# Pointer/Memory Allocation/Struct Activity

This will be used to enter your grade from your Linux Server Activity.

You do not need getopt for this program as there are no options or arguments. Call the source/executable with a useful name relevant to the activity.

1. Create a structure with variables for a character, a string pointer, an integer, and a floating point number.  [Note: Use Typedef way of creating the structure].
2. The structure string variable is a  "char\* stringp".  In other words, the structure will have a pointer to a string.
3. Do not initialize the structure at definition time.
4. Allocate memory for 5 structures of this type.
5. Create 5 pointer variables to the type of structure created - name them appropriately. In other words, each pointer points to a corresponding structure.
6. Ask the user to enter information for each of these variables one at a time. For each variable tell them what they should enter. (For example: “Enter a single character” or “Enter a floating point number”) Read in the information and put it in the structure variables using your dynamically created pointers to those structures. Hint: You can use a subroutine function and pass the pointer(s) created in step 5.
7. Make sure for the read string you allocate the right amount of memory for the string read from the console - and store into the string pointer.
8. Print out values for the four variables for the 5 structures using the pointers. Use other printf statements to clearly identify and separate the 5 structures.
9. In addition print out the addresses of the memory locations that each string pointer points to inside the structure. Print this first.
10. After printing all the values - free the memory of the structure string pointers and print the same 5 pointers to the structures again.

Output should look something like this:

Structure 1:

Structure 1 pointer:  XXXXX

Character: h

Integer: 8

String: Caryl was here

Floating Point: 4.5

Structure 2:

Structure 2 pointer:  XXXXX

Character: x

Integer: 100

String: Juan is a friend of mine.

Floating Point: 100.2

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Structure 5:

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After free the malloc - the pointer are:

Structure 1 pointer:  ZZZZZ

Structure 2 pointer: ZZZZZ

etc until Structure 5

Note: Make sure to include your Makefile.