

Recitation 1

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JRE vs. JDK

- JRE:
 - Necessary functionality to start a Java program
 - JVM (Java Virtual Machine)
 - Java class libraries
- JDK:
 - Development tools to create Java programs
 - A Java compiler
 - Java class libraries
 - JVM

A compiler?

- A program that transforms human-readable source code of another program into machine-readable code.

➡ 0111011000100110011001111011000100011001....

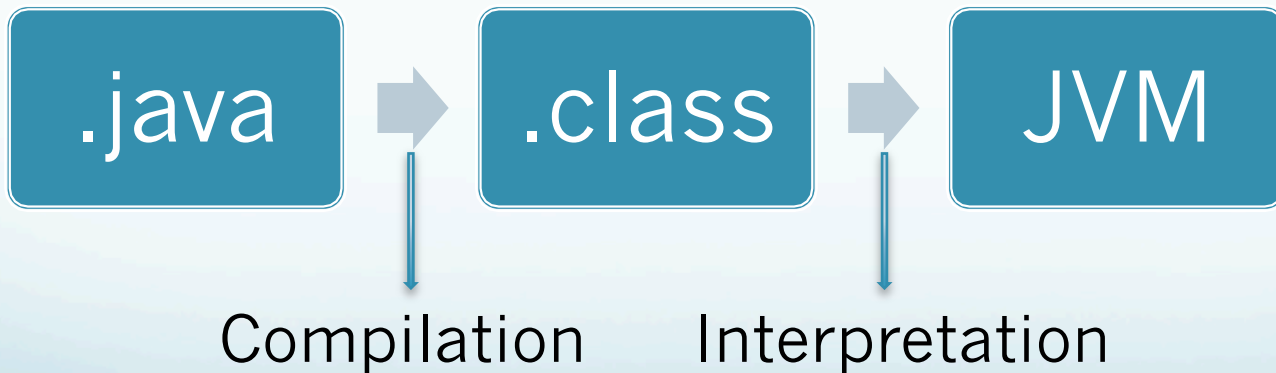
Important: interpreter is NOT the same as compiler!

- Interpreter reads the source code of another program and executes that program.

Why do I have to know it?

- Because it will likely to appear on your first test.
- What is the file produced after you compile a Java program?

➡ A .class file



What is the big deal about Java?

- You write program once and then run this program on multiple operating systems (Unix, Linux and sadly Windows).
- Worth to know properties:
 - Object-oriented (almost everything is object)
 - Strongly-typed (`int a = 5`, not `a = 5`)
 - Interpreted and compiled
 - Automatic memory management (it is a blessing!)

Let's get you armed!

- Installation (Mac)
 - Step 1: support.apple.com/kb/dl1572
 - Step 2: run the installer package
 - Step 3: open terminal
 - Step 4: type `java -version`
 - If you get sth like “java version 1.7.0_45”, then proceed.
 - Step 5: type `javac -version`
 - If you get sth like “javac 1.7.0_45”, you are ready for action!

Welcome to Java world!

Let's get you armed!

- Installation (Windows)
 - Step 1: java.oracle.com
 - Step 2: Click 'Java SE' in Software Downloads
 - Step 3: Scroll down and you'll see 'Java SE 7u45'. Click on 'DOWNLOAD' button under 'JDK'
 - Step 4: Choose the version of JDK for your version of Windows
 - Step 5: Right-click the downloaded file, choose 'Run as administrator'
 - Step 6: Accept everything.
 - Step 7: When you're prompted for the installation of the JRE, click 'Next'
 - Step 8: Once you click 'Finish', you may be asked to register. Ignore it.

Let's get you armed!

- Installation (Windows)
 - Step 9: Navigate to 'Program Files' folder.
 - Step 10: Look for a folder named 'Java' and open it
 - Step 11: Right-click on 'bin' folder in 'jdk1.7.0_45' folder and copy the path
 - C:\Program Files\Java\jdk1.7.0_45\bin
 - Step 12: Click 'Control Panel'
 - Step 13: Type 'environment' in the search box
 - Step 14: Click 'Edit the system environment variables'
 - Step 15: Click 'Advanced' tab, then click 'Environment Variables'
 - Step 16: Scroll down the list of 'System variables', and find 'Path'
 - Step 17: Highlight 'Path' and click 'Edit...'
 - Step 18: Place the cursor at the end of the string next to 'Variable value:'. Make sure there is a semi-colon at the end.
 - Step 19: Paste the path and add a semi-colon, then click 'Ok'
 - Step 20: Test by open cmd.
 - Step 21: Type java -version
 - If you get sth like "java version 1.7.0_45", then proceed.
 - Step 22: Type javac -version
 - If you get sth like "javac version 1.7.0_45", then proceed.

Now what?

- Text editors:
 - Sublime (very user-friendly)
 - GNU Emacs
 - jEdit

Can I use Word to write code? **Nooooooooooooo**

Can I use Eclipse to write code? **Yes and no**

What is checkstyle?

HelloWorld program

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

Resources

- Lynda.com: free for all Tech students (your tuition covers it).
 - Type 'lynda gatech' into google
 - Click 'Sign in to lynda'
 - In the search bar, type 'java essential training'
- **Warning:** the tutorials are **NOT** alternatives to in-class lectures.
- Java trail: also free
 - <http://docs.oracle.com/javase/tutorial/java/>
 - Not user-friendly, but helpful sometimes.

Sublime Configuration (Mac)

- Translate tabs by spaces:
 - Click on 'Sublime Text 2' on the menu bar
 - Click 'Preferences'
 - Click 'Settings – Default'
 - Scroll down and search for "translate_tabs_to_spaces"
 - Change 'false' to 'true'
- Indent to bracket:
 - Scroll down and search for "indent_to_bracket"
 - Change 'false' to 'true'

To save all changes, close the tab and choose 'Save'.

Our job



Your job



The goal

