Understanding the JVM

JVM and the main method

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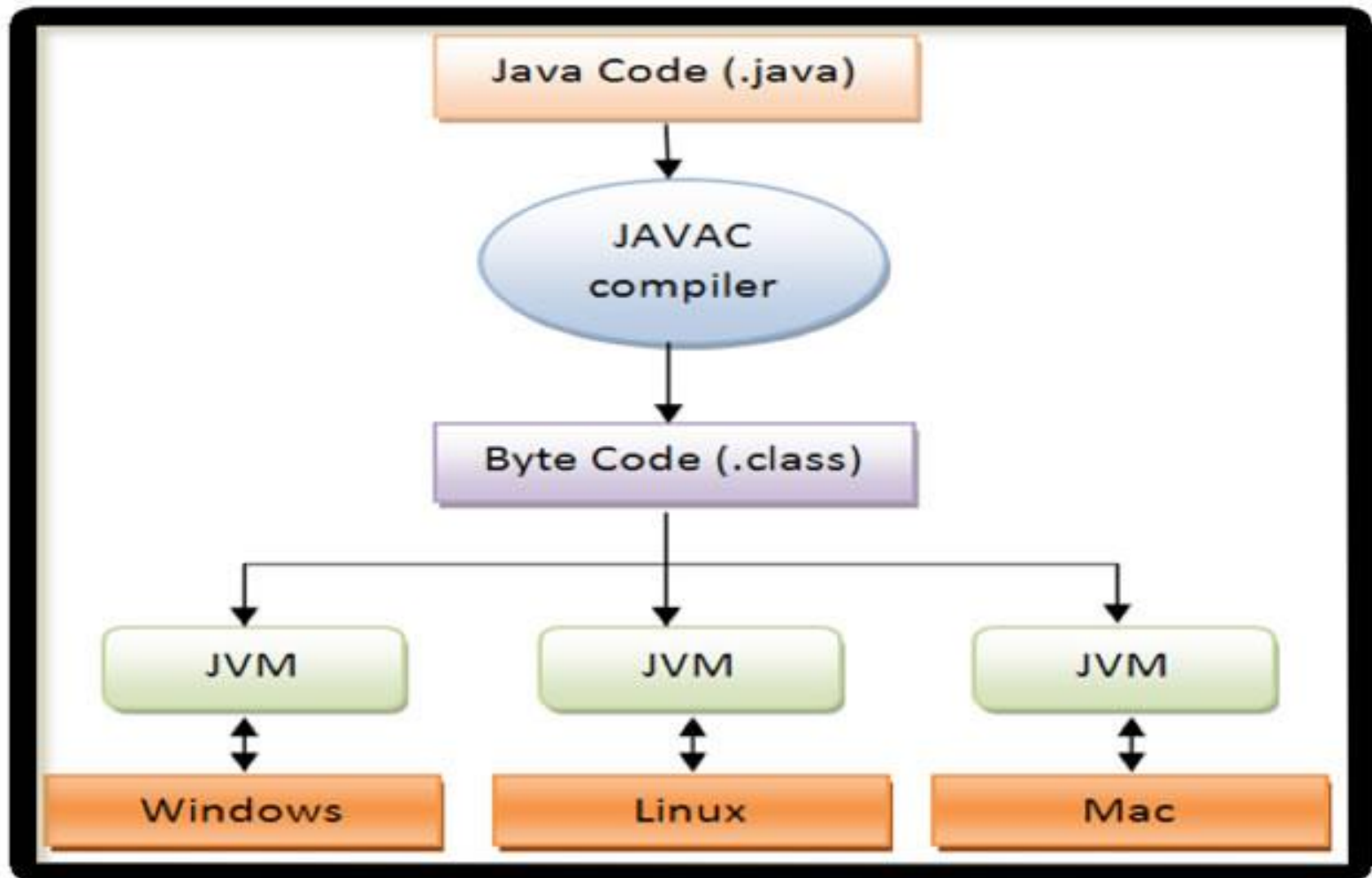Dr. Siobhán Drohan

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Topics list

- Files in Java.

- Java Virtual Machine.

- main method.

Files in Java (1)

Files in Java (2)

- Java code is written in **.java** file.
  - This code contains one or more Java language constructs like Classes, Methods, Variable, Objects etc.

- When you compile this code a **.class** file is generated.
  - A class file is also known as "**byte code**"; it is the input to Java Virtual Machine (JVM).
  - The JVM reads this code, interprets it and executes the program.

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Java Virtual Machine (JVM)

- Java Virtual Machine (JVM) is a "virtual" computer that resides in the "real" computer as a software process.

- The JVM gives Java the flexibility of platform independence.

- The **.class** files can be run on any operating system, once a JVM has been installed (i.e. it is installed when you install the JDK).

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main method

- When you want to run a java project, the Java Virtual Machine (JVM) invokes the **main method** in the project.

- For the JVM to recognise it, the main method <u>must</u> have a specific method signature.

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

main method

- "main" must exist
- "main" must be public
- "main" must be static (class method)
- "main" must have a String array parameter
- Only "main" can be invoked automatically.

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

main method

```
public static void main(String[] args)
{
    Driver driver= new Driver();
    driver.runMenu();
}
```

- The main method should
  - create an object
  - call the first method

Questions?

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