

Core Java – Getting Started (Java-basic)

Fresher Learning Program
January, 2023



Objectives of Java-basic

■ Purpose:

- Basic understanding of Java as a programming language and JVM
- To understand benefit of Java

■ Product:

- To be able to write a java program
- Understand java source file, how to compile and run java program
- Starting point of a java program
- How to comment in Java
- How to pass run time arguments

■ Process:

- Theory Sessions followed by couple of assignments
- A review at the end of the session and a Quiz.

Topics of Java-basic

- Introduction To Java
 - All About Java
 - History
 - What is Virtual Machine?
 - About the JVM
 - Java Class Libraries
- Java Class
- JVM
- About the Java Program
- Advantages
- Recap

All about Java

All About Java

- **What is Java?**
 - Programming language based off of C and C++
 - Designed to be written once and run anywhere
 - Runs on a virtual machine
 - Very similar to C#
 - Object Oriented
 - Statically Typed
- **It is a platform**



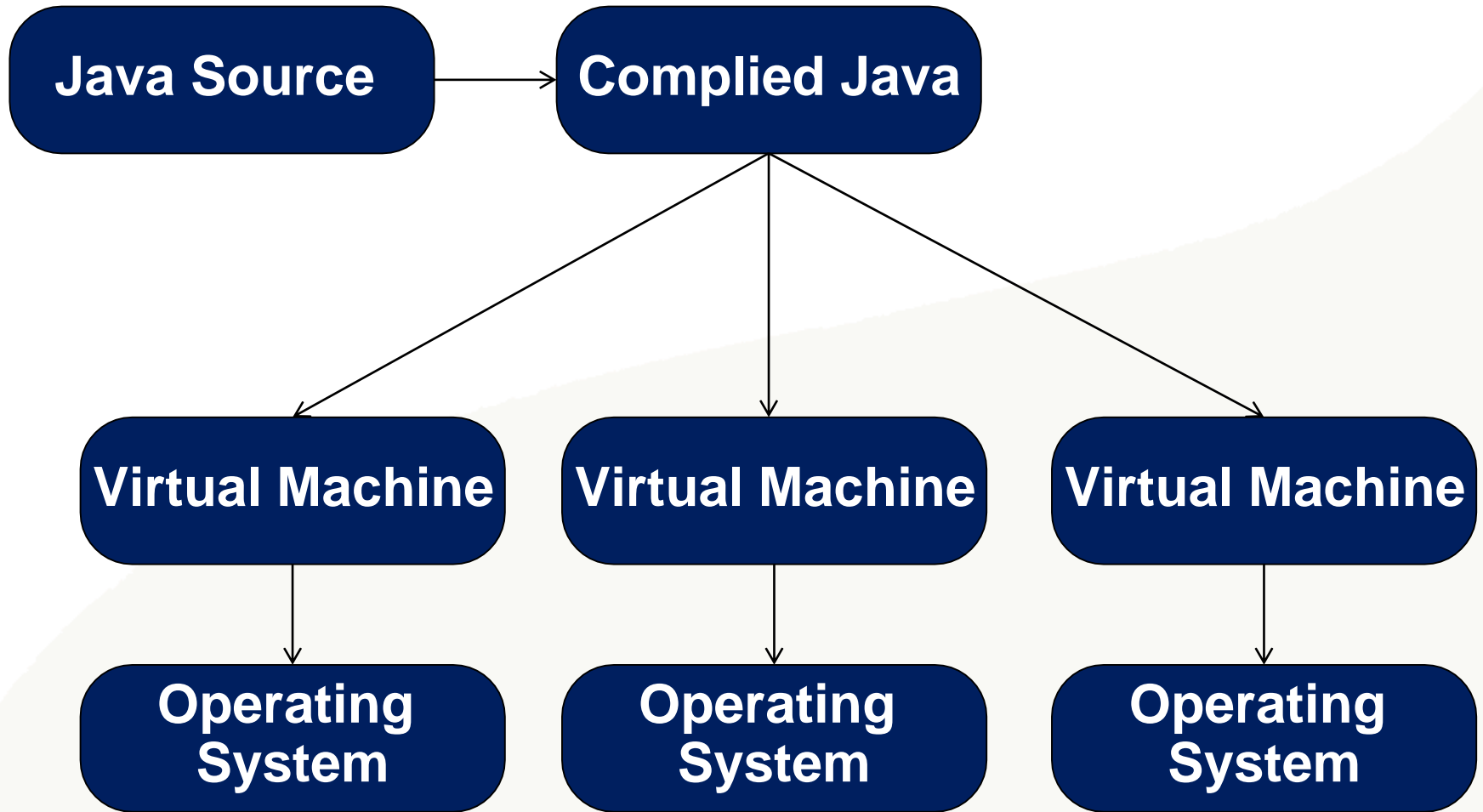
History

History

- Developed by James Gosling at Sun Microsystems
- Released in 1995
- Many releases since then
 - JDK 1.0 (January 23, 1996)
 - JDK 1.1 (February 19, 1997)
 - J2SE 1.2 (December 8, 1998)
 - J2SE 1.3 (May 8, 2000)
 - J2SE 1.4 (February 6, 2002)
 - J2SE 5.0 (September 30, 2004) - *Big language changes*
 - Java SE 6 (December 11, 2006)
 - Java SE 7 (July 28, 2011)
- Oracle acquired Sun in 2010



What is Virtual Machine?



About the JVM

About the JVM

- Abstraction layer between operating system and programming language / environment
- Runs Java Bytecode
 - Assembly language for JVM
 - More than just Java
- Garbage collection
- Safety

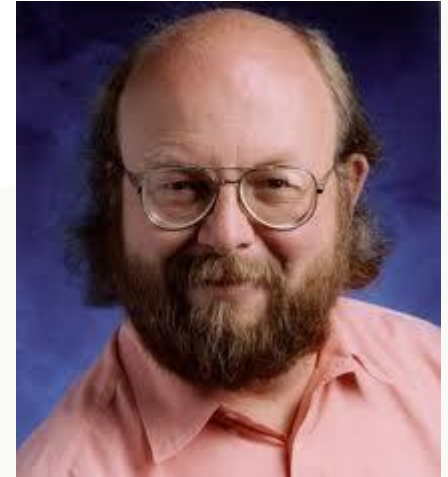


Java Class Libraries

- I/O
- Networking
- Math
- Collections
- Regular Expressions
- Logging
- Graphics and UI
- Text Formatting
- XML
- Remote Method Invocation
- Security
- Databases
- Reflection
- More...

Introduction

- Java is a simple and yet powerful object oriented programming language and it is in many respects similar to C++.
- Java originated at Sun Microsystems, Inc. in 1991.
- It was conceived by James Gosling at Sun Microsystems, Inc.
- It was developed to provide a platform-independent programming language.



Java Class

```
/** The HelloWorldApp class implements an application that  
 * simply displays "Hello World!" to the standard output.
```

multi-line
comment

class

```
class HelloWorldApp {
```

reserved word

method

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

identifier

```
String hello = "Hello World!";
```

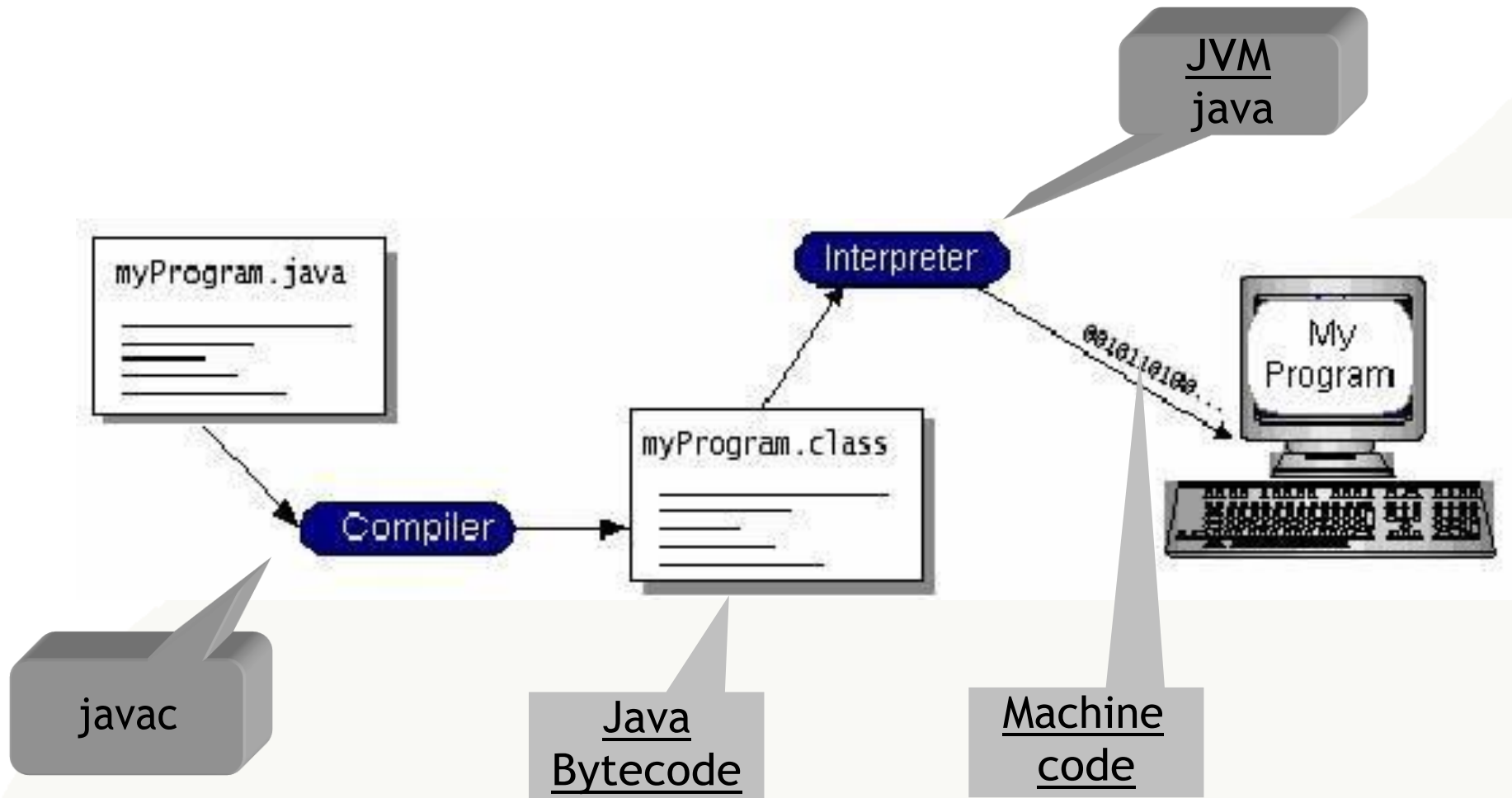
Single line
comment

```
System.out.println( hello ); //Display the string.  
}
```

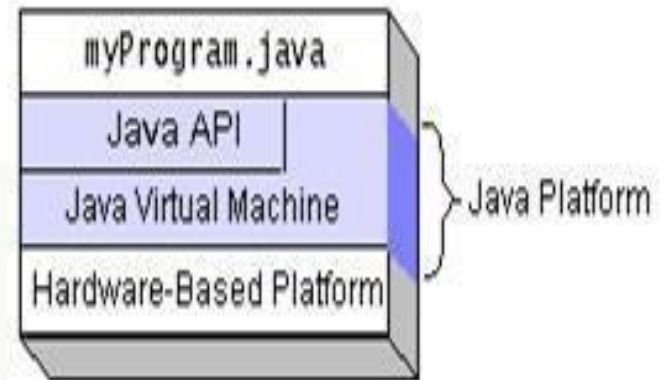
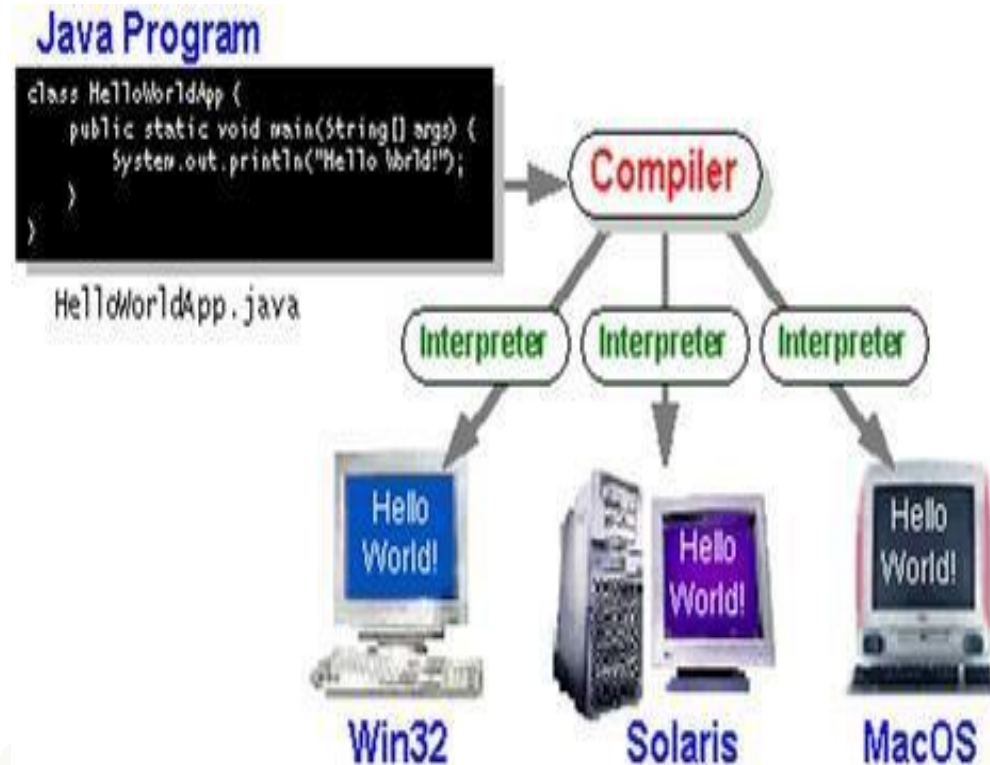
```
}
```

(General discussion)

JVM Introduction



JVM Introduction....contn...



About the Java Program

- public- main(..) is the first method called by java environment when a program is executed so it has to be accessible from java environment. Hence the access specifier has to be public.
- static: Java environment should be able to call this method without creating an instance of the class , so this method must be declared as static.
- void: main does not return anything so the return type must be void
- The argument String indicates the argument type which is given at the command line and arg is an array for string given during command line.

Java features

- **The following are some of them:-**

Simple

Reusable

Portable (Platform Independent)

Distributed

Robust

Secure

High Performance

Recap (Keywords)

Starting point

Java class

RUN a java program

Platform independence

JVM

How to compile

Run time argument

Thank You For Your Time

