1. Why don't conversion operators such as operator float() have return type specified?

Conversion operators, such as operator float(), do not a need a return type to be specified because the return type is implicitly defined in the operators name. For example, for operator float(), the compiler knows that the return type will be of type float.

1. We have talked about performing conversions in situations where you might not control the source code. In practice, do you think this is really a problem?

Performing conversions in situations where the user does not have control of the source code is a problem. Any changes to the source code can cause the conversion algorithm implemented by the user to be wrong.

1. If you really wanted to prevent client software from performing certain conversions, can you prevent them from happening?

Yes. One example is to define the operators within the private section of a class or to use the explicit operator.

1. Why might the availability of automatic conversions be a problem?

The availability of automatic conversion can be a problem because it can cause bugs in the code that are difficult to find and it can make the code harder to maintain.

1. Why is it usually better to pass objects by reference than by value?

Is usually better to pass objects by reference than by value because is more efficient than passing by reference, the user makes sure that the no implicit conversions are being made, and the whole value is passed to the function without any unexpected modification.