Answers to Questions from P1.2

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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 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 a set order. On the other hand, the stack is accessed in the order it is set in using 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, references to the objects on the stack.
Local variables are allocated on the Stack, often consisting of references to more dynamic objects.

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 the memory required on the week and initialises it (calls the constructor) then it returns *a reference to the object in the form of a memory address*

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