

Choose a partner first thing- you will work together throughout the term - including in class today. A number of your assignments will be done as partners.

## CSS 341 Week 1

Autumn 2009  
C. Jackels

---

---

---

---

---

---

---

---

## Who are we?

- Introduction
- Check this morning's roll
- Survey

---

---

---

---

---

---

---

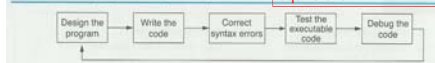
---

## The Course: CSS341 as part of MIS concentration

- **Prerequisite** for CSS 360 – why?
  - CSS 360 surveys software engineering and *assumes* experience in program development, but not in any specific programming language or paradigm.
  - CSS students: CSS 161 -> 162 -> 342 -> 360
  - MIS students: CSS 161 -> -> 341 -> -> 360

- **Programming Development Cycle**  
162 (CSE 143) or equivalent...

Figure 2-1 The program development cycle



---

---

---

---

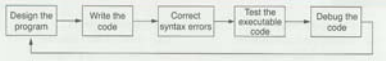
---

---

---

---

Figure 2-1 The program development cycle



- **Programming:** VB Script – why?
  - NOT to become an expert in VB scripting
  - Because:
    - One of simplest/easiest to use tools
    - Solves our problems for us
    - Can focus on the development cycle rather than language issues.

---

---

---

---

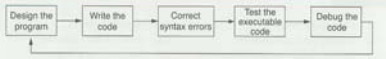
---

---

---

---

Figure 2-1 The program development cycle



- **Algorithm:** problem solving with computer
  - Learn some common solutions from examples
  - Learn how people go about deriving solutions
  - The goal: **not** to expertly design algorithms, but
    - See how algorithms are developed and modified
    - understand the process by doing it
    - Experience some implementation, often based on existing robust codes.
  - **Focus is on the cycle above, rather than on specific steps within it.**
- **Tool:** take home as a toolkit, useful in some contexts

---

---

---

---

---

---

---

---

## Goals

- Algorithms
  - Those with 161 (142): understand *procedures* of algorithm development, experience implementation of algorithms.
  - Those with 162 (143): some new algorithms (e.g. reverse array content by recursion, different sorting algorithms).
    - **GOAL:** develop and sharpen problem solving skills
- Tools
  - Those with 161 (142): refresh/enhance knowledge of programming languages and their constructs.
  - All students: Some aspects of HTML programming
  - All students: Automated interface to Excel and other Office applications.
    - **GOAL:** bigger toolkit set and better understanding of what can be done with these tools. More experience with them.

---

---

---

---

---

---

---

---

## How to be successful in this class?

### Class organization:

- Mixture of lecture – active learning– group problems
- Problem solving in class and at home.
- Tools we can use (VBScript, HTML, Office automation: e.g. MS word, MS Excel, etc.)

### Source of learning:

- Programming details: VBScript book and on-line references.
- Tools: course web-site, texts, reference manual.
- **Solving problems** with programs: actually solving them

---

---

---

---

---

---

---

---

## In Other Words:

Mode of learning: all about *doing it!*

- **Some:** Read a chapter and answer some *self-assess* questions to know you understand the material.
- **Much More:**
  - Go **thorough** the examples on course web-site,
  - understand the solution,
  - derive the solution yourself,
  - IMPLEMENT the solution yourself
- **Homeworks/MP's**
  - **Most of the learning here**
  - Both individual and collaborative

---

---

---

---

---

---

---

---

## Course Resources

- [Course Web site](#)
- [Course syllabus \(on-line\)](#)

---

---

---

---

---

---

---

---



## Activity 1, Part I

*With your partner, work Activity 1, part I*

*What did we learn?*

---

---

---

---

---

---

---

---



## To Run a VBScript

- Double click on the file
- Start->Run->cmd
  - cd <working directory for file>
  - wscript <file name>
  - Click and drag
- wscript:
  - Where is it? (C:\WINDOWS\system32\wscript.exe)
  - Our vbscript program is a parameter to wscript

---

---

---

---

---

---

---

---



## InputBox

```
inputString = InputBox("What would you like to enter? ")
```

---

---

---

---

---

---

---

---



## InputDialog

```
inputString = InputBox("What would you like to enter? ")
```

- In this form must put **parentheses** around input parameter

---

---

---

---

---

---

---

---



## InputDialog

```
inputString = InputBox("What would you like to enter? ")
```

- In this form must put **parentheses** around input parameter
- Returns an output **parameter** to the calling program

---

---

---

---

---

---

---

---



## MsgBox

```
MsgBox "This is what you entered: " & inputString
```

- In this form, no need for parentheses
- "a string" & "another string"
- The "&" symbol concatenates!!

---

---

---

---

---

---

---

---



## MsgBox

MsgBox "This is what you entered: " & inputString

- In this form, no need for parentheses
- "a string" & "another string"
- The "&" symbol concatenates!!
- Note there is only **one argument** here!  
It is a single string.

---

---

---

---

---

---

---

---



## FirstVB.vbs: talk to user

- Comments: '
  - No strict structure
  - No Semicolons
  - No compile/link
  - No I.D.E
- To Create VBScript:
  - Your favorite text editor
  - NOT: MS Word (word processor)

---

---

---

---

---

---

---

---



## FirstVB.vbs

- Option Explicit
  - Optional statement, but we will always use this statement in ALL of our scripts! **Required in this class.**
- Dim
  - Declare variable (no data type)!!
  - Good: simple
  - Bad: confusing, must be careful!
    - 1 as an integer/character/float
- InputBox, MsgBox
  - Reference:
    - Course Text: Lomax p.334 & 356
    - On-line course help: [A](#)
    - functions

---

---

---

---

---

---

---

---



## On line help pages

- VB reference is IMPORTANT!
  - Don't know how to spell everything!
    - Use this as a Dictionary!
      - Syntax, keywords, etc., etc.
- MS Office VBA reference
  - We will "automate" MS office programs
  - You will see, we really need this!

---

---

---

---

---

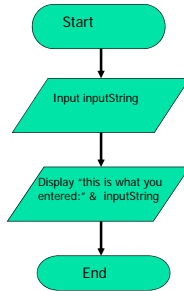
---

---

---



## FirstVB.vbs – flow chart




---

---

---

---

---

---

---

---



## Programming Assignment Catalyst Drop Boxes

- DEMO (HW0 test assignment):
  - Create a zip file: file name is your name
  - Submit to the Catalyst drop box
- Submit as many times as you need, start submitting early!
- NO LATE ASSIGNMENT without large penalty!
- TRY THIS TODAY!!
- MP stands for **M**achine **P**roblems
- HW stands for Homewor**k**s.

---

---

---

---

---

---

---

---



With your partner (15 minutes)

Activity 1 : Part II

---

---

---

---

---

---

---

---



LargestNum.vbs

What do we do with `Cdbl`, `Cint`, etc?  
Why is it important to use them?  
How are numbers represented in memory?

---

---

---

---

---

---

---

---



LargestNum.vbs

What do we do with `IsNumeric` etc?  
Why is it important to use them?  
How are numbers represented in memory?

---

---

---

---

---

---

---

---



## LargestNum.vbs

MsgBox "The largest number entered is: " & largestNum, vbOKOnly, "Largest Number"

MsgBox has more than one parameter here.

- Number of calling parameters can vary
- What does the 2<sup>nd</sup> parameter "vbOKOnly" do?
- What does the 3<sup>rd</sup> parameter "LargestNumber" do?

---

---

---

---

---

---

---

---



## MPO:

- At this point you should be almost able to do mp0.
- You will need to use the IF construct; look ahead at next week's notes or in course texts. Or, more easily, examine example *LargestNum.vbs*.
- Ask yourself:
  - What is the input to mp0
  - What is/are the output of mp0

---

---

---

---

---

---

---

---



## mp0

- Assignment: mp0 (this is not a test!!)
  - [Find it](#)
  - [Find its drop box](#)
  - When it is due? (where can you find the time?)
  - To be done with partner!!
  - Both names must be in the code comments.
  - Should take you 30 minutes!

---

---

---

---

---

---

---

---



## Word processor vs. Text Editor

- Create a MS word file
  - Look at the size of the file
- Create a text file
- Compare the size of the files
  - What is going on?
  - Why do we care?
- Use a text editor (wordpad, notepad, Visual Studio, etc) for generating your VBScripting files.

---

---

---

---

---

---

---

---