CSC151.02 2013F, Class 08: Documenting Programs and Procedures

Overview

- Preliminaries
  - Admin.
  - About HW 3.
  - Clicker Questions.
- The need for documentation.
- The Six P’s - a strategy for documenting procedures.
- A few additional P’s.
- Practice.

Admin

- First lab writeup due Friday. It’s supposed to be quick and easy (assuming you’ve done the problem).
- "Sam, what color names are available?"
  - (ggimp-rgb-list)
  - Or create your own with (irgb-new RED GREEN BLUE))
- Warning! Friday the 13th falls on a Friday this month.
- I’ve put the "calling order" on the board today.
- Reminder: Mentor sessions are Thursdays and Sundays at 7:30 pm.
- Reminder: Quiz Friday on Drawings as Values, Procedures, and maybe a bit about documentation.
- Reading for Friday
  - The GNU Image Manipulation Program
- EC Opportunities:
  - Humanities Center Speaker Sarah Hendron TONIGHT Sept. 11, 7:30 p.m., JRC101 Waking the Machines: Art, Design, and Adaptive Technology
  - CS Table Friday (Reflections on Trusting Trust; NYT on NSA)
  - Men’s Soccer, 1:30pm, Here. Nebraska Wesleyan (sp?)
- Other things
  - Feminist Action Coalition is having a "rethink ourselves" meeting tonight at 8:00 pm. (Younker)

HW 3

- We went over the homework (available online)
  - You know everything you need to know to do this assignment
  - No, you don’t need to know how to make spirals to do this assignment
  - You can get a smile by overlaying two circles
Clicker Questions

- Today’s clicker questions are about procedures (retrospective) and documentation (coming later)

The need for documentation

- Code isn’t always obvious. Does it accomplish what it’s supposed to? How do we know?
  - We write notes in English that explains

  Recolor the image red, ignore that recolored image, and then enlarge it

  Recolor the image and make it larger

- Human-language text that describes computer code is called "Documentation"
- Written for multiple audiences: "Know your audience"
  - You - What do I want the code to do?
  - Someone who has to fix your code - What do you want the code to achieve and how do you
    achieve that goal?
  - Someone who has to USE your code
- We usually embed these in the code as comments
- In Scheme, comments begin with a semicolon
- Our focus will be comments for clients

- "Six P’s"
  - Procedure - name
  - Parameters - inputs to the program, give their name and type
  - Purpose - A quick explanation in English
  - Produces - name and type the result
  - Preconditions - Limits on input (usually)
  - Postconditions - An attempt to formally specify what

    ;; Procedure: ;; square ;; Parameter: ;; n, a real number ;; Purpose: ;; square n ;; Produces: ;;
    result, a number of the same type as n ;; Preconditions: ;; [No additional] ;; n != 0 ;;
    Postconditions: ;; n = result ;; (equals? ( n n) result) ;; result is positive e (define square
    (lambda (num) drawing-unit-square))

  Note: If we’re using inexact numbers, this may not always be true

The Six P’s - a strategy for documenting procedures
A few additional P’s

Practice

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