Use of and Using R as an Object Oriented Language

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The benefit of encapsulating data and methods in OO programming are well established. Although R has some aspiration as an Object Oriented Language, it is reasonable to say that its use as such is discouraged. One reason for this is that its mechanism for storing complex types within objects is awkward: use has to be made of lists to essentially ensure distinctness when creating vectors and other hierarchies of these objects.

However lists themselves are very flexible, and arguably too flexible, for use within code that has both to be maintained and also where the integrity of the managed objects must be maintained.

This paper proposes a simple template mechanism, analogous to C++ Template implementation that enables the creation objects that are robust in that they rely on key R concepts but none the less enforce the type rules intended by their creator.

Some simple examples are given in parsing free format text.