Excel vba

15/11/2005

- **Language Features**
  - In the beginning
    - Setting values
      - ASSIGNMENT statements
      - The item on the left has its value set = to the item on the right
    - Returning values from an operation
      - eg. A function
        - eg. The Abs ( ) function
        - or the Date "function"
    - Doing things
      - For a computer, doing something, and setting a value is the same thing
  - Object Oriented Programming
    - True
      - Design of objects fully in programmers hands
        - Inheritence
        - Polymorphism
        - Encapsulation
    - Partial
      - Objects have
        - Properties
          - Object.Property = Value
          - variable = Object.Property
          - Object1.Property1 = Object2.Property2
          - eg. Range("A1") Value = "Hello"
        - Methods
          - SUB PROC style; Object.Method
          - FUNCTION style; Set oVar = Object.Method( )
            - Return value can be picked up in 2 ways
              - As an assignment
              - As an object for another method
          - eg. Sheets(1).Select
        - Events
      - The Hierachy
      - Collections
        - Collections are themselves objects !!!
        - Referencing members
          - Collection(index)
          - Collection(name)
          - Collection!Name
        - Standard methods
          - Count
          - Add
          - Delete
  - Control structures
    - Loops
      - Do ... Loop
      - For ... Next
    - Units of code
      - Sub ... End Sub
        - Syntax for calling subs - No brackets
      - Function ... End Function
        - Syntax for call funcs - Use ( ) brackets if you are assigning the return value
        - Or treat them like subs and ignore return
        - Passing a return value pointer to a function by reference
          - ByVal / ByRef
          - Optional
          - ParamArray
    - Conditional
      - If Then Else
      - Select Case
    - Object
      - With ... End With
      - For Each In ... Next
    - Error trapping
      - On error goto Label
      - Resume
      - Resume Next
    - Exits
      - Exit
  - Variables
    - Declaration Statements
      - Option Explicit
      - Scope
      - Lifetime
      - Arrays
        - Using the Array function
        - Dynamic arrays
    - Type
      - Number types
        - Byte, Interger %, Long &, Single !, Double #
      - String $
      - Variant
        - Can hold just about anything
        - Types of nothing
      - Boolean, Currency, Date
      - Object
        - Must use Set
      - User defined
  - User interaction
    - Msgbox
    - Inputbox
      - Method
      - Function
    - Standard dialogs
    - Custom dialogs
    - Status bar
  - Specific aspects
    - Charts and graphics
    - Controlling printing
    - Multiple file manipulation
    - OLE automation - integration with other apps
      - The references box
    - Processing files
    - Connecting to data
- **Environment Features**
  - Code modules
    - Comments
    - Indentation
    - Line continuation characters - space underscrore " _ "
  - Programming tools
    - The vba toolbar
    - The macro recorder
    - Ways to assign and run your macros
    - The Subroutine Call Stack
    - The Object Browser
    - The Help system
  - Interface
    - Personal.xls
      - and XlStart directory
        - xlses
        - Templates
    - Dialog sheets
      - Worksheets and Charts
      - Custom Toolbars
      - The forms toolbar
      - Controls
        - Assign Macro
        - Format Object
    - Menu editor
    - Add-ins
      - Avoid using bookname in user-defined functions
      - Library directory
      - Must delete existing toolbars of same name in order to be able to install attached toolbars from addins etc
  - Debugging
    - Stepping through code
    - The debug window
      - The Watch window
        - Watch points
      - Instant watches
      - The Immediate pane
      - Break points
        - Break-time (mode)
    - Types of time
      - Run-time
      - Design-time
      - Break-time (mode)
    - Types of errors
      - Syntax errors
        - Highlighted in Red on code line
      - Compile time errors
        - Code will not compile
        - eg. a For without a Next
      - Logical errors
        - No problem for vb
      - Runtime errors
        - Only come to light when code is running
        - Eg. refer to an object that doesn't exist
        - Are trappable errors
          - Allow for in advance
          - See error trapping in language section