

Patrician College of Arts and Science

Department of Computer Applications

Programming in Java

SAZ4A

Even Semester

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- Java is a **programming language** and a **platform**. Java is a high level, robust, object-oriented and secure programming language.
- **Platform**: Any hardware or software environment in which a program runs, is known as a platform. Since Java has a runtime environment (JRE) and API, it is called a platform.

Application

- Desktop Applications such as acrobat reader, media player, antivirus, etc.
- Web Applications such as irctc.co.in, javatpoint.com, etc.
- Enterprise Applications such as banking applications.
- Mobile
- Embedded System
- Smart Card
- Robotics
- Games, etc.

Types of Java Applications

- 1) Standalone Application
- 2) Web Application
- 3) Enterprise Application
- 4) Mobile Application

Features of Java

- Simple
- Object-Oriented
- Portable
- Platform independent
- Secured
- Robust
- Architecture neutral
- Interpreted
- High Performance
- Multithreaded
- Distributed
- Dynamic

Object-oriented

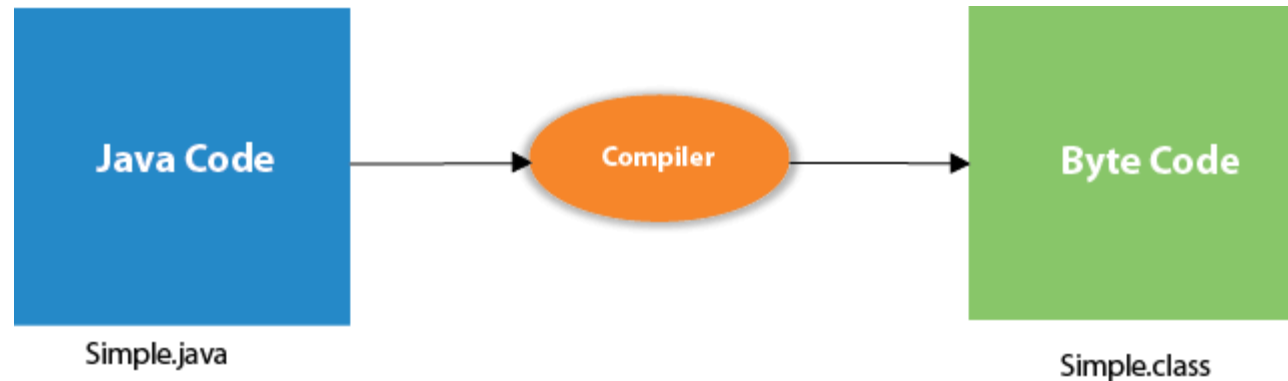
- Java is an object-oriented programming language. Everything in Java is an object. Object-oriented means we organize our software as a combination of different types of objects that incorporates both data and behavior.
- Object-oriented programming (OOPs) is a methodology that simplifies software development and maintenance by providing some rules.
- Basic concepts of OOPs are:
 - Object
 - Class
 - Inheritance
 - Polymorphism
 - Abstraction
 - Encapsulation

First Java Program

- **import java.io.*;**
- **class Simple**
- {
- **public static void** main(String args[])
- {
- System.out.println("Hello Java");
- }
- }

What happens at compile time?

- At compile time, java file is compiled by Java Compiler (It does not interact with OS) and converts the java code into bytecode.



What is JVM?

- **A specification** where working of Java Virtual Machine is specified. But implementation provider is independent to choose the algorithm. Its implementation has been provided by Oracle and other companies.
- **An implementation** Its implementation is known as JRE (Java Runtime Environment).
- **Runtime Instance** Whenever you write java command on the command prompt to run the java class, an instance of JVM is created.

Java Variables

- A variable is a container which holds the value while the java program is executed. A variable is assigned with a datatype.
- Variable is a name of memory location. There are three types of variables in java: local, instance and static.
- There are two types of data types in java: primitive and non-primitive.

Example to understand the types of variables in java

- **class A**
- {
- **int** data=50;//instance variable
- **static int** m=100;//static variable
- **void** method(){
- **int** n=90;//local variable
- }
- }//end of class



Thank you

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