MOBILE PROGRAMMING LANGUAGES

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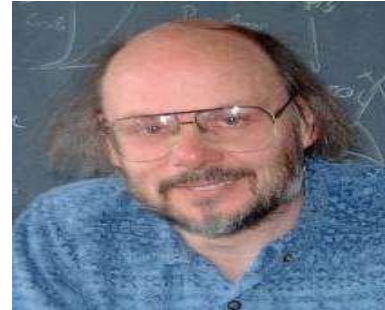SH COLLEGE

Mobile App Programming in C++

MOBILE APP PROGRAMMING IN C++

- C++

  - Is a Procedural as well as Object- oriented language

  - Has good control over native programming

- C++ is one of the popular languages used to develop mobile application.

MOBILE APP PROGRAMMING IN C++

- C++ based platforms are:
  - Symbian
  - Bada
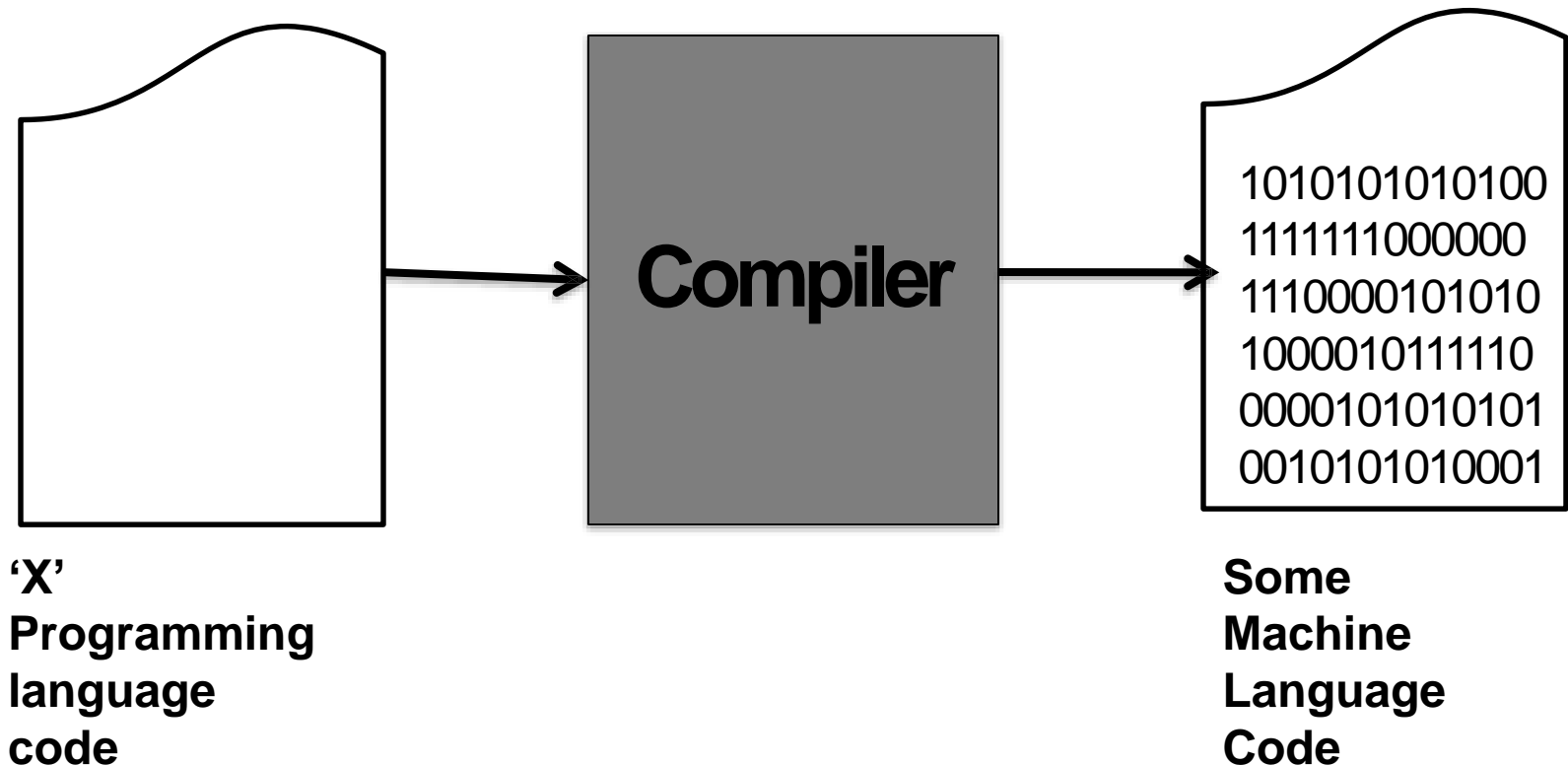 - Windows mobile

Introduction to C++

- History of C++:

    - C++ is an object-oriented programming language.

    - C++ was invented by Bjarne Stroustrup in 1979 at Bell Laboratories.

        ✓ Initially Stroustrup called the new language as 'C with Classes'.

        ✓ Later, in 1983 the name was changed to C++.
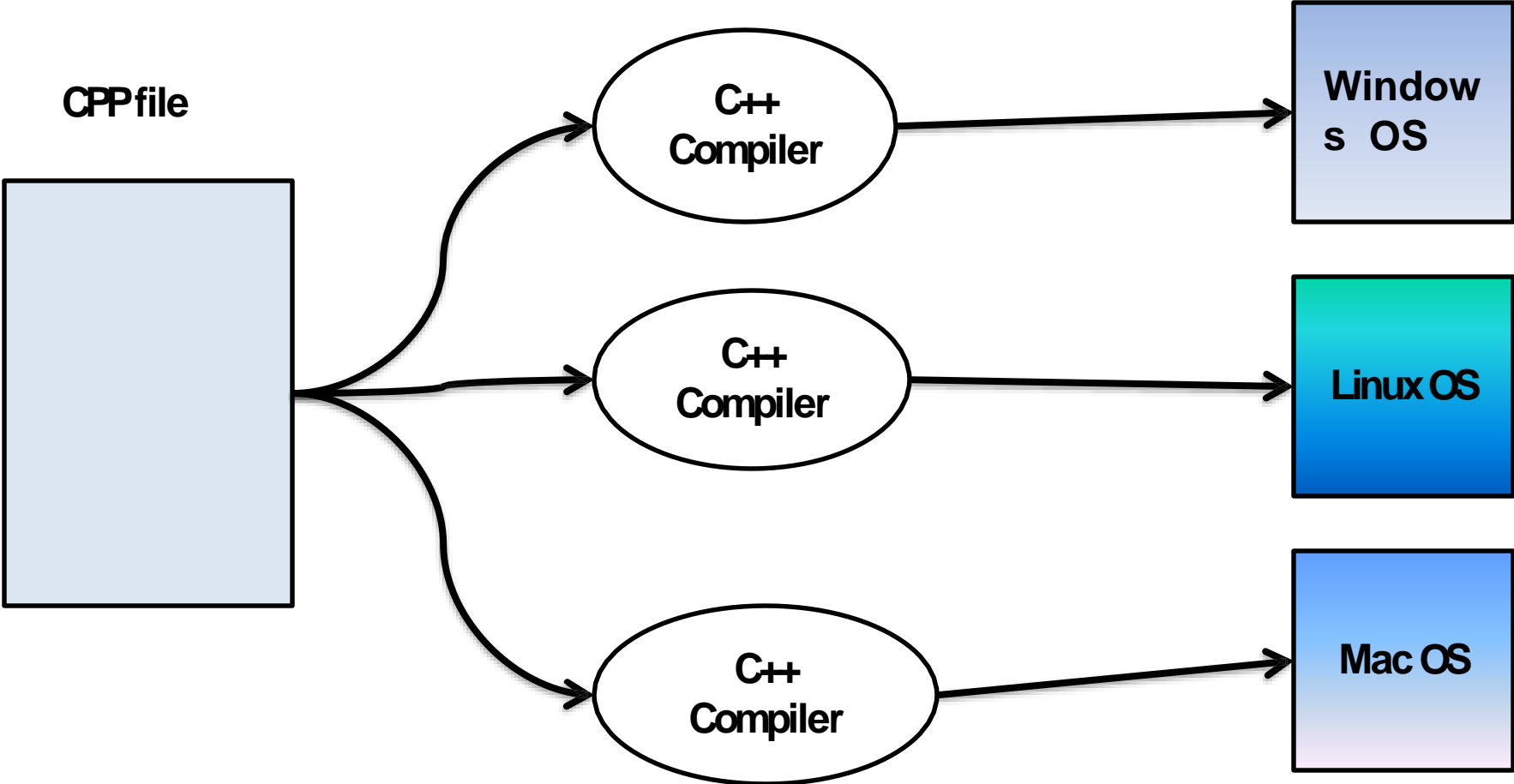
INTRODUCTION TO C++

- Advantages of C++:

  - Relatively low-level language

  - Systems programming language

  - Good control over native programming
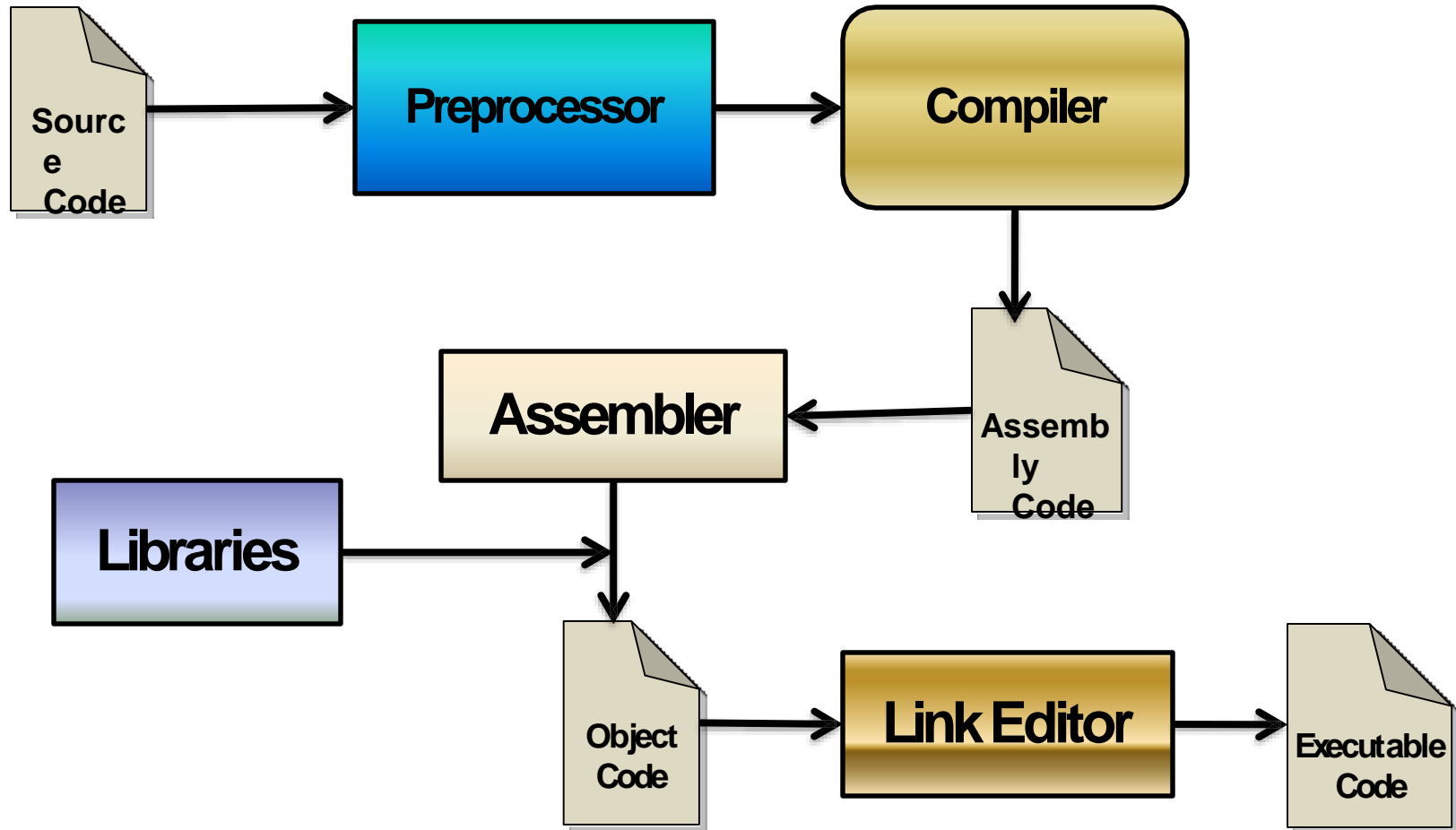
  - Extremely fast

WHAT IS COMPILER?

- A program that translates a programming language into machine code is called a compiler.

Compiler

```
1010101010100
1111111000000
1110000101010
1000010111110
0000101010101
0010101010001
```

'X' Programming language code

Some Machine Language Code

C++ COMPILER

CPP file

C++ Compiler → **Windows OS**

C++ Compiler → **Linux OS**

C++ Compiler → **Mac OS**

Execution of C++ application

SYMBIAN

- Symbian is mobile Operating System.

- Proprietary OS developed by Symbian Ltd.

- Symbian used programming language C++

SYMBIAN C++

- **Symbian C++ application development is commonly considered a difficult discipline.**

- **It is not used standard C++.**

- **To develop required certain installations on PC**

  - Integrated Development Environment (IDE)

    - ✓ Eclipse based Carbide.c++

  - Software Development Kit (SDK)

  - Emulator
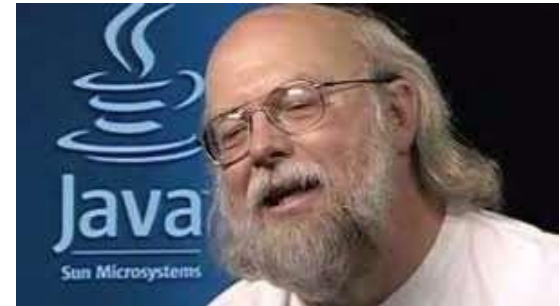
MICROSOFT EMBEDDED VC++

- The Microsoft embedded Visual C++ tool is:
  - A desktop development environment
  - Creates application and system components for Windows CE
- This version features new capabilities such as C++ .
  - Exception handling
  - Run Time Type Information (RTTI)
  - New debugger functionalities

Mobile App Programming in C++

INTRODUCTION TO JAVA

- **History of Java**

  - Background: Electronic Consumer devices.

  - Sun commissioned 'Project Green'.

  - Developed language 'Oak-Later renamed to Java'.

  - Was dismissed as just another OO programming language.

  - Became popular with the rising popularity of 'www'.

Introduction to Java

- It is a platform introduced by Sun Microsystems

- It is used to:
  - ✓ Develop applications
  - ✓ Host applications
  - ✓ Deploy applications
  - ✓ Maintain applications
  - ✓ Execute applications

Advantages of Java

- Object Oriented
- Simple
- Robust
- Distributed
- Secure

- Architecture neutral
- Portable
- Interpreted
- Dynamic
- Multi threaded
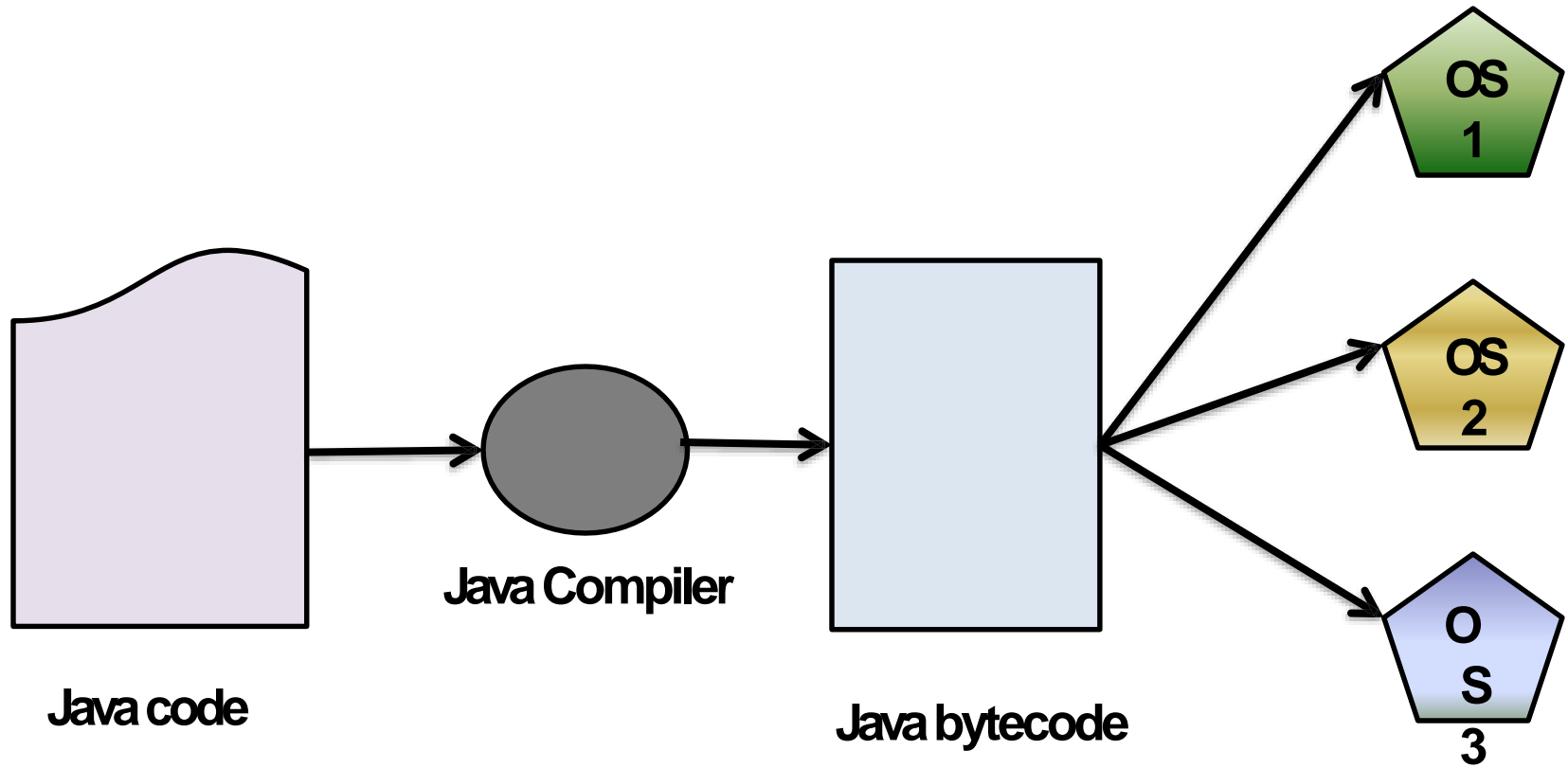
MOBILE APP PROGRAMMING IN JAVA

- Java is

  - Object oriented

  - Platform Independent

  - Open source Technology

- Java is a popular language to develop mobile application.

MOBILE APP PROGRAMMING IN JAVA

- Maximum hand-held devices based on Java only.
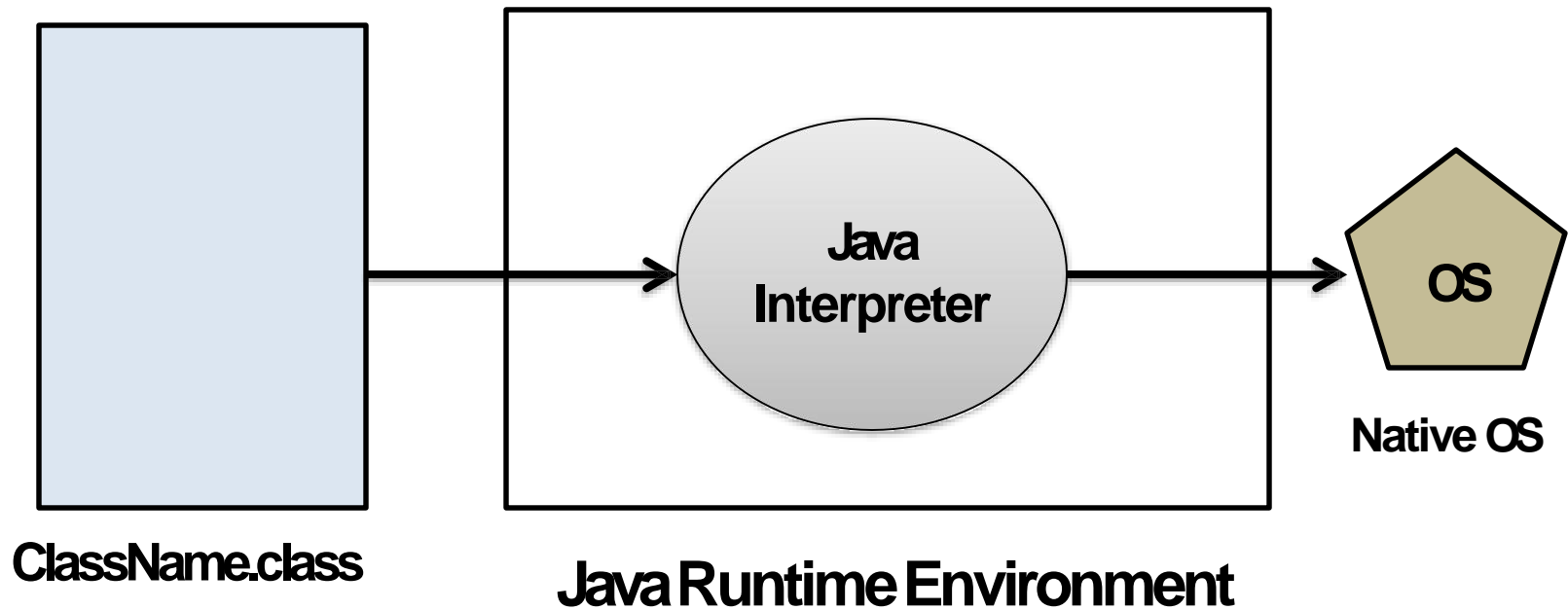
  - PDA

  - Cell Phone

  - Set top-boxes
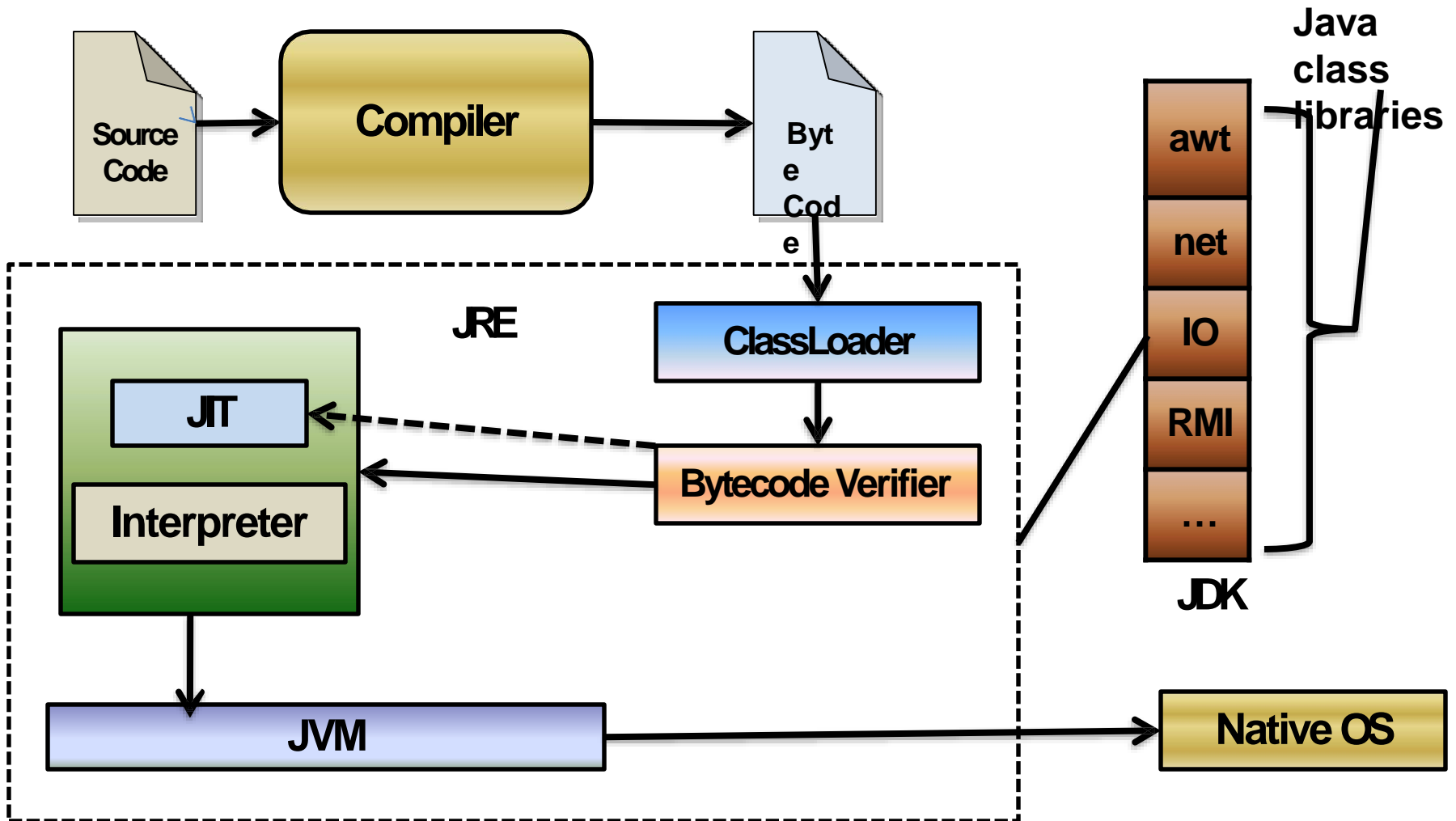
  - Java Card

JAVA COMPILER

Java Interpreter

- Bytecode can execute on any operating system - java runtime environment.

ClassName.class

Java Interpreter

OS

Native OS

Java Runtime Environment

EXECUTION OF JAVA APPLICATION

DISADVANTAGES OF USING JAVA

- Java applications are comparatively slow

  - Running bytecode through interpreter

- Difficult to handle device specific features like Bluetooth

  - Java is device independent