Training: <https://support.office.com/en-us/article/access-video-training-a5ffb1ef-4cc4-4d79-a862-e2dda6ef38e6?ui=en-US&rs=en-US&ad=US>

## PROJECTS AND EXERCISES

|  |  |  |
| --- | --- | --- |
|  | **Data file** | **Save As** |
| Hands-On Exercise 1 | a01h1Traders.accdb | a01h1Traders\_LastFirst.accdb a01h1Traders\_LastFirst\_CurrentDate.accdb |
| Hands-On Exercise 2 | a01h1Traders\_LastFirst.accdb | a01h2Traders\_LastFirst.accdb |
| Hands-On Exercise 3 | a01h2Traders\_LastFirst | a04h3Traders\_LastFirst.accdb |
| Practice Exercise 1 | a01p1Replace.accdb | a01p1Replace\_LastFirst.accdb a01p1Replace\_LastFirst\_CurrentDate.accdb |
| Practice Exercise 2 | a01p2Coffee.accdb | a01p2Coffee\_LastFirst.accdb a01p2Coffee\_LastFirst\_CurrentDate.accdb |
| Practice Exercise 3 | Nutrition Tracking Template | a01p3Nutrition\_LastFirst.accdb a01p3Nutrition\_LastFirst\_CurrentDate.accdb |
| Mid-Level Exercise 1 | a01m1HomeSales.accdb | a01m1HomeSales\_LastFirst.accdb a01m1HomeSales\_LastFirst\_CurrentDate.accdb |
| Mid-Level Exercise 2 | a01m2NatConf.accdb a01m2Analysis.docx | a01m2NatConf\_LastFirst.accdb a01m2NatConf\_LastFirst\_CurrentDate.accdb a01m2Analysis\_LastFirst.docx |
| BYC General | a01r1NCCTS.accdb | a01r1NCCTS\_LastFirst.accdb a01r1NCCTS\_LastFirst\_CurrentDate.accdb |
| BYC Disaster Recovery | a01d1Lugo\_Backup.accdb | a01d1Lugo\_LastFirst.accdb |
| Capstone | a01c1Loans.accdb | a01c1Loans\_LastFirst.accdb a01c1Loans\_LastFirst\_CurrentDate.accdb |

## CHAPTER REVIEW/ANSWERS TO END OF CHAPTER MATERIAL

### Key Terms Matching Answer Key

1. A method which enables you to specify conditions to display only those records that meet certain conditions.   
**G. Filter**

2. An Access object that simplifies entering, modifying, and deleting table data.   
**I. Form**

3. An object used to store data, organizing data into columns and rows.   
**S. Table**

4. A method of listing records in a specific sequence (such as alphabetically).   
**R. Sort**

5. A predefined database that includes professionally designed tables, forms, reports, and other objects.   
**T. Template**

6. A question the user asks about the data in a database.   
**M. Query**

7. An Access interface element that organizes and lists database objects in a database.   
**J. Navigation Pane**

8. A filtering method that displays records based on multiple criteria.  
**H. Filter by Form**

9. A set of common Access components that can be added to an existing database.   
**A. Application part**

10. An object that contains professional-looking, formatted information from underlying tables or queries.  
**P. Report**

11. A main component that is created and used to make a database function, such as a table or form.   
**K. Object**

12. A complete set of all the fields about one person, place, event, or concept.   
**N. Record**

13. The field (or combination of fields) that uniquely identifies each record in a table.   
**L. Primary key**

14. A connection between two tables using a common field.   
**O. Relationship**

15. A collection of data organized as meaningful information that can be accessed, managed, stored, queried, sorted, and reported.   
**B. Database**

16. View that enables the user to create and modify a table design.   
**E. Design view**

17. A grid that enables the user to add, edit, and delete the records of a table.   
**D. Datasheet view**

18. A piece of information stored in a table, such as a company name or city.   
**F. Field**

19. A software system that provides the tools needed to create, maintain, and use a database.   
**C. Database Management System (DBMS)**

20. A filtering method that displays only records that exactly match selected criteria.  
**Q. Selection filter**

### Multiple Choice Answer Key

1. All of the following are examples of an Access object *except*:

**c. Record**

2. Where are data in stored in a database?

**d. Table**

3. You edit several records in an Access table. When should you execute the Save command?

**c. Records are saved automatically; the save command is not required.**

4. Which of the following is *not* true of an Access database?

**c. Every table in a database contains the same number of records as every other table.**

5. Which of the following is true regarding table views?

**d. Changes made in Datasheet view are automatically saved when you move the insertion point to a different record.**

**6.** Which of the following utilities is used to recover in the event of loss or damage?

**a. Back Up Database**

7. Which of the following would be matched if you use a Selection filter’s exact match option for the title “Manager”?

**c. Manager and MANAGER**

8. Which of the following conditions is available through a Selection filter?

**a. Equal condition**

9. All of the following statements are true about creating a database *except*:

**d. The objects provided in a template cannot be modified.**

10. To add a predefined table to an existing database, you should use which of the following?

**a. Application part**

### Quick Concept Check Answer Key

1. **Describe each of the four main types of objects in an Access database.**

Tables store the data in the database.

Queries are used to display only records that meet certain conditions and only the fields that you require.

Forms give the user a way of entering data into the database.

Reports enable the user to present professional-looking information from tables or queries

1. **Discuss the difference between Datasheet view and Design view in a table.**   
   The Datasheet view is a grid containing columns (fields) and rows (records), similar to an Excel spreadsheet in which the user can view, add, edit, and delete rows/records. The Design view gives the user a detailed view of the table’s structure and is used to create and modify a table’s design by specifying the fields it will contain, the fields’ data types, and their associated properties.
2. **Explain why it is important to define data types in Access.**  
   Data types define the type of data that will be stored in a field, such as short text, numeric, currency, date/time, etc. Defining the type of data is important because Access will behave a specific way based on the type of data the field contains. Each field’s data type determines the type of input accepted.
3. **Explain the purpose of using the compact and repair utility.**

Occasionally, Access databases experience corruption. Database corruption occurs when the data is stored improperly, resulting in the loss of data or database functionality. With everyday use databases may become corrupt, so Access provides the Compact and Repair Database utility. Compact and Repair Database reduces the size of a database and fixes any errors that may exist in the file.

1. **Explain the purpose of creating a filter.**   
   A filter enables you to view a subset of records based on specified criteria.
2. **Explain the difference between a Selection filter and a Filter By Form.**  
   A Selection filter lets you filter records by a single field while Filter by Form lets you filter records based on multiple criteria.
3. **Discuss the benefits of sorting records in a table.**  
   Sorting enables you to list records in a specific sequence, such as alphabetically by last name, making information easier to locate and organizing the data.
4. **Explain why you would use a new blank database as opposed to using a template.**   
   A person might create a new blank database due to specific requirements, because already existing data wouldn’t necessarily fit with any existing templates.
5. **Discuss two benefits of using a template to create a database.**  
   Using a template saves time because it jumpstarts database creation. It also helps a new Access user become familiar with database design.
6. **Explain the purpose of using an application part.**  
   An application part enables you to add a set of common Access components to your database, such as a table, a form, and a report for a related task.