1 – Fix Errors

Description:

The code was written in Codelite with the default layout. The program was tested by running it several times using different values for the expected results. Error messages from the Codelite IDE were used to help fix the errors in the program.

Constants were removed from the program so that it would run. There are 3 sets of information presented by the program. The first set displays the regular numbers, their addresses, and de-referenced address pointers so it would display the same regular numbers. The second set switches the de-referenced pointer of the second and third numbers, however it still displays the same addresses. The third set has switched every number to be the same, while the addresses are switched.

Output Example:

11 22 33

0x7ffdad9c8104 0x7ffdad9c8108 0x7ffdad9c810c

11 22 33

22 33 22

0x7ffdad9c8104 0x7ffdad9c8108 0x7ffdad9c810c

22 33 22

22 22 22

0x7ffdad9c8108 0x7ffdad9c810c 0x7ffdad9c8108

22 22 22

2 – Sum of first n positive integers

Description:

The code was written in Codelite with the default layout. The program was tested by running it several times using different values for the expected results. The powerpoint on recursion was also used for guidance.

The program will ask the user to enter a number, and the program will add up all of the numbers up to it. All it requires is for a function to decrement the selected number and add each one to a total counter and continue until it reaches 0.

Output Example:

The program will prompt you to enter an integer and the program will

add up all the previous integers leading up to it including the integer that was entered.

Please enter an integer: 5

Total = 15

3 – Fibonacci Sequence

Description:

The code was written in Codelite with the default layout. The program was tested by running it several times using different values for the expected results. The recursive algorithm from the powerpoint was borrowed to create this program.

The program will ask the user to enter a number, and the program will treat it as n to display the select number of fibonacci numbers in ascending order. The fibonacci sequence is derived by adding the previous 2 numbers to get the current one. The recursive algorithm works in that way by promoting the user to say how many fibonacci numbers they want and then adding up the results from subtracting the current number by 1 and by 2. A counter is used to match the number of times it should be added.

Output Example:

How many of the first n numbers do you want the fibonacci program to display? 5

The first 5 numbers in the fibonacci sequence are: 0 1 1 2 3

4 – Replace quotes

Description:

The code was written in Codelite with the default layout. The program was tested just once to ensure that the formatting looked easy to read.

The program just displays uses for the address-of operator and the de-reference operator. It is an example of how pointers are used.

Output Example:

1) This line simply states the value of the count integer which is: 5

2) This line states the address value of the count integer using the address of operator (&) which is: 0x7ffdb322ca8c

3) This line refers to a pointer that currently matches

the value of &count so it is the same as the above line: 0x7ffdb322ca8c

4) This line de-references (\*) the pCount pointer, so it goes back to: 5