COMPUTER SCIENCE II

DATABASE CONCEPTS CHAPTER 2 TEST

**EACH QUESTION BELOW IS WORTH 4 POINTS. PLEASE ANSWER CLEARLY IN THE SPACE PROVIDED.**

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1. What two questions should you ask yourself prior to the database design activity?

* What is the database for?
* What information/data is needed for the database?

1. List and describe the 5 activities you must complete during the database design process.

* First ask yourself what is the database for and what information/data is needed for this database?
* Data Analysis.
* Create and name the fields for each table. Assign data types for each fields.
* Identify Primary Key.
* Organize the data in tables. Data entry. Name the table.
* In the end, ask yourself which tables can be linked by a relationship?

1. What is the purpose of the “Inserting Totals” feature?

Inserting totals allows you to sum up the totals by adding a totals row to a datasheet.

1. What options are available for this feature?

You can also choose from a list of functions to find the sum, average, max, min, count, standard deviation, or variance.

1. Information listed below is an example of an Input Mask. In this situation all data elements must follow a pattern.

(555)555-5555

000-00-0000

1234 5678 8909 8765

1. A situation where multiple records match back to the primary table is an example of a one-to-many relationship.
2. During data validation lookup lists restrict users to a subset of values, while constants represent static values that won’t change. If you use operators you can build your own rule while using one of many pre-defined functions allows Access to perform validation on its own.
3. Linking 2 or more tables together is an example of a table relationship.
4. A situation where a single record matches back to the primary table is an example of a one-to-one relationship.
5. Describe the difference between secondary tables and related tables.

The primary table can be described as the source table. This is where the data will come from. It contains the one unique record that would be used to join with the rest of the tables. The related tables will have one or several records matching back to the unique value specified in the primary table.

1. A situation where a record does not match back to the primary table is an example of an orphan record.
2. The feature known as “Referential Integrity”:
   1. Prevents data validation errors
   2. Prevents one-to-one relationships
   3. Prevents one-to-many relationships
   4. All of the above
   5. None of the above
3. Describe the difference between primary keys and foreign keys.

The primary key is the field that is the most unique. Each record in that field must be different. It acts as a unique identifier (find a certain record quickly). Foreign keys are the common fields found in the related table. It is added to the related table only for the purpose of establishing a relationship between the tables.

1. Name and describe any 5 field data types supported by MS Access.

5 Field data types are numeric, alphanumeric, date/time, currency, and lookup wizard. Numeric is any number in standard or scientific notation. Alphanumeric is a mix of numbers and letters. Date/time is the format of the date or time. Ex: 12-May-17, 9:07:34. Currency is when you type in money; a dollar sign will come up in the beginning. And lookup wizard gives you the option to create a lookup list.

1. Name the database object that is created by default when a new database file is saved. Why?

The table is created by default because it is the place to store the data first. You need a spot to put the data!

1. What is the disadvantage of creating new tables from the Design View?

Disadvantage of creating new tables from the design view is you can’t add any actual data. You can only change the table element properties in the design view.

1. Describe the two ways to create primary keys in MS Access.

* Use the default primary key ID that Microsoft Access gives you when you create a new table.
* Use Design View to open the table, click on the field you want to use for primary key, click the primary key button on the top left.

1. Name any 5 field properties that can be updated in the Design View.

5 field properties that can be updated in design view are…

* Field format.
* Field size.
* Field caption.
* Default value.
* Input mask.

1. Name the 3 options you have when creating Input Validation rules.

The 4 options are…

* Functions.
* Constants.
* Operators.
* Lookup lists.

1. What is the purpose of field captioning?

A field caption is just an additional label for the field besides the field name. It appears only when field is displayed on the form. If the caption is missing, the field name is used in its place.

1. Explain the difference between lookup lists and other input validation methods.

If data is being entered through HTML online forms, data validation can be easily accomplished through the implementation of dropdown lists. Ex: Giving the user a dropdown list of the U.S. states. Here, you can only select the options they give you, unless otherwise changed in the design view. Other input validation methods are functions, constants, and operators. Functions are reusable code that can repeatedly perform actions and calculations as long parameter data is provided. Constants are hand coded values that do not change, e.g. pi. And operators are characters that represent actions

1. What is an Input Mask?

Input masks are patterns that all data elements must follow when they’re being entered into a field.

1. Provide 3 examples of Input Masks.

Data elements that should follow input masks are

* Phone numbers.
* Passwords.
* Bank Account #.

1. What MS Access feature allows you to restrict user input to a defined subset of options?

Lookup lists/dropdown.

1. The diagram below represents a table relationship. Explain what happens when this scenario occurs.

As a result, multiple tables can be used to create reports as if the data is coming from a single table.

