

Pointers and Memory Solutions

Pointers

- Write a simple program that creates a pointer
- Use a stack variable to set the pointer's value
- Print out the value of the pointer
- Print out the value of the stack variable by dereferencing the pointer

Pointers and Heap Memory

- Explain how to obtain allocated memory from the heap
 - Use the new operator
- Why are pointers needed for this kind of memory?
 - new returns the address of the allocated memory, which can only be stored in a pointer
- What important thing must you do with this memory when you have finished using it? Why is it important?
 - Memory should be released by the delete operator
 - To avoid a “memory leak”
 - To prevent the program from using too much memory
 - To prevent the program from running out of memory

Array Allocation

- Explain how to obtain allocated memory from the heap which can be used for an array
 - Use the array form of new
- Write a simple program which allocates memory from the heap for an array. Populate the array and print out the values of its elements
- What important thing must you do with this memory when you have finished using it? Why is it important?
 - Use the delete[] operator to prevent a memory leak