

MA 251 Data Structures
Laboratory Assignment 2
07-08-2019

Note: Upload your programs to the server (deadline: 4:30 pm).

1. Write a function to copy a source array, starting from the first index, to a target array.
The function prototype is

void arrayCpy(srcArray, srcLen, dstArray, dstLen);

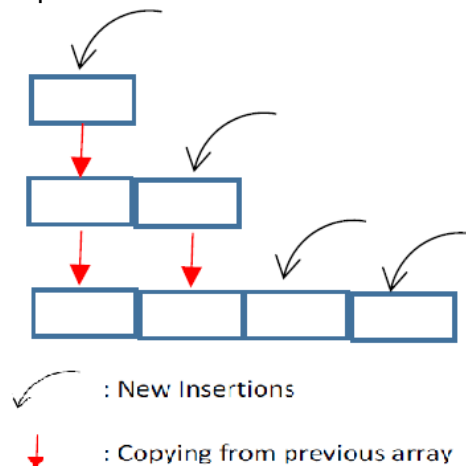
[For example, if
srcArray[] = {5, 6, 7}
dstArray[7] = {1, 2, 3, 4}

Then after function call **arrayCpy(srcArray, 3, dstArray, 7)**, the elements of the destination array will be, dstArray[7] = { 5, 6, 7, 4}.]

2. A dynamic array (as discussed in class) double its size, whenever it runs out of space.
Assume the initial size of the array to be 1.

The number of copies (from previous array) and new insertions possible are shown in the figure below for different values of input N.

N	Copies	Insertions
1	0	1
2	1	1
4	2	2
.....		



Write a program to create a dynamic array of size N. Your program should take N as user input. Use the arrayCpy() function of Q1, to copy the previous array.

Count the number of copies and insertions possible for a given value of N and the average operation per insertion. For example, for N=4, there are 3 copies and 4 possible insertions, making it a total of 7. Therefore, average = 7/4.