

Answers to Questions from P1.2

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How many Counter objects were created?

A total of 2, as myCounters[2] is just pointing to the location of mycounters[0] and not actually creating a new instance of it

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 primitive types of data, objects are user defined data types. The relationship is that a collection of primitive types of data is used to create a user defined data type. For example int main we create the object myCounters of type counterclass which is a user defined data type and is made from using primitive data types (string and int)

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

My counters[2] also resets when counters[0] resets as when counter[2] was created it was initialized with the location of mycounter[0] therefore creating a link.

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 the size of the memory we are using can be increased to what we are using during run time

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 new user defined data type then it returns the values stored

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

