

Object Oriented Programming (OOPs)

Concept in Java

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As the name suggests, Object-Oriented Programming or Java OOPs concept refers to languages that use objects in programming, they use objects as a primary source to implement what is to happen in the code. Objects are seen by the viewer or user, performing tasks you assign.

Object-oriented programming aims to implement real-world entities like inheritance, hiding, polymorphism, etc. in programming. The main aim of OOPs is to bind together the data and the functions that operate on them so that no other part of the code can access this data except that function.

Let us discuss prerequisites by polishing concepts of method declaration and message passing. Starting off with the method declaration, it consists of six components:

- **Access Modifier**: Defines the **access type** of the method i.e. from where it can be accessed in your application. In Java, there are 4 types of access specifiers:
 - **public**: Accessible in all classes in your application.
 - **protected**: Accessible within the package in which it is defined and in its **subclass(es) (including subclasses declared outside the package)**.

- **private:** Accessible only within the class in which it is defined.
- **default (declared/defined without using any modifier):** Accessible within the same class and package within which its class is defined.
- **The return type:** The data type of the value returned by the method or void if it does not return a value.
- **Method Name:** The rules for field names apply to method names as well, but the convention is a little different.
- **Parameter list:** Comma-separated list of the input parameters that are defined, preceded by their data type, within the enclosed parentheses. If there are no parameters, you must use empty parentheses ().
- **Exception list:** The exceptions you expect the method to throw. You can specify these exception(s).
- **Method body:** It is the block of code, enclosed between braces, that you need to execute to perform your intended operations.