



Government Arts And Science College, Avinashi - 641 654
(Affiliated to Bharathiar University, Coimbatore – 641 046)

Department of Computer Science

Degree	Semester	Subject Code	Subject Name
B.Sc., Computer Science	III	33B	CORE: JAVA PROGRAMMING

Credits	Internal	External	Total	Duration/ Week
4	25 Marks	75 Marks	100 Marks	6 Hrs

AGENDA

INTRODUCTION TO JAVA

HISTORY OF JAVA

FEATURES OF JAVA

HISTORY OF JAVA

Java is a general purpose object oriented programming language.

Developed by Sun Microsystems. (James Gostling)

Initially called “Oak” but was renamed as “Java” in 1995.

Initial motivation is to develop a platform independent language to create software to be embedded in various consumer electronics devices.

Become the language of Internet. (portability and security).

FEATURES OF JAVA

1. Simple, Small and Familiar
2. Compiled and Interpreted
3. Object Oriented
4. Platform Independent and portable
5. Robust and Secure
6. Distributed / Network Oriented
7. Multithreaded and Interactive
8. High Performance
9. Dynamic

FEATURES OF JAVA

SIMPLE, SMALL AND FAMILIAR

Similar to C/C++ in syntax

But eliminates several complexities of C and C++

- No operator overloading

- No direct pointer manipulation or pointer arithmetic

- No multiple inheritance

- No malloc() and free() –

 - handles memory automatically

FEATURES OF JAVA

COMPILED AND INTERPRETED

Java compiler translate the source code into byte code.

Java interpreter converts the byte code into machine level representation.

Byte Code:-A highly optimized set of instructions to be executed by the java runtime system, known as java virtual machine (JVM)-Not executable code.

Java Virtual Machine (JVM):-Need to be implemented for each platform.-Although the details vary from machine to machine, all JVM understand the same byte code.

FEATURES OF JAVA

JAVA VIRTUAL MACHINE

Java compiler produces an intermediate code known as byte code for a machine, known as JVM. It exists only inside the computer memory

Machine code is generated by the java interpreter by acting as an intermediary between the virtual machine and real machine.

Java Program

Java Compiler

Virtual Machine

Bytecode

Java Interpreter

Machine Code

FEATURES OF JAVA

OBJECT ORIENTED

Fundamentally based on OOP Classes and Objects

Efficient re-use of packages such that the programmer only cares about the interface and not the implementation

The object model in java is simple and easy to extend.

FEATURES OF JAVA

PLATFORM INDEPENDENT AND PORTABLE

“Write-Once Run-Anywhere”

Changes in system resources will not force any change in the program.

The Java Virtual Machine (JVM) hides the complexity of working on a particular platform

Convert byte code into machine level representation.

THANK YOU