

Advantages of OOP

OOP provides advantages over traditional structural programming languages. OOP facilitates writing applications by turning real-world objects into code components. OOP enables users to model real-world objects. Modeling means representing real-world objects as components in Java. **Object-Oriented Programming** allows programmers and customers to use the same terminology to explain the business domain and the program.

In Summary:

- ▣ *Enables the use of real-world modeling*
- ▣ *Promotes the reuse of code*
- ▣ *Provides flexibility in the modification of an existing application*
- ▣ *Helps with the maintainability of code.*

Let's go in detail with the advantages...

ENABLES THE USE OF REAL-WORLD MODELING

Consider an example. A car is an object that has specific attributes, such as an engine and wheels. Using OOP principles, you would model the car as a car object in Java that would have the same properties.

Creating applications that model the real world closely enables developers to understand an application faster than any other applications. Therefore, an application that implements OOP concepts effectively is implemented and used.

PROMOTES THE REUSE OF CODE

Another advantage of OOP is that it promotes the reuse of code. The code used to define an object can be shared by several objects of an application. For E.g.: the code used to design a type of car can be used for designing different types of cars. This saves you from rewriting code for various types of cars. A benefit of code reuse is that it reduces the amount of code to write, debug, test, and possibly upgrade in the future.

PROVIDES FLEXIBILITY IN THE MODIFICATION OF AN EXISTING APPLICATION

OOP promotes flexibility in the design and implementation of a solution. Maintenance and upgrades are seen as further cycles in application development. By using OOP practices, applications become easier to extend.

Consider an example of XYZ Corporation. The application used by the production department of this organization is currently designated to create two types of chairs, plastic and metal. To meet the demands of its customers, the organization decides to produce wooden chairs as well. To meet the change in the requirement, the XYZ

corp. needs to incorporate changes into its current application system. If the current system was built using OOP best practices, extensions to the system may be simplified. For Eg: the new chair type would be able to share or reuse some of the other chair types' code.

HELPS WITH THE MAINTENANCE OF CODE

Finally, OOP helps in the maintenance of code. By using OOP, you can create separate components for different requirements. In OOP, a component is known as a class. For example, to design a payroll system of an organization, you could create classes such as Employee and Payroll. By creating the Employee and the Payroll classes, information related to each class can be segregated. An internal change in one of these classes should not affect the functionality of the other class. Therefore, the maintenance of a system is simplified by reducing dependencies in between classes.

Source : <http://idynsolutions.wordpress.com/2006/11/06/oop-part-i-introduction/>