* Object-oriented programming Languages

**Object-oriented programming** (**OOP**) is a programming paradigm based on the concept of [*objects*](https://en.wikipedia.org/wiki/Object_(computer_science)),[[1]](https://en.wikipedia.org/wiki/Object-oriented_programming#cite_note-alanKayOnOO-1) which can contain [data](https://en.wikipedia.org/wiki/Data) and [code](https://en.wikipedia.org/wiki/Source-code): data in the form of [fields](https://en.wikipedia.org/wiki/Field_(computer_science)) (often known as [attributes](https://en.wikipedia.org/wiki/Attribute_(computing)) or [properties](https://en.wikipedia.org/wiki/Property_(programming))), and code in the form of [procedures](https://en.wikipedia.org/wiki/Procedure_(computer_science)) (often known as [methods](https://en.wikipedia.org/wiki/Method_(computing))). In OOP, [computer programs](https://en.wikipedia.org/wiki/Computer_program) are designed by making them out of objects that interact with one another.

Many of the most widely used programming languages (such as [C++](https://en.wikipedia.org/wiki/C%2B%2B), [Java](https://en.wikipedia.org/wiki/Java_(programming_language)), and [Python](https://en.wikipedia.org/wiki/Python_(programming_language))) are [multi-paradigm](https://en.wikipedia.org/wiki/Multi-paradigm) and support object-oriented programming to a greater or lesser degree, typically in combination with [imperative programming](https://en.wikipedia.org/wiki/Imperative_programming) and [declarative programming](https://en.wikipedia.org/wiki/Declarative_programming)

1. **C++ Programming**

C++ is an object-oriented programming language. It is an extension to [C programming](https://www.javatpoint.com/c-programming-language-tutorial).

Our C++ tutorial includes all topics of C++ such as first example, control statements, objects and classes, [inheritance](https://www.javatpoint.com/cpp-inheritance), [constructor](https://www.javatpoint.com/cpp-constructor), destructor, this, static, polymorphism, abstraction, abstract class, interface, namespace, encapsulation, arrays, strings, exception handling, File IO, etc.

**C++ programming language** was developed in 1980 by Bjarne Stroustrup at bell laboratories of AT&T (American Telephone & Telegraph), located in U.S.A.

C++ is a general purpose, case-sensitive, free-form programming language that supports object-oriented, procedural and generic programming.

C++ is a middle-level language, as it encapsulates both high and low level language features.

C++ supports the object-oriented programming, the four major pillar of object-oriented programming ([OOPs](https://www.javatpoint.com/cpp-oops-concepts)) used in C++ are:

1. Inheritance
2. Polymorphism
3. Encapsulation
4. Abstraction

C++ Standard Libraries

Standard C++ programming is divided into three important parts:

* The core library includes the data types, variables and literals, etc.
* The standard library includes the set of functions manipulating strings, files, etc.

Usage of C++

By the help of C++ programming language, we can develop different types of secured and robust applications:

* Window application
* Client-Server application
* Device drivers
* Embedded firmware etc

**C++ Program**

File: main.cpp

#include <iostream>

**using** **namespace** std;

**int** main() {

   cout << "Hello C++ Programming";

**return** 0;

}

1. Java Programming

Java is an [object-oriented](https://www.javatpoint.com/java-oops-concepts), class-based, concurrent, secured and general-purpose computer-programming language. It is a widely used robust technology.

Java is a **programming language** and a **platform**. Java is a high level, robust, object-oriented and secure programming language.

Java was developed by *Sun Microsystems* (which is now the subsidiary of Oracle) in the year 1995. *James Gosling* is known as the father of Java. Before Java, its name was *Oak*. Since Oak was already a registered company, so James Gosling and his team changed the name from Oak to Java.

Java Example

Let's have a quick look at Java programming example. A detailed description of Hello Java example is available in next page.

**Simple.java**

**class** Simple{

**public** **static** **void** main(String args[]){

     System.out.println("Hello Java");

    }

}

**Application**

According to Sun Microsystems, 3 billion devices run Java. There are various devices where Java is currently used. Some of them are as follows:

1. Desktop Applications such as acrobat reader, media player, antivirus, etc.
2. Web Applications such as irctc.co.in, javatpoint.com, etc.
3. Enterprise Applications such as banking applications.
4. Mobile
5. Embedded System
6. Smart Card
7. Robotics
8. Games, etc.
9. **Python Programming**

**Python** is a widely used programming language that offers several unique features and advantages compared to languages like **Java** and **C++.** Our Python tutorial thoroughly explains Python basics and advanced concepts, starting with [installation](https://www.javatpoint.com/how-to-install-python), [conditional statements](https://www.javatpoint.com/python-if-else), [loops](https://www.javatpoint.com/python-loops), [built-in data structures](https://www.javatpoint.com/python-strings), [Object-Oriented Programming](https://www.javatpoint.com/python-oops-concepts), [Generators](https://www.javatpoint.com/python-generators), [Exception Handling](https://www.javatpoint.com/python-exception-handling), [Python RegEx](https://www.javatpoint.com/python-regex), and many other concepts. This tutorial is designed for beginners and working professionals.

In the late 1980s, [**Guido van Rossum**](https://en.wikipedia.org/wiki/Guido_van_Rossum) dreamed of developing Python. The first version of **Python 0.9.0 was released in 1991**. Since its release, Python started gaining popularity. According to reports, Python is now the most popular programming language among developers because of its high demands in the tech realm.

**In February 1991, the first public version of Python, version 0.9.0, was released.** This marked the official birth of **Python as an open-source project**. The language was named after the British comedy series "**Monty Python's Flying Circus**".

Python is a general-purpose, dynamically typed, high-level, compiled and interpreted, garbage-collected, and purely object-oriented programming language that supports procedural, object-oriented, and functional programming.

**Python Code:**

**print**("Hello World!")

**Python Applications**

As per a survey it is observed that ***Python is the main coding language for more than 80% of developers***. The main reason behind this is its extensive libraries and frameworks that fuel up the process

1. Web Development
2. Machine Learning and Artificial Intelligence
3. Data Science
4. Game Development
5. Audio and Visual Applications
6. Software Development
7. CAD Applications
8. Business Applications
9. Desktop GUI
10. Web Scraping Application