

# Object-Oriented Programming (OOP)

## Definition - What does *Object-Oriented Programming (OOP)* mean?

Object-oriented programming (OOP) is a software programming model constructed around objects. This model compartmentalizes data into objects (data fields) and describes object contents and behavior through the declaration of classes (methods).

OOP features include the following:

- **Encapsulation:** This makes the program structure easier to manage because each object's implementation and state are hidden behind well-defined boundaries.
- **Polymorphism:** This means abstract entities are implemented in multiple ways.
- **Inheritance:** This refers to the hierarchical arrangement of implementation fragments.

Object-oriented programming allows for simplified programming. Its benefits include reusability, refactoring, extensibility, maintenance and efficiency.

## Techopedia explains *Object-Oriented Programming (OOP)*

OOP has been the programming model of choice for the last decade or more. OOP's modular design enables programmers to build software in manageable chunks rather than in large amounts of sequential code.

One of the great benefits of OOP is that of scalability, with objects and definitions having no finite limitation. Also, the separation of data from method prevents a common problem found in older linear software languages. If a bug appears in a linear code, it can be translated through a system and create masses of hard-to-trace errors. Conversely, an OOP program, with its separation of method and data, is not susceptible to such proliferated errors.

Popular OOP languages include Java, the C-family of languages, VB.NET and Python.

So-called "pure" OOP languages include Scala, Ruby, Eiffel, JADE, Smalltalk and Emerald.