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June 28, 2016

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CSC205

Stack Top At 0

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The generic implementation of a stack utilizes the top element as the first element which is available, this element is indexed as the number of elements, plus 1. In mathematical notation, this is described as (n+1), where n is the number of elements in the Stack. However, if the top of the stack were to be indexed at 0, and were to ignore the generic convention of how a Stack is regularly implemented, then any method that is utilized from the Stack class will be required to traverse the entire array before the method is actualized. The time complexity of switching from the regular use of the Stack class, to an implementation at which top is indexed at 0 would then cause all methods to run at a time complexity of O(n), also known as linear time, because it would be required to traverse the whole array before performing the methods.