

Portfolio 3 – Access

Total: 40 points

PART I (Personal Database)

20 Points

Filename: uniqueID_PersonalDatabase.accdb

Prepare an Access database to track information of your own choosing. This information may be related to a personal hobby, to home record keeping, or to a real or imaginary business. As examples, you could create a database a) to represent your checkbook (transaction register, payees, and expense categories), b) to track your music (movie or video game) collection (songs, albums, artists, genre, and so on), or c) to track a mail-order business (products, customers, orders, and so on). You are to design this database from scratch and populate it with as realistic data as possible.

Your database must contain the following technical components:

- I. At least 3 distinct tables, each with a unique primary key. Each table must have 5 or more fields and contain 15 or more records. In total (across the 3 tables), there must be at least two fields that contain date information and at least 2 fields that contain numeric data.
- II. The size of any text field must be appropriate to the information (e.g. do not use default field sizes) and the format for numeric fields must be appropriate for the type of data stored.
- III. The tables must have relationships defined that include referential integrity checks.
- IV. Each table must have an input form that allows data to be added or updated.
- V. Three queries need to be defined and named appropriately. Two of the queries need to display data from at least two tables. One of the queries needs to be sorted on at least two fields. One of the queries needs to include selection criteria using an AND selection and one of the queries needs to use an OR selection criteria.
- VI. All queries should display in an appropriate manner (column widths and column labels should be appropriate).

PART II (University Report)

12 Points

Filenames: uniqueID_UniversityDB.accdb; uniqueID_UniversityWorkbook.xlsx; uniqueID_PartIIAnalysis&Reflection.docx

You are provided with an access database (UniversityDB.accdb) similar to the one we have been developing in our recent Classroom Learning Activities. The database includes Student, Course, Class, Enrollment, and Major tables with field definitions described in the file CSA 148 Database Design.docx.

You have been requested to provide a report to the University President to address one of the following (fictitious) areas of concern. You will select appropriate data from the database, analyze the data, and summarize your analysis in a report to the University President. Your report should include charts and tables as appropriate to support your analysis and conclusions.

- a) There are several state-wide initiatives in Ohio to increase the number of credit hours in technical courses that are taken by women. Summarize whether there has been a noticeable change as a result of these initiatives.
- b) For planning purposes, it is helpful to understand the trends over time of the number of students

enrolled in each course. The 100-level courses are of interest. Please provide an analysis of course enrollments, noting any particular patterns or trends.

- c) First year student midterm grades are important indicators of success. Provide an analysis of first year student midterm grades for the current semester and indicate the percentage of students below a grade of C. Be sure to analyze the performance by department and highlight those departments doing significantly better or worse than the university average.
- d) Student credit hour loads for the current semester (2007 Spring) are also a critical measure for the university. Provide an analysis of the number of hours taken by grade level. Be sure to note percentages of students who are below 14 credit hours and those above 18 credit hours. Do any of the departments or majors contribute disproportionately to the number of students below 14 or above 18 credit hours?

Your analysis must contain the following technical components:

- I. Using Access, create appropriate queries to select the data needed for your analysis. Save the queries with appropriate names. Export the information from these queries to Excel.
- II. Using Excel, analyze the data from your queries. Your spreadsheet should include:
 - a. Appropriate use of sorting, subtotals, pivot-tables, or other features in order to adequately analyze the data.
 - b. Appropriate use of charts that clearly display key portions of your analysis.
 - c. Appropriate formatting for display as well as printing of all worksheets and charts.
- III. Using Word, write a report of your analysis/conclusions to the President. The report should include:
 - a. Appropriate titles, section headings, and other formatting to make the report attractive.
 - b. Imbedded tables of data from Excel to support your analysis (use summary information – don't paste a table that has lots of rows and columns of detail).
 - c. One or more imbedded charts from Excel to support your analysis.
 - d. Two to three paragraphs (maximum of 5 paragraphs) that summarizes your analysis and conclusions for the President.
 - e. The report should be well-written, easy to read, and free of grammatical errors.

PART III (Reflection)

8 Points

Filename: uniqueID_PartIIAnalysis&Reflection.docx

Write a 1-2 page (12 pt type, double-spaced) reflection on your use of Access and Excel on Part II of this assignment. This reflection should be in the same document as the report in Part II, but begin on a new page. This reflection should address the following questions:

- I. Explain why the queries you developed were created to support your analysis.
- II. Explain why you used the particular features of Excel that you used to develop your analysis.
- III. In your experience, explain the strengths of Access (what it is best used for).
- IV. In your experience, explain the strengths of Excel (what it is best used for).

This reflection should be well written, easy to read, and free of grammatical errors.

Course Objectives: 1.5; 2.1; 2.2; 2.3; 2.4; 2.5; 2.6; 3.2; 3.3; 3.4; 4.1; 4.2; 4.3; 4.4; 4.5

Text Reference: Excel tutorials 1-6; Access tutorials 1-4

Problem Source: *original*

Submission Instructions:

Create a folder named: uniqueID_Portfolio3

In this folder, place the following files:

uniqueID_PersonalDatabase.accdb

uniqueID_UniversityDB.accdb

uniqueID_UniversityWorkbook.xlsx

uniqueID_PartIIAnalysis&Reflection.docx

Submit this folder to: L:\turnins\csa148\yoursection\Portfolio3

Critical Thinking Levels:

Step 1: Identify relevant information and uncertainties embedded in the information;

Step 2: Interpret Information; qualitatively interpret evidence from a variety of points of view; organize information in meaningful ways to encompass problem complexities.

Step 3: Communicate appropriately for a given audience and setting.

Grading Rubric

Part I – Personal Database (20 points)

Grade	Technical	Design
Excellent (9-10)	Correctly and thoroughly completed all or nearly all technical components of the assignment	Thoughtful design of the database. The fields included in each table are appropriate, correct field types, and appropriate field sizes are used. The queries created are meaningful.
Good (7-8)	Made a good effort to complete the assignment, but one or more significant components of the exercise were missing or completed improperly	Made a good effort to design an effective database, but there were opportunities for improvement. One or more of the following are noted: Fields assigned to incorrect table or an obvious omission of a field in a table; Field Sizes are clearly incorrect or only default field sizes used; Queries written are meaningless; Table relationships meaningless.
Needs Improvement (0-6)	Three or more significant components of the exercise were missing or completed improperly	Little effort was made to design an effective database.

Part II – University Report (12 points)

Grade	Technical	Analysis
Excellent (5-6)	Access queries are created and named correctly. Appropriate Excel features are used to perform the analysis. Appropriate charts are created to support the analysis. Excel tables and charts are imbedded in the Word report. The Word report includes appropriate formatting.	Prepared a thoughtful analysis and conclusion for the selected area of concern. The data (tables, charts, etc.) are referenced adequately. The conclusions are based on the data provided.
Good (4)	Made a good effort to complete the technical components of the assignment, but one or more significant components of the exercise were missing or completed improperly.	Prepared a good analysis and conclusion for the selected area of concern. The data (tables, charts, etc.) are referenced, although not as thoroughly as desired. The conclusions are clearly articulated; however the data does not fully support the conclusions.
Needs Improvement (0-3)	Significant components of the exercise were missing or completed improperly.	Little effort was made to prepare a thoughtful analysis and/or the conclusions are not supported by the data.

Part III – Reflection (8 points)

Grade	Reflection
Excellent (7-8)	Reflection is thoughtful. Reflection includes required elements. Reflection is clearly written. Reflection is free of spelling and grammatical errors.
Good (5-6)	Made a reasonable effort to be thoughtful. Reflection includes all required elements. Not all ideas are completely clear.
Needs Improvement (0-4)	Little effort made to be thoughtful. Reflection does not include all required elements. Ideas are not clearly written. Spelling and grammatical errors exist.