

The Big Three

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Overview

- Midterm Solution
- Project 1 Part 2 Solution
- The Big Three

The Big Three

- Copy constructor
 - Assignment operator
 - Destructor
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- If you have to implement any one of them, then you should implement all of them

Destructor

- An instance's destructor is called
 - implicitly when the instance goes out of scope
 - explicitly when `delete` is called on the instance
- Needs to be declared whenever dynamic memory is used in the class
- Can also be used for class “clean up”

```
~ClassName();
```

Copy constructor

- Default copy constructor will only perform a **shallow copy**
 - Pointers will point to the same dynamic data
- Copy constructor should implement a deep copy
- Used when returning an instance of the object, or passing the object by value

```
Tuple(const Tuple &other);
```

Overloading Assignment Operator

- Used when assigning an object to another object:
 - Tuple a_tuple, b_tuple(5);
 - a_tuple = b_tuple;

```
void operator =(const Tuple &other);
```

```
Tuple& operator =(const Tuple &other);
```