

## Wednesday 8 October - Class Session 13

### Homework:

Read Budny: Sec 4.15

Programming Assignment 6: Due Monday 20 October

### Class Activities:

Create a script for functional analysis of an equation that

1. Asks the user for the function (either string or m-file), domain of interest, and annotation information.  
Needs: nothing  
Returns: function type, function name, domain, xtitle, ytitle, graphtitle
2. Displays an annotated plot of the function in the desired domain.  
Needs: function name, domain, xtitle, ytitle, graphtitle
3. Displays a menu asking what type of analysis with zeros, minima, and done as buttons.
4. Uses a switch-case structure with the menu response to
  - a. Find as many zeros as desired and reports each zero found in command window  
Needs: function name  
Returns: vector of found zeros in ascending order
  - b. Find as many minima as desired and reports each minima found in command window  
Needs: function name  
Returns: vector of x-minima location and vector of corresponding minima
5. After finding as many of desired option, returns to step 4.
6. After working with current function, asks whether analysis of another function is desired, and if so, returns to step 1.

### Group assignment:

**Turn in a copy of your script.**