CS 162, Lecture 11: Big 3 Activity

25 April 2018

Function	Prototype	Job	When is it called?	Default behavior if not defined	Reminders
Constructor	ClassName(); ClassName(w/params);	Build the object	Default is called when object is declared if no parameters are given. Nondefault is called if parameters are given.	Will declare all variables with garbage values, will not set up pointers.	If any constructor is defined then the compiler will not provide one, even if a default constructor is not defined.
Copy Constructor	ClassName(const ClassName &);	Copies the contents of the passed in object to the destination object.	1. Pass by value 2. Return value 3. When initializing an object with this constructor	Shallow copy, will only copy over the values stored in each variable	Works with objects that can be assumed to be unitialized.

Function	Prototype	Job	When is it called?	Default behavior if not defined	Reminders
Assignment Operator Overload	ClassName & operator=(const ClassName &);	Copies the contents of the right operand to the left operand.	When setting an object of the same class type to another object of the same class type	Shallow copy, will only copy over the values stored in each variable	Left operand may already be initialized, must check for a delete preexisting memory when copying
Destructor	~ClassName();	Destroys the object	Any time an object goes out of scope 1. When a function ends 2. When the program ends 3. A block containing a local variable ends 4. A delete operator is called	Will delete anything on the stack	Define a destructor whenever there is dynamic memory in order to delete all of the memory being pointed to on the heap

Activity instructions

- In driver.cpp answer all of the comments
- At the end, count how many times each of the following gets called for the example run of the program with choosing to add a course:
  - Default Constructor
  - Nondefault Constructor
  - Copy Constructor
  - Assignment Operator Overload
  - Destructor