MAT 5932 — Scientific Visualization – Lesson 4 – 11 Sept 1996

- From Chapter 2 of Text – Object Oriented Design
  1. Software engineering – why does software cost so much, take so long, is filled with bugs and all this has not been fixed.
  2. Objects – the current wave. Data abstraction and Inheritance. The goal reusability, robustness, off-the-sheft-ness. You can be object oriented in any language, but some make it easier than others.
  3. What is an object? Anything concrete but also anything abstract. "Is A", "Has A" and "Uses A".
  4. Object examples 1: New data types (Complex Numbers, Infinite precise numbers, rational numbers) with well known operations (addition, multiplication, division)
  5. Object examples 2: Standard data structures (Lists, Lookup Tables, Databases) with standard operations (next, prev, add, delete, locate). Iterator Classes.
  6. Object examples 3: GUI programming and windowing systems. The tk object model.
- Views of programming.
  1. Functional: (Mathematics, Lisp) the pre-computer model.
  2. Procedural: (Fortran, C, Pascal) the old standbys.
  3. Data Flow: (pipes in the shell?) parallelism.
  4. Object Oriented: (C++, Java) class, objects and interfaces.
- tcl/tk objects
  1. The data $a in contour.tcl
  2. Buttons
  3. Canvases
  4. Widgets and inheritance. Event handling.