Swinburne University of Technology

Object Oriented Programming (2022 S1)

Doubtfire Submission

Task 3.1P: The Stack and Heap

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Task 3.1P Answer Sheet

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1. How many Counter objects were created?

A total of 2 counter objects.

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 declared in main() contains the connection to the objects.

3. 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] would have the same memory.

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 ?

Dynamic memory allocation means the process of assigning memory during run time.

5. 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.

6. 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 generates a new instance type and initialises it into a class object before returning the object's address memory.

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