

This Project is Due: Tuesday, March 12, by 11:59pm.

Your project will be submitted through Canvas.

Note: You do not have to write out and submit the answers to the interpretative questions for any of the parts of this project. However, the solutions you create in Access should enable you to answer those questions.

Academic Integrity Policy:

The entire file that you submit for this and your other CIS200 computer projects should be your own individual work! Keep in mind the Academic Integrity policy for CIS200 and Colorado State University.

Important! You are NOT to receive ANY outside assistance on the computing projects other than from a CIS200 Teaching Assistant or Dr. Serrano without prior approval from your instructor.

File Instructions

For this project you will complete and submit one file: an Access database file that you build and use based on the data model that is available for download.

Name your files based on your first initial and then your last name. For example, if your name is Frodo Baggins, your Access filename would be: FBaggins.accdb.

*****Submit your completed file through the Canvas system.***

Microsoft Access Project: Managing a Small Business

By reading the business case sections and completing the four parts of this project (Parts A, B, C, and D) you will:

- ◆ Extend your knowledge of Microsoft (MS) Access tables, forms, queries, and reports.
- ◆ Understand the relationship between the logical model of a database and the physical implementation of that database.
- ◆ Understand how to implement referential integrity and discover its purpose.
- ◆ Learn how to apply MS Access to solve business problems.

PROJECT INTRODUCTION

Data and databases are at the heart of many business information systems. If you think about the daily interactions you have with organizations, you will discover that many of these interactions generate data that organizations use to create value for you and for them. For example, when you shop at a retail grocery store, data is gathered about your purchases and your method of payment. If you choose to pay with a debit or credit card, then additional data may be gathered about you and your purchase. Some stores even offer a discount if you use a customer rewards card. This enables the store to gather data about your specific purchases and to provide value to you through coupons and other sales promotions. It also enables store management to make better decisions about product selection, pricing, and promotions. This project will focus on how a retail firm might achieve its goals of generating new business and increasing customer satisfaction by providing a knowledge-oriented service to its customers. You will create the database that will allow this company to accomplish these goals.

General Business Case

WildOutfitters, Inc. is a well-established national outdoor-sports retail products chain with a local store in your area. It carries a complete line of name brand and locally produced equipment and supplies for outdoor enthusiasts. Through customer surveys, WildOutfitters discovered that many of its customers, who are beginners, buy equipment without knowing how to use it properly. Rather than view this as a problem, WildOutfitters sees this as an opportunity to provide better service to its customers and to gain a business advantage over its competitors. WildOutfitters is going to offer “how to” courses for its customers. During these courses, customers will learn how to use the equipment they purchased, but they will also learn about other equipment they should purchase. WildOutfitters will use this free (to the customers) service to increase sales and customer satisfaction. Isaac Timberlake, a student at your business school, is an intern at WildOutfitters, and Sara Johns, the store manager, asks Isaac to create a Course Management System that she can use to track the courses customers take, and the employees who teach the courses. Isaac understands the business requirements, but he needs your help in designing the database that will be at the heart of the Course Management System. The end result of your collaboration with Isaac will be the

relational database and associated features specified in the MS Access Project instructions that follow.

Project Data Model Instructions: You will need to download the PowerPoint file *WildOutfittersDataModel.pptx* from the Access assignment in Canvas. This file contains the (incomplete!) data model you will reference in order to create your database. (NOTE: You will need to complete the data model before using it to create the database!) There are several slides in the presentation. The first slide is the data model, and the remaining slides are examples of how your tables might look. Remember, you will have to use MS Access to create the tables, and you will have to add additional data to meet project requirements.

Project Naming Conventions: Access uses several database objects to perform different functions. For example, a table object stores data, and a form object helps you input data. In general, we will refer to the database objects simply as tables, forms, queries, and reports. Each of these objects may have similar names, such as the Customer Table, the Customer Form, etc. In order to prevent confusion we will ask you to add a prefix to all object names. Table 1 shows the database object, the corresponding prefixes, and an employee-related example.

Database Object	Prefix	Example
Table	tbl	tblEmployee
Form	frm	frmEmployee
Query	qry	qryEmployee
Report	rpt	rptEmployee

Table 1 – Customary Prefixes for Database Objects

PART A – Creating the Tables

Part A Problem Definition: Isaac welcomed the challenge of creating an information system that will help create business value for Wild Outfitters, Inc. This project focuses on the database component of that IS, and accomplishing this project will enable you to help Isaac by applying and refining the IS skills you've learned. Before you can build the database, you will have to understand the data that must be captured by the system and sketch out how this data will be stored. You should try this on your own and then compare your model to the one found in the *WildOutfittersDataModel.pptx* file.

Part A Problem Requirements: Remember, tables are the objects that MS Access uses to store data. Your first task in this part of the project is to help Isaac by using Microsoft Access to create the required tables (see the *WildOutfittersDataModel.pptx* file). You should use input masks for fields where appropriate (e.g., zip code, phone, etc.). If you do not know what an input mask is, use MS Access' Help function (or an online search) to find out. Next, you will need to populate the tables with data. You should create the data yourself following the examples in the *WildOutfittersDataModel.pptx* file. **You should create at least ten records (rows) in**

the class table, and five records each in the employee, customer, and course tables. For each table, you should use the example data and then make up your own data to reach the number of records required. In addition, you must also add data as needed to test your queries (Part C) and demonstrate that they are working correctly.

Before you enter data into the tables, do Part B of the project. Lastly, you will need to create the appropriate relationships between the tables. ***When creating relationships, you should ensure that referential integrity is enforced.***

PART B – Inputting Data into the Database – Creating Forms

Part B Problem Definition: Isaac discovered that rather than enter data directly into the tables he could use the MS Access database objects known as forms to enter data into the database. He used the forms that you created to make data entry more efficient and less error prone.

Part B Problem Requirements: Use the Form Wizard to create a form that will allow you to input data into each of the tables. You should have one form for each table. Although the forms you create are useful tools for entering data, when a customer makes a purchase, it would be useful to have the option to sign them up for a class.

Ensure to look ahead at the queries and make sure that the data that you input will fit the criteria of the queries. (Ensure that if a query wants you to retrieve information about a particular instructor in a particular month that you make an entry that will satisfy this requirement).

PART C – Creating Different Views of Data for decisions – Creating Database Queries

Part C Problem Definition: Ms. Sara Johns asked Isaac to find out which employees are leading which courses and classes, and when they are leading them. She also wants to know which customers are taking classes and when. Lastly, she wants to be able to view the data for each instructor and for each month. Although the data stored in your database is organized into tables, looking at all of the tables to answer her questions or to help her make decisions is inefficient. Fortunately, MS Access provides an object, the query, which makes it easy for you to view selected subsets of your data. In other words, Access makes it easy for you to ask and answer questions about your data and then use this information to make business decisions.

For the purposes of this project, you can think of a query as a question you ask of your database. The visually-oriented tool you will use is known as the Query Design tool. Access provides another tool to create queries, although this tool is actually a computer language. Structured Query Language (SQL) is a standardized language for querying databases. With it you can create complex queries of almost any database, however using SQL is beyond the scope of your project requirements.

Part C Problem Requirements: Using the Design View, create the following queries. You may need to add more data to your database so that you can test your query results.

- Query 1** – What customers have signed up to take classes from which instructors? This query should return the data in your database for all courses, classes (date, start and end times, location), customers taking classes, and employees leading classes.
- Query 2** – Who is taking and leading a course in July 2019? (This query should return the course name, classes (date, start and end times, location), customers taking classes, and employees leading classes for July 2019 only. **Be sure to include at least three classes in your data tables that take place in July 2019 and a few that don't in order to test your query.**)
- Query 3** – What classes is Luca Felton teaching in April 2019? (This query should return the courses and classes that Luca Felton is leading in April 2019 only. **Be sure to include at least one class for Luca in April 2019 and one that is not in order to test your query.**)
- Query 4** – What classes are being led by either Anya Shumer or Ramon Tucker in March 2019? (This query should return all of the courses and classes that Anya Shumer and Ramon Tucker are leading in March 2019 only. **Be sure to include at least one class for Anya and Ramon in March 2019 and classes for them outside the month of March 2019 in order to test your query.**)

PART D – Outputting Data to Decision Makers and Other Knowledge Workers – Creating Reports

Part D Problem Definition: Queries are useful tools for asking questions of your data and for transforming data into information that is useful to decision makers. However, the standard query table view is not as useful or as easily readable as most users need or want. Ms. Johns asked Isaac to organize the views of WildOutfitters data and present it in a well-organized form.

Part D Problem Requirements: To organize the views of WildOutfitters data and present it in a well-organized form, Isaac will use the MS Access Report object. A Report can be based on a table or a query or a combination of tables and queries; however, for Part D of this project you need only to create a report based on Query 2 from Part C above. You can use the Report Wizard to create your report. The report should show all of the data contained in Query 2. When responding to the Report Wizard's prompts, you should select to view your data by class, add "class date" as the grouping level, and sort the detailed records by customer last name in ascending order. The layout and style choices are up to you. Finish the report and name it "rptJulyQuery."

Review your report and note the “database speak” used for the title and headings. Since the purpose of a well-crafted report is to effectively and efficiently convey useful information, you will need to edit your report. Here are the minimum requirements for Part D of the project.

1. Change the orientation of the report from portrait to landscape.
2. Change the title of the report to “WildOutfitters July 2019 Classes.”
3. Move the customer first name label and data so that they are next to each other, last name then first name.
4. Transform all field names into easily readable headings, e.g., CourseTitle should become Course Title, and ClassStartTime should become Start Time, etc.