CS 225 - Lecture 2

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1 Learning Goals

↪ Brief high level overview of C++

↪ Fundamentals of Objects/Classes

↪ Pointers, Reference

↪ Memory management & Ownership

2 Memory Management

Table 1: Memory types

	Stack	Heap
Storage	Local variable storage	Dynamic storage
Allocation/deallocation	Automatic	Manual - *new/delete*
Access	Quicker	Slower
Space	small	large

Table 2: Function call types

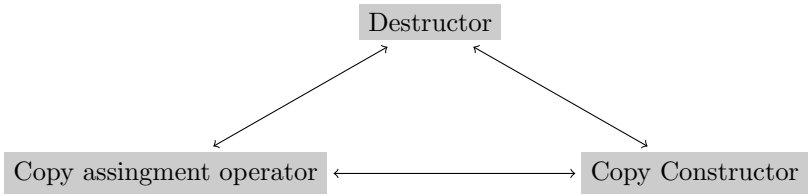
	Value	Pointer to value	Reference
Call	square(*int* x)	square(*int** x)	square(int & *x*)
Storage	local **copy**	pointer variable to original	alias for original

2.1 Ownership

↪ Litmus Test - A "owns" B if B is destroyed when A is destroyed.

3 Rule of three

If *any one* of these three functions has to be defined in a class (OWNER), then define **all three**.



Other classes STAY AWAY from each of these three!