

Copy and Swap Solutions

Assignment Operator with Strong Guarantee

- Describe how to write an assignment operator for an RAI class that provides the strong exception guarantee
 - Create a local variable which is a copy of the function argument
 - Swap the contents of the local variable with the "this" object
 - Return the "this" object, which contains the correct values
 - The local variable is destroyed when the function returns
 - If the copy operation throws an exception, we do not swap
 - The local variable is destroyed during stack unwinding
 - The original object is unmodified

Assignment Operator with Strong Guarantee

- Briefly explain how your solution provides the strong exception guarantee
 - If an exception occurs, the original object is unmodified
 - The program is in the same state as when the assignment operation began

Writing a Class using RAI

- Implement your solution for the class shown below

```
class String {  
    private:  
        int size;  
        char *data;  
        ...  
};
```