CS16, 10S, **H18**, due **Fri Lecture 05.07**—Even More on Structs (handout)—Total Points: 50

Available online as http://www.cs.ucsb.edu/~pconrad/cs16/10S/homework/H18—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 Lecture on Friday, 05.07.**
It may ONLY be submitted Lecture, in Chem 1171 at 1pm on Friday.
You must come IN PERSON to turn it in during your assigned Lecture 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/H18/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—also have important information you may need to complete the assignment.

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

1. Using the `struct Student` declaration shown at the right of this page:
   a. (5 pts) Declare a variable `s` that can store information about a student

   b. (5 pts) Declare a variable p that can contain the address of a struct Student

   c. (5 pts) Write an assignment statement that makes the variable `p` (from question 1b) point to the variable `s`.(from question 1a)

Please turn over for more...

...continued from other side

2. (9 pts) Using the struct definitions and declarations in the box at the right of the page, for each of the expressions below, write an equivalent expression that uses the -> operator, and does not use the * operator.

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

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

struct GPSCoord *cp;
struct Student *sp;
```

```
(*cp).lat
```

```
(*sp).name[i]
```

```
(*sp).gpa
```

3. (6 pts) Using the same struct definitions and declarations, for each of the expresions below, write an equivalent expressions that does NOT use the -> operator, but uses the * operator with the . instead.

   Remember to put the `*` with the pointer variable inside parentheses so that the `*` gets applied first.
   In the expression `(*a).b` (which is equivalent to `a->b`) the parentheses are NOT optional — `*a.b` is not the same.

```
sp->permNumber
```

```
cp->lon
```

4. (10 pts) Fill in the function definition for `setGPSCoord` below so that it assigns the values passed in for `latitude` and `longitude` to the correct members of the struct that is pointed to by `p`.

```
void setGPSCoord(struct GPSCoord *p, double latitude, double longitude)
{




}
```

End of H18