

Task 4.1P Answer Sheet

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1. How many Counter objects were created?

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

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?

They are containing references to the objects. In this case, variables such as myCounter[0] contain references to the objects

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

As they are including the same references to the object. In this case myCounter[0] and myCounter[2] contain same references to the objects (same object)

4. 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 ?

Stack using a method call last in first out (LIFO) while heap used dynamic allocation for allocating and deallocating memory blocks without a set order and dynamic allocation are more advantage since we don't know how much amount of memory it is required for the program beforehand.

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

Objects are allocated as heap while references objects on stack.

Local variables allocated as stack.

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

When new() method is call for a particular class, it will allocates the required memory on the disk and call for the constructor and returning the reference to the objects.

7. Draw a diagram showing the locations of the variables and objects in main and their relationships to one another.

