Review for Test 1

I101 / B100

Hossein Hakimzadeh

- Basic Hardware Concepts
- Programming Paradigms
  - Procedural
  - Object Oriented
  - Event Driven
- What is VB.Net?
  - Windows Applications (Object Oriented, Event Driven)
  - Console Applications (Procedural or Object Oriented)
- Steps in Writing a Typical VB project.
  - Planning: (GUI, properties, pseudocoding)
  - Coding: (Convert the GUI to Forms and Controls, Set the properties, Convert the Pseudocode to VB code, Test and Debug.)
- The Software Development Life Cycle (SDLC)
  - Planning
  - Analysis
  - Design
  - Implementation
  - Testing
  - Maintenance
- Errors (syntax vs. run-time vs. logical errors)
- Variables (represents memory, has a type and size)
  - DIM strName as string
  - integer, double, decimal, boolean, char, byte, string, etc.
  - Global vs. Local
  - Why initialize variables?
- Constants
  - CONST TAX_RATE as Decimal = 0.08
- Variable and Constant Scope
- Module level (within the class)
- Local level (within a procedure)
- Compiler Directives
  - Option Explicit ON (variables cannot be used without being declared first.)
  - Option Strict ON (Makes VB a strongly typed language, No automatic type conversion. Must use the type conversion functions)
- Type Conversion functions
  - Cint(x)
  - Cstr(x)
  - Cdec(x)
  - Clng(x)
  - Cdbl()
- GUI Components:
  - Forms, Label, Textbox, Checkbox, Button, RadioButton, ListBox, Combobox, PictureBox, GroupBox
- Concatenation and Continuation: (& and _)
- Arithmetic operators (+, -, /, \, *, MOD, ^)
- Relational operators (=, <=, >=, <>)
- Input and output
  - Console Mode: Console.ReadLine(), Console.WriteLine()
  - Windows Applications: MessageBox.Show(), InputBox()
- Branching:
  - Using the IF Statement:
    - (If, If-then-else, nested if statements)
- Loops
  - (For...next, Do while...Loop, do Until...Loop)
  - Necessary conditions for a loop (how to get in, and how to get out)
- Truth Table