

Title: Understanding the Basics: Default Constructors and Destructors

Answer to Problems

Problem 2:

1. When an object of class Line is created using the constructor then its length will be set to 0 instead of a garbage or random value

Notes

Constructor:

Automatic Invocation: The default constructor is invoked implicitly when an object is instantiated.

Compiler-Generated: If a class does not have any constructor explicitly defined, the compiler generates a default constructor. However, if any user-defined constructor is present, the compiler does not provide a default constructor.

Initialization: Default constructors are responsible for initializing member variables to default values. This is vital to ensure that objects start with a consistent state.

Destructor:

Implicit Invocation: Similar to default constructors, destructors are invoked automatically when an object is about to be destroyed.

Memory Cleanup: Destructors are crucial for releasing resources acquired by an object during its lifetime. This can include freeing dynamically allocated memory, closing file handles, or releasing other external resources.

User-Defined Destructors: While the compiler provides a default destructor if one is not explicitly defined, in some cases, a class may require a user-defined destructor to handle custom cleanup operations.