

Theory Class

Java Programming

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C++ Code

C++ support header files to external world linkage

```
#include <iostream>
using namespace std;
int main()
{
    cout << "Hello C++ Programming";
    return 0;
}
```



Java Code

Java uses the import keyword to include different classes and methods

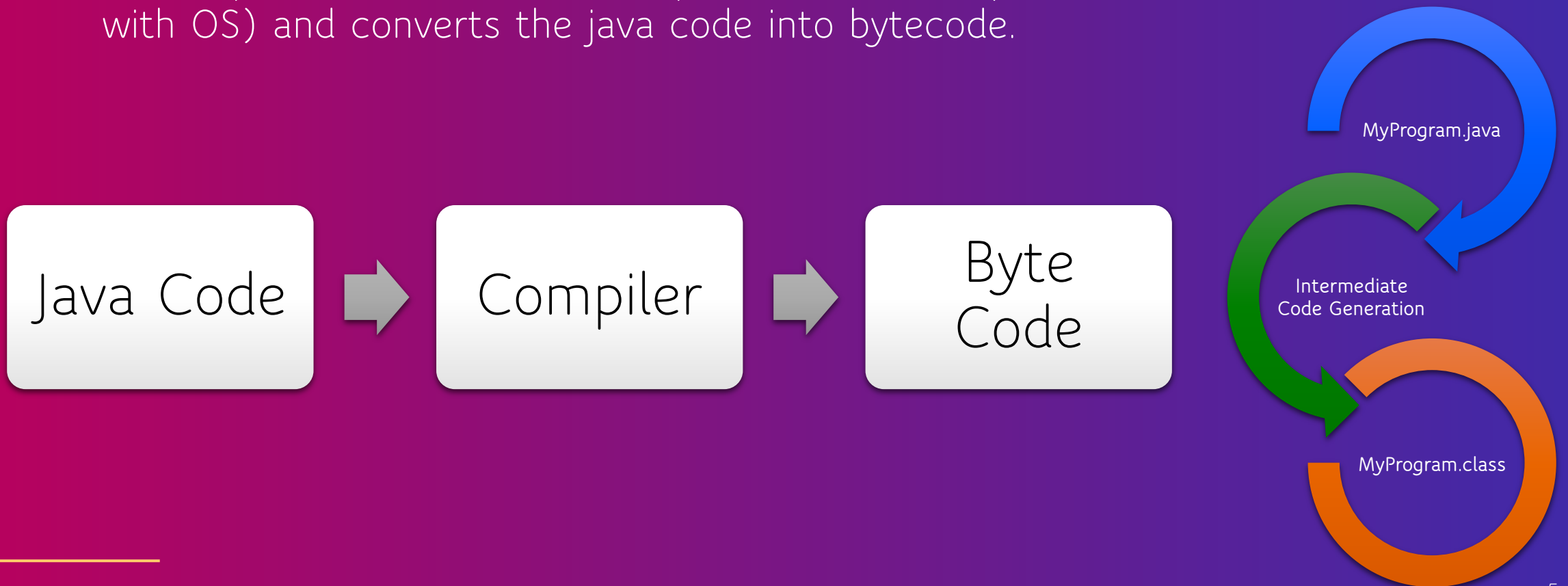
```
class Simple
{
    public static void main(String args[])
    {
        System.out.println("Hello Java");
    }
}
```

Inside Hello World Program

- **class** keyword is used to declare a class in java
- **public** keyword is an access modifier which represents visibility. It means it is visible to all
- **static** is a keyword. If we declare any method as static, it is known as the static method. The core advantage of the static method is that there is no need to create an object to invoke the static method. The main method is executed by the JVM, so it doesn't require to create an object to invoke the main method. So it saves memory.
- **void** is the return type of the method. It means it doesn't return any value.
- **main** represents the starting point of the program. It is the main method
- **String[] args** is used for command line argument.
- **System.out.println()** is used print statement.

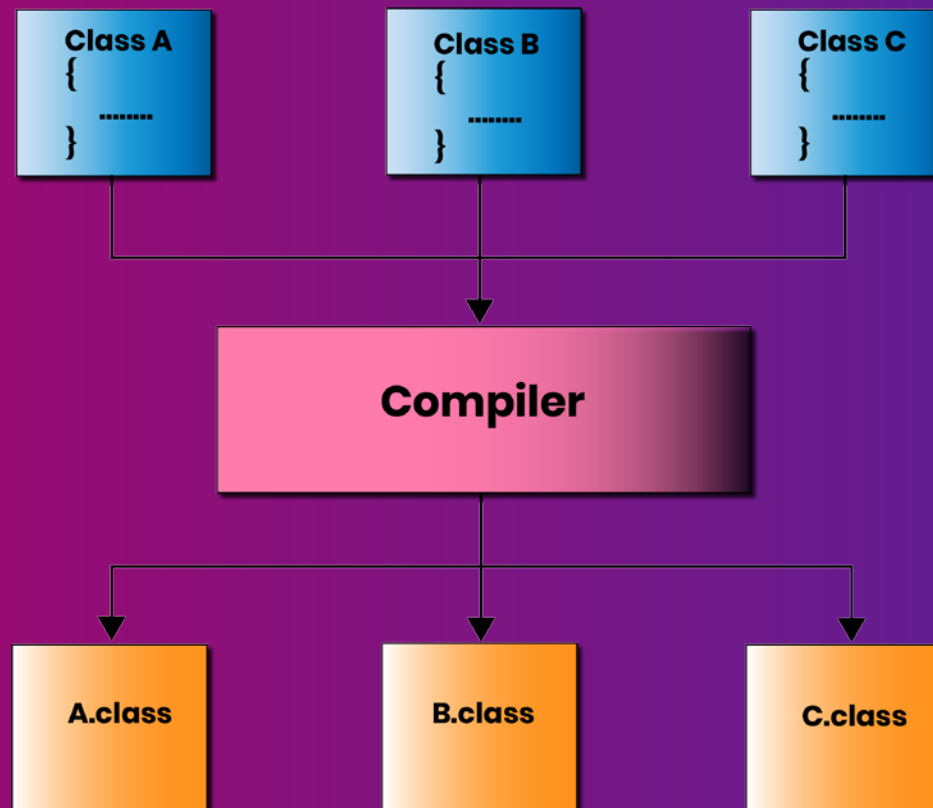
Inside Hello World Program (cont.)

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



What happens at runtime?

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



JVM - JRE



JVM

- JVM (Java Virtual Machine) is an abstract machine. It is called a virtual machine because it doesn't physically exist. It is a specification that provides a runtime environment in which Java bytecode can be executed. It can also run those programs which are written in other languages and compiled to Java bytecode.

JRE

- It is also called Java RTE
- The Java Runtime Environment is a set of software tools which are used for developing Java applications.
- It is used to provide the runtime environment.
- It physically exists.
- It contains a set of libraries + other files that JVM uses at runtime.

JDK

- o The Java Development Kit (JDK) is a software development environment which is used to develop Java applications and applets. It physically exists. It contains JRE + development tools



Soft Reminder





THANK YOU!

Theory Questions?