Answers to Questions from P1.2

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How many Counter objects were created?

 A total of 2

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 point to (or reference) 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] are pointers to the same object, so doing something to myCounter[2] is identical to doing something to myCounter[1]

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 memory is allocated during runtime, rather than prior to running the program

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

Objects are allocated on the heap
Local variables are allocated on the stack

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 memory, constructs/initialises it* then it returns *an address to that location in memory.*

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

Stack	Heap

Main
myCounter[]

Counter[]
Counter[0]
Counter[1]
Counter[2]

Counter
_name = "Counter 1"
_count

Counter
_name = "Counter 2"
_count