# Java

Our Java programming tutorial provides various examples to explain the concepts. To compile and execute the given Java programming examples in your browser itself, we have provided Online Java Compiler. You can edit and run almost all the examples directly from your browser without the need to set up your development environment.

Try to click the icon to run the following Java code to print conventional "Hello, World!" using Java Programming.

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Below code box allows you to change the value of the code. So, please try to change the value inside println() and run it again to verify the result.

```
public class MyFirstJavaProgram {
 /* This is my first java program.
 * This will print 'Hello, World!' as the output
 */
 public static void main(String []args) {
 System.out.println("Hello, World!"); // prints Hello, World!
 }
}
```

Java Features

Java is a feature-rich language. Java is evolving continuously with every update, and updates are coming every six months. Following are some of the main features of the Java language:

⦿ Object Oriented: Java is a pure object-oriented language, and everything in Java is an object. Java supports OOPS principles like Inheritance, Encapsulation, Polymorphism, Classes , and so on. Java itself can be extended as well, being based on an object model.

Platform Independent: Java code is platform independent. A Java code is not compiled into machine-specific code. It is compiled into a platform-neutral byte code. This byte code is executed by JVM which runs the code on the underlying platform. This capability makes Java a Write Once Run Anywhere language.

 Easy to Learn: Java inherits features from C and C++, and developers can easily learn Java if they know C or C++ languages. Even for someone new to computer languages, Java is very easy to learn from scratch.

 Secure: Java is secure by architecture. A developer is not required to directly interact with the underlying memory or operating system. Java provides automatic garbage collection, so developers are not required to worry about memory leaks, management, etc.

 Architectural-Neutral: Java byte code can be executed on any kind of processor. JRE automatically handles the code execution on different types of processors.

 Portable: A Java code written on a Windows machine can be executed without any code change on MacOS and vice versa. There is no need to make any operating system-specific code changes.

 Robust: Java is a very robust language with very strong compile-time error checks, strict type checking, and runtime exception handling.

 Multithreading: Java provides inbuilt support for multiprocessing and multithreading. Java provides thread handling, monitors, deadlock handling, racing conditions, etc.

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 High Performance: Java, although being interpreted, is still very performant. The JIT (Just In Time) compiler helps in improving performance.

 Distributed: Java is designed for distributed systems and is the most popular language for developing internet-based applications as the internet is a distributed environment.

Java Applications

Since Java supports object-oriented features and is platform-independent, it is extensively used in various fields. Listed below are a few areas where Java is used -

⬚ Enterprise solutions

⬚ Game development

⬚ Secured web development

⬚ Embedded systems

⬚ Mobile application development

⬚ Big Data Applications, and many more.

Java Platforms (Editions)

Platforms of Java are divided into four Java editions, which are –

⬚ Java SE (Java Standard Edition): It is a standard edition that is used to develop and deploy portable code for desktop and server environments.

⬚ Java EE (Java Enterprise Edition): It is an enterprise edition that is used to develop web applications.

⬚ Java ME (Java Micro Edition): J2ME is used to develop mobile applications. It is a micro edition of Java.

⬚ JavaFx: It is used to develop lightweight user interfaces for rich internet applications.

Java Jobs & Opportunities

Java is in demand, and all the major companies are recruiting Java programmers to develop their desktop, web, and mobile applications.

Today, a Java programmer with 3-5 years of experience is asking for around $120,000 in as an annual package, and this is the most demanding programming language in America. Though it can vary depending on the location of the job. Following are the great companies that are using Java and they need good Java programmers:

⬚ Google

⬚ Microsoft

⬚ Facebook

IBM

 Amazon

 Netflix

 Pinterest

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 Uber

 JetBrains

 Many more...

So, you could be the next potential employee for any of these major companies. We have developed great learning material for Java that will help you prepare for the technical interviews and certification exams based on Java. So, start learning Java using this simple and effective tutorial from anywhere and anytime, absolutely at your pace.

Why Learn Java?

Java is a MUST to learn programming language for students and working professionals to become a great software engineer, especially when they are working in the software development domain. If you will conduct a survey about the best programming language around, Java is sure to come up.

Java is a fairly easy programming language to learn, so if you are starting to learn any programming language, then Java could be your great choice. There's also plenty of Java tools that make it easy for developers and beginners to learn Java and develop applications. There are many other good reasons that make Java the first choice of any programmer:

 Java is open source, which means it's available free of cost.

 Java is simple and so easy to learn.

 Java is much in demand and ensures a high salary.

 Java has a large, vibrant community.

 Java has powerful development tools.

⯀ Java is platform-independent.

Who should Learn Java

This Java tutorial will help both students as well as working professionals who want to develop applications using Java technologies like banking systems, support systems, information systems, websites, mobile apps, personal blogs, etc. We recommend reading this tutorial in the sequence listed in the index.

Today, Java is one of the most demanding programming languages, and so it has become an essential language to learn for anyone involved in the software application development process, including software developers, software designers, project managers, etc.

Prerequisites to Learn Java

Though we have tried our best to present the Core Java concepts in a simple and easy way, still, before you start learning Java, it is assumed that the readers have a reasonable exposure to any programming environment and knowledge of basic concepts such as variables, commands, syntax, etc.

Learn Java by Examples

This tutorial provides a set of Java examples. Practice these examples to learn the Java concepts better: Java Examples

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Java Online Quizzes

This Java tutorial helps you prepare for technical interviews and certification exams. We have provided various quizzes and assignments to check your learning level. Given quizzes have multiple-choice types of questions and their answers with short explanations.

Following is a sample quiz; try to attempt any of the given answers:

Q 1 - The Java programming language was developed by which of the following

:

A - Google in 1990s

B - Micorsoft in 1980s

C - Sun Microsystems in 1995

D - None of the Above

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Java Certification

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Frequently Asked Questions about Java Tutorial

There are some important frequently asked questions (FAQs) about Java Programming tutorial. This section lists them down along with their answers briefly - −

1. What are the 4 important concepts in Java?

Java supports abstraction, encapsulation, polymorphism, and inheritance. These are 4 major theoretical principles of object-oriented programming. But Java also works with three further OOP concepts: association, aggregation, and composition.

2. What are the benefits of Java?

⯈ Java is free and open source

⯈ Java is community driven and has expert leadership

⯈ Java is fast and high-performance

⯈ Java is easy to learn

⯈ Java is statically typed

⯈ Java is object-oriented

⯈ Java supports functional programming

3. How much time will it take to learn Java?

Learning style and dedication to the amount of time you can spend each day affect a lot. However, on average, it takes around 6 to 12 months to learn Java programming.

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4. Why is Java a so popular programming language?

The Java language is easily extensible because it is based on an object model. Unlike many other programming languages, Java is compiled, not into a platform-dependent machine but into platform-independent byte code.

5. What are the advantages of Java over Python?

Python and Java are two most popular programming languages among software programmers. Java is generally faster and more efficient than Python because it is a compiled language, whereas Python is an interpreted language and has simpler, more concise syntax than Java.

6. How do I start learning Java?

Here is the summarized list of tips that you can follow to start learning Java:

⯀ First and most important is to make your mind to learn Java.

⯀ Install Java Virtual Machine and Java Compilers on your computer system.

⯀ Follow our tutorial step by step, starting from the very beginning.

⯀ Read more articles, watch online courses, or buy a book on Java to enhance your knowledge in Java.

⯀ Try to develop small software using Java and other technologies like MySQL if you want to make use of a database.

7. What are Java Technologies for Web Applications?

Java provides the following technologies to help web development:

⯀ Java Servlet API.

⯀ JavaServer Pages Standard Tag Library.

⯀ JavaServer Faces Technology.

⯀ Java Message Service API.

⯀ JDBC API.

⯀ Java Persistence API.

⯀ Java Naming and Directory Interface.

⯀ NetBeans IDE.

8. Which is the best place to learn Java?

You can use our simple and the best Java tutorial to learn Core Java and Advanced Java.

We have removed all the unnecessary complexity while teaching you Java concepts. You can start learning it now Start Learning Java.

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