Member and Non-member Operators Solutions

Member and Non-member Operators

- In general, is it better to implement operators as member functions or as non-member functions? Explain why
  - Operators should be implemented as member functions where possible
  - Direct access to private data
  - All class-related code is in the same place
  - However, some operators are better implemented as non-member functions
  - Some operators cannot be implemented as member functions

Binary non-member operators

- Consider the following code sample. Describe what happens if the + operator is defined as
- A member function
- A non-member function

```
String w { "world" };
String hi = "hello " + w;
```

  - This does not compile when defined as a member function
  - When it is a non-member function, the compiler interprets it as
    - String hi = operator +(String{"hello"}, w);
  - If String has a constructor that takes a C-style string, the compiler can convert the function argument to an Sting object

When to use Member Operators?

- Give some examples of operators which are best implemented as
  - A member function
  - ++, -=, dereferencing operator *, assignment operator =
  - A non-member function
  - +, ==, stream operator <<