Database Integrity
Through Easing Database Use

What is Database Integrity
- Integrity in databases means that the information is accurate and consistent.
  - Relational databases help ensure integrity by having data stored once and tying the data together.
  - Being consistent in spelling, word choice help ensure integrity also.
    - For instance using Hawaii and the abbreviation HI in the same field in different records causes inconsistency.
    - If we do a query for "Hawaii" we may miss records with the abbreviation HI.

Accurate Information
- Remember the computer saying "Garbage in - Garbage out"
  - If data is not accurately entered, the information coming out will not be accurate.
- Accuracy in input can be increased by
  - Data field properties
  - Form design
  - Action queries
- Accuracy in output can be increased by
  - Report design
  - Query design

Data Field Properties
- Lookup fields
  - Species a limited number of input choices
  - Input can be made through a list of choices
- Input Masks
  - Specifies data must be in a certain layout
  - Phone number (999)999-9999
  - Input must be numbers.
  - Parenthesis and dash already included for input
- Validation
  - Data must meet certain rules
    - Example <1000

More Field Properties
- Default Values
  - Use with caution
  - Use only when the initial input data is the same for all records
  - All new members are ranked as Novice
  - or when data changes rarely
  - Year joining an organization only changes once a year
  - Be sure to change default in the new year

Forms Design
- Create forms using Form Wizards, but use Design View to customize.
- Clearly label forms
- Include instructions to clarify how to fill out form
- Input aids: Dropdown list, checkbox, radio buttons
- Keep layout organized in a familiar way
  - Addresses laid out in the same way one would normally see an address
  - If based off a paper form arrange similarly.
### Reports Generation
- Usually based on query to have just the information needed
  - Correct query design
  - Test to see if works
- Design reports for ease of use and reading
  - Clearly identify information
    - Appropriate titles, headings, etc.
    - Use new page designation to keep only desired information on each page
  - Use report wizards to ease creation of report
  - Customize reports in design view

### Database Integrity Insured
- If data coming in is accurate, information being output will be accurate.
- User error is always possible
  - Relational databases insure data is input once
  - Ease input to decrease user error
- Design errors can be present
  - Create appropriate queries to derive information
  - Base reports on queries
  - Design both reports and forms using Wizards but be sure to customize for ease of use

### Handon-Training
- Watch Access Reports video and follow along with the file from the queries video, salesclub.accdb
- When finished with the video complete the extra-practice - Extra practice
- Submit both files in Laulima Tasks, tests & surveys