

A stack is a data storage container in which the first item (of any data type) placed in storage is the last to be removed from storage (First In, Last Out). A stack can easily be implemented by placing an item on the back of a dynamic array (resizing as necessary) and removing from the back when asked to do so.

The stack implements the following functions:

push – inserts a new item on the back of the array

pop – removes an item from the back of the array and returns it to the caller

top – returns the last item on the array but does not remove it

clear – empties the entire array

isEmpty – returns true where there is nothing left on the stack

Because we are working with a dynamic array, we must also implement the Big 3.

Remember: The dynamic array will probably have a larger capacity than the number of elements in the array, so you will need to store both the size and the capacity of the array.