



# Introduction to Java

***Authored by : Sangeeta Joshi***

***Presented by: Sangeeta Joshi***

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# Agenda

- Evolution of java
- History of Java
- Java Buzzwords
- Language Introduction
- Primitive data types

## Evolution of java

- Background : Sun Microsystems set up a project called "Project Green" to develop a platform independent language for embedded systems.
- The Language was first named as "OAK"
- Then it was renamed as "Java" (One programming language with this name was already in existence)
- Java was dismissed earlier but again gained popularity when WWW became popular
- Though it is associated with the World Wide Web, it is older than the origin of Web.

## The History of Java(contd)

Java language is a gradually developed language. Following is the gradual development.

- 1990: Sun Microsystems decided to develop special software that could be used to manipulate consumer electronic devices. A team of Sun Microsystems programmers headed by James Gosling was formed to undertake this task.
- 1991: After exploring the possibility of using the most popular object-oriented language C++, the team announced a new language named "Oak";
- 1992: The team, known as Green Project team by Sun, demonstrated the application of their new language to control a list of home appliances using a hand-held device with a tiny touch sensitive screen.

## The History of Java(contd)

**1993:** The World Wide Web (WWW) appeared on the Internet and transformed the text-based Internet into a graphical environment. The Green Project team came up with the idea of developing Web applets (tiny programs) using the new language that could run on all types of computers connected to Internet.

**1994:** The team developed a Web browser called "HotJava" to locate and run applet programs on the Internet. HotJava demonstrated the power of the new language, thus it instantly became popular among the Internet users.

**1995:** Oak was renamed "Java", due to some legal snags. Java is just a name and is not an acronym. Many popular companies including Netscape and Microsoft announced their support to Java.

**1996:** Java established itself not only as a leader for Internet programming but also as a general purpose, object-oriented programming language. Java found its home.

# Java Buzzwords

- Object Oriented
- Simple
- Robust
- Distributed
- Secure
- Architecture Neutral
- Portable
- Interpreted
- Dynamic
- Multithreaded

# Simple

- No Header files
- No Pointer arithmetic
- No Operator overloading
- Syntax similar to C++

# Robust

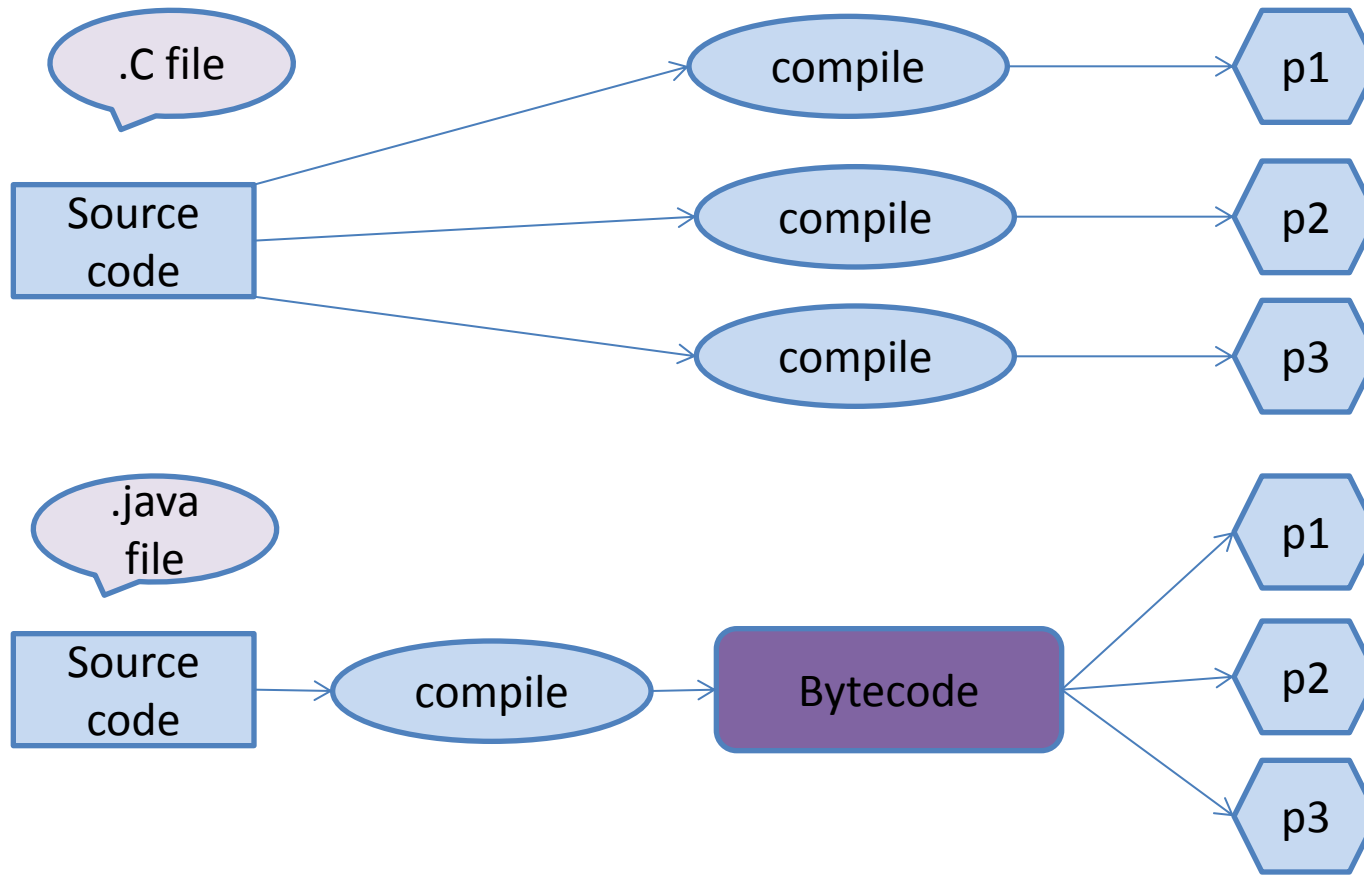
- Memory management is done by the system.
- Developer need not have to worry about problems associated with pointers like:
  - Bad Pointers
  - Memory leakage
- Strong Exception Handling mechanism that includes Compile time & Dynamic checking



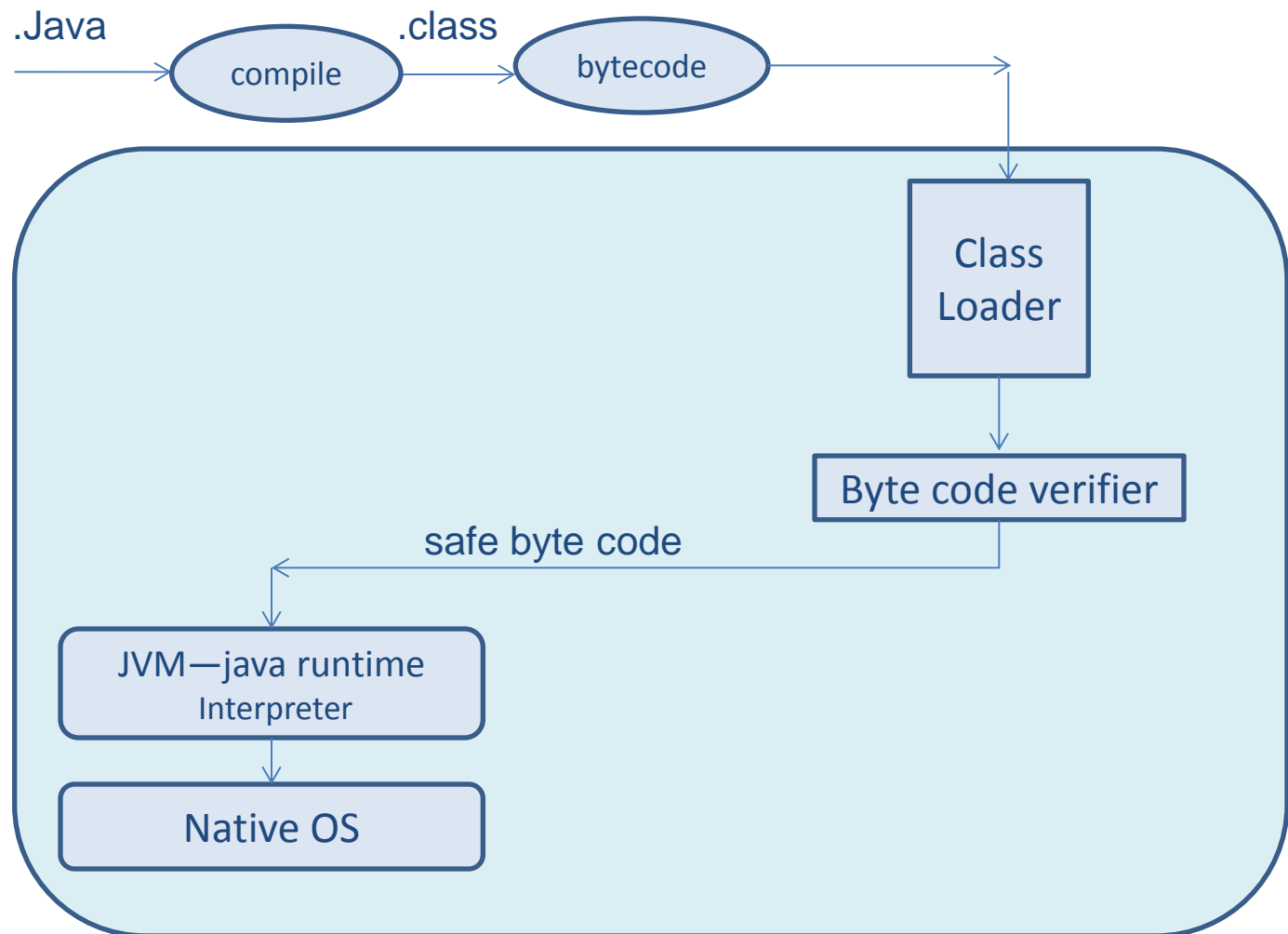
## Architecture neutral

- Output of compilation of a .java file /java source code is a .class file.
- It is also called as Bytecode.
- Generated bytecode is platform independent which can be transferred to any particular platform / os

# Java : platform independent



# Java Environment



## Secure , Interpreted

### Secure

- Java is intended for use in networked/distributed environments.
- Therefore a lot of emphasis has been placed on security.
- Java enables the construction of virus-free, tamper-free systems.
- Interpreted Java byte codes are translated on the fly to native machine instructions (interpreted)
- classes are linked on need basis

## Portable

- The sizes of the primitive data types are specified
- Behavior of basic datatype sizes & arithmetic operators is consistent across the platforms
- For example, "int" always a 32 bit integer
- Standard Unicode format is used for storing Strings

# Language Basics

Keywords

Variables

Conditional Statements

Loops

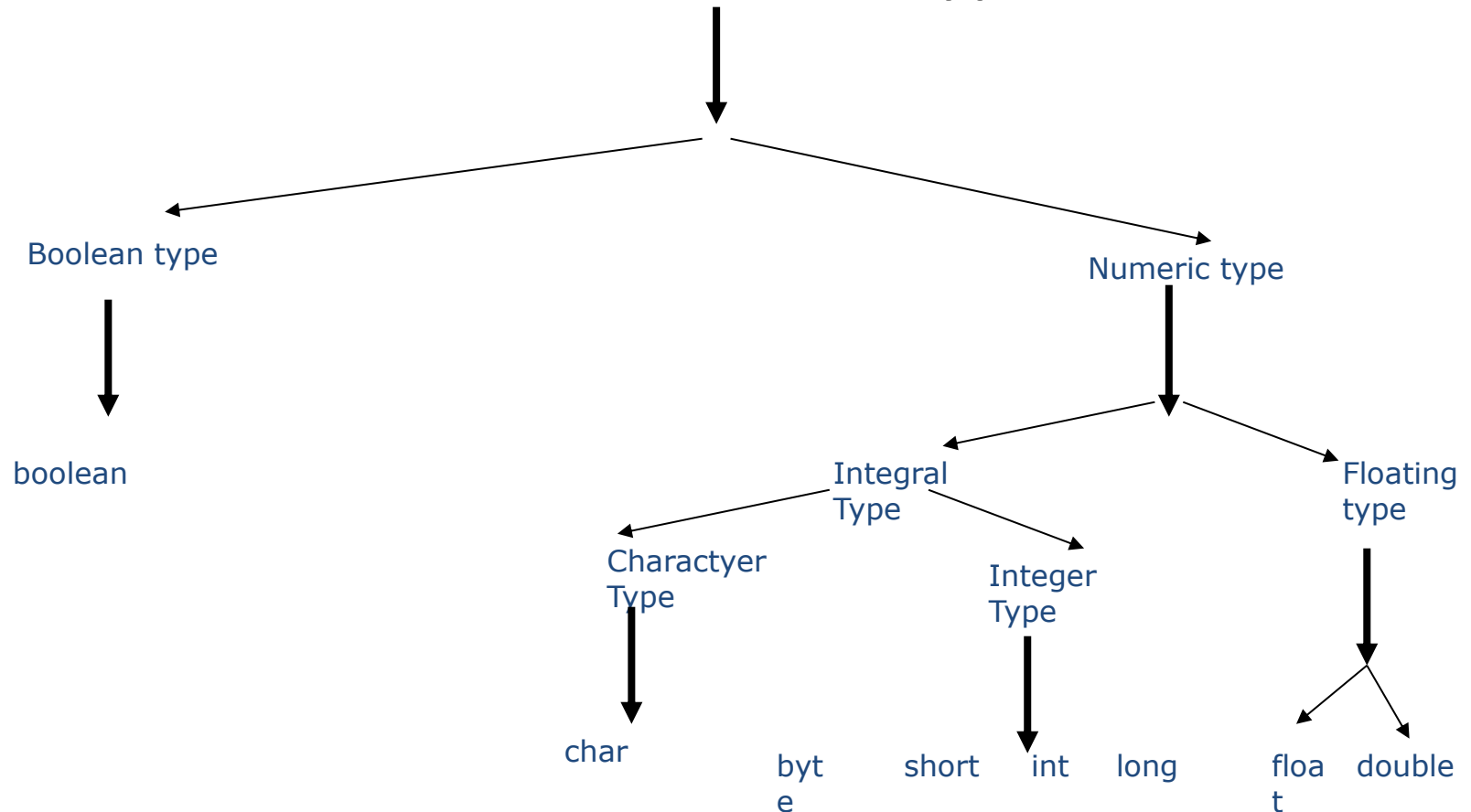
Data Types

Operators

Coding Conventions

# Data types In Java

## Primitive Data Types



## Data Types

### Floating Point Type

- |         |         |
|---------|---------|
| ▪float  | 32 bits |
| ▪double | 64 bits |

### Boolean Type

- True
- false



# Any Questions?

