Module (programming)

From Wikipedia, the free encyclopedia

In computer science, a **module** is a software entity that groups a set of (typically cohesive) subprograms and data structures. Modules are units that can be compiled separately, which makes them reusable and allows multiple programmers to work on different modules simultaneously. Modules also promote modularity and encapsulation (i.e. information hiding), both of which can make complex programs easier to understand.

Modules provide a separation between interface and implementation. A module interface expresses the elements that are provided and required by the module. The elements defined in the interface are visible to other modules. The implementation contains the working code that corresponds to the elements declared in the interface. Languages that explicitly support the module concept include Ada, D, F, Fortran, Pascal, ML, Modula-2, Python and Ruby. The IBM System i (aka AS/400 and iSeries) also uses Modules in RPG, COBOL and CL when programming in the ILE environment.

Modules and classes

The differences between classes and modules are:

- Classes can be instantiated to create objects,
- Classes can inherit behavior and data from another class,
- Polymorphism allows relationships between class instances to change at run-time, while relations between modules are static.

The similarities between classes and modules are:

- Both can be used to hide implentation details from public view.
- Both can form a hierarchy of modules/classes.

Module Interconnection Languages (MILs)

Module Interconnection Languages (**MILs**) provide formal grammar constructs for deciding the various module interconnection specifications required to assemble a complete software system. MILs enable the separation between programming-in-the-small and programming-in-the-large. Coding a module represents programming in the small, while assembling a system with the help of a MIL represents programming in the large. An example of MIL is MIL-75. NOT RIGHT

External links

- Environment Modules (http://modules.sourceforge.net/)

Retrieved from "http://en.wikipedia.org/wiki/Module_%28programming%29"

Categories: Articles to be merged since December 2006 | Articles lacking sources from June 2006 | All articles lacking sources | Computer programming

---

- This page was last modified 06:10, 10 December 2006.