Answers to Questions from P1.2

Name: Gia Huy Nguyen
Student ID: 103441107

How many Counter objects were created?

A total of <***2 (+ 1 reference to an object)***>

Variables declared in main() are different to the objects created when we call new. What is the relationship between the declared variables in main and the objects created?

Variables <***such as Counter[0] contain references to***> objects.

Resetting the counter in myCounters[2] also changes the value of the counter in myCounters[0]. Why does this happen?

myCounter[2] and myCounter[0] [***contain a number of references to the same object***]

The key difference between memory on the heap compared to the stack and the heap is that the heap holds dynamically allocated memory. What does this mean ?

Dynamic memory allocation means <***that memory can be allocated and freed at any time without regard for any particular order the stack, on the other hand, is accessed in the Last-In-First-Out order.***>

On which are objects allocated (heap or stack) ? On which are local variables allocated (heap or stack) ?

Objects are allocated on the [***heap, identifiers for the stack's objects***]
Local variables are allocated on the [***stack, references to more dynamic objects are frequently used.***]

What does the new() method do when called for a particular class What does it do and what does it return?

When new is called on a class it ***<allocates and initializes the memory needed for the week (calls the constructor)>*** then it returns ***<a memory address containing a reference to the object>***

Draw a diagram showing the locations of the variables and objects in main.