

Classes and Traditional Pointers Exercises

- A class has a traditional pointer as a member. Describe how to write the constructor and destructor of the class (Hint: think about the RAII idiom)
- What happens if we do not define a copy constructor or assignment operator for the class?
- Do these issues occur if the member is a smart pointer?

- Explain what is meant by the terms "shallow copy" and "deep copy"
- Describe how to implement a copy constructor which performs a deep copy
- Describe how to implement an assignment operator which performs a deep copy

- What is meant by self-assignment?
- Why is it a problem when we have a class with a traditional pointer as a member?
- How can this be avoided?

- Implement a class which has a traditional pointer as a member
- Your implementation must not cause any memory leaks or memory access errors
- Write a simple program which uses your class