

Object-Orientation - Multiple Inheritance

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Multiple inheritance is a feature of some object-oriented programming languages in which an object or a class can inherit attributes and methods from multiple parent classes. Examples of programming languages that support multiple inheritance are C++, CLOS, Curl, Perl, Python and others. Languages such as C# or Ruby provide a limited form of multiple inheritance. This feature in some cases can be useful but it brings some semantic and pragmatic issues with it.

Issues that need to be solved are as follows. Suppose two parent classes provide a method with the same name. Then we don't know which one do we use in the child. Next issue is called The diamond problem. Two parents are derived from grandparent class and override its methods. We don't know which implementation should we use in the grandchild.

In our presentation, we will explain in more depth the topic of multiple inheritance and show examples of implementation in several languages. We will describe issues mentioned above and explain their consequences. Then we will discuss possible solutions from the point of view of compilers to solve them.