



## Week 5:

- Working with word Processors – follow up on Week 4
- Utilities
  - Random Number Generator
  - Sorting with Excel; checkbox
- Tables and Charts in Excel

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## MoveCurrentPosition.vbs

- How does counter move
- How to reset to start of document
- Uses the *GoTo* method of the *range* object.
- With partner: find the *wdGoTo* constants in the MSDN reference

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## Rand.vbs

- Random Number Generators must be seeded. *Randomize* seeds with the system timer.
- *Rnd* returns a random number between 0 and 1.
- Our function *RandomNumber (min, max)* returns a random *integer* between min and max.

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## CheckBox.html: Sorting with Excel

- Activate Excel via html embedded VB script
- Program
  - 1. Start Excel ActiveX service
  - 2. Open a new spreadsheet document
  - 3. Enter 5 numbers into spreadsheet cells
  - 4. Sort the 5 cells
  - 5. Read back value in the last cell
    - largest value

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## CheckBox.html: preparation

- 1. Start Excel ActiveX
  - `excApp!` = `CreateObject("Excel.Application")`
    - Notice "`excApp!`" is a global variable
- 2. Start a new spreadsheet document
  - `InitializeExcelPage` -> returns "`activeSheet`"
    - Name of sheet is "Do Sort"
- 3. assign input to `activeSheet.Cells(i,j)`

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## activeSheet.cell() ...

- The following are the same:
  - `activeSheet.cell(8,2)`
    - Row 8, column 2
  - `activeSheet.cell(8, "B")`
    - Row 8, column "B"
- Working with integer is easy:
  - Loop over rows or columns

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## Excel sorting ...

- Need to select the cells
  - E.g., `sortRange="B3:B8"`, `sortRef="B3"`
- `activeSheet.Range(sortRange).Sort activeSheet.Range(sortRef), xlAscending`
- After sorting is done, answer is at
  - `activeSheet(8, 2).value` or
  - `activeSheet(8, "B")`

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## Row 8, Column 2

- When constructing "range" for sorting
  - Need: B3:B8 to indicate range
  - Notice: the "B" for second column
- Convenient to be able to:
  - `activeSheet.cell(row, column)=number`
    - Row and column are integers
  - And then construct Range: "B3:B8"
    - The "alphabet" version based on numbers!

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## CheckBox.html

- **Activity 9**

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## SortingWithExcel.vbs

- Fill an array with random numbers
- The RND function – how to use
- Copy to spreadsheet
- Sort with built-in sorter
- Copy back to array and print out

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## Misc Points

*DepositReturn.html*

- Loops to count iterations
- Multiple submit buttons, data clearance

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## TableinVBS.vbs

- Generates a table of trig values
- Generates a table in vbs and then copies to Excel for formatting and presentation.

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## TableinExcel.vbs

- Similar to TableinVBS – exactly the same output
- Calculation is done in Excel by formula copying (autofill)
- Notice use of R1C1 notation for these formulas – more intuitive for this case.
- RxCy is absolute, R[x]C[y] is relative

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## ChartasObject.vbs

- Shows how to generate a chart in Excel
- Chart is embedded object *in the active sheet*.
- Calculation is done in VBS and copied
- The active sheet contains a collection of *ChartObjects*
- *Add* to the *ChartObject* just as to other collections
- The active chart is an object within the first of the *ChartObjects* that has many methods and properties.

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## ChartasSheet.vbs

- Shows how to generate a chart in Excel
- Chart is a sheet within the workbook
- Calculation is done in vbs and copied
- The active workbook contains a collection of sheets called *Charts*.
- *Add* to the *Charts* just as to other collections
- Position it after *activesheet* with parameter.
- The active chart is an object within the workbook that has many methods and properties.

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