**CS 121 Week 15 Worksheet - More Pointer Practice**

**Pointer Practice:**

1. Given:

int vals[]={4,7,11};

int \*valptr = vals;

Determine the outputs of the following and provide reasoning on why those are the outputs:

cout<< \*(valptr+1);

cout<< \*(valptr+2);

cout<< (\*valptr)+1;

cout<< \*valptr+2;

2. Write out four different ways to access the fourth position of *list*. Assume that *list*is an initialized character pointer and that there is another character pointer, *otherptr*, equal to *list*.

1. What is the output of the following code? Write the outputs as comments.

char str1[] = "holi";

char str2[] = "day";

char \* str3 = str2;

cout <<strcmp(str3, str1) << endl;

cout << (str2 == str3) << endl;

cout << (\*str3 == \*str1) << endl;

cout<< str2[2] << endl;

cout<< \*("this is a string literal") << endl;

cout<<strlen(str3) << " "

<<strlen(str2) << " "

<<strlen(str1) << endl;

1. Explain the differences between the two lines below. Assume *ptr* and *ptr2* are float pointers.

cout<< (ptr == ptr2) <<endl;

cout<< (\*ptr == \*ptr2) <<endl;

1. Create an Employee class that has variables *name* (must be a c-string) and *salary* (any floating-point data type), has a constructor that takes in a string and double, and a *printSelf* to print its contents. Afterwards, create an instance of Employee in *main*, initialize the instance by its constructor, and lastly use its printSelf function to print its contents. You may choose whichever way to set up the Employee class, however the variables name and salary must be initialized by user input. **The program must take care of any possible memory leaks.**