

BRONX COMMUNITY COLLEGE
of The City University of New York

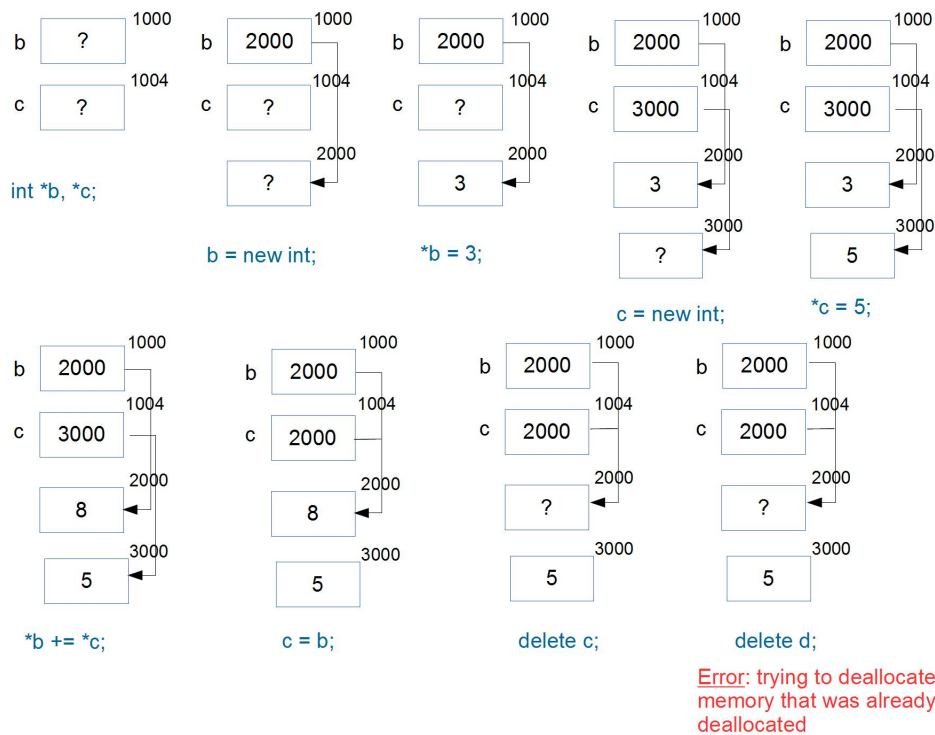
DEPARTMENT OF MATHEMATICS and COMPUTER SCIENCE

CSI 33

Midterm Exam Review - Answers to sample questions

1. Python lists are implemented using contiguous arrays: **True**
2. Inserting into the middle of array-based implementation of list is a $\Theta(n)$ operation: **True**
3. Looking up an item in a Python dictionary, given a key, is a $\Theta(n)$ operation: **False**
4. Which of the following is **not true** of Python list (choose only one)?
 - (a) They are implemented underneath as contiguous arrays
 - (b) They allow for efficient random access
 - (c) They can grow and shrink dynamically
 - (d) **All items in a list must be of the same type**
5. What operation is not supported for Python dictionaries?
 - (a) **Item ordering (sorting)**
 - (b) Item insertion
 - (c) Item deletion
 - (d) Item lookup
6. A C++ function must return a value: **False**

7. We have a memory leak (lost information about the memory allocated for integer, with 5 in it).



One way to fix it is to remove line `c=b;`, another is to use temporary storage `tmp`, before the assignment `c=b;`:

```
tmp = c;
c = b;
delete c;
delete tmp;
```