

## Programming Lab #5

# Inserting and Deleting

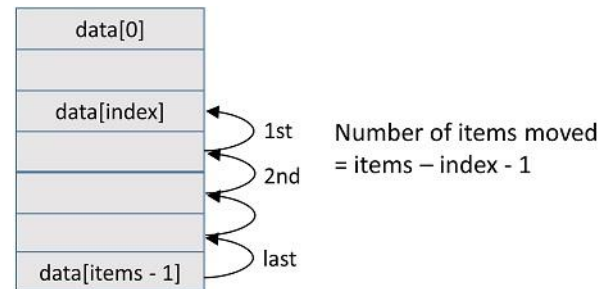
Prerequisite Reading: Chapters 1-6

Revised: October 10, 2017

Create an assembly language source code file containing two functions:

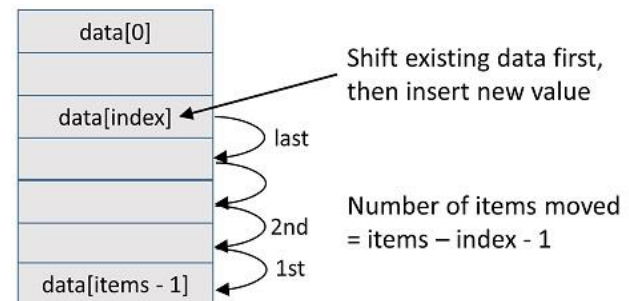
```
void DeleteItem(int32_t data[], int32_t items, int32_t index) ;
```

Parameters: "data" is an array of 32-bit integers, "items" is the number of items in the array, and "index" is the subscript position of the item to be deleted. Deleting an item requires shifting the remaining data. For example, if the array initially contains the values 1,2,3,4,5 and you delete the item at index position 2, then the array should contain 1,2,4,5.



```
void InsertItem(int32_t data[], int32_t items, int32_t index, int32_t value) ;
```

Array items starting at subscript position "index" should be shifted to make room to insert a new value at position "index". (The last item in the array is discarded.) For example, if the array initially contains the values 1,2,3,4,5 and you insert the value 0 at index position 2, then the array should contain 1,2,0,3,4. Note that inserting a new item does NOT increase the number of items in the array; instead, the item at the end of the array is lost.



Test your functions using the main program downloaded from [here](#). If your code is correct, the display should look like the image at right, although your cycle counts may differ:

STM32F429I-DISCO				
Del at index 0: 84 Clock Cycles				
Ins at index 0: 93 Clock Cycles				
Index	Orig	Del	Ins	
0	933	743	0	
1	743	262	933	
2	262	529	743	
3	529	700	262	
4	700	508	529	
5	508	752	700	
6	752	256	508	
7	256	256	752	
8	256	119	256	
9	119	119	256	
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