ICS 212 – C/C++

Homework # 6

Pointers

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Date: October 2, 2020

Given: int a, b, c; a=5; b=4;c=2;

int \*x, \*y, \*z;

1. Give the commands to accomplish the following:
2. Make x point to b; x = &b;
3. Make y point to a; y = &a;
4. Make z point to c; z = &c;
5. Change what y points to, to 25; \*y = 25;
6. Make z point to what x points to. z = x;
7. Make x point to what c points to. x = &c;
8. Make what x points to, the same as what y points to. x = y;
9. Write a module that “swaps” the contents of two variables. This module will take in two pointers, which point to the two values that need to be swapped. These variables that need to be swapped are both integers.

int swap(int \*num1, int \*num2) {

int temp;

temp = \*num1;

\*num1 = \*num2;

\*num2 = temp;

return temp;

} // end swap function

1. Write a program that asks for two integers from a user. Use the variable names innum1 and innum2. Have your program compare the two values. If innum2 is less than innum1 then call the program you wrote in #2 to “swap” the values of each variable. Print out the results **in order**, i.e. printout innum1 first and then innum2.

#include <stdio.h>

#include <stdlib.h>

int swap(int \*num1, int \*num2) {

int temp;

temp = \*num1;

\*num1 = \*num2;

\*num2 = temp;

return temp;

} // end swap function

int main(int argc, const char \* argv[]) {

int innum1, innum2;

printf("Enter two integers: \n");

scanf("%d", &innum1);

scanf(" %d", &innum2);

printf("\nBefore swap: %d, %d\n", innum1, innum2); //User #s before swap

if (innum2 < innum1) { //Check: if innum2 < innum1

int numSwap = swap(&innum1, &innum2); //swap #s

printf("\nAfter swap: %d, %d\n", innum1, innum2);

} else { //innum1 > innum2 do not swap

printf("\nNo swap: %d, %d\n", innum1, innum2);

}

return 0;

}