CS16, 10S, **H13**, due **Fri Lab 04.30**—Intro to structs (handout)—Total Points: 50

Available online as http://www.cs.ucsb.edu/~pconrad/cs16/10S/homework/H13—printable PDF

Name: (4 pts) _____ Umail Address: (4 pts) _____ @umail.ucsb.edu

Lab Section (2 pts)—circle one: 9am 10am 11am noon unknown

(Note: For now, circle the lab section you are registered for on GOLD. If you need to request attendance at a different lab section because of an ACTUAL SCHEDULE CONFLICT, please email pconrad@cs.ucsb.edu with details)

This assignment is due **IN Lab on Friday, 04.30.**
It may ONLY be submitted Lab, in ESB1003 (Cooper Lab) at 9am, 10am, 11am or noon on Friday.
You must come IN PERSON to turn it in during your assigned Lab section.

Late Policy: No email submission allowed—and don't "slip it under my door". If you need to make it up, you must do so during office hours, or make an appointment to see me, and you must request this appointment within 48 hours of when the assignment was originally due.

Personal Day/Sick Day policy: Everyone is permitted one "personal day/sick day" when you get to make up a missed homework assignment for free during office hours or via appointment. After that, you may not make up the homework assignment—you can only earn back the points through extra credit opportunities.

(For more details, see the syllabus and the homework policy)

For this homework, the preparation is material on the following handout:
http://www.cs.ucsb.edu/~pconrad/cs16/10S/homework/H13/handout (pdf link)

Be sure to read not only the main text on the handout,
but also the little boxes off to the side, like the one see to the right of this sentence.

Once you've read that handout, write answers to the questions on this sheet
(use the PDF link to print a copy of this if you weren't in class).

The little boxes on the handout—boxes like this one—define terms such as *field*, *member*, and *instance*. Each of those terms appears in questions on this assignment.

1. (5 pts) Write the definition of a struct called `struct Date` that contains three `int` fields. The names of the fields should be `month`, `day` and `year`.

2. (5 pts) Write a line of code that creates a variable called `today` of type `struct Date`

3. (10 pts) Write three lines of code (**three separate assignment statements)** that use the dot operator to initialize the members of the instance of `struct Time` that you declared in the previous problem.

   Initialize those members to integers representing the date this assignment is due.

Please turn over for more...

...continued from other side

4. For each of the following segments of C code, circle YES or NO to indicate whether memory is allocated as a result.

   a. (3 pts) YES NO

   ```
   struct Time
   {
      int hours;
      int minutes;
   };
   ```

   b. (3 pts) YES NO

   ```
   int x;
   ```

   c. (3 pts) YES NO

   ```
   struct Time t1;
   ```

   d. (3 pts) YES NO

   ```
   struct Student
   {
      char name[20];
      int permNumber;
      double gpa;
   };
   ```

   e. (3 pts) YES NO

   ```
   struct Time dinnerTime = {17,30}; // 5:30pm
   ```

5. (5 pts) Assuming that we have the following declaration for a GPS coordinate:

   ```
   struct GPSCoord
   {
      double lat;
      double lon;
   };
   ```

   Write a line of code that declares a instance of struct GPSCcoord with the variable name airportSBA, that also initializes that member to the value latitude: 34.4261944, longitutde: -119.8415000.

End of H13