Name: Christopher Carl
Email: ccarl2@fau.edu
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Z Number: Z23146703

LAB TITLE: Title 1

Ans:

1. **Question 1:** Place a breakpoint at the line "int x = 1, y = 1;" and run the program using Debug, Start Debugging. The program stops at the first breakpoint. What are the values of x and y at this point in the program?

        x   -858993460 int

        y   -858993460 int

2. **Question 2:** Use the Step Over command once. What now are the values of x and y at this point in the program?

        x   1   int

        y   1   int

3. **Question 3:** In your own words, explain why the change in the values of x and y that occurred in Step 2 was not visible at the breakpoint in Step 1.

   The breakpoint was placed at the point before the assignment of the integer variables was executed.

4. **Question 4:** The yellow arrow should be pointing to the line "pr_message("Hello world!");". Use the Step Into command to enter this function. Explain what you see.

   I have no idea what I'm seeing. What I think I see is some kind of string-making function that calls other functions that takes a thing surrounded by quotes and stores it as a string object.

```
basic_string(const _Elem *_Ptr)
    : _Mybase()
    {    // construct from [_Ptr, <null>)
    _Tidy();
    assign(_Ptr);
        }
```

5. **Question 5:** Now use the Step Out command to return to "pr_message("Hello world!");". What is the command you used for this action?

   Shift+F11

6. **Question 6:** Now in the main function, place a breakpoint on the line "x = y / x;". Keep an eye on the window as you continously use the Step Over command until you reach this breakpoint. What line in the program sets the denominator to cause the divide-by-zero error?

   Line 14 sets the denominator to zero by decrementing the int x.

7. **Question 7:** Based on your answer in Question 6, correct the code to allow the program to run to completion.

   Literally anything but executing Line 14, or Line 15, or line 20 without modifying --x to anything else but that.