(60-140) Lab Exercises #2

— Learn to debug and practice with I/O functions

September 25, 2017

1. Expressions with RAPTOR and its built-in debugging functionality:

   (a) Double click on "`l1_area.rap`" (Lab Exercises #1) to start RAPTOR with the flowchart being preloaded to the workspace.

   (b) Modify the flowchart to allow the user entering a message to display in the output together with the calculated area value. For example, the following interaction shows the output after the user entering `5` for radius and "`The calculated value of the area is:` " as the message. Save the modified flowchart to "`l2_area.rap`", and submit it online.

   ```
   Enter radius:  7
   Enter the display message:  The calculated value of the area is:
   The calculated value of the area is:  153.94
   ```

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2. Exercises with functions `scanf()` and `printf()`

   (a) **3.1** (p. 50) Try to write a program that accepts a date from the user in the form *mm/dd/yyyy* and then displays it in the form *yyyymmdd*:

   ```
   Enter a date (mm/dd/yyyy):  9/20/2017
   You entered the date 20170920
   ```

   (b) Compare your code with the one posted online at the *Online Resources*.

   (c) Modify the code (yours or the posted) to change the input and output to the following form with the assumption that the numbers are all valid and the ordinal form of the numbers for both date and month always ends with "-th".

   ```
   Enter a date (dd-mm-yyyy):  20-9-2017
   This is the 20th day in the 9th month of 2017.
   ```

   (d) Save your program to a file named "`scanDate.c`" in your working directory, and submit it online.

Evaluation: All online submissions must be completed before due time, which will be kept on record. In addition, every student is required to show/demonstrate his/her complete exercises to a GA/TA at the end of this lab, or at the beginning of the next lab after completing online submission. The demonstration includes showing the submitted flowchart and/or C codes, compiling the C program, and trying out the flowchart and C program with different input values. The maximum marks for this lab is 15, with 10 for the lab work (submission and demonstration) and 5 for lab attendance.