

Answers to Questions from P1.2

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How many Counter objects were created?

2 Counter objects were created.

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 are used to refer to the objects created

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

That's because myCounter[2] and myCounter[0] are both referencing 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 it can assign the space in its memory while the program itself is running.

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

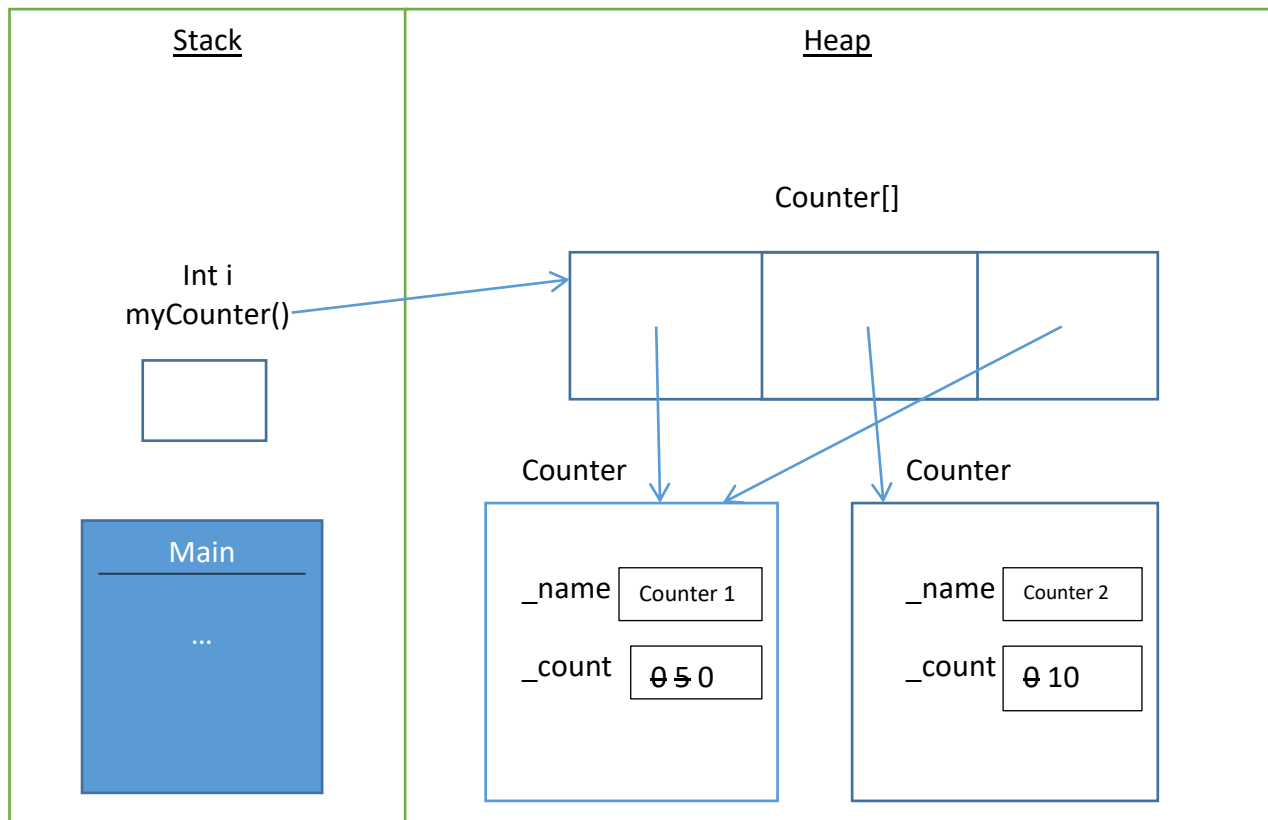
Objects are allocated on the Heap

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 *creates a space on the heap* then it returns the reference

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



(note: for counter with name counter 1, its count was zero at first, then it was incremented to 5, then it was finally reset to zero.
For counter with name 2, its count was zero at first, then it was incremented to 10)