# Pointers and Box-and-Arrow Diagrams

Question 1

Stack - values being stored on the stack are done so the standard way without the **new** keyword. The memory on the stack gets deleted when the program has finished running.

Heap - we know memory is being allocated to the heap by the use of the **new** keyword. This memory must be deleted by the programmer in the code with the **delete** keyword.
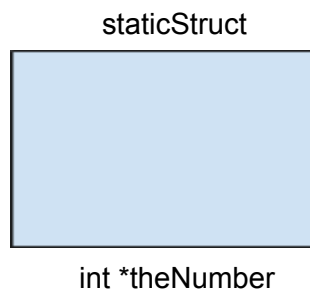
Question 2

pointerArray

*int   *int   *int

0   1   2

Stack   (*arrow from pointerArray[1]*)

Heap

	1		50		10	
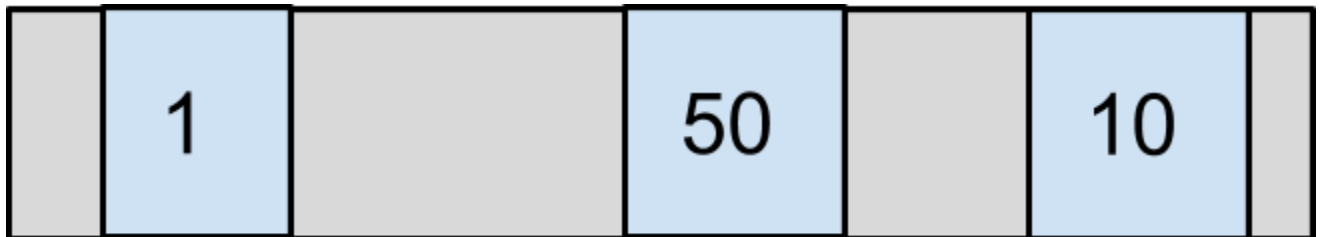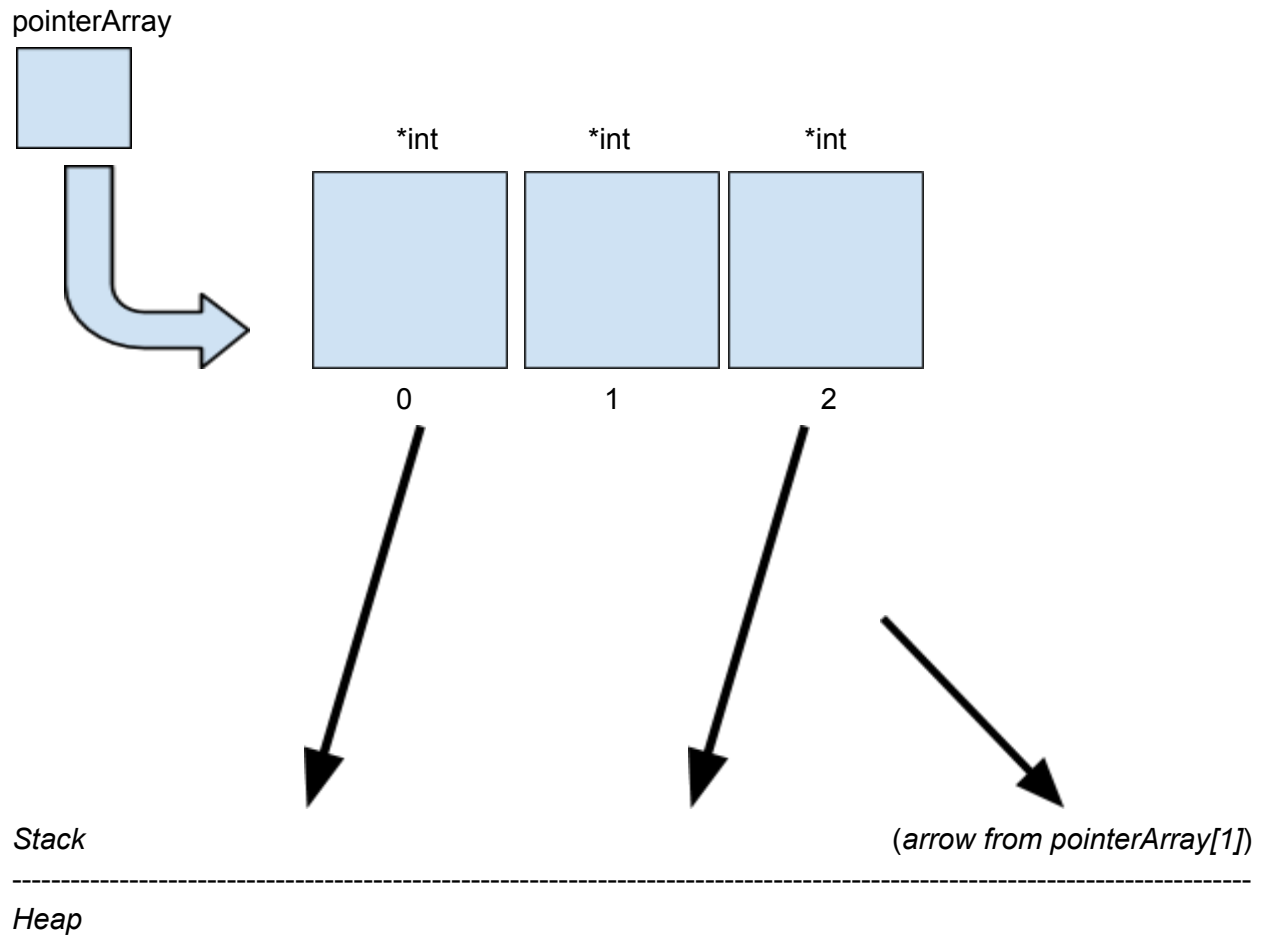
Grey denotes unused memory

Question 3

1.

staticStruct

int *theNumber

Stack

Heap

Grey denotes unused memory

2.

staticStruct

int *theNumber

Stack

Heap

dynamic Struct

	10				55	

Int *theNumber
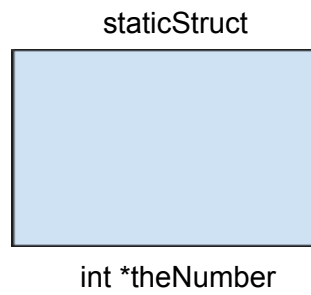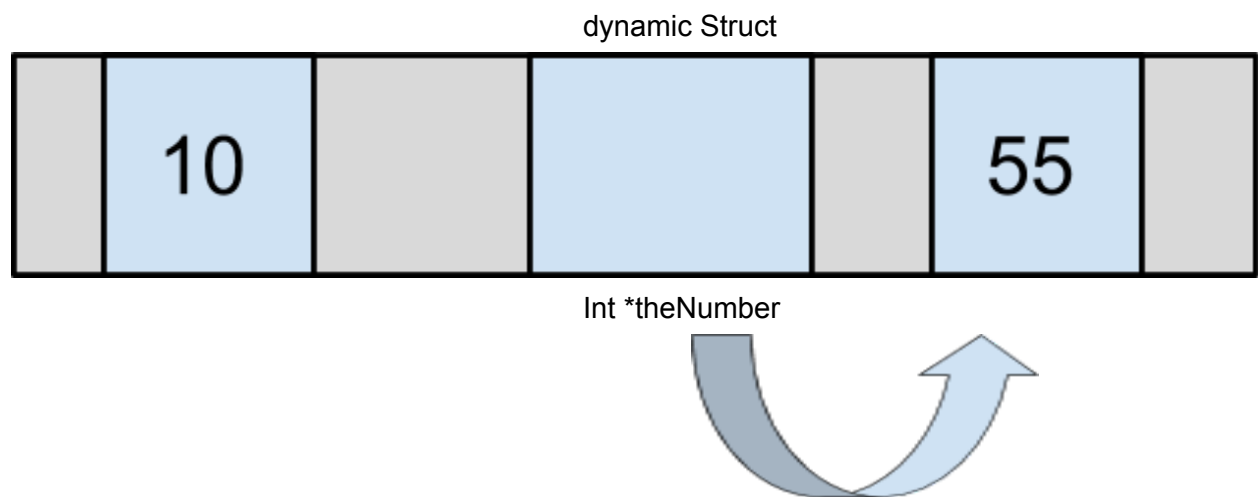
3.

staticStruct

Stack

Heap

dynamic Struct

Dark grey denotes deallocated memory