SCHOOL OF INFORMATICS AND COMPUTING
INDIANA UNIVERSITY
Bloomington

CSCI-C291 (System Programming with C & Unix)
Spring 2017

Assignment 5 (50pts)
Due by 2/13/2017, Monday Midnight through Canvas

Submission Requirements:
Please complete all exercises and properly test them on silo. Create a folder named hw4 inside exercises folder (in your GitHub repository) and submit all *.c files there. You can then submit the link to your repository on Canvas. The Source Code must include your name, date, and appropriate *comments* and ensure that the code is *properly organized* and *indented*. Make sure that the variable names are *descriptive* and the code is "readable".

Note: *Here is one way you can transfer files from your local computer to silo and back.*

Grading Scheme:

	Grade
Within each exercise the grade distribution is as follows: • Source Code • Proper Comments in code, Proper organization and indentation of the code, Code Readability i.e., proper names used for functions and variables	 90% 10%

Coding Assignments:

Answer the following questions

1. Given the following structure and variable definitions,

```
struct customer {
    char lastName[ 15 ];
    char firstName[ 15 ];
    unsigned int customerNumber;
    struct {
            char phoneNumber[ 11 ];
            char address[ 50 ];
            char city[ 15 ];
            char state[ 3 ];
            char zipCode[ 6 ];
            } personal;
    } customerRecord, *customerPtr;
    customerPtr = &customerRecord;
```

Write an expression that can be used to access the structure members in each of the following parts:

a) Member lastName of structure customerRecord.

customerRecord.lastName

b) Member lastName of the structure pointed to by customerPtr.
   customerPtr->lastName
c) Member firstName of structure customerRecord.
   customerRecord.firstName
d) Member firstName of the structure pointed to by customerPtr.
   customerPtr->firstName
e) Member customerNumber of structure customerRecord.
   customerRecord.customerNumber
f) Member customerNumber of the structure pointed to by customerPtr.
   customerRecord->customerNumber
g) Member phoneNumber of member personal of structure customerRecord.
   custmerRecord.personal.phoneNumber
h) Member phoneNumber of member personal of the structure pointed to by
   customerPtr.
   customerRecord->personal.phoneNumber
i) Member address of member personal of structure customerRecord.
   customerRecord.personal.address
j) Member address of member personal of the structure pointed to by customerPtr.
   customerRecord->personal.address
k) Member city of member personal of structure customerRecord.
   customerRecord.personal.city
l) Member city of member personal of the structure pointed to by customerPtr.
   customerRecord->personal.city
m) Member state of member personal of structure customerRecord.
   customerRecord.personal.state
n) Member state of member personal of the structure pointed to by customerPtr.
   customerRecord->personal.state
o) Member zipCode of member personal of structure customerRecord.
   customerRecord.personal.zipCode
p) Member zipCode of member personal of the structure pointed to by customerPtr.
   customerRecord->personal.zipCode