CS 150 Lab Week 11 Week of 3/21/2016

You will work alone on the **assignment in lab this week**. **You will lose points for work that is not submitted by the end of the lab period**. (minus 10 points for a late program) Remember to **include the necessary documentation in the source code and in the output. For each program, hand in a copy of the source code and copies of the outputs. Your lab TA will tell you how to hand in your work. There are 6 parts – approximately 17 points each.**

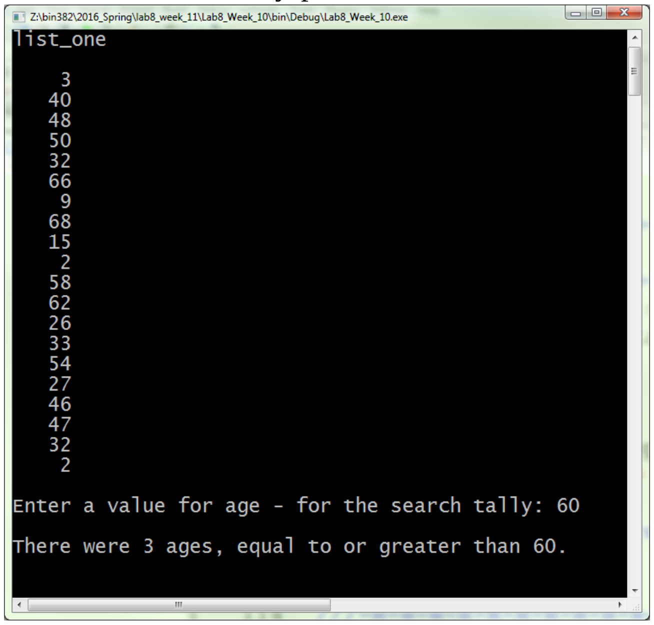
Last week we worked with an array of integer values, and completed functions to work with those arrays. This week we will work with an array of objects, and complete similar functions. The objects are structures of type avatar, which is a user defined data type. Similar to the players 'alias' in our projects this semester, an avatar is an icon or figure representing a particular person in a computer game. You can see the struct definition at the top of the lab template: ArrayStructPracticelab.cpp Execute the code in file ArrayStructPracticelab.cpp ; notice that it declares an array named list_one, initializes it with random numbers, and prints out the contents of the array. Modify the code by adding the following:

Part a. Declare a constant SIZE_TWO and initialize it with a value of 20. Declare an array named list_two with SIZE_TWO components of type avatar. Call fill_it to initialize list_two. Call printit to print out list_two.

Part b. Write a void function called **reversePrinter** that prints out the contents of an array in reverse order. The parameters to the function should be an array and the number of elements to be printed. Call the function to print out the names of the avatars in array list_one and list_two in reverse order. This function should only print out the names.

Part c. Write a void function called tally. The parameters are a list, the list size, and a target; the function prints out the number of entries in the list at or above the target age. Call the function three times from the main function, prompting the user each time.

```
///============================
int searchAge;
cout <<  "\nEnter a value for age - for the search tally: ";
cin   >>  searchAge;
tally ( list_one, SIZE_ONE, searchAge);

///============================
```

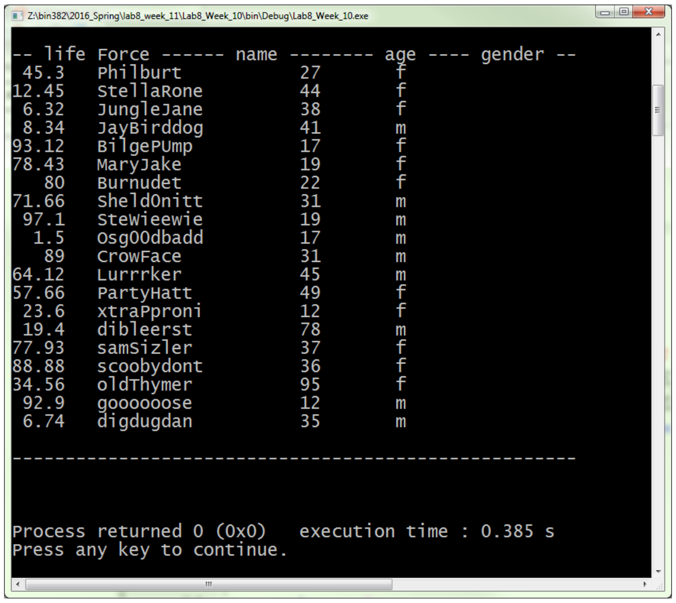

Z:\bin382\2016_Spring\lab8_week_11\Lab8_Week_10\bin\Debug\Lab8_Week_10.exe

```
list_one

   3
  40
  48
  50
  32
  66
   9
  68
  15
   2
  58
  62
  26
  33
  54
  27
  46
  47
  32
   2

Enter a value for age - for the search tally: 60

There were 3 ages, equal to or greater than 60.
```

Part d Write a void function **get_PlayerInfo**. The parameters will be the array, and the size of the array, and an input file stream. The function will fill each array entry with the rows in the input file: "playerInfo.txt".

Part e. Write a void function called **print_PlayerInfo**. The parameters will be the array, and the size of the array. The function will print out all of the player data loaded into the array. See the example code below for the program output.

Call the functions **get_PlayerInfo**, and **print_PlayerInfo**, using list_two as the array parameter.


Z:\bin382\2016_Spring\lab8_week_11\Lab8_Week_10\bin\Debug\Lab8_Week_10.exe

```
-- life Force ------ name -------- age ---- gender --
 45.3   Philburt          27       f
12.45   StellaRone        44       f
 6.32   JungleJane        38       f
 8.34   JayBirddog        41       m
93.12   BilgePUmp         17       f
78.43   MaryJake          19       f
   80   Burnudet          22       f
71.66   SheldOnitt        31       m
 97.1   SteWieewie        19       m
  1.5   Osg00dbadd        17       m
   89   CrowFace          31       m
64.12   Lurrrker          45       m
57.66   PartyHatt         49       f
 23.6   xtraPproni        12       f
 19.4   dibleerst         78       m
77.93   samSizler         37       f
88.88   scoobydont        36       f
34.56   oldThymer         95       f
 92.9   gooooose          12       m
 6.74   digdugdan         35       m

----------------------------------------------------



Process returned 0 (0x0)   execution time : 0.385 s
Press any key to continue.
```

Part f. Write a function called lowVal. The parameters are a list and the list size; the function returns the value of the player with the lowest lifeForce value entry in the list.

Call the function twice from the main program.

```
cout << "the player with the lowest life force value in list_one is "
        <<lowVal ( list_one,  SIZE_ONE)<<endl << endl;

cout << "the player with the lowest life force value in list_one is "
        <<lowVal ( list_two,  SIZE_two)<<endl << endl;
```