

# Move constructors Solutions

- In what circumstances is the move constructor called?
  - When copying an rvalue (literal or temporary)
- Write a move constructor for a simple class that has a member of built-in type and a member which is a class instance
- Add a copy constructor and default constructor to your class
- Put a print statement in your constructors and experiment with creating instances to call them

- Why is it undesirable for move operators to throw exceptions?
  - If a move operator throws an exception, the strong guarantee is violated
  - Objects of this type cannot be stored in an STL container
- What do we need to remember when writing a move constructor for a derived class?
  - The base class part must be moved in the derived class's move constructor

- What happens when we try to copy a temporary instance of a class that does not have a move constructor?
  - In the absence of a move constructor, the copy constructor will be called
  - This maintains compatibility with older versions of C++
- Can we assume that the compiler will always generate a default move constructor if we do not implement one?
  - No. The compiler will not generate a default move constructor if the class has a copy operator or a destructor