***IT 271 Midterm Review***

*Content of the MTE*: Chapters 1 – 4 and 5-1 and 5-2

*Types of Question*

* Multiple choice
* Matching
* Free response
* Short code writing section : open note

*Topics and questions*

* How is a database different than a spreadsheet?
  + Database holds data in records,
  + Spreadsheet holds data in one cell, in one file
* What are primary and foreign keys?
  + Primary Key – a unique Identifier
  + Foreign Key – is reliant on another key from another table
* What objects do we need to create when connecting a C# Forms project to an SQL database?
  + Connection string
  + Connection
  + Command
  + Data Adapter
  + Data Table
* What does each of these objects do?
  + Connection String – a string that connects to the server
  + Connection – uses the string to opens connection
  + Command – input to manipulate to query
  + Data Adapter- uses the command to input the query into the data table
  + Data Table- stores the inputed Data
* What types of relationships can exist between tables in a relational database?
  + 1 to 1 , 1 to M, M to M
* What is a connection string? What variables and parameters are included in it?
  + Expression that has parameters in order to connect to a database server.
  + The parameter are server instance, database name, authentication details.
* Why is disposing of a database connection object important?
  + To clear resources
* What are databindings?
  + Connects a C# control to data from the database
* What is a database join? Why do we do them?
  + Used to combine tables
* What types of database joins are there?
  + Inner, Left/Right Outer, Full
* What does it mean for a database to be “in a normal form”?
  + It followed a set of criteria
* SELECT, FROM, and WHERE are our standard SQL clauses. What additional SQL clauses can we use to access our databases with?
* What do ERD diagrams help us with? What is their purpose?
* What symbols are used in ERD diagrams?
* Be familiar with these controls and their properties:
  + Form
  + Button
  + Label
  + TextBox
  + Checkbox
  + RadioButton
  + GroupBox
  + Panel
  + PitcureBox
  + MessageBox
* Be able to build a Windows Form from scratch using appropriate naming conventions and design considerations
* Be able to write simple SQL statements
* Be able to build simple SQL statements based on control input from
* Be able to connect your C# project to a database then use the connection string
* Be able to connect the database connection objects to C# Form fields and update them accordingly