**CEIS420 Week 3 Homework**

**Question 1**

Assume the following JavaScript program was interpreted using static-scoping rules. What value of x is displayed in function sub1? Under dynamic-scoping rules, what value of x is displayed in function sub1?

var x;

function sub1() {

document.write("x = " + x + "<br />");

}

function sub2() {

var x;

x = 10;

sub1();

}

x = 5;

sub2();

Answer:

X = 5

X = 10

**Question 2**

In the lesson and book is an explanation of primitive data types. Using full sentences explain integer and floating point data types, enumeration, and pointer types.

Answer:

Starting with Integer, this data type stores whole numbers from a large negative and up to a large positive number per language, and in some cases per compiler, in example C# stores -2,147,483,688 to 2,147,483,647 in an int type variable. Floating point is similar, but with decimal places allowed and a 6-9 digit precision. Along the same example, C# allows +-1.5e10^-45 to +-3.4e10^38. Enumeration is the ability to initialize a set of variables or otherwise set up a series of named constants. In C# this is fairly easy, setting up like a function with enum NAME{item1, item2, etc}. Pointers are variables that “point” to a different variable, though will store the memory location of what they are pointing to in their assignment statement – it is important to note that the memory location of the pointer is different than what it is pointing to. Continuing the same examples in C# - int normalVar = 27; int\* pointerToVar = &normalVar;.

**Question 3**

Let the function fun be defined as follows.

**int** fun (**int** \* k) {

\*k += 4;

**return** 3 \* (\*k) -1;

**}**

Suppose fun is used in a program as follows.

**void**  main () {

**int** i = 10, j=10, sum1, sum2;

sum1 = (i / 2) + fun(&i);

sum2 = fun(&j) +(j /2);

}

What are the values of sum1 and sum2

Sum1 = 46

Sum2 = 48